

The Birds World

Nicolae Sfetcu

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Birds

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High-level taxonomy

Birds are categorised as a biological class, Aves. The earliest known species of this class is Archaeopteryx lithographica, from the Late Jurassic period. According to the most recent consensus, Aves and a sister group, the order Crocodilia, together form a group of unnamed rank, the Archosauria.

Phylogenetically, Aves is usually defined as all descendants of the most recent common ancestor of modern birds (or of a specific modern bird species like Passer domesticus), and Archaeopteryx. Modern phylogenies place birds in the dinosaur clade Theropoda.

Modern birds are divided into two superorders, the Paleognathae (mostly flightless birds like ostriches), and the wildly diverse Neognathae, containing all other birds.

Bird orders

This is a list of the taxonomic orders in the class Aves. The <u>list of birds</u> gives a more detailed summary, including families.

Paleognathae:

 Struthioniformes, Ostrich, emus, kiwis, and allies Tinamiformes, tinamous

Neognathae:

Anseriformes, waterfowl

Galliformes, fowl

Gaviiformes, loons

Podicipediformes, grebes

Procellariiformes, albatrosses, petrels, and allies

Sphenisciformes, penguins

Pelecaniformes, pelicans and allies

Ciconiiformes, storks and allies Phoenicopteriformes, flamingos Accipitriformes, eagles, hawks and allies Falconiformes, falcons Turniciformes, button-quail Gruiformes, cranes and allies Charadriiformes, gulls, plovers and allies Pteroclidiformes, sandgrouse Columbiformes, doves and pigeons Psittaciformes, parrots and allies Cuculiformes, cuckoos, turacos, hoatzin Strigiformes, owls Caprimulgiformes, nightjars and allies Apodiformes, swifts Trochiliformes, hummingbirds Coraciiformes, kingfishers Piciformes, woodpeckers and allies Trogoniformes, trogons Coliiformes, mousebirds Passeriformes, passerines

Note: This is the traditional classification (the so-called Clements order). A more recent, radically different classification based on molecular data has been developed (the so-called Sibley-Monroe classification or Sibley-Ahlquist taxonomy). This has influenced taxonomical thinking considerably, with the Galloanserae proving well-supported by recent molecular, fossil and anatomical evidence[citation needed]. With increasingly good evidence, it has become possible by 2006 to test the major proposals of the Sibley-Ahlquist taxonomy. The results are often nothing short of astounding, see e.g. Charadriiformes or Caprimulgiformes.

Extinct bird orders

A wide variety of bird groups became extinct during the Mesozoic era and left no modern descendants. These include the Order Archaeopterygiformes, Order Confuciusornithiformes, toothed seabirds like the Hesperornithiformes and Ichthyornithes, and the diverse Subclass Enantiornithes ("opposite birds").

For a complete listing of prehistoric bird groups, see Fossil birds.

Evolution

There is significant evidence that birds evolved from theropod dinosaurs, specifically, that birds are members of Maniraptora, a group of theropods which includes dromaeosaurs and oviraptorids, among others.[1] As more non-avian theropods that are closely related to birds are discovered, the formerly clear distinction between non-birds and birds becomes

less so. Recent discoveries in northeast China (Liaoning Province) demonstrating that many small theropod dinosaurs had feathers contribute to this ambiguity.

The basal bird Archaeopteryx, from the Jurassic, is well-known as one of the first "missing links" to be found in support of evolution in the late 19th century, though it is not considered a direct ancestor of modern birds. Confuciusornis is another early bird; it lived in the Early Cretaceous. Both may be predated by Protoavis texensis, though the fragmentary nature of this fossil leaves it open to considerable doubt if this was a bird ancestor. Other Mesozoic birds include the Enantiornithes, Yanornis, Ichthyornis, Gansus and the Hesperornithiformes, a group of flightless divers resembling grebes and loons.

The recently discovered dromaeosaur Cryptovolans was capable of powered flight, possessed a sternal keel and had ribs with uncinate processes. In fact, Cryptovolans makes a better "bird" than Archaeopteryx which is missing some of these modern bird features. Because of this, some paleontologists have suggested that dromaeosaurs are actually basal birds whose larger members are secondarily flightless, i.e. that dromaeosaurs evolved from birds and not the other way around. Evidence for this theory is currently inconclusive, but digs continue to unearth fossils (especially in China) of the strange feathered dromaeosaurs. At any rate, it is fairly certain that avian flight existed in the mid-Jurassic and was "tried out" in several lineages and variants by the mid-Cretaceous.

Although ornithischian (bird-hipped) dinosaurs share the same hip structure as birds, birds actually originated from the saurischian (lizard-hipped) dinosaurs (if the dinosaurian origin theory is correct), and thus arrived at their hip structure condition independently. In fact, the bird-like hip structure also developed a third time among a peculiar group of theropods, the Therizinosauridae.

An alternate theory to the dinosaurian origin of birds, espoused by a few scientists (most notably Lary Martin and Alan Feduccia), states that birds (including maniraptoran "dinosaurs") evolved from early archosaurs like Longisquama, a theory which is contested by most other scientists in paleontology, and by experts in feather development and evolution such as R.O. Prum. See the Longisquama article for more on this alternative.

Modern birds are classified in Neornithes, which are now known to have evolved into some basic lineages by the end of the Cretaceous. The Neornithes are split into the Paleognathae and Neognathae. The paleognaths include the tinamous (found only in Central and South America) and the ratites. The ratites are large flightless birds, and include ostriches, cassowaries, kiwis and emus (though some scientists suspect that the ratites represent an artificial grouping of birds which have independently lost the ability to fly in a number of unrelated lineages). The basal divergence from the remaining Neognathes was that of the Galloanseri, the superorder containing the Anseriformes (ducks, geese and swans), and the Galliformes (the pheasants, grouse, and their allies). See the chart for more information.

The classification of birds is a contentious issue. Sibley & Ahlquist's *Phylogeny and Classification of Birds* (1990) is a landmark work on the classification of birds (although frequently debated and constantly revised). A preponderance of evidence seems to suggest that the modern bird orders constitute accurate taxa. However, scientists are not in agreement as to the relationships between the orders; evidence from modern bird anatomy, fossils and DNA have all been brought to bear on the problem but no strong consensus has

emerged. More recently, new fossil and molecular evidence is providing an increasingly clear picture of the evolution of modern bird orders.

Bird anatomy

Main article: bird anatomy

Birds have a body plan that shows so many unusual adaptations (mostly aiding <u>flight</u>) that birds have earned their own unique class in the vertebrate phylum.

Nesting

Eggs

All birds lay amniotic eggs[2] with hard shells made mostly of calcium carbonate. Non-passerines typically have white eggs, except in some ground-nesting groups such as the Charadriiformes, sandgrouse and nightjars, where camouflage is necessary, and some parasitic cuckoos which have to match the passerine host's egg. Most passerines, in contrast, lay coloured eggs, even if, like the tits they are hole-nesters.

The brown or red protoporphyrin markings on passerine eggs reduce brittleness and are a substitute for calcium when that element is in short supply. The colour of individual eggs is genetically influenced, and appears to be inherited through the mother only, suggesting that the gene responsible for pigmentation is on the sex determining W chromosome (female birds are WZ, males ZZ).

The eggs are laid in a nest, which may be anything from a bare cliff ledge or ground scrape to elaboratey decorated structures such as those of the oropendolas.

Social systems and parental care

The three mating systems that predominate among birds are polyandry, polygyny, and monogamy. Monogamy is seen in approximately 91% of all bird species. Polygyny constitutes 2% of all birds and polyandry is seen in less than 1%. Monogamous species of males and females pair for the breeding season. In some cases, the individuals may pair for life.

One reason for the high rate of monogamy among birds is the fact that male birds are just as adept at parental care as females. In most groups of animals, male parental care is rare, but in birds it is quite common; in fact, it is more extensive in birds than in any other vertebrate class. In birds, male care can be seen as important or essential to female fitness. "In one form of monogamy such as with obligate monogamy a female cannot rear a litter without the aid of a male" [3].

These Redwing hatchlings are completely dependent on parental care.

The parental behavior most closely associated with monogamy is male incubation. Interestingly, male incubation is the most confining male parental behavior. It takes time and also may require physiological changes that interfere with continued mating. This extreme loss of mating opportunities leads to a reduction in reproductive success among incubating males. "This information then suggests that sexual selection may be less intense in taxa where males incubate, hypothetically because males allocate more effort to parental care and less to mating" [4]. In other words, in bird species in which male incubation is common, females tend to select mates on the basis of parental behaviors rather than physical appearance.

Birds and humans

Birds are an important food source for humans. The most commonly eaten species is the domestic <u>chicken</u> and its <u>eggs</u>, although <u>geese</u>, <u>pheasants</u>, turkeys, and <u>ducks</u> are also widely eaten. Other birds that have been utilized for food include <u>emus</u>, <u>ostriches</u>, <u>pigeons</u>, <u>grouse</u>, quails, <u>doves</u>, woodcocks, <u>songbirds</u>, and others, including small <u>passerines</u> such as <u>finches</u>. Birds grown for human consumption are referred to as <u>poultry</u>.

At one time <u>swans</u> and flamingos were delicacies of the rich and powerful, although these are generally protected now.

Besides meat and eggs, birds provide other items useful to humans, including <u>feathers</u> for bedding and decoration, guano-derived phosphorus and nitrogen used in fertilizer and gunpowder, and the central ingredient of bird's nest soup.

Many species have become extinct through over-hunting, such as the Passenger Pigeon, and many others have become endangered or extinct through habitat destruction, deforestation and intensive agriculture being common causes for declines.

Numerous species have come to depend on human activities for food and are widespread to the point of being pests. For example, the common pigeon or Rock Pigeon (*Columba livia*) thrives in urban areas around the world. In North America, introduced House Sparrows, European Starlings, and House Finches are similarly widespread.

Other birds have long been used by humans to perform tasks. For example, homing pigeons were used to carry messages before the advent of modern instant communications methods (many are still kept for sport). Falcons are still used for hunting, while cormorants are employed by fishermen. Chickens and pigeons are popular as experimental subjects, and are often used in biology and comparative psychology research. As birds are very sensitive to toxins, the Canary was used in coal mines to indicate the presence of poisonous gases, allowing miners sufficient time to escape without injury.

Colorful, particularly tropical, birds (e.g. parrots, and mynas) are often kept as pets although this practice has led to the illegal trafficking of some endangered species; CITES, an international agreement adopted in 1963, has considerably reduced trafficking in the bird species it protects.

Bird diseases that can be contracted by humans include psittacosis, salmonellosis, campylobacteriosis, Newcastle's disease, mycobacteriosis (avian tuberculosis), avian influenza, giardiasis, and cryptosporidiosis.

Threats to birds

According to Worldwatch Institute, bird populations are declining worldwide, with 1,200 species facing extinction in the next century. Among the biggest cited reasons are habitat loss, predation by nonnative species, oil spills and pesticide use, hunting and fishing, and climate change.

Trivia

- To preen or groom their feathers, birds use their bills to brush away foreign particles.
- The birds of a region are called the **avifauna**.
- Few birds use chemical defences against predators. Tubenoses can eject an unpleasant oil against an aggressor, and some species of pitohui, found in New Guinea, secrete a powerful neurotoxin in their skin and feathers.
- The Latin word for bird is avis.
 - Bird feeder
 - Bird flight
 - <u>Bird intelligence</u>
 - Bird migration
 - Bird skeleton
 - Birdfeeding
 - Birdwatching
 - Carinatae
 - Extinct birds
 - Language of the birds
 - List of birds
 - Oology
 - Ornithology
 - Prehistoric birds

Bird families and taxonomic discussion are given in <u>list of birds</u> and Sibley-Ahlquist taxonomy.

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Alektorophobia

Alektorophobia is the abnormal fear of <u>chickens</u>. The suffix Phobia referring to a strong fear. Those that suffer from Alektorophobia often fear either the eggs of <u>chickens</u>, their feathers, contamination, or being attacked by <u>chickens</u>.

A few reasons for these irrational fears include being pecked, swooned upon, that <u>chickens</u> roost above eye level, or fear of the fact that <u>chickens</u> eat their food off the ground or in manure (invoking a fear of contamination). These fears only occasionally apply to cooked <u>chickens</u>, but rather uncooked or live <u>chickens</u>.

Symptoms of Alektorophobia include breathlessness, dizziness, dry mouth, excessive sweating, nausea, shaking, heart palpitations, inability to speak or think clearly, a fear of dying, becoming mad or losing control, a sensation of detachment from reality or even a full blown anxiety attack.

Alektorophobia is surprisingly common, and is a fear that many have either consciously or subconsciously. Most simply begin to sweat when around <u>chickens</u> and may not even notice, while some may think <u>chickens</u> are aggressive and conspiratorial and coordinate their attacks.

Notable alektorophobes

Werner Herzog

Avian incubation

The word **incubate** in the context of <u>birds</u> refers to the development of the chick (embryo) within the <u>egg</u> and the constant temperature required for the development of it over a specific period. This in most species of bird is produced by body heat from the brooding parent, though several groups, notably the Megapodes, instead use geothermal heat or the heat generated from rotting vegetable material, effectively a giant compost heap. The Namaqua Sandgrouse of the deserts of southern Africa, needing to keep its eggs cool during the heat of the day, stands over them drooping its wings to shade them.

In the species that incubate, the work is divided differently between the sexes. Possibly the most common pattern is that the female does all the incubation, as in the Coscoroba Swan and the Indian Robin, or most of it, as is typical of falcons. In some species, such as the Whooping Crane, the male and the female take turns incubating the egg. In others, such as the cassowaries, only the male incubates. The male Mountain Plover incubates the female's first clutch, but if she lays a second, she incubates it herself. In Hoatzins, some birds (mostly males) help their parents incubate later broods.

Incubation times range from 11 days (some small <u>passerines</u> and the Black-billed and Yellow-billed Cuckoos) to 85 days (the Wandering Albatross and the Brown Kiwi). In these latter, the incubation is interrupted; the longest uninterrupted period is 64 to 67 days in the Emperor Penguin.¹¹

Some species begin incubation with the first egg, causing the young to hatch at different times; others begin after laying the last egg of the clutch, causing the young to hatch simultaneously.

Derived meanings

Climate-controlled incubators are used in industrial agricultural settings and in neonatal care, especially of human infants. The life expectancy for premature infants has increased dramatically thanks to incubation.

In economics, a business incubator is an organization providing physical space, communications tools, investments or human resources intended to support the development of a new firm. Approximate egg-development time, post-hatch of a regular, avian creature is six days for full flight capability in males; twelve in females.

Reference

Christopher Perrins (editor), *Firefly Encyclopedia of Birds*, ISBN 1-55297-777-3

Bird abatement

The risks that birds create in certain circumstances have brought the need for **bird abatement**. Amongst those risks are loss of investments in farming and <u>aviculture</u>, aircraft crashes, and bacteriological and viral contamination. With more recent outbreaks of Newcastle's disease and the <u>Avian Flu</u>, it is reasonable to expect that bird abatement will become a larger industry.

- 1 Problems
 - o 1.1 Damage to farming
 - o 1.2 Aircraft crashes
 - o 1.3 Health hazards
- 2 Solutions
 - o 2.1 Scarecrow
 - o 2.2 Poison
 - o 2.3 Falconry

Problems

Damage to farming

When a flock of birds descends upon a farmer's field, they can eat up the seed and produce, damaging a farmer's crop. <u>Canadian Geese</u>, once a fully protected species of <u>migratory bird</u>, have become so comfortable at some farms as to abandon their migrations and take up residency. <u>Crows</u>, <u>starlings</u>, <u>bluejays</u> and many other species also pose a threat to crops.

Raptors and other predators are an age-old concern for those who raise gamebirds and pigeons as livestock.

Aircraft crashes

Birds tend to see the open grasslands of an airport as an oasis. They quickly become desensitized to the planes, and set up residency. Unfortunately, birds flying near an airport have been responsible for many aircraft crashes resulting in loss of life and property. Whether by merely distracting the pilot, breaking a windscreen, striking the prop, or causing a jet to crash when a bird is sucked into the aircraft's turbines, airborne birds are a dangerous thing at an airport.

Health hazards

Concentrations of seagulls frequenting landfills in search of discarded food in coastal areas have been shown to cause significant <u>health</u> hazard by drop feces in nearby waters.

Solutions

Scarecrow

One of the earliest methods of bird abatement is the scarecrow that farmers used to erect in their fields to keep the birds from eating planted seeds and crops. Fashioned of a stick frame covered in human clothing stuffed with straw, and often garnished with tin cans on strings and pie tins, the image of a scarecrow in a farmer's field has become classic.

Unfortunately, it proves ineffective, as the birds quickly become comfortable with the statue. In more recent times, netting has been placed over berry crops, poisons have been put out in the fields, and falconers' services employed, all of which are far more successful. The proverbial scarecrow, which often ended up serving as a perch for the birds they were expected to frighten away, are now largely a romantic relic of agriculture.

Poison

In some places, poison has been set out to kill off the offending birds. This environmentally unsound practice still occurs, but is on the decline owing to the fact that other creatures also consume the poisons. Secondary kills of desirable predators, as well as roaming dogs, cats, have demonstrated the dangers. Poisons are not discriminating. There is also concern that a child may inadvertently eat the poison bait. In recent times, more evolved and ecologically friendly methods have been used.

Falconry

One of the more common and popular modern methods of bird abatement is employing falconers to fly trained raptors over the fields, landfills and airports. When the raptor appears and chases the offending birds, the prey quickly scatters. Without regular flights several times a day, they will return, but so long as the raptor's presence is maintained, the problem is largely solved. Falconers' services are employed all across the country, with considerable success. Thus falconry, which has long been an antiquidated pastime since its medieval origins, has resurfaced as a profession.

Bird anatomy

<u>Bird</u> anatomy shows so many unusual adaptations (mostly aiding <u>flight</u>) that birds have earned their own unique class in the vertebrate phylum.

- <u>1 Respiratory system</u>
- 2 Circulatory system
- <u>3 Digestive system</u>
- <u>4 Skeletal system</u>
- <u>5 Muscular system</u>
- 6 Head
- 7 Reproduction
- <u>8 References</u>

Respiratory system

Due to having the high metabolic rate required for flying, birds have a high oxygen demand. They meet this by having a respiratory system more efficient than that of a mammal or a reptile. Birds ventilate their lungs by means of posterior and anterior air sacs (typically nine) which act like bellows, but do not play a direct role in gas exchange. The lungs have a fixed volume and are the site of gas exchange, the air passing through on its way to the air sacs and on its way back from the air sacs.

There are three distinct sets of organs involved in respiration—the anterior air sacs (interclavicular, cervicals, and anterior thoracics), the lungs, and the posterior air sacs (posterior thoracics and abdominals).

The posterior and anterior air sacs expand during inhalation. Air enters the bird via the trachea. Half of the inhaled air enters the posterior air sacs, the other half passes through the lungs and into the anterior air sacs. The sacs contract during exhalation. The anterior air sacs empty directly into the trachea, the posterior air sacs empty via the lungs, the lungs expel this air via the trachea.

Since during inhalation and exhalation fresh air flows through the lungs in only one direction, there is no mixing of oxygen rich air and carbon dioxide rich air within the lungs as in mammals. Thus the partial pressure of oxygen in a bird's lungs is the same as the environment, and so birds have more efficient gas-exchange of both oxygen and carbon dioxide than do mammals.

Avian lungs do not have alveoli, as mammalian lungs do, but instead contain millions of tiny passages known as parabronchi, connected at either ends by the dorsobronchi and ventrobronchi. Air flows through the honeycombed walls of the parabronchi and into air capillaries, where oxygen and carbon dioxide are traded with cross-flowing blood capillaries by diffusion.

A diaphragm is absent in birds; the entire body cavity acts as a bellows to move air through the lungs. The active phase of respiration in birds is exhalation, requiring effort of the musculature.

Circulatory system

Birds have four chambered hearts, in common with humans, most mammals and some reptiles. This adaptation allows for efficient nutrient dispersion and oxygen transportation, throughout the body, which provides birds with the energy they need to fly and to lead highly active lives. A Ruby-throated Hummingbird's heart beats up to a rate of 1200 beats per minute (about 20 beats per second).¹¹

Digestive system

Birds possess a *ventriculus*, or gizzard, that is composed of four muscular bands that act to rotate and crush food by shifting the food from one area to the next within the gizzard. Depending on the species, the gizzard may contain small pieces of grit or stone that the bird has swallowed to aid in the grinding process of digestion. For birds in captivity, only certain species of birds require grit in their diet for digestion. The use of gizzard stones is a similarity between birds and dinosaurs, which left gizzard stones called gastroliths as trace fossils.

Skeletal system

The bird skeleton is highly adapted to the capacity for flight. It is extremely lightweight but strong enough to withstand the stresses that a bird experiences, when taking off, flying or landing. One of the adaptations that make this possible is the fusing of bones that are separate in mammals, into single ossifications, such as the pygostyle. Because of this, birds usually have a smaller number of bones than mammals or reptiles.

Birds have a jaw that has adapted into a beak, on which baby birds have an egg tooth.

Birds have many bones that are hollow, with criss-crossing struts or trusses (cross walls) for structural strength. (Some flightless birds like <u>penguins</u> have only solid bones, however). The number of hollow bones varies from species to species, though large gliding and soaring birds tend to have the most. Most bones contain oxygen which also makes them lighter. Birds also have more cervical (neck) vertebrae than many other animals; most have a highly flexible neck that consists of 13-25 vertebrae. Birds are the only vertebrate animals to have a fused collarbone (the furcula or wishbone) or a keeled breastbone.

Muscular system

There are about 175 different muscles in the bird. They mainly control the wings, the skin and the legs, but also many other parts of the bird. The largest muscles in the bird are the muscles that control the wings. They are called the pectorals, or the breast muscles, and make up about 15 - 25% of a bird's full body weight. They make the birds' wing stroke very powerful so that they can fly, and provide most of the movements the bird needs for its down stroke. The muscle below the pectorals is the supracoracoideus. It raises the wing when a bird is flying. The supracoracoideus and the pectorals together make up about 25 - 35% of the birds' full body weight.

The skin muscles help a bird in its flight by making the feathers, which are attached to the skin muscle, go up, down, or move sideways. This helps the bird in its flight maneuvers.

There are only a few muscles in the trunk and the tail, but they are very strong and are essential for the bird. The pygostyle controls all the movement in the tail and controls the feathers in the tail. This gives the tail a larger surface area which helps keep the bird in the air.

Head

Birds have acute eyesight, with raptors having vision eight times sharper than humans. This is because of many photoreceptors in the retina (up to 1,000,000 per square mm in Buteos, against 200,000 for humans), a very high number of nerves connecting the receptors to the brain, a second set of eye muscles not found in other animals, and, in birds of prey, an indented fovea which magnifies the central part of the visual field. Many species, including <a href="https://doi.org/10.1001/journal.org/10.1001

Birds have a large brain to body mass ratio. This is reflected in the surprisingly advanced and complex <u>bird intelligence</u>.

The region between the eye and bill on the side of a bird's head is called the lores. This region is sometimes featherless, and the skin may be tinted (as in many species of the <u>cormorant</u> family).

Reproduction

Fledgling

Although most male birds have no external sex organs, the male does have two testes which become hundreds of times larger during the breeding season to produce sperm. The female's ovaries also become larger, although only the left ovary actually functions.

In the males of species without a phallus (see below), sperm is stored in the seminal glomera within the cloacal protuberance prior to copulation. During copulation, the female moves her tail to the side and the male either mounts the female from behind or in front (in the stitchbird), or moves very close to her. The cloacae then touch, so that the sperm can

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enter the female's reproductive tract. This can happen very fast, sometimes in less than one second.

The sperm is stored in the female's sperm storage tubules for anywhere from a week to a year, depending on the species of bird. Then, one by one, eggs will be fertilised as they come out of the ovaries, before being laid by the female. The eggs will then continue their development outside the female body.

A juvenile Laughing Gull

Many waterfowl and some other birds, such as the ostrich and turkey, do possess a phallus. When not copulating, it is hidden within the proctodeum compartment within the cloaca, just inside the vent.

After the eggs hatch, parent birds provide varying degrees of care in terms of food and protection. Precocial birds can care for themselves independently within minutes of hatching; altricial hatchlings are helpless, blind, and naked, and require extended parental care. The chicks of many ground-nesting birds such as <u>partridges</u> and <u>waders</u> are often able to run virtually immediately after hatching; such birds are referred to as nidifugous. The young of hole-nesters, on the other hand, are often totally incapable of unassisted survival. The process whereby a chick acquires feathers until it can fly is called "fledging".

Some birds, such as pigeons, geese, and Red-crowned Cranes, remain with their mates for life (or for a long period) and may produce offspring on a regular basis.

References

1. <u>^</u> June Osborne (1998). The Ruby-Throated Hummingbird. University of Texas Press, 14. ISBN 0292760477.

Bird skeleton

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- <u>1 Skull</u>
- 2 Neck, back, and tail
- 3 Chest
- 4 Wings
- <u>5 Hips</u>
- 6 Legs
- <u>7 See also</u>

Skull

The skull consists of five major bones:

- Frontal (top of head).
- Parietal (back of head).
- Premaxillary and Nasal (top beak).
- Mandible (bottom beak).

The skull of a normal bird usually weighs about 1% of the birds total bodyweight.

Neck, back, and tail

The vertebral column consists of vertebrae, and is divided into three sections:

- Cervical (13-16) (neck).
- Synsacrum (fused vertebrae of the back, also fused to the hips (pelvis)).
- Pygostyle (tail).

Chest

The chest consists of the furcula (wishbone) and coracoid (collar bone), which two bones, together with the scapula (see below), form the pectoral girdle. The side of the chest is formed by the ribs, which meet at the sternum (mid-line of the chest).

Wings

The shoulder consists of the scapula (shoulder blade), coracoid (see The Chest), and humerus (upper arm). The humerus joins the radius and ulna (forearm) to form the elbow. The carpus and metacarpus form the "wrist" and "hand" of the bird, and the digits (fingers) are fused together. The bones in the wing are extremely light so that the bird can fly more easily.

Hips

The hips consist of the pelvis which includes three major bones:

- Illium (top of the hip).
- Ischium (sides of hip).
- Pubis (front of the hip).

These are fused into one (the innominate bone). They meet at the acetabulum (the hip socket) and articulate with the femur, which is the first bone of the hind limb.

Legs

The upper leg consists of the femur. At the knee joint, the femur connects to the tibiotarsus (shin) and fibula (side of lower leg). The tarsometatarsus forms the upper part of the foot, digits make up the toes. The leg bones of birds are the heaviest, contributing to a low center of gravity. This aids in flight.

See also

<u>Bird anatomy</u>

Bird bath

A **bird bath** is essentially a *man-made puddle* on a pedestal with a shallow basin filled with water for bathing and drinking. Used in combination with <u>bird feeders</u> and species-appropriate shrubs and trees, a bird bath is a powerful attraction for birds, especially during droughts.

- 1 Design and construction
 - o 1.1 A place to stand
 - o 1.2 A safe feeling
- 2 Maintenance
- 3 Welcoming larger birds
- 4 See also

Design and construction

The typical and traditional bird bath is made of molded concrete formed in two pieces, the bowl and the pedestal. The bowl has an indentation or socket in the base which allows it to fit over the pedestal. The pedestal is typically about one meter tall. Both bowl and pedestal are decorated with reliefs. The bowl may have a shell type of motif or a woodland rocky spring motif. The pedestal usually has a motif of vines or tree trunks. However, birds are also attracted to simpler designs, even a shallow plate or pie tin placed beneath a slowly dripping water faucet will welcome birds to your garden.

Bird baths can be made with other types of materials including glass, metal, plastics, mosaic tile, or any other material that can weather well and hold water. In addition to the standard shallow container of standing water, there are also bird baths which use a recirculating pump with filters possibly coupled to a water supply with an automatic valve which will keep the bird bath water cleaner and requires less day-to-day care. Some use a solar powered pump to recirculate the water.

A place to stand

An important feature of a bird bath that should be considered in designing one, is a place to perch, to avoid the risk of birds drowning. This requirement may be fulfilled simply by

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making the bowl or container part shallow enough to allow birds to perch *in* the water. Another way is to add a number of clean stones inside the bowl, to create places on which a bird might stand.

A safe feeling

Consideration should also be made to the issue of housecats or other predators, by placing the birdbath in a location where the birds can see the area around it, and where there are no hiding places for predators to lurk. This is one of the reasons birdbaths are customarily placed on pedestals.

Maintenance

A bird bath requires maintenance. Maintenance may be as simple as a daily quick wash and refill but it will depend on the bird bath materials. This is important because of the possible adverse health effects of birds drinking dirty water or water which may have become fouled with excrement. Fresh water is important. Concrete bird baths tend to become mossy and require an occasional scrubbing out.

Welcoming larger birds

Larger birds, such as the <u>Canada goose</u>, also enjoy baths. They may be accommodated well by large agricultural sprinklers in a field of stubble. The sight of several hundred or thousand large geese "playing in the sprinklers" can be a moving experience. Providing such a place for <u>migratory birds</u>, especially in urban and suburban areas devoid of wetlands is an excellent way of encouraging them to frequent an area. As wetlands become more scarce, steps such as these can be important conservation practices.

See also

- Bird feeder
- Bird watching

Bird feeding

Bird feeding is the activity of feeding wild <u>birds</u>.

While <u>birdwatchers</u> seek out birds by species, bird feeders attempt to attract birds to suburban and domestic locations. This requires setting up a feeding station and supplying <u>bird food</u>. The food might include seeds, peanuts, bought food mixes, fat and suet. Additionally, a birdbath and grit (sand) that birds store in their crops to help grind food as an aid to digestion, can be provided.

Certain foods tend to attract certain birds. <u>Finches</u> love niger thistle seed. Jays love corn. <u>Hummingbirds</u> love nectar. Mixed seed attracts many birds. Black oil sunflower seed is favored by many seed-eating species.

Feeding stations should be located near natural cover. Birds prefer not to be exposed. Therefore, putting a bird feeding station by a window will attract only especially gregarious birds (such as sparrows and starlings). While the viewer will want to have a clear line of sight to the feeding station, it is important for the station to be near shrubbery or a tree. If the station is too close to a tree or shrub, pests such as squirrels may find access to the station easy. Locating feeders near low cover gives predators such as cats a hiding place from which to launch an ambush. Birds are messy eaters. If the feeding station is over dirt or a lawn, whole cereals and unshelled sunflower seeds will germinate beneath the station, while shelled nuts and degermed cereals will not.

After the station is established, it can take some weeks for birds to discover and start using it. This is particularly true if the feeding station is the first one in an area or (in cold-winter areas) if the station is being established in spring when natural sources of food are plentiful. Therefore, beginners should not completely fill a feeder at first. The food will get old and spoil if it is left uneaten for too long. This is particularly true of unshelled foods, such as thistle seed and suet. Once the birds begin taking food, the feeder should be kept full. Additionally, people feeding birds should be sure that there is a source of water nearby. A bird bath can attract as many birds as a feeding station.

Generally, bird feeding is environmentally neutral or helpful. However, birds can become dependent on artificial food supplies, and feeding can upset the natural balance between different species. This is especially true of invasive species, such as, in the US, European starlings and Eurasian tree sparrows, which can increase in numbers due to feeding and displace native populations. Some bird feeders therefore attempt to select foods and feeding stations that can discriminate between desired and invasive species. Some species are considered "trash" birds because they are sighted so often. If there is concern about fostering invasive species, it is best to feed during winter, when birds most need food, to taper feeding activity in spring, and to increase again in fall, when fledging will have taken place and local populations will be higher.

Different feeders can be purchased specialized for different species. Persons living on migration routes should especially feed during the migration times (which may be year-round), as feeding will not be likely to artificially promote local populations. During spring feeders make up less than 25% of a birds diet but during winter months the birds will turn to the feeder which they have come to know as a dependable food source.

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When bird feeding, be sure to take hygiene and safety precautions, as the unnatural situation of having large numbers of birds congregating in one area can lead to transmission of infectious diseases. Clean all feeding stations regularly and wash away all droppings. Wear rubber gloves when undertaking these tasks to avoid contact with bacteria and viruses that may be present in bird droppings. Other safety precautions involve not feeding whole peanuts or unsoaked dried fruit during the breeding season as this can be dangerous to nestlings, and never using net bags to feed birds, as birds may die as a result of their feet or tongues getting trapped.

Large sums of money are spent by ardent bird feeders, who indulge their wild birds with a variety of wild bird seeds, suets, nectars (for hummingbirds), and special flower plantings. Bird feeding is regarded as the first or second most popular pastime in the USA. Some fifty-five million Americans are involved in bird feeding. The activity has spawned an industry that sells birdseed, birdfeeders, birdhouses (nesting boxes), mounting poles, squirrel baffles, binoculars, etc.

The ten commonest birds reported in U.S. gardens are, in descending order:

Northern Cardinal

Mourning Dove

Dark-eyed Junco

American Goldfinch

Downy Woodpecker

Blue Jay

House Finch

Tufted Titmouse

American Crow

Black-capped Chickadee

(from the 2005 Great Backyard Bird Count)

The ten commonest birds in British gardens are, in descending order:

House Sparrow

Common Starling

Blackbird

Blue Tit

Chaffinch

Greenfinch

Collared Dove

Wood Pigeon

Great Tit

Robin

(from the 2006 RSPB Garden Birdwatch. See also the RSPB's list of the twenty commonenst garden birds[1])

In some cities or parts of cities (e.g. Trafalgar Square in London) feeding certain birds is forbidden, either because they compete with vulnerable native species, or because they abound and cause pollution and/or noise.

Bird food

Bird food is food (often varieties of seeds) eaten by <u>birds</u>. Humans generally make or buy bird food to feed to pet birds or use in <u>birdfeeders</u>. The choice of what to use as birdfood depends on the species of bird being fed.

- 1 Bird seeds
- 2 Non-seed birdfood
- 3 Commercial bird food
- 5 References

Bird seeds

Black sunflower seeds are highly recommended for use in bird feeders because they attract a wide variety of birds, have a high ratio of meat to shell, and are high in fat content.[1][2] Other common birdseeds include niger, a favorite of goldfinches, millet for sparrows and juncos, and safflower for cardinals, among others.[4][2]

Non-seed birdfood

Not all birds eat seeds. Suet (beef or mutton fat) is recommended for insect-eating birds like nuthatches and woodpeckers.[1] Nectar (essentially sugar water) attracts https://doi.org/10.1101/journal.com/

Commercial bird food

A wide variety of commercial bird food is available to bird owners. However, bags of mixed birdseed often combine attractive bird food like sunflower seeds with "filler" materials that birds enjoy less. Birds tend to pick out their favorite seeds and simply leave the rest uneaten.[2][3]

References

- 1. ^ a b c d What to Feed Birds and Seeds and Grains for Birds. Project FeederWatch. Retrieved on August 23, 2006
- 2. ^ a b c Porter, Diane. Winter Bird Feeder: Keep Them Coming Back. Retrieved on August 23, 2006.
- 3. <u>^ Choosing Bird Food</u>. *All About Birds*. Cornell Lab of Ornithology. Retrieved on August 23, 2006.

Bird feeder

A **birdfeeder**, **bird feeder**, or **bird table** is a device placed out-of-doors to supply <u>bird food</u> to <u>birds</u>. The success of a birdfeeder in attracting birds depends on its placement and the kinds of seeds offered, as different species have different preferences.

The most familiar feeders supply seeds such as millet, sunflower, safflower, thistle (niger or nyjer), and rapeseed or canola seed, to seed-eating birds.

Oriole feeders, which are traditionally colored orange, also supply such artificial nectar and are designed to serve New World orioles, which have a differently shaped <u>beak</u> and tongue. These orioles and some other birds will also come to fruit foods, such as grape jelly or half an orange on a peg.

A **suet feeder** is typically a metal cage-like construction with a plastic coating which contains a cake or block of suet to feed woodpeckers, flickers, <u>nuthatches</u> and many other species of insect eaters.

Bird feeders are a must for home <u>birdwatching</u>, and many people keep webcams trained on feeders where birds often congregate.

Squirrels may also help themselves to the contents of bird feeders, often not merely feeding, but carrying away the food to their hoard. There are various anti-squirrel devices available to thwart squirrels' attempts to raid bird feeders. Several manufacturers produce feeders with perches that collapse under the weight of anything heavier than a bird, or that use battery power to lightly shock an intruder or spin the perching area to fling it off.

Sometimes the placement of a squirrel feeder is the best way to keep squirrels away from bird feeders. Squirrel feeders typically offer a whole dried cob of corn, often at the top of a rotating stick to add a bit of amusement to the antics. The American talk-show host, Rosie O'Donnell had a well-known and longstanding 'feud' with what was apparently a band of "genius squirrels". No matter what she tried, the squirrels seemed to quickly figure out how to get around it.

While bird feeders are thought of by some as winter projects, urban and suburban areas can benefit from bird feeders year-round. The absence of plentiful food sources, as well as the increasingly toxic environment created by the use of chemical pesticides and fertilizers, can make the process of finding safe and plentiful food difficult for birds which find themselves in these areas.

See also

- Bird Bath
- Bird Feeding
- Bird Watching

Bird flight

Flight is the mode of locomotion used by most of the world's **bird** species. It is important to <u>birds</u> for feeding, breeding and avoiding predators.

- 1 Evolution and purpose of bird flight
- 2 Basic mechanics of bird flight
- <u>3 The wing</u>
- 4 Wing shape and flight
 - o 4.1 Elliptical wings
 - o 4.2 High speed wings
 - o 4.3 Soaring wings with deep slots
- <u>5 Hovering</u>
- <u>6 Take-off and landing</u>
- 7 Adaptations for flight
- 8 References

Evolution and purpose of bird flight

The origin of bird flight is still somewhat unclear, even though most paleontologists agree that birds evolved from small theropod dinosaurs. It seems likely that they evolved from ground living species, with flight developing after the evolution of <u>feathers</u>. It seems likely in this case that flight evolved as a result of benefits in the pursuit of small airborne prey items (such as insects), possibly subsequently becoming useful as a predator avoiding behavior.

Flight is more energetically expensive in larger birds, and many of the largest species fly by soaring (gliding without flapping their wings) most of the time. Many physiological adaptations have evolved that make flight more efficient.

Today birds use flight for many purposes. It is still used by some species to obtain prey on the wing, as well as foraging, to commute to feeding grounds, and migrate between the seasons. Flight's importance in avoiding predators can be shown in the frequency with which it is lost when birds reach isolated oceanic islands that lack ground-based predators. It is also used by some species to display during the breeding season and to reach safe isolated places for nesting.

Basic mechanics of bird flight

The fundamentals of bird flight are similar to those of aircraft. Lift force is produced by the action of air-flow on the wing, which is an airfoil/aerofoil. The lift-force is because the air has a lower air pressure just above the wing and higher pressure below.

When gliding, both birds and gliders obtain both a vertical and a forward force from their wings. This is possible because the lift force is generated at right angles to the air-flow, which in level flight comes from slightly below the wing. The lift force therefore has a forward component. (Weight always acts vertically downwards and so cannot provide a forward force. Without a forward component a gliding bird would merely descend vertically.)

When a bird flaps, as opposed to gliding, its wings continue to develop lift as before but they also create an additional forward and upward force, thrust, to counteract its weight and drag. Flapping involves two stages, the down-stroke, which provides the majority of the thrust, and the up-stroke, which can also (depending on the bird's wings) provide some upward force. At each up-stroke the wing is slightly folded inwards to reduce upward resistance. Birds change the angle of attack between the up-strokes and the down-strokes of their wings. During the down-stroke the angle of attack is increased and is decreased during the up-stroke.

There are three major forces that impede a bird's aerial flight: frictional drag (caused by the friction of air and body surfaces), form drag (due to frontal area of the bird, also known as pressure drag) and lift-induced drag (caused by the wingtip vortices).

The wing

The bird's forelimbs, the wings, are the key to bird flight. Each wing has a central vane to hit the wind, composed of three limb bones, the humerus, ulna and radius. The hand, or manus, which ancestrally was composed of five digits, is reduced to three digits (digit II, III and IV), the purpose of which is to serve as an anchor for the primaries (or metacarpodigitals), one of two groups of feathers responsible for the airfoil shape. The other set of flight feathers that are behind the carpal joint on the ulna, are called the secondaries or cubitals. The remaining feathers on the wing are known a coverts, of which there are three sets. The wing sometimes has vestigial claws, in most species these are lost by the time the bird is adult (such as the Hoatzin), but claws are retained into adulthood by the Secretary Bird, the screamers and finfoot.

Wing shape and flight

The shape of the wing is important in determining the type of flight of which the bird is capable, planform. This restricts the bird in some ways and enhances the bird in others. Wing shape can be described in terms of two parameters, aspect ratio and wing loading. Aspect ratio is the ratio of wing breadth to the mean of its Chord, or mean wingspan divided by wing area. Wing loading is the ratio of weight to wing area.

Amongst the birds there are four main kinds of wing that the majority of birds use, although in some cases wings may fall between two of the categories. These types of wings are elliptical wings, high speed wings, high aspect ratio wings and soaring wings with slots.

Elliptical wings

Elliptical wings are short and rounded, having a low aspect ratio, allowing for tight maneuvering in confined spaces such as might be found in dense vegetation. As such they are common in forest raptors (such as *Accipiter* hawks), and many <u>passerines</u>, particularly non-migratory ones (migratory species have longer wings). They are also common in species that use a rapid take off to evade predators, such as <u>pheasants</u> and <u>partridges</u>.

High speed wings

High speed wings are short, pointed wings that when combined with a heavy wing loading and rapid wingbeats provide an energetically expensive high speed. This type of flight is used by the bird with the fastest wing speed, the Peregrine Falcon, as well as by most of the <u>ducks</u>. The same wing shape is used by the <u>auks</u> for a different purpose; auks use their wings to "fly" underwater.

Soaring wings with deep slots

These are the wings favored by the larger species of inland birds, such as <u>eagles</u>, <u>vultures</u>, <u>pelicans</u>, and <u>storks</u>. The slots at the end of the wings, between the primaries, reduce the turbulence at the tips, whilst the shorter size of the wings aids in takeoff (High aspect ratio wings require a long taxi in order to get airborne).

Hovering

Hovering is a demanding but useful ability used by several species of birds (and specialized in by one family). Hovering, literally generating lift through flapping alone rather than as a product of thrust, demands a lot of energy. This means that it is confined to smaller birds; the largest bird able to truly hover is the Pied Kingfisher, although larger birds can hover for small periods of time. Larger birds that hover do so by flying into a headwind, allowing them to utilize thrust to fly slowly but remain stationary to the ground (or water). Kestrels, terns and even hawks use this windhovering.

Most birds that hover have high aspect ratio wings that are suited to low speed flying. One major exception to this are the hummingbirds, which are among the most accomplished hoverers of all the birds. Hummingbird flight is different to other bird flight in that the wing is extended throughout the whole stroke, the stroke being a symmetrical figure of eight, with the wing being an airfoil in both the up- and down-stroke. Some hummingbirds can beat their wings 52 times a second, others do so less frequently.

Take-off and landing

Take-off can be one of the most energetically demanding aspects of flight, as the bird needs to generate enough airflow under the wing to create lift. In small birds a jump up will suffice, while for larger birds this is simply not possible. In this situation, birds need to take a run up in order to generate the airflow to take off. Large birds often simplify take off by facing into the wind, and, if they can, perching on a branch or cliff so that all they need to do is drop off into the air.

Landing is also a problem for many large birds with high airspeeds. This problem is dealt with in some species by aiming for a point below the intended landing area (such as a nest on a cliff) then pulling up beforehand. If timed correctly then the airspeed once the target is reached is virtually nil. Landing on water is simpler, and the larger waterfowl species prefer to do so whenever possible.

Adaptations for flight

The most obvious adaptation to flight is the wing, but because flight is so energetically demanding birds have evolved several other adaptations to improve efficiency when flying. The <u>bird skeleton</u> is hollow to reduce weight, and many unnecessary bones have been lost (such as the bony tail of the early bird *Archaeopteryx*), along with the toothed jaw of early birds, which has been replaced with a lightweight <u>beak</u>. The vanes of the <u>feathers</u> have hooklets called barbules that zip them together, giving the feathers the strength needed to hold the airfoil (these are often lost in <u>flightless birds</u>).

The large amounts of energy required for flight have led to the evolution of a unidirectional pulmonary system to provide the large quantities of oxygen required for their high respiration rates. This high metabolic rate produces large quantities of radicals in the cells that can damage DNA and lead to tumours. Birds, however, do not suffer from an otherwise expected shortened lifespan as their cells have evolved a more efficient antioxidant system than those found in other animals.

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Wing clipping

Wing clipping is the process of trimming a <u>bird's</u> primary flight feathers (or primaries) so that he or she is no longer fully-flighted.

As the clip only trims feathers and not the wings themselves, it does not cause the bird major physical harm.

Since the feathers do not have nerve endings, the bird does not feel pain. Therefore, wing clipping is similar to a person having their nails clipped or their hair cut.

An appropriate wing clip will allow a bird to glide across the room without gaining altitude. If too few primaries are taken, the bird will be able to gain altitude; if too many primaries are taken, the bird will plummet like a rock. Those experienced with wing clipping will only take one or two feathers from each side at a time and see how well the bird can fly before taking more feathers, to avoid causing the bird to plummet and potentially be injured in doing so.

Many people who keep birds as pets prefer to clip their wings so that their birds will not crash into mirrors, walls, or windows, all of which are serious hazards to flighted birds: A hard crash can result in instant death.

Other people clip their birds' wings to minimize the chances of them flying away if they accidentally get outdoors. However, in the right conditions -- particularly windy days -- birds whose wings are clipped can still gain altitude and fly out of their owner's reach.

Another reason for clipping wings is to keep pet birds that are social in nature (such as parrots) more tame. When birds are unclipped, they typically have a greater sense of independence and can be less likely to socialize with their owners.

When a bird's wings are clipped, an equal number of feathers are taken from each wing. In ducks and chickens often just one wing is clipped (i.e. 10 primary feathers of one wing), they are not good fliers and to clip one wing is enough to unbalance their flight and keep them grounded. To keep a bird from being fully-flighted, wing clipping must be done after every moult, but it is important to only clip the wings when the feathers have finished growing and there is no blood in them. If the shaft resembles the ink tube of a ball point pen clipping can result in the death of the bird. Many people clip their birds' wings themselves, although it is a good idea to have an avian veterinarian, pet store employee, or breeder demonstrate the process first.

Bird intelligence

The level of **intelligence in birds**, as a scientific inquiry, has not been as thoroughly researched as similar questions regarding primates and other mammals. However, there is a general belief that they are more intelligent, as a class, than the <u>reptiles</u>, and that many species are just as intelligent as mammals of comparable size. Because <u>birds</u> lack forelimbs with which to modify their surroundings, it is often difficult to test for intelligence as we would define it for mammals. Traditionally, biological science has maintained that most actions performed by birds that may indicate intelligence are merely ingrained instinctual behaviours and that birds are unable to learn. One argument against the supposed intelligent capabilities of bird species is that birds have a relatively small cerebral cortex, which is the part of the brain considered to be the main area of intelligence in other animals [1]. However, it seems that birds use a different part of their brain, the medio-rostral neostriatum/hyperstriatum ventrale, as the seat of their intelligence, and the brain-to body size ratio of psitticines and corvines is actually comparable to that of higher primates. [2]

Studies with captive birds have given us insight into which birds are the most intelligent. While parrots have the distinction of being able to mimic human speech, studies with the African Grey Parrot have shown that some are able to associate words with their meanings and form simple sentences. Along with parrots, the crows, ravens, and jays (family Corvidae) are perhaps the most intelligent of birds. Not surprisingly, research has shown that these species tend to have the largest hyperstriata. Dr. Harvey J. Karten, a neuroscientist at UCSD who has studied the physiology of birds, discovered that the lower part of avian brains are similar to ours.

- 1 Indications of intelligence in bird species
 - 1.1 Vision
 - 1.2 Social behaviour
 - o 1.3 Use of tools
 - o 1.4 Language
 - o 1.5 Migration
 - 1.6 Conceptual skills
 - o 1.7 Other interesting behaviors showing higher intelligence
- <u>2 References</u>

Indications of intelligence in bird species

Vision

Birds rely heavily on their eyes for flying and navigation. The brains of many birds must be able to handle tasks differently from other animals. All flying birds must possess a fine level of motor control for in-flight maneuvering and landing.

Most small birds are prey animals. Detecting the movement of predators in their environment is critical. Their eyes are positioned on the sides of their heads to make this easier. They have monocular vision.

Other predatory species like <u>owls</u> are built differently. Their eyes are positioned in the front of their heads so that they can calculate and maneuver a successful strike on a moving target. Owls eyes are so large proportionally, they cannot move them independently. They are stationary inside the skull. That's why they can rotate their heads nearly 360 degrees.

A <u>bird of prey</u> searching for a small rodent from high above the ground must be able to process a huge amount of complex visual information. It helps that they can see in a different color spectrum than humans. According to a video series distributed by PBS.org called "The Life Of Birds" by David Attenborough, new research shows that hawks, for example, can easily see the urine in the grass found around mouse habitats because it glows fluorescently for them. Seeing in a different color spectrum also helps individual birds determine the sex of other members of their species. Light reflects differently off the feathers of males and females. Perceiving this from a distance is obviously an advantage for a bird who is defending his territory.

Social behaviour

Some scientists argue that the more social animals are, the more intelligent they seem to be. The human race itself is an example of evidence that would support this conjecture. Both parrots and corvids have shown tendencies towards organized social behaviour. Many corvid species separate into small family groups or "clans" for activities like nesting and territorial defense. The birds will then congregate in massive flocks made up of several different species for migratory purposes. When the migration period is over, they will return to their original family groups. Scientists report that such behaviours indicate intelligence, as they would require the birds to not only recognize and remember their former companions, but also to interpret subtle changes in temperament and appearance.

Some birds use teamwork while hunting. Predatory birds hunting in pairs have been observed using a "bait and switch" technique, whereby one bird will distract the prey while the other swoops in for the kill.

Use of tools

Like primates, many bird species have taught themselves to use tools.

- New Caledonian Crows have been observed in the wild to use stick tools with their beaks to extract insects from logs. While young birds in the wild normally learn this technique from elders, a laboratory crow named "Betty" improvised a hooked tool from a wire with no prior experience [3]. The woodpecker finch also uses simple stick tools to assist it in obtaining food.
- In captivity, a young cactus finch learned to imitate this behaviour by watching a woodpecker finch in an adjacent cage.
- British documentarian David Attenborough, in his mini-series The Life of Birds, captured an innovation the crows in urban Japan had developed. They dropped hard-shelled nuts onto crosswalks. Once they were cracked by cars that ran over them, they were retrieved while the cars were stopped at a red light.
- Striated Herons (*Butorides striatus*) use bait to catch fish.

Language

While birds have no form of spoken language, they do communicate with their flockmates through song, calls, and body language. Studies have shown that the intricate territorial songs of some birds must be learned at an early age, and that the memory of the song will serve the bird for the rest of its life. Some bird species are able to communicate in a variety of dialects. For example, the New Zealand saddleback will learn the different song "dialects" of clans of its own species, much as human beings might learn diverse regional dialects. When a territory-owning male of the species dies, a young male will immediately take his place, singing to prospective mates in the dialect appropriate to the territory he is in.

Recent studies indicate that they may also have an ability to understand grammatical structures.

A controversial study conducted by Ryan B. Reynolds has suggested budgerigars are able to form simple, meaningful sentences. The evidence consists so far of only audio files, but they have yet to be either proven or disproven. 41.

Migration

Scientists who have studied the mechanisms of <u>bird migration</u> over long distances have shown that while a bird may be instinctively able, and biologically equipped, to make a first flight on its own, adults are less prone to wander off-course than first-year fledglings. The birds were able to learn from experience or remember landmarks for the benefit of future flights.

When a group of birds fly together, they often form a **V** shape. This creates a slipstream between the birds, making an area of reduced pressure in the middle of the formation. This

reduces air-resistance, enabling the flock to travel up to 75% faster than they would individually. The first bird encounters the majority of the air-resistance; as a consequence, the lead bird changes repeatedly as the flock travels. If a bird falls out of formation, two other birds generally leave with that bird to help it return to the flock with a similar formation.

Moreover, birds observe and integrate subtle visual clues to aid in their navigation, including the movement of the sun, visual landmarks, cloud movements, wind direction, and the earth's own magnetic field. Individual birds use different sources of information to navigate and may switch from one source to another while in flight.

Conceptual skills

Some birds, notably pigeons, have demonstrated the ability to conceptualize. In one study, conducted at Harvard in 1964, it was shown that pigeons have a general concept of "human," which includes male humans and female humans, individual body parts, and the human body from the back, from below, and from above. When shown photographs of all of the above, the pigeons recognized the photos as "human." They also recognized photographs of human beings in "disguise" (i.e, a human in the nude, wearing strange clothes, or shown out of proportion).

Another study conducted with pigeons showed that the birds were able to distinguish between the artworks of different artists. For example, they could tell the difference between a Picasso and a Monet.

Other interesting behaviors showing higher intelligence

In an article published in 1995 by the National Geographic magazine, the macaw project at Tambopata Research Center in the rain forest of Peru studied what the wild birds eat. Since most food items are available only seasonally, researchers discovered that during the dry season, birds are forced to eat seeds that are poisonous. To medicate themselves, hundreds of birds of many species of parrots and macaws congregate at a nearby riverbank at the world's largest known avian clay lick. The clay that they consume helps bind the toxins and prevent sickness in the birds. [4]

Cormorants used by Chinese fisherman are often rewarded with fish on every seventh fish that they catch. The cormorants learn this pattern and are able to keep count and predict their reward and will wait for it if the fisherman fails to keep count.

Hummingbirds feeding on bushes with flowers are able to remember the spatial distribution of flowers that have nectar and ones that do not and will not revisit bad ones.

Many frugivorous birds have seasonal foraging patterns based on the flowering and fruiting seasons and the locations of fruiting trees in a forest.

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Language of the birds

A **language of the birds**, a mystical, perfect or divine language, or a mythical or magical language used by birds to communicate with the initiated, is postulated in mythology, medieval literature and occultism.

- 1 History
 - o 1.1 Mythology
 - o 1.2 Folklore
 - o 1.3 Religion
 - o 1.4 Alchemy
 - o 1.5 Culture
- <u>2 References</u>

History

Birds played an important role in Indo-European religion, used for divination by augurs, and according to a suggestion by Walter Burkert, these customs may have their roots in the Paleolithic when during the Ice Age, early humans used to look for carrion by observing birds.

From the Renaissance, it was the inspiration for some magical a priori languages, in particular musical languages. Whistled languages based or constructed on or articulated natural languages used in some cultures are sometimes also referred to, and compared with, the language of the birds.

Mythology

According to Apollonius Rhodius, the figurehead of Jason's ship, the Argo, was built of oak from the sacred grove at Dodona and could speak the language of birds. The language of birds in Greek mythology may be attained by magical means. Democritus, Anaximander, Apollonius of Tyana, Tiresias, Melampus and Aesopus were all said to have understood the birds.

According to several Norse sagas, dragons' blood gives its drinker the power to understand the speech of birds.

In Celtic mythology, birds usually represent prophetic knowledge or bloodshed (especially <u>crows</u>). Morrigan adopted the shape of a bird to warn the Brown Bull. Echoing stories of the Edda and the Mabinogion, Richard Wagner's Siegfried understands the birds after he tasted Fafner's blood.

Folklore

The concept is also known from many folk tales (including Welsh, Russian, German, Estonian, Greek), where usually the protagonist is granted the gift of understanding the language of the birds either by some magical transformation, or as a reward for some good deed by the king of birds. The birds then inform or warn the hero about some danger or hidden treasure.

Religion

In Sufism, the language of birds is a mystical language of angels. The Conference of the Birds (mantiq at-tair) is a mystical poem of 4647 verses by the 12th century Persian poet Farid ud-Din Attar [1].

Francis of Assisi is said to have preached to the birds.

In the Talmud (Louis Ginzberg, Legends of the Bible, 1909), Solomon's proverbial wisdom was due to his being granted understanding of the language of birds by God.

Alchemy

In Kabbalah, Renaissance magic, and alchemy, the language of the birds was considered a secret and perfect language and the key to perfect knowledge, sometimes also called the langue verte, or green language (Jean Julien Fulcanelli, Heinrich Cornelius Agrippa *de occulta philosophia*).

Culture

In medieval France, the language of the birds (la langue des oiseaux) was a secret language of the Troubadours, connected with the Tarot, allegedly based on puns and symbolism drawn from homophony, e. g. an inn called *au lion d'or* "the Golden Lion" is allegedly "code" for *au lit on dort* "in the bed one sleeps" [2] (note that this particular pun cannot be medieval, since final t was pronounced until Middle French, c.f. e.g. the 14th century loanword *bonnet*).

Compare also the rather comical and satirical Birds of Aristophanes and Parliament of Fowls by Chaucer.

"The language of the birds" (Die Sprache der Vögel) is a 1991 German movie. Jean Sibelius composed a wedding march titled "The language of the birds" in 1911. The children's book author Rafe Martin has written "The Language of Birds" as an adaptation of a Russian folk tale; it was made into a children's opera by composer John Kennedy.

In Egyptian Arabic, hieroglyphic writing is called "the alphabet of the birds". In Ancient Egyptian itself, the hieroglyphic form of writing was given the name *medu-netjer* ("words of the gods" or "divine language").

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Nidification

Nidification is the process of making a nest. Nidification is with most birds the beginning of the breeding season, but with many it is a labor that is scamped if not shirked. Some of the auk tribe place their single egg on a bare ledge of rock, where its peculiar conical shape is but a precarious safeguard when rocked by the wind or stirred by the thronging crowd of its parents' fellows. The stone-curlew and the goatsucker deposit their egsfdsfsdfgs without the slightest preparation of the soil on which they rest; yet this is nodfsdfsdfsdfsdfsdf done at haphazard, for no birds can be more constant in selecting, almost to an inch, the very same spot which year after year they choose for their procreant cradle. In marked contrast to such artless care stand the wonderful structures, which others such as the tailorbird, the bottle titmouse or the fantail warbler, build for the comfort or safety of their young. But every variety of disposition may be found in the class. The apteryx seems to entrust its abnormally big egg to an excavation among the roots of a tree fern; while a band of female ostriches scrape holes in the desert-sand and therein promiscuously drop their eggs and leave the task of incubation to the male. Some megapodes bury their eggs in sand, leaving thorn to come to maturity by the mere warmth of the ground, while others raise a huge hotbed of dead leaves wherein they deposit theirs, and the young are hatched without further care on the part of either parent. Some of the grebes and rails seem to avail themselves in a less degree of the heat generated by vegetable decay and, dragging from the bottom or sides of the waters they frequent fragments of aquatic plants, form of them a rude half-floating mass which is piled on some growing water-weed but these birds do not spurn the duties of maternity.

Many of the gulls, sandpipers and plovers lay their eggs in a shallow pit which they hollow out in the soil, and then as incubation proceeds add thereto a low breastwork of stems. The ringed plover commonly places its eggs on shingle, which they so much resemble in color, but when breeding on grassy uplands it paves the nest-hole with small stones. <u>Pigeons</u> mostly make an artless platform of sticks so loosely laid together that their pearly treasures may be perceived from beneath by the inquisitive observer.

The magpie, as though self-conscious that its own thieving habits may be imitated by its neighbors, surrounds its nest with a hedge of thorns. Very many birds of almost every group bore holes in some sandy cliff, and at the end of their tunnel deposit their eggs with or without [bedding. Such bedding, too, is very various in character; thus, while the sheidduck and the sand martin supply the softest of materials the one of down from her own body, the other of feathers collected by dint of diligent search, the kingfisher forms a couch of the undigested spiny fish bones which she ejects in pellets from her own stomach. Other birds, such as the woodpeckers, hew holes in living trees, even when the timber is of considerable hardness, and therein establish their nursery. Some of the swifts secrete from their salivary glands a fluid which rapidly hardens as it dries on exposure to the air into a substance resembling isinglass, and thus furnish the "edible birds' nests" that are the delight of Chinese epicures. In the architecture of nearly all the passerine birds, too, some salivary secretion seems to play an important part. By its aid they are enabled to moisten and bend the otherwise refractory twigs and straws, and glue them to their place. Spider webs also are employed with great advantage for the purpose last mentioned, but perhaps chiefly to attach fragments of moss and lichen so as to render the whole structure less obvious to the eye of the spoiler. The tailorbird deliberately spins a thread of cotton and therewith stitches together the edges of a pair of leaves to make a receptacle for its nest. Beautiful, too, is the felt fabricated of fur or hairs by the various species of titmouse, while many birds ingeniously weave into a compact mass both animal and vegetable fibers, forming an admirable insulating medium which guards the eggs from the extremes of temperature outside. Such a structure may be open and cup-shaped, supported from below as that of the chaffinch and goldfinch, domed like that of the wren and bottle-titmouse, slung hammock wise as in the case of the golden-crested wren and the orioles, or suspended by a single cord as with certain grosbeaks and hummingbirds. Certain warblers (Aedon and Thamnobia) invariably lay a piece of shedded snake skin in their nests-to repel, it has been suggested, marauding lizards who may thereby fear the neighborhood of a deadly enemy.

The clay-built edifices of the swallow and martin are known to everybody, and the nuthatch plasters up the gaping mouth of its nest-hole till only a postern large enough for entrance and exit, but easy of defense, is left. In South America the ovenbirds (Furnariidae) construct on the branches of trees globular ovens, so to speak, of mud, wherein the eggs are laid and the young hatched. The flamingo erects in the marshes it frequents a mound of earth sometimes 2 feet in height, with a cavity atop. The females of the hornbills submit to incarceration during this interesting period, the males immuring them by a barrier of mud, leaving only a small window to admit air and food. But though in a general way the dictates of hereditary instinct are rigidly observed by birds, in many species a remarkable degree of elasticity is exhibited, or the rule of habit is rudely broken. Thus the falcon, whose ordinary eyry is on the beetling cliff, will for the convenience of procuring prey condescend to lay its eggs on the ground in a marsh, or appropriate the nest of some other bird in a tree. The golden eagle, too, remarkably adapts itself to circumstances, now rearing its young on a precipitous ledge, now on the arm of an ancient monarch of the forest and again on a treeless plain, making a humble home amid grass and herbage. Herons will breed according to circumstances, in an open fen, on banks or, as is most usual, on lofty trees. Such changes are easy to understand. The instinct of finding food for the family is predominant, and where most food is there will the feeders be gathered together. This explains, in all likelihood, the associated bands of ospreys or fish hawks, which in North America breed, or used to breed, in large companies where sustenance is plentiful, though in the Old World the same species brooks not the society of aught but its mate. Birds there are of eminently social predilections.

In Europe, apart from sea birds, whose congregations are universal and known to all, only the heron, the fieldfare and the rook habitually flock during the breeding season; but in other parts of the world many birds unite in company at that time, and in none possibly is this habit so strongly developed as in the anis of the neotropical region, the republican swallow of North America and the sociable grosbeak of South Africa, which last joins nest to nest until the tree is said to break down under the accumulated weight of the common edifice. In the strongest contrast to these amiable qualities is the parasitic nature of the cuckoos of the Old World and the cowbirds of the New. The egg of the parasite is introduced into the nest of the dupe, and after the necessary incubation by the fond fool of a foster mother the interloper successfully counterfeits the heirs, who perish miserably, victims of his superior strength. The whole process has been often watched, but the reflective naturalist will pause to ask how such a state of things came about, and there is not much to satisfy his inquiry. Certain it is that some birds whether by mistake or stupidity do not infrequently lay their eggs in the

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nests of others. It is within the knowledge of many that pheasant and partridge eggs are often laid in the same nest, and gull eggs have been found in the nests of eider ducks and vice versa; a redstart and a pied flycatcher will lay their eggs in the same convenient hole, the forest being rather deficient in such accommodation; an owl and a duck will resort to the same nest box, set up by a scheming woodsman for his own advantage; and the starling, which constantly dispossesses the green woodpecker, sometimes discovers that the rightful heir of the domicile has to be brought up by the intruding tenant. In all such cases it is not possible to say which species is so constituted as to obtain the mastery, but it is not difficult to conceive that in the course of ages that which was driven from its home might thrive through the fostering of its young by the invader, and thus the abandonment of domestic habits and duties might become a direct gain to the evicted householder.

The correlation between nests and the coloration of the birds has been investigated by A. R. Wallace. Accordingly he divides birds into two main groups, first those in which the sexes are alike and of conspicuous or showy colors, and which nidificate in a covered site; secondly, those in which the males are showy and the females somber, and which use open sites for their nests.

The many exceptions to these generalizations caused J. A. Allen to write an adverse criticism. C. Dixon has reviewed the question from Wallace's point of view. He established the following categories.

- 1. Birds in which the <u>plumage</u> of the male is bright and conspicuous in color, and that of the female dull and somber, and which nidificate in open sites. In these very common cases, the female alone incubates, and obviously derives protection from its inconspicuous plumage.
- 2. Birds in which the plumage of both sexes is showy or brilliant in color, and which nidificate in open nests. This group forms one of those exceptions, which at first sight appear seriously to affect the validity of Wallace's theory. In most of the cases, however, the birds, as, for instance, <u>crows</u>, <u>gulls</u>, herons, are either well able to defend themselves and their nests or, as, for instance, the sandpipers, they seek safety for themselves in flight, relying upon the protective tints of their eggs or young.
- 3. Birds in which the male is less brilliant than the female, and which nidificate in open nests. Such birds are exceedingly few, e.g. the Phalaropes, the common cassowary, the emu, a carrion hawk (Milvago leucurus) from the Falkland Islands, an Australian treecreeper (Climacteris erythrops) and an Australian goatsucker (Eurystopodus albigularis). In all these cases the male performs the duty of incubation. The male tinamous do the same, although they do not differ from their mates, but the conspicuously colored male <u>ostrich</u> takes this duty upon himself during the night.
- 4. Birds in which both sexes are brightly colored, and which rear their young in holes or covered nests. For instance, the gaudy colored rollers, bee-eaters, kingfishers, the hoopoe, hornbills, toucans, parrots, tits, the sheldrake and many others.
- 5. Birds in which both sexes are dull in color, and which build covered nests from motives of safety other than concealment. For example, the <u>swifts</u> (Cypselus), the sand martin (Cotyle riparia), <u>wrens</u>, <u>dippers</u> and <u>owls</u>.
- 6. Birds in which the female is duller in color than the male, and which nidificate in covered nests. For example, the redstart (Ruticilla phoenicura), the pied flycatcher (Muscicapa atricapilla), <u>rock thrushes</u> (Monticola), <u>chats</u> (Saxicola) and <u>robin-chats</u>

(Thamnobia), and birds of the genus Malurus. In some of these cases the showy male bird assists in incubation, the kind of nest allowing him to do so with safety. Similar difficulties beset the generalizations concerning the correlation of the color of the eggs and the exposed or hidden condition of the nest. The eggs of most birds which breed in holes, or even in covered nests, are white, but the number of exceptions is so great that no general rule can be laid down to this effect. Conversely the number of birds that lay purely white eggs in open nests, such as pigeons, is also large.

The eggs of <u>owls</u> are always white, whether they are deposited in holes on the bare ground or in open nests in a tree. The eggs of the goshawk are white, but those of its small relation, the sparrow hawk, are always blotched, the nest of both being built precisely in the same kind of position. In regard to the almost countless cases of spotted eggs in holes or covered nests, of which so many groups of birds furnish examples either wholly or in part, it has been suggested that the <u>species</u> in question has taken to hiding its eggs in times comparatively recent, and has not yet, got rid of the ancestral habit of secreting and depositing pigment.

Most of the smaller Passeres seem to hatch their young in from 13-15 days. The shortest period, only 10 days, is recorded of the small Zosterops coerulescens; the largest, amounting to about 8 weeks, is that of some of the larger Ratitae, penguins and the condor. The best list, comprising birds of most groups, is that by W. Evans. Speaking broadly, the largest birds lay the largest eggs and require the longest time for incubation, but there are very many exceptions, and only birds of the same group can be compared with each other. The domestic chicken takes 21 days, but the pheasant, though so very nearly allied, takes 2 or 3 days longer, and even the small partridge requires 24 clays. The mallard takes 26, the domestic duck 27, the musk duck 35 days, like most of the swans.

The cuckoo, with 13 to 14 days, seems to have adapted itself to the short period of its foster parents. The whole question still affords ample opportunities of experimental investigation and comparison. The condition of the newly hatched birds also varies extremely. The Nidifugae are born with their eyes open, are thinly clothed with neossoptiles of simple structure, leave the nest on the first day and feed themselves. The Nidicolae are born blind, remain a long time in the nest and have to be fed by their parents. Taken as a whole, the Nidifugae comprise most of the phylogenetically older groups; but many of these may include some closely allied members which have reached the developmental level of the Nidicolae: for instance, some Alcidae, the pigeons, Sphenisci, Tubinares, Ciconiae. While in the first category the sense, tegumentary and locomotory organs are far advanced, these are retarded in the Nidicolae, the development of these structures being shifted onto the postembryonic period. Yet the length of the incubation is by no means always longer in the Nidifugae, when compared with equal-sized Nidicolae.

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• This article incorporates text from the Encyclopædia Britannica Eleventh Edition, a publication now in the public domain.

Aviculture

Aviculture is the practice of keeping and often breeding pet <u>birds</u>, generally <u>companion</u> <u>parrots</u>, and the culture that forms around it. Aviculture is generally focused not just on the raising and breeding of birds, but also on preserving avian habitat, and public awareness campaigns.

- 1 Types of aviculture
- 2 Avicultural societies
- <u>3 Avicultural publications</u>

Types of aviculture

There are various reasons that people get involved in aviculture. Some people breed birds to preserve a <u>species</u>, some breed parrots as companion birds, and some breed birds to make a profit.

The truest meaning of aviculture is that described by Dr. Jean Delacour, the most influential individual aviculture has ever seen-

"Aviculture- The worldwide hobby of keeping and breeding numerous species of wild birds in captivity to maintain their numerical status in nature with a view of forestalling their extinction by supplying aviary raised stock"

Avicultural societies

There are avicultural societies throughout the world, but generally in Europe and the United States, where people tend to be more prosperous and have more leisure time to invest in such an expensive and time-consuming hobby.

Avicultural publications

Like many hobbies, there are many publications catering to aviculture, books on species as pets, books on breeding, and introductory books for parrots and softbills. There are also numerous periodicals, both generalized and specific to types of birds, although they are rarely more specific than "parrot." These periodicals contain articles on breeding, care, companionship, choosing a bird, health effects, and usually several on an individual species or genus.

Domesticated birds

Australian Spotted

The name **Australian Spotted** is something of a misnomer, as the **Australian Spotted duck** is one of the few breeds of <u>domesticated ducks</u> that originated in the United States. John C. Kriner and Stanley Mason of Pennsylvania developed this breed by allowing Calls, Mallards, Pintails, and various Australian wild ducks to crossbreed for several years before selecting the desired specimens. The first exhibit of the Australian Spotted began in 1928.

Many duck enthusiasts don't believe that Pintails contributed to the acculturation, because a Mallard dirivative X Pintail renders a sterile duck due to chromosomal differences. However, it is possible for a rare mutant Mallard-Pintail cross to pass on its genes to generations to come, leaving it possible that the Pintail did indeed contribute to the specimens. David Holderread, one of the top waterfowl breeders in the United States, has said that he has observed various traits in the Australian Spotted that are distinct to Pintails.

Barbary Dove

Ringneck Dove

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Columbiformes Family: Columbidae Genus: Streptopelia Species: S. risoria

Binomial name: Streptopelia risoria, Linnaeus, 1758

The **Ringneck Dove**, **Ring Dove**, or **Barbary Dove**, *Streptopelia risoria*, is a small domestic dove.

Although the Ringneck Dove is normally assigned its own systematic name, as *Streptopelia risoria*, considerable doubt exists as to its appropriate classification. Some sources confidently assert that it is a domestic form of the Eurasian Collared Dove, S. decaocto, but the majority of evidence points to it being a domesticated form of the African Collared Dove, S. roseogrisea. It appears that it can hybridise freely with either species, and its status as a species must therefore be regarded as doubtful. However because of the wide use of both the common and systematic names, it is best to consider it separately from either of the putative parent species.

Ringneck Doves have been domesticated for 2000 to 3000 years. They are easily kept, and long-lived, in captivity, living for up to 12 years, and are noted for their gentle nature. In recent years they have been used extensively in biological research, particularly into the hormonal bases of reproductive behaviour, because their sequences of courtship, mating and parental behaviour have been accurately described and are highly consistent in form. Dove fanciers have bred them in a great variety of colours; the number of colours available has increased dramatically in the latter half of the twentieth century, and it is thought that this has been achieved by interbreeding with *S. roseogrisea*.

The *coo* of the ringneck dove is created by muscles that vibrate air sent up from the dove's lungs. These muscles belong to the fastest known class of vertebrate muscles, contracting as much as ten times faster than muscles vertebrates use for running. This class of muscles is usually found in high speed tissue such as a rattlesnake's tail. Ringneck doves are the first bird species to have been found to have this class of muscle. (Elemans, *et al.*, 2004)

Feral populations of Ringneck Doves establish themselves readily as a result of escapes from captivity, but they will merge with local populations of Collared Doves if they exist. There is a small feral population in Los Angeles, California, where neither *S. decaocto* nor *S. roseogrisea* is currently found.

NICOLAE SFETCU: THE BIRDS WORLD

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Budgerigar

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Subfamily: Psittacinae Tribe: Platycercini

Genus: Melopsittacus, Gould, 1840 Species: M. undulatus Binomial name: Melopsittacus

undulatus (Shaw, 1805)

The **Budgerigar** (*Melopsittacus undulatus*, nicknamed *budgie*), the only species in the Australian genus *Melopsittacus*, is a small parrot belonging to the tribe of the <u>broad-tailed parrots</u> (Platycercini); these are sometimes considered a subfamily (Platycercinae), which may be correct, in which the budgerigar is then placed as a separate tribe (*Melopsittini*), which is almost certainly erroneous. Though budgerigars are often called *parakeets*, especially in American English, this term refers to any of a number of small parrots with long flat tails. The budgerigar is found throughout the drier parts of Australia and has survived in the inlands of that continent for over 5 million years.

- 1 Etymology
- 2 Characteristics
 - o 2.1 Colour Mutations
- 3 Habitat and behaviour
- 4 Budgerigars in captivity
- 5 "Context speaking" budgerigars
 - 6 References

Etymology

At least two possible origins for the English name *budgerigar* have been proposed:

- A compound of *budgery*, "good" and *gar* "cockatoo" in some Australian Aboriginal languages. This is supported by the Oxford English Dictionary. The word *budgery* itself, also spelt *boojery*, was formerly in use in Australian English slang meaning "good".
- An alteration of Gamilaraay gidjirrigaa (IPA: /ai_iriaaĐ/)[3], possibly influenced by the slang word *budgery* mentioned above. This is supported by the American Heritage Dictionary.

The genus name *Melopsittacus* comes from Greek and means "melodius parrot". The species name undulatus is Latin for "undulated" or "wave-patterned".

Characteristics

Budgerigars are about 18 cm long and weigh 30-40 grams. Wild budgerigars have green underparts and rumps, while the upperparts are barred with black and yellow. The forehead and face is yellow in adults, and barred black with yellow in young till they change into their adult plumage at 3-4 months of age. Each cheek has a small dark purple patch and a series of black spots across the throat. The tail is greenish blue or purple; outside tail feathers have a central yellow band. Their wings have greenish-black flight feathers and black coverts with yellow fringes. Bill olive grey and legs greyish blue, with zygodactyl toes. Wild budgerigars are noticeably smaller than those in captivity. These parrots have been bred in many other colours in captivity, such as white, blue, and even purple, although they are mostly found in pet stores in blue, green and seldomly white.

The colour of the cere (the area containing the nostrils) differs between the sexes; royal blue in males, pale-brown to white(non-breeding) or brown (breeding) in females and pink in immatures of both genders (usually of a more even purplish-pink colour in young males). Young females can often be identified by a subtle chalky whiteness that starts around the cere nostril holes. Males that are albinos, lutinos or recessive pieds usually retain the immature purplish-pink cere color their entire life. [5][4]

Colour Mutations

There are presently at least 32 primary mutations in the Budgerigar Parakeet enabling hundreds of possible secondary mutations (stable combined primary mutations) & colour varieties (unstable combined mutations)

Of which the australian-recessive-grey-factor, the BrownWings, the DarkWings, the english-recessive-grey-factor, the Faded the english-recessive-grey-factor, the NSL-Ino & the SaddleBack mutations are either highly uncommon, extremelly rare &/or presumed 'extinct' of visual specimens.

Each of those 32 primary mutations belonging to either one of the 4 basic groups of mutations classified in Parrot species genetics. Namely;

Albinism: where eumelanin is reduced in ALL body tissues & structures deviding into 2 sub-groups; Complete-Albinism & Incomplete aka Partial Albinism,

Dilutism: where eumelanin is always +/- incompletely (never completely) reduced virtually only in feathering,

Leucism: where eumelanin is reduced virtually only in feathering and devides into 2 subgroups; Total-Leucism & Local-Leucism,

Melanism: where eumelanin is +/- increased virtually only in feathering.

Each of those 32 primary mutations inherit either:

autosomal-Co-Dominant (A-Co-D), autosomal-Complete-Dominant (A-C-D), autosomal-Incomplete-Dominant (A-I-D), autosomal-recessive (A-R), autosomal-Poly-Genic (A-P-G) Sex-Linked-recessive (S-L)

It must be noted that : the word autosomal is often replaced as a synonym by the NSL acronym standing for Non-Sex-Linked.

Here's a listing of the Budgerigar aka Budgie Parakeet's 32 primary mutations genetic identities, followed by their common names in parenthesis, followed by their according allele &/or Locus symbols & ending with their genetic inheritance;

Blue Loci (plural of Locus):

Dark-Factor : *D*-Locus : A-Co-D with regards to only other Blue Loci alleles &/or always otherwise A-I-D

Blue : bl*bl : A-Co-D with regards to only other Blue Loci alleles &/or always otherwise A-R

BlueII : blII-Locus : A-Co-D with regards to only other Blue Loci alleles &/or always otherwise A-R

YellowFacedBlue : *bllI**yf : A-Co-D with regards to only other Blue Loci alleles &/or always otherwise A-R

 $\label{localized} Golden Faced Blue: \textit{bll1*} gf: A-Co-D \ with \ regards \ to \ only \ other \ Blue \ Loci \ alleles \ \&/or \ always \ otherwise \ A-R$

Structural mutations:

Crest-Factor : *Cr*-Locus : A-P-G Dark-Factor : *D*-Locus : A-I-D

Grey-Factor (Dominant-Grey-Factor) : *G*-Locus : A-C-D grey-factor (english-recessive-Grey-Factor) : *g*-Locus : A-R grey-factor (australian-recessive-Grey-Factor) : *ag*-Locus : A-R

Violet-Factor: V-Locus: A-I-D

Dilutistic mutations:

dil-Locus (Dilute Locus) multiple-allelic-series :

Suffused (Dilute) : dil^*dil : A-Co-D with regards to only other dil-Locus alleles &/or always otherwise A-R

ClearWings : *dil**cw : A-Co-D with regards to only other *dil*-Locus alleles &/or always otherwise A-R

GreyWings : \emph{dil}^*gw : A-Co-D with regards to only other \emph{dil} -Locus alleles &/or always otherwise A-R

Local-Leucistic (Pied) mutations:

ADM (Anti-DiMorphic) Pied (danish-pied, recessive-pied, harlequin): s-Locus: A-R Piebald (Australian-Pied): Pb-Locus: A-C-D

Pied (Continental_Dutch-Pied & Clear-Flighted_Dutch-Pied): Pi-Locus: A-C-D

Total-Leucistic (Clear) mutations:

Spangle-Factor: Sp-Locus: I-D

Dark-Eyed-Clear : *dil*cw / dil*gw* : is not a genuine primary mutation but a mutation variety produced by the visual combination of ADM-Pied & either Dutch-Pied varieties : A-Co-D

Albinistic mutations:

NSL-Albinism (recessive-albinism) : *a*-Locus : multiple-allelic-series :

NSL-Ino (recessive-Ino) : a*a : A-R

Bronze_Fallow (german_Fallow): a*bz: A-Co-D with regards to only other *a*-Locus alleles &/or always otherwise A-R *This mutation more precisely belongs in the Incomplete-Albinistic mutations but it was necessary to display it's relationship with the *a*-Locus*

Brown or BrownWings (sepia): b-Locus: presumed A-Co-D with regards to only other a-Locus alleles a-Co-D with regards to only other a-Co-D with rega

Cinnamon (CinnamonWings): cin-Locus: S-L-R

Dun_Fallow aka Grey-Brown_Fallow (english_Fallow): df-Locus: A-R

Faded: fd-Locus: A-R

possible Beige_Fallow aka Pale-Brown_Fallow (australian_Fallow): pf-Locus: A-R

possible Plum-Eyed_Fallow (scotish_Fallow) : pl-Locus : A-R

SL-Albinism: ino-Locus: multiple-allelic-series:

SL-Ino: ino-Locus: S-L-R

SL-ClearBody: *ino**cl: SL-Co-D with regards to only other *ino*-Locus alleles &/or always otherwise S-L-R

Malaniana

Melanism:

BlackFace : bf-Locus : A-R

Other mutations:

DarkWings : dw-Locus : A-I-D

Dominant-ClearBody: Cl-Locus: A-C-D

Opaline : *op*-Locus : S-L-R SaddleBack : *sb*-Locus : A-R

Slate: sl-Locus: S-L-R

Habitat and behaviour

Budgerigars are nomadic birds found in open habitats, primarily in Australian scrubland, open woodland and grassland. The birds are normally found in small flocks, but can form very large flocks under favourable conditions. The species is extremely nomadic and the movement of the flocks is tied to the availability of food and water.[4] Drought can drive flocks into more wooded habitat or coastal areas. They feed on the seeds of spinifex, grass weeds, and sometimes ripening wheat. [6][4].

Feral birds are found in the St Petersburg, Florida area in the United States, but are much less common than they were back in the early 1980's. Colder than normal winter temperatures in some years and increased competition from European Starlings are the main reasons for the declining population.

Breeding takes generally place between June and September in the North and between August and January in the South but they are opportunistic breeders responding to the rains when grass seeds become most abundant. Populations in some areas have increased as a result of increased water availability at farms. The nest is in a hole in a tree, fence post or even a log laying on the ground; the 4-6 eggs are incubated for 17-19 days, with the young fledging about 30 days after hatching.

Both male and female budgerigars sing and can learn to mimic sounds, although both singing and mimicry are more pronounced in males.

Budgerigars in captivity

The budgerigar is one of the few parrots to be domesticated as a pet. Believed to be the most common pet parrot in the world, it has been bred in captivity since the 1850s. Breeders have worked over the decades to produce a wide range of colour and feather mutations, such as yellow, blue, white, violet, olive, albino and lutino (yellow), clearwing and spangled. Feather mutations can produce crests or overly long shaggy feathers known as "feather dusters".

Modern *show budgerigars*, also called *English budgerigars*, are larger than their wild cousins, with puffy head feathers, giving them an exaggerated look. The eyes and beak can be almost totally obscured by feathers. Such birds are reported to be more prone to genetic mutations because of inbreeding. Most budgerigars in the pet trade are not of the show variety and are similar in size and body conformation to wild budgerigars.

Budgerigars can be taught to speak, whistle tunes, and play with humans. They are intelligent and social animals and enjoy the stimulation of toys and interaction with humans as well as with other budgerigars. A common behaviour is the chewing of material such as wood, especially for female budgerigars.

In captivity, budgerigars live an average of five to eight years, but are reported to occasionally live to 15 if well cared for The life span depends on the budgerigar's breed (show budgerigars typically do not live as long as the common budgerigars) and the individual bird's health, which is influenced by exercise and diet.

Although wild budgerigars eat grass seeds almost exclusively, avian veterinarians recommend supplementation with foods such as fresh fruits and vegetables, sprouted seeds, pasta, whole wheat bread and other healthy human foods, as well as pellets formulated for small parrots. Adding these foods provides additional nutrients and can prevent obesity and lipomas, as can substituting millet, which is relatively low in fat, for seeds mixes. Budgerigars do not always adapt readily to dietary additions, however. Chocolate and avocado are recognized as potential toxins. Plums, lemons, limes, and members of the cabbage family

are bad for them as well. Recommended fruits and vegetables are apples, oranges, bananas, strawberries, carrots, unsprayed lettuces, parsley, peaches and spinach.

"Context speaking" budgerigars

In 2001, budgie owner Ryan B. Reynolds of Ontario, Canada received much publicity due to his release to the press of certain recordings of his talking budgie, *Victor*. In these recordings, *Victor* performed what appeared to be "speaking in context". To the layperson, the recordings appeared to audibly demonstrate that Victor was able to use his 1000+ word vocabulary to express coherent lines of thought, meaning and reasoning. Despite the widespread TV, newspaper and radio publicity the recordings received in 2001, the recordings have yet to be scientifically analysed, proven, (or disproven)¹⁹¹.

A budgerigar named Puck holds the world record for the largest vocabulary of any bird, at 1,728 words. [1]

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Cayuga Duck

A **Cayuga Duck** is a breed of <u>domesticated duck</u> used for egg and meat production as well as an ornamental bird. The Cayuga name is taken from Lake Cayuga in New York State where the breed was popularized. The traditional story for the development of this breed is that a miller in Dutchess County captured two wild black ducks and used pinioning to keep them at his pond. The offspring of this pair was prized for flavorfull meat and breeding efficiency.

Adult Cayuga ducks weigh approximately 6 pounds, and are characterized by a black bill and black <u>plumage</u> which is an iridescent beetle green in the correct light. The Cayuga duck has black shanks and toes. Ducklings have black plumage.

For those who wish to keep ducks, but live close to others that would make keeping the Pekin breed impractical because of the loud quack, The Cayuga duck may be an alternative as its quack is not as loud or frequent as the Pekin. The temperament of the Cayuga is docile.

The Cayuga duck will more often sit on and hatch her eggs than other domestic breeds of duck. Incubation for the eggs is 28 days. When using an incubator the temperature should be 99.5 °F at 86% humidity for days 1-25, and 98.5 °F at 94% humidity for days 26-28.

This breed of duck is listed as threatened by the American Livestock Breeds Conservancy.[2]

References

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Chicken

Conservation status: Domesticated

A Bantam rooster

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u> Genus: *Gallus*

Species: *G. gallus*

Subspecies: *G. g. domesticus*

Trinomial name: Gallus gallus domesticus

A **chicken** (*Gallus gallus domesticus*) is a type of domesticated <u>bird</u> which is often raised as a type of <u>poultry</u>. It is believed to be descended from the wild Indian and south-east Asian Red Junglefowl.

With a population of more than 24 billion in 2003 (according to the *Firefly Encyclopedia of Birds*), there are more chickens in the world than any other bird. They provide two sources of food frequently consumed by humans: their meat, also known as chicken, and eggs.

- 1 General biology and habitat
- <u>2 Courting</u>
- 3 Going broody
- 4 Artificial incubation
- <u>6 Chickens as pets</u>
- 7 Chickens in agriculture
- 8 Issues with mass production
- 9 Chicken diseases
- 10 Chickens in religion
- 11 History
 - o 11.1 Chickens in ancient Rome
- 12 A selection of chicken breeds
- 13 Famous chickens
 - o 13.1 Real chickens
 - o 13.2 Fictional chickens
 - o 13.3 Mythical creatures with chicken-like anatomy
- 14 Chicken as symbol
- <u>15 Published Sources</u>

General biology and habitat

Male chickens are known as roosters (in the U.S., Canada and Australia), cocks, or cockerels if they are young. Female chickens are known as hens, or 'chooks' in Australasian English. Young females are known as pullets. Roosters can usually be differentiated from hens by their striking plumage, marked by long flowing tails and bright pointed feathers on their necks.

However, in some breeds, such as the Sebright, the cock only has slightly pointed neck feathers, and the identification must be made by looking at the comb. Chickens have a fleshy crest on their heads called a comb, and a fleshy piece of hanging skin under their beak called a wattle. These organs help to cool the bird by redirecting bloodflow to the skin. Both the male and female have distinctive wattles and combs. In males, the combs are often more prominent, though this is not the case in all varieties.

Domestic chickens are typically fed commercially prepared feed that includes a protein source as well as grains. Chickens often scratch at the soil to get at adult insects and larvae or seed. Incidents of cannibalism can occur when a curious bird pecks at a pre-existing wound or during fighting (even among female birds). This is exacerbated in close quarters. In commercial egg production this is controlled by trimming the beak (removal of T of the top half and occasionally S of the lower half of the beak).

Domestic chickens are not capable of flying for long distances, although they are generally capable of flying for short distances such as over fences. Chickens will sometimes fly simply in order to explore their surroundings, but will especially fly in an attempt to flee when they perceive danger. Because of the risk of flight, chickens raised in the open air generally have one of their wings clipped by the breeder — the tips of the longest feathers on one of the wings are cut, resulting in unbalanced flight which the bird cannot sustain for more than a few meters (more on wing clipping).

Chickens are gregarious birds and live together as a flock. They have a communal approach to the incubation of eggs and raising of young. Individual chickens in a flock will dominate others, establishing a "pecking order", with dominant individuals having priority for access to food and nesting locations. Removing hens or roosters from a flock causes a temporary disruption to this social order until a new pecking order is established.

Chickens will try to lay in nests that already contain eggs, and have been known to move eggs from neighbouring nests into their own. Some farmers use fake eggs made from plastic or stone to encourage hens to lay in a particular location. The result of this behavior is that a flock will use only a few preferred locations, rather than having a different nest for every bird.

Hens can also be extremely stubborn about always laying in the same location. It is not unknown for two (or more) hens to try to share the same nest at the same time. If the nest is small, or one of the hens is particularly determined, this may result in chickens trying to lay on top of each other.

Contrary to popular belief, roosters may crow at any time of the day or night. Their crowing - a loud and sometimes shrill call - is a territorial signal to other roosters. However, crowing may also result from sudden disturbances within their surroundings.

Chickens are domesticated descendants of the red junglefowl, which is biologically classified as the same species.

Recent studies [1] have shown that chickens (and possibly other bird species) still retain the genetic blueprints to produce teeth in the jaws, although these are dormant in living animals. These are a holdover from primitive birds such as Archaeopteryx, which were descended from theropod dinosaurs.

Courting

When a rooster finds food he may call the other chickens to eat it first. He does this by clucking in a high pitch as well as picking up and dropping the food. This behavior can also be observed in mother hens, calling their chicks. In some cases the rooster will drag the wing opposite the hen on the ground, while circling her. This is part of chicken courting ritual. When a hen is used to coming to his "call" the rooster may mount the hen and proceed with the fertilization.

Going broody

Sometimes a hen will stop laying and instead will focus on the incubation of eggs, a state that is commonly known as *going broody*. A broody chicken will sit fast on the nest, and protest or peck in defense if disturbed or removed, and will rarely leave the nest to eat, drink, or dust bathe. While broody, the hen keeps the eggs at a constant temperature and humidity, as well as turning the eggs regularly.

At the end of the incubation period, which is an average of 21 days, the eggs (if fertilized) will hatch, and the broody hen will take care of her young. Since individual eggs do not all hatch at exactly the same time (the chicken can only lay one egg approximately every 25 hours), the hen will usually stay on the nest for about two days after the first egg hatches. During this time, the newly-hatched chicks live off the egg yolk they absorb just before hatching. The hen can hear the chicks peeping inside the eggs, and will gently cluck to encourage them to break out of their shells. If the eggs are not fertilized and do not hatch, the hen will eventually grow tired of being broody and leave the nest.

Modern egg-laying breeds rarely go broody, and those that do often stop part-way through the incubation cycle. Some breeds, such as the Cochin, Cornish and Silkie, regularly go broody and make excellent mothers.

Artificial incubation

Chicken egg incubation can successfully occur artificially as well. Nearly all chicken eggs will hatch after 21 days of good conditions - 99.5° fahrenheit (37.5°C) and around 55% relative humidity (increase to 70% in the last three days of incubation to help soften egg

shell). Many commercial incubators are industrial-sized with shelves holding tens of thousands of eggs at a time, with rotation of the eggs a fully automated process.

Home incubators are usually small boxes (styrofoam incubators are popular) and hold a few to 50 eggs. Eggs must be turned three to five times each day, rotating at least 90 degrees. If eggs aren't turned, the embryo inside will stick to the shell and likely will be hatched with physical defects. This process is natural; hens will stand up three to five times a day and shift the eggs around with their <u>beak</u>.

Chickens as pets

Chickens can make loving and gentle companion animals, but sometimes can turn nasty. It is not suggested you keep a chicken as a pet if you have young children, as they can be very territorial and violent. In Asia, chickens with striking plumage have long been kept for ornamental purposes, including feather-footed varieties such as the Cochin and Silkie from China and the extremely long-tailed Phoenix from Japan. Asian ornamental varieties were imported into the United States and Great Britain in the late 1800s. Poultry fanciers then began keeping these ornamental birds for exhibition, a practice that continues today. From these Asian breeds, distinctive American varieties of chickens have been developed.

Today, some cities in the United States still allow residents to keep chickens as pets, although the practice is quickly disappearing. Individuals in rural communities commonly keep chickens for both ornamental and practical value. Some communities ban only roosters, allowing the quieter hens. Many zoos use chickens instead of insecticides to control insect populations.

Keeping a few chickens as backyard pets is surprisingly easy to do. The major challenge is protecting the birds from predators, both domestic predators such as dogs and wild predators such as racoons in North America and foxes in Europe. The birds will need a secure place to sleep at night. This can be as simple or as elaborate as you like. For only a few birds which are allowed to free roam during the day, a large dog house type structure with a locking door will serve just fine. Some kind of bedding such as straw or wood shaving should be provided on the floor. Nest boxes will make egg collection easier. If the birds are left in the structure during the day, a larger more elaborate structure would be necessary.

Chicken naturally return to the same spot to roost everynight. That means on most occasions they will put themselves to bed and your only job is to make sure the door is shut and locked before nightfall. It is best to count the birds each night as sometimes a bird will not find her way back into the coop. A bird left out at night is likely to be taken by a racoon or other nocturnal predator.

Most chickens cannot fly well and are easily contained with 3-4' fencing. Birds which are allowed to roam the yard during the day are quite effective at controlling insects of all types. The birds will pick at plants and grass and may cause some damage to ground-covers with their scratching. Areas of bare dirt will benefit from the weed control and soil cultivation provided by the birds in their never ending search for food. Also chickens will eat most any kind of food scraps. It can be quite satisfying to see unusable food items turned into eggs by these able recyclers.

The eggs themselves can be quite different from the store purchased variety. Fresh yolks are quite "perky" and stand tall above the white. The yolk color is frequently a deeper color than the pale yellow of commercially raised eggs and can at time be almost a dark orange. The pleasure of picking up a freshly laid egg still warm to the touch is not to be overlooked.

Growing chickens can easily be tamed by feeding them a special treat such as mealworms in the palm of one's hand, and by being with them for at least ten minutes daily when they are young. However even older birds can be tamed considerably by hand feeding leftover table scraps to the birds. It can be fun to help the birds forage by turning rocks over and watching them grab worms and bugs that typically can be found in these dark, moist areas. The chickens quickly associate you with a source of food and will become your constant companion when you are both in the yard.

A former recurring skit on the weekly comedy show *Saturday Night Live* featured a chicken <u>pet store</u> with the Chinese owner (as played by Dana Carvey) not wishing to sell to customers on the basis that "Chickens make lousy house pets

Chickens in agriculture

In the United States, chickens were once raised primarily on family farms. Prior to about 1930, chicken was served primarily on special occasions or on Sunday, as the birds were typically more valued for their eggs than meat. Excess roosters or non-productive hens would be culled from the flock first for butchering. As cities developed and markets sprung up across the nation, live chickens from local farms could often be seen for sale in crates outside the market to be butchered and cleaned onsite by the butcher.

With the advent of vertical integration and selective breeding of efficient meat-type birds, poultry production changed dramatically. Large farms and packing plants emerged that could grow birds by the thousands. Chickens could be sent to slaughterhouses for butchering and processing into pre-packaged commercial products to be frozen or shipped fresh to markets or wholesalers. Meat-type chickens currently grow to market weight in 6-7 weeks whereas only fifty years ago it took three times as long (reference: Havenstein, G.B., P.R. Ferket, and M.A. Qureshi, 2003a. Growth, livability, and feed conversion of 1957 versus 2001 broilers when feed representative 1957 and 2001 broiler diets. Poult. Sci. 82:1500-1508). This is due exclusively to genetic selection and nutritional advances (and not to use of growth hormones, which are illegal for use in poultry in the US and many other countries). Once a meat consumed only occasionally, the common availability and lower cost has made chicken a common and significant meat product within developed nations. Growing concerns over the cholesterol content of red meat in the 1980s and 1990s further resulted in increased consumption of chicken.

Another breed of chicken, the Leghorn, was further developed to be efficient layers of eggs. Egg production and consumption changed with the development of automation and refrigeration. Large farms were devoted solely to egg production and packaging. Today, eggs are produced on large egg ranches on which environmental parameters are well controlled. Chickens are exposed to artificial light cycles to stimulate egg production year-round. In

addition, it is a common practice to induce molt through careful manipulation of light and the amount of food they receive in order to further increase egg size and production.

Often, people in developing countries keep chickens for their eggs and meat.

Issues with mass production

Many animal rights advocates object to killing chickens for food or to the "factory farm conditions" under which they are raised. They contend that commercial chicken production often involves raising the birds in large, crowded rearing sheds that prevent the chickens from engaging in many of their natural behaviors. Contrary to popular belief, however, meat-type chickens are not raised in cages and are instead raised on the floor on litter such as rice hulls. They are slaughtered prior to sexual maturity, and thus many of the aggressive behaviors seen in adult chickens (fighting, cannibalism) are seldom seen in meat-type chickens. In 2004, 8.9 billion chickens were slaughtered in the United States[2].

Although many would argue that the birds are not intelligent and thus not a high priority for humane treatment on farms, a woman once brought a chicken on *The Tonight Show with Jay Leno* where it played "Mary Had A Little Lamb" on a toy piano and bowled 3 strikes. Animal rights groups such as PETA see this and other "amazing" trained chickens as evidence that they are intelligent and sentient and should not be killed or eaten [3].

Another animal welfare issue is the use of selective breeding to create heavy, large-breasted birds, which can lead to crippling leg disorders and heart failure for some of the birds. In addition, many scientists have raised concerns that companies growing one variety of bird for eggs or meat are causing them to become much more susceptible to disease. For this reason, many scientists are promoting the conservation of heritage breeds to retain genetic diversity in the species.

Chicken diseases

Aspergillosis

Avian influenza (bird flu) - most well-known chicken-related disease

Blackhead disease

Botulism

Cage Layer Fatigue

Coccidiosis

Colds

Crop bound

Egg bound

Erysipelas

Fatty Liver Hemorrhagic Syndrome

Fowl Cholera

Fowl pox

Fowl Typhoid

Gallid herpesvirus 1 Also known as Infectious Laryngotracheitis or LT

Gapeworms

Infectious Bronchitis

Infectious Bursal Disease (Gumboro)

Infectious Coryza

Lymphoid Leucosis

Marek's disease

Moniliasis

Mycoplasmas

Newcastle disease

Necrotic Enteritis

Omphalitis (Mushy chick disease)

Prolapse (in egg layers)

Psittacosis

Pullorum (Salmonella)

Scaly leg

Squamous cell carcinoma

Tibial dyschondroplasia

Toxoplasmosis

Ulcerative Enteritis

Chickens are also susceptible to parasites, including lice, mites, ticks, fleas, and intestinal Worms.

Chickenpox is a disease of humans, not chickens.

Chickens in religion

In Indonesia the chicken has great significance during the Hindu cremation ceremony. A chicken is a channel for evil spirits which may be present during the ceremony. A chicken is tethered by the leg and kept present at the ceremony for the duration to ensure that any evil spirits present during the ceremony go into the chicken and not the family members present. The chicken is then taken home and returns to its normal life. It is not treated in any special way or slaughtered after the ceremony.

In ancient Greece, the chicken was not normally used for sacrifices, perhaps because it was still considered an exotic animal. Because of its valour, cocks are found as attributes of Ares, Heracles and Athena. The Greeks believed that even lions were afraid of cocks. Several of Aesop's Fables reference this belief.

In the cult of Mithras, the cock was a symbol of the divine light and a guardian against evil.

In the Bible, Jesus prophesied the betrayal by Peter: "And he said, I tell thee, Peter, the cock shall not crow this day, before that thou shalt thrice deny that thou knowest me." (Luke 22:43) Thus it happened (Luke 22:61), and Peter cried bitterly. This made the cock a symbol for both vigilance and betrayal.

Earlier, Jesus compares himself to a mother hen, when talking about Jerusalem: "How often would I have gathered thy children together, even as a hen gathereth her chickens under her wings, and ye would not!" (Matthew 23:37; also Luke 13:34).

In many Central European folk tales, the devil is believed to flee at the first crowing of a cock.

In some sects of Orthodox Judaism a chicken is slaughtered on the afternoon before Yom Kippur (Day of Atonement) in a ritual called kapparos. Although not actually a sacrifice in the biblical sense, the death of the chicken reminds the penitent sinner that his or her life is in God's hands. A woman brings a hen to be slaughtered, a man brings a rooster. The meat is donated to the poor.

The Talmud speaks of learning "courtesy toward one's mate" from the rooster. This might refer to the fact that, when a rooster finds something good to eat, he calls his hens to eat first.

The chicken is one of the Zodiac symbols of the Chinese calendar. Also in Chinese religion, a cooked chicken as a religious offering is usually limited to ancestor veneration and worship of village deities. Vegetarian deities such as Buddha are not one of the recipients of such offerings. Under some observations, an offering of chicken is present with "serious" prayer (while roasted pork is offered during a joyous celebration). In some old Confucian Chinese Wedding a chicken can be used as a substitute of that person if they are seriously ill or not available (e.g sudden death) to attend during the ceremony. They will put a red silk scarf on the chickens head and a close relative of the absent bride/groom will be holding the chicken to continue with the ceremony. However this occurrence happens rarely in modern time and usually better to avoid.

History

The first pictures of chickens in Europe are found on Corinthian pottery of the 7th century BC. The poet Cratinus (mid-5th century BC, according to the later Greek author Athenaeus) calls the chicken "the Persian alarm". In Aristophanes's comedy The Birds (414 BC) a chicken is called "the Median bird", which points to an introduction from the East. Pictures of chickens are found on Greek red figure and black-figure pottery.

In ancient Greece, chickens were still rare and were a rather prestigious food for symposia. Delos seems to have been a centre of chicken breeding.

An early domestication of chickens in Southeast Asia is probable, since the word for domestic chicken (*manuk) is part of the reconstructed Proto-Austronesian language (see Austronesian languages). Chickens, together with <u>dogs</u> and pigs, were the domestic animals of the Lapita culture, the first Neolithic culture of Oceania.

Chickens were spread by Polynesian seafarers and reached Easter Island in the 12th century AD, where they were the only domestic animal, with the possible exception of the Polynesian Rat (*Rattus exulans*). They were housed in extremely solid chicken coops built from stone. Traveling as cargo on trading boats, they reached the Asian continent via the islands of Indonesia and from there spread west to Europe and western Asia.

Chickens in ancient Rome

The Romans used chickens for oracles, both when flying ("ex avibus") and when feeding ("auspicium ex tripudiis"). The hen ("gallina") gave a favourable omen ("auspicium ratum"), when appearing from the left (Cic.,de Div. ii.26), like the crow and the owl.

For the oracle "ex tripudiis" according to Cicero (Cic. de Div. ii.34), any bird could be used, but normally only chickens ("pulli") were consulted. The chickens were cared for by the pullarius, who opened their cage and fed them pulses or a special kind of soft cake when an augury was needed. If the chickens stayed in their cage, made noises ("occinerent"), beat their wings or flew away, the omen was bad; if they ate greedily, the omen was good.

In 249 BC, the Roman general Publius Claudius Pulcher had his chickens thrown overboard when they refused to feed before the battle of Drepana, saying "If they won't eat, perhaps they will drink." He promptly lost the battle against the Carthaginians and 93 Roman ships were sunk. Back in Rome, he was tried for impiety and heavily fined. In 161 BC a law was passed in Rome that forbade the consumption of fattened chickens. It was renewed a number of times, but does not seem to have been successful. Fattening chickens with bread soaked in milk was thought to give especially delicious results. The Roman gourmet Apicius offers 17 recipes for chicken, mainly boiled chicken with a sauce. All parts of the animal are used: the recipes include the stomach, liver, testicles and even the pygostyle

(the fatty "tail" of the chicken where the tail feathers attach).

The Roman author Columella gives advice on chicken breeding in his eighth book of his treatise on agriculture. He identifies Tanagrian, Rhodic, Chalkidic and Median (commonly misidentified as Melian) breeds, which have an impressive appearance, a quarrelsome nature and were used for cockfighting by the Greeks. For farming, native (Roman) chickens are to be preferred, or a cross between native hens and Greek cocks. Dwarf chickens are nice to watch because of their size but have no other advantages.

Per Columella, the ideal flock consists of 200 birds, which can be supervised by one person if someone is watching for stray animals. White chickens should be avoided as they are not very fertile and are easily caught by eagles or goshawks. One cock should be kept for five hens. In the case of Rhodian and Median cocks that are very heavy and therefore not much inclined to sex, only three hens are kept per cock. The hens of heavy fowls are not much inclined to brood; therefore their eggs are best hatched by normal hens. A hen can hatch no more than 15-23 eggs, depending on the time of year, and supervise no more than 30 hatchlings. Eggs that are long and pointed give more male, rounded eggs mainly female hatchlings.

Per Columella, Chicken coops should face southeast and lie adjacent to the kitchen, as smoke is beneficial for the animals. Coops should consist of three rooms and possess a hearth. Dry dust or ash should be provided for dust-baths.

According to Columella, chicken should be fed on barley groats, small chick-peas, millet and wheat bran, if they are cheap. Wheat itself should be avoided as it is harmful to the birds. Boiled ryegrass (*Lollium* sp.) and the leaves and seeds of alfalfa (*Medicago sativa* L.) can be used as well. Grape marc can be used, but only when the hens stop laying eggs, that is, about the middle of November; otherwise eggs are small and few. When feeding grape marc, it

should be supplemented with some bran. Hens start to lay eggs after the winter solstice, in warm places around the first of January, in colder areas in the middle of February. Parboiled barley increases their fertility; this should be mixed with alfalfa leaves and seeds, or vetches or millet if alfalfa is not at hand. Free-ranging chickens should receive two cups of barley daily.

Columella advises farmers to slaughter hens that are older than three years, because they no longer produce sufficient eggs. Capons were produced by burning out their spurs with a hot iron. The wound was treated with potter's chalk.

A selection of chicken breeds

Araucana
 Australorp
 Barnevelder
 Brahma (chicken)
 Orpington
 Plymouth Rock
 Rhode Island Red
 Sussex
 Wyandotte

Famous chickens

Real chickens

• Mike the Headless Chicken Henrietta the four-legged chicken

Fictional chickens

 Alecto and Galina, in Clemens Brentano's "The Tale of Gockel, Hinkel, and Gackeleia"

Billina the talking hen, from L. Frank Baum's Ozma of Oz

Burn Rooster, a Maverick with fire-elemental powers from the video game Mega Man X8 (made by Capcom)

Camilla the Chicken, the object of Gonzo (Muppet)'s affections.

Chanticleer, the rooster from Geoffrey Chaucer's The Canterbury Tales ("The Nun's Priest's Tale")

Chanticleer, the Elvis Presley-like rooster in the Don Bluth film Rock-a-Doodle;

presumably named for the Chaucer rooster.

Chicken, from the Cow and Chicken cartoon series

Chicken Boo, from Animaniacs

Chicken Little, the chicken that thought the sky was falling when an acorn landed on its head

Chicken Man, from Chicken Man (radio series)

Cuccos (also Hylian Cuccos) are a breed of chickens or chicken-like birds which feature prominently in latter installments of the Legend of Zelda series.

Fission Chicken, the Chicken of Wrath, grouchy superhero

Foghorn Leghorn, the rooster and Looney Tunes character

Le coq d'or (The Golden Cockerel) opera by Rimsky-Korsakov, with a magical cock that is supposed to crow to warn the king of advancing enemies

Le galline penseuse of Luigi Malerba (Einaudi, 1980)

Ginger, the protagonist of the movie Chicken Run

The Goose that Laid the Golden Egg was originally a chicken in some older versions

Jonathan Segal Chicken, a 1973 book written by Sol Weinstein and Howard Albrecht, parodying Jonathan Livingston Seagull

The Little Red Hen, who asked everyone in the barnyard to help bake bread The vicious Chicken of Bristol, who was nearly stood up to by Brave Sir Robin, in Monty Python and the Holy Grail.

Little Jerry Seinfeld, a fighting cock appearing in "The Little Jerry" (episode 145) of Seinfeld

Joey and Chandler's chicken from Friends, who eventually became a rooster, died some time later and was succeeded by Chick, Jr.

The Rooster Prince is a parable written by Rabbi Nachman of Breslov, in which a prince goes insane and believes himself to be a rooster (in some English translations of the tale, the species of bird is a turkey)

The San Diego Chicken

Sweety the Chick, an animated character with a ringtone

The Subservient Chicken, part of a viral marketing promotion

Lord Chicken the Great; see Leongatha

Ultra Mega Chicken is a legendary chicken raised from the dead by Billy Witch Doctor in Aqua Teen Hunger Force

Roy, Booker and Sheldon from U.S. Acres

King Chicken, from Duckman

Little John, Bubble, Bubble Junior, Pop, Araucana 1, Araucana II, Buffy Araucana, Mary and Sheepy are the chickens of a popular ABC television show set in Turramurra, Sydney, Australia called The chickens of Warragal Road; the series ran from 1983 to 1985.

The 'Yellow Chicken' that violently and restlessly fights Peter in Family Guy has become one of the most beloved character on the cult show

Robot Chicken, a television series that appears on Adult Swim, features a mad scientist in the opening theme bringing a roadkill chicken to life in cyborg form. The show itself is a stop-motion sketch comedy, featuring sements which

generally have nothing to do with chicken(s).

Charles the Rooster in Walter R. Brooks' "Freddy the Pig" Series

Henerietta the Hen in Walter R. Brooks' "Freddy the Pig" Series

Super Chicken, an animated television cartoon character

Alan-a-Dale, the Rooster in Disney's Robin Hood

Gamecocks, chickens used by Masa Tom Lea and others in the book, Roots: The

Saga of an American Family, and in the ty miniseries Roots

The Chickens in DreamWorks' Chicken Run

The two chickens in the Foster Farms commercials

The Rooster logo for Dickhouse Productions company for the tv show Jackass

Mythical creatures with chicken-like anatomy

The hut of the Russian witch Baba Yaga moves on chicken feet
 The demon Abraxas, often depicted on "Gnostic gems" has a cock's head, the
 upper body of a man, while his lower part is formed by a snake. He often holds a
 whip.

The Basilisk, a giant snake who kills with a single glance and poisons wells, was hatched by a toad from a hen's egg. The Basilisk will die if it hears a rooster crowing.

The cockatrice

Chicken as symbol

• The cock is a national symbol of France and is used as an (unofficial) national mascot, in particular for sports teams. See also: Gallic rooster.

The Rhodesia (now Zimbabwe) independent party ZANU party used a chicken as a symbol, since a majority of Rhodesian citizens (mostly native african black) were analphabetic due to lack of school funding for the poor, so they use symbol or mascot to identify their political party.

The mascot of the English Premiership team Tottenham Hotspur is a cockerel.

The standard of Sir Robin from Monty Python and the Holy Grail is a chicken.

The town of Denizli in Republic of Turkey is symbolized by a cock.

Sydney Roosters Australian rugby league team

The Rhode Island Red is the state bird of Rhode Island.

Pathé corporate logo

The athletic teams of the University of South Carolina "The USC" (the original USC) use the Gamecock (the fighting cock) as mascot and use the "Gamecocks" as their moniker.

Fighting Cock brand of Bourbon uses a mean rooster as their trademark. The State Bird of Delaware is the Blue Hen, as well being the Mascot for the

University of Delaware sports teams.

Published Sources

P. Smith, *The Chicken Book* (University of Georgia Press, 2000), passim.

Cockatiel

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Cacatuidae

Subfamily: Calyptorhynchinae

Genus: Nymphicus, Wagler, 1832 Species: N. hollandicus

Binomial name: *Nymphicus hollandicus,* (Kerr, 1792)Synonyms: *Psittacus hollandicus* Kerr,

1792, Leptolophus hollandicus

The **Cockatiel** (*Nymphicus hollandicus*) is a diminutive <u>cockatoo</u> <u>endemic</u> to Australia and prized as a household pet.

- 1 Description
- 2 Biology
- <u>3 Cockatiels as Pets</u>
- 4 References

Description

The cockatiel is a small parrot of the Cacatuidae family. Like some other cockatoos, as for example the Sulphur-crested Cockatoo, the cockatiel has an erectible crest. Cockatiels and cockatoos in general also share other features, such as the facial feathers covering the sides of the beak, which are rarely - if ever - found outside the Cacatuidae family. In contrast to most cockatoos, the cockatiel has long tail feathers, roughly making up half of its total length. The cockatiel's distinctive pointed yellow crest is held erect when startled or excited, while a crest slightly tilted indicates a relaxed state of mind.

The <u>plumage</u> is generally mid-grey, lighter underneath, with an almost perfectly round orange patch of feathers covering the ear opening (usually referred to as a "cheek patch") and a prominent white blaze on the wings. A row of yellowish spots can be found underneath the wings of female cockatiels, but not on the males. Some other mutations exist, such as the Lutino, which lacks black and grey color, being a light yellow colour overall. Female Lutinos also have barred tail feathers. Both the cock and the hen have yellow facial feathers: the female has a yellow wash around the beak and eye, in the male, yellow covers most of the head and the fore part of the crest. Male cockatiels are very protective and nurturing of their offspring and are known to be very capable of raising their newborns if the mother is unable to.

Cockatiel lifespans in captivity are generally given as 15-20 years [1], though it is sometimes given as short as 12-15 years [2] and there are anecdotes of cockatiels living as long as 30 years [3].

Biology

This is the only species in its genus *Nymphicus*. Its relationships were long disputed; it was usually placed into a monotypic subfamily *Nymphicinae* or even allied with the <u>broadtailed parrots</u>. But while most other cockatoos are 500 mm to 600 mm in length, cockatiels are normally 300 mm to 330 mm. There are several significant characteristics that ally cockatiels with cockatoos though, including an erectile crest, a gallbladder, and powder down patches.

Mitochondrial 12S rRNA sequence data (Brown & Toft, 1999) has finally resolved the question of its affinities by placing it in the "dark cockatoo" subfamily closest to the genus Calyptorhynchus. The unusual, parakeet-like appearance is a consequence of the decrease in size and accompanying change of ecological niche. In spite of all its unique adaptations, features such as the dark plumage, the barred feathers of the female and the orange cheek patch are clear morphological indications of its affinities.

The cockatiel's scientific name *Nymphicus hollandicus* reflects the experience of one of the earliest groups of Europeans to see cockatiels in their native habitat. Travellers thought they were so beautiful that they named them after the mythical creatures, the nymphs (Nymphicus means literally "little nymph"). The species name refers to New Holland, an old name for Australia.

Cockatiels are native only to Australia where they are found largely in arid or semi-arid country, but always near water. Sometimes hundreds will flock around a single such body of water. They are absent from the most fertile southwest and southeast corners of the country, the deepest Western Australian deserts, and Cape York Peninsula. They are the only cockatoo species that can breed in their first year.

Cockatiels as Pets

Cockatiels are popular household pets in many parts of the world. Today all pet cockatiels are bred in captivity, as Australia no longer permits the export of native wildlife, whether endangered or not. Pet cockatiels have been bred to have many different colorations (called mutations). Mutations include lutino, pearl, cinnamon, pied, fallow, recessive and dominant silver, whiteface, pastelface, yellowcheek, and olive or 'spangled.'

Mutations can appear both individually or in a wide variety of combinations such as lutino pearl, whiteface pied, and whiteface lutino (which is often called albino, but is not a true form of albinism). Still fairly hard to find is the rather new 'olive' mutation. An olive cockatiel does not actually have green pigment to its plumage, but rather an overlapping pattern of yellow and grey that create the illusion of a greenish cast.

Many mutations retain the black eyes, beak, nails and grey feet of the normal grey cockatiels, however the lutino, cinnamon and fallow mutations have pink to deep plum red eyes, pink toenails and feet, and a horn colored beak. While most mutations persist into

adulthood for all cockatiels, certain mutations like pearl are molted out in the males and retained in the adult females. Sex-linked mutations such as lutino and cinnamon have a higher ratio of female offspring to male due to the mode of inheritance from parents to offspring.

If hand-fed as chicks, cockatiels can form strong bonds with their owners. Otherwise quiet birds will frequently make contact calls with their owners, calls that sometimes can be quite loud if the person is out of sight. Their popularity as pets is in part because of their calm and timid temperament, to the point that they can even be bullied by smaller but more confident birds such as Budgerigars. Great care and supervision should be provided when mixing cockatiels with other birds. It is not uncommon at all for a larger or smaller bird to maim the cockatiel, creating life-long disabilities and potentially life threatening injuries. However, some cockatiels can "scrap."

Although cockatiels are part of the parrot order, they are better at imitating whistles than speech. Some do learn to repeat phrases, and the males are generally better at mimicry than the females. Cockatiels can mimic many sounds, for example the bleep of a car alarm, a ringing telephone, or the calls of other bird species such as <u>blue jays</u> or <u>chickadees</u>.

References

- **BirdLife International** (2004). <u>Nymphicus hollandicus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 06 May 2006. Database entry includes justification for why this species is of least concern
- **Brown**, D.M. & **Toft**, C.A. (1999): Molecular systematics and biogeography of the cockatoos (Psittaciformes: Cacatuidae). *Auk* **116**(1): 141-157.

Cockatoo

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes

Family: Cacatuidae, GR Gray, 1840Subfamily: Microglossinae, Calyptorhynchinae, Cacatuinae

A **cockatoo** is any of the 21 <u>bird species</u> belonging to the <u>family</u> **Cacatuidae**. Along with the *Psittacidae* family (the <u>true parrots</u>), they make up the <u>order</u> *Psittaciformes*. The name *cockatoo* originated from the Malay name for these birds, *kakaktua*, which translates literally as *older sister* (from *kakak*, "sister," and *tua*, "old").

Cockatoos share many features with other parrots including the characteristic curved beak shape and a zygodactyl foot, with two forward toes and two backwards toes. They differ, however in a number of characteristics, including the often spectacular movable headcrest, the presence of a gall bladder and some other anatomical details, and their lack of the Dyck texture feather composition which causes the bright blues and greens seen in true parrots. Cockatoo species are also, on average, larger than the true parrots (however, the cockatiel is a small cockatoo and the very large parrots include the Hyacinth Macaw by length and the Kakapo by weight.)

Cockatoos have a much more restricted range than the true parrots, occurring naturally only in Australia and nearby islands. Eleven of the 21 species exist in the wild only in Australia, while seven species occur in Indonesia, New Guinea, and other south Pacific islands. Three species occur in both New Guinea and Australia.

- <u>1 Cockatoos as endangered or vulnerable species</u>
- 2 Systematics
- 3 References

Cockatoos as endangered or vulnerable species

All of the species of cockatoo are protected by the CITES international agreement, which makes the trade of wild-caught specimens of endangered or vulnerable species illegal.

The following cockatoo species are classified as endangered species (on CITES appendix 1 list).

Goffin's cockatoo, Cacatua goffini
 Red-vented Cockatoo, Cacatua haematuropygia
 Moluccan Cockatoo, Cacatua moluccensis
 Yellow-crested Cockatoo, Cacatua sulphurea
 Palm Cockatoo, Probosciger aterrimus

All of the other cockatoo species are classified at vulnerable (on CITES appendex 2 list).

Systematics

Brown & Toft (1999) reviewed the existing evidence and additional mitochondrial 12S rRNA sequence data to arrive at a well-supported phylogeny of the cockatoos. They could distinguish 3 <u>subfamilies</u>:

- 1. The all-black Palm Cockatoo represents an early divergence; it was previousöly sometimes grouped with the other black species but this is incorrect.
- 2. The dark cockatoos; sexually dichromatic species which have ample melanin in their plumage and some red, yellow or orange on wing, tail and face, barred feathers on wing, tail and/or body as well as contrasting ear area spotting in females, while males have the corresponding feathers unbarred and may lack the ear spotting. This group includes the remaining black cockatoos, the Gang-gang Cockatoo and, interestingly, the cockatiel which had previously been placed in a subfamily of its own (Nymphicinae) or even as a broad-tailed parrot.
- 3. The remaining species, which are all hypomelanistic and not sexually dimorphic. The genera *Calyptorhynchus* and *Cacatua* can be further resolved into two subgenera each, and in the latter case as a distinct third lineage the white-and-pink Major Mitchell's Cockatoo, which is intermediate in coloration between the grey-and-pink Galah and the white Cacatua. It is best recognized as a monotypic genus *Lophocroa*. Indeed, pending further research, all subgenera could conceivably be raised to species rank.

FAMILY CACATUIDAE

- Subfamily Microglossinae
- o Genus *Probosciger*
 - Palm Cockatoo, Probosciger aterrimus
 - Subfamily Calyptorhynchinae dark cockatoos
- o Genus Callocephalon
 - Gang-gang Cockatoo, Callocephalon fimbriatum
- Genus Nymphicus
 - Cockatiel, Nymphicus hollandicus
- o Genus Calyptorhynchus
 - Subgenus Calyptorhynchus black-and-red cockatoos
 - Red-tailed Black Cockatoo, Calyptorhynchus (Calyptorhynchus) banksii
 - Glossy Black Cockatoo, Calyptorhynchus (Calyptorhynchus) lathami
 - Subgenus Zanda black-and-vellow/white cockatoos
 - Yellow-tailed Black Cockatoo, Calyptorhynchus (Zanda) funereus Short-billed Black Cockatoo, Calyptorhynchus (Zanda) latirostris Long-billed Black Cockatoo, Calyptorhynchus (Zanda) baudinii
- Subfamily Cacatuinae white cockatoos
 - o Genus *Eolophus*
 - Galah, Eolophus roseicapilla
 - o Genus *Lophocroa*

- Major Mitchell's Cockatoo, Lophocroa leadbeateri
- o Genus Cacatua
 - Subgenus *Licmetis* corellas
 - Long-billed Corella, Cacatua (Licmetis) tenuirostris
 Western Corella, Cacatua (Licmetis) pastinator
 Little Corella, Cacatua (Licmetis) sanguinea
 Red-vented Cockatoo, Cacatua (Licmetis) haematuropygia
 Goffin's Cockatoo, Cacatua (Licmetis) goffini
 Ducorps' Cockatoo, Cacatua (Licmetis) ducorpsii
 - Subgenus Cacatua true white cockatoos
 - Sulphur-crested Cockatoo, Cacatua (Cacatua) galerita
 - Yellow-crested Cockatoo, Cacatua (Cacatua) sulphurea
 - <u>Citron-crested Cockatoo</u>, *Cacatua (Cacatua) sulphurea citrinocristata*
 - Blue-eyed Cockatoo, Cacatua (Cacatua) ophthalmica Moluccan Cockatoo or Salmon-crested Cockatoo, Cacatua (Cacatua) moluccensis
 - <u>Umbrella Cockatoo</u>, Cacatua (Cacatua) alba

References

• **Brown**, D.M. & **Toft**, C.A. (1999): Molecular systematics and biogeography of the cockatoos (Psittaciformes: Cacatuidae). *Auk* **116**(1): 141-157.

Common Pheasant

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u> Genus: *Phasianus* Species: *P. colchicus*

Binomial name: *Phasianus colchicus*, Linnaeus, 1758

The **Common Pheasant** (*Phasianus colchicus*) is a gamebird in the <u>pheasant</u> family Phasianidae of the order Galliformes, gallinaceous birds.

The adult pheasant is 50-90 cm in length with a long tail, often accounting for half the total length. The male (*cock* or *rooster*) has barred bright brown <u>plumage</u> and green, purple and white markings, often including a white ring around the neck, and the head is green with distinctive red patches. This bird is also called the Common or English Pheasant, or just Pheasant. The males are polygamous, mating with more than one female; they are often accompanied by a harem of several females.

The nominate race *P. c. colchicus* lacks a white neck ring. This is however shown by the race **Ring-necked Pheasant**, *P. c. torquatus* which after several failed attempts was successfully introduced to the United States in 1881.

The female (*hen*) is much less showy, with a duller mottled brown plumage all over, similar to that of the <u>partridge</u>. The birds are found on wooded land and scrub. They feed on the ground on grain, leaves and invertebrates, but roost in trees at night. They nest on the ground, producing a clutch of around ten <u>eggs</u> over a two-three week period in April to June. The incubation period is about 23-26 days. The chicks stay near the hen for several weeks after hatching but grow quickly, resembling adults by only 15 weeks of age.

While pheasants are able short-distance fliers, they prefer to run: but if startled they can suddenly burst upwards at great speed, with a distinctive "whirring" wing sound. Their flight speed is only 27 to 38 mph when cruising but when chased they can fly up to 60 mph.

They are native to Asia but have been widely introduced elsewhere, where they are bred to be hunted and are shot in great numbers. The doggerel "up flies a guinea, bang goes sixpence and down comes half-a-crown" reflects that they are often shot for sport rather than as food. If eaten the meat is somewhat tough and dry, so the carcasses were often hung for a time to improve the meat by slight decomposition, as with most other game. Modern cookery generally uses moist roasting or farm-raised female birds.

Pheasant farming is a common practice, and is sometimes done intensively. Birds are supplied both to hunting preserves/estates and restaurants, with smaller numbers being available for home cooks. Pheasant farms have some 10 million birds in the U.S. and 35 million in the United Kingdom. The Common Pheasant is also one of the prime target of small game poachers. The Roald Dahl novel "Danny the Champion of the World" dealt with a poacher (and his son) who lived in the United Kingdom and illegally hunted common pheasants.

The bird was brought to Britain around the 10th century but became extinct in the early 17th century; it was reintroduced in the 1830s and is now widespread. Repeated reintroduction has made the pheasant a very variable species in regard to size and plumage. Pheasants have probably been present in North America from the 18th century but became common in the wild in the late 1800s. They are most common in the Great Plains, where they are often seen in hay, grass wheat, and CRP fields. A preferred nesting site for them is along fence rows, wheat, and under old machinery.

The term pheasant can also be used for other gallinaceous birds such as the quail or <u>partridge</u>, and in North America it is occasionally used to refer to the ruffed <u>grouse</u>.

The Green Pheasant of Japan is very similar to Common Pheasant, but the males have greenish plumage. The Ring-Necked Pheasant is the state bird of South Dakota, the only US state bird that is not a species native to the United States.

References

• BirdLife International (2004). <u>Phasianus colchicus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 09 May 2006. Database entry includes justification for why this species is of least concern

Crested Guineafowl

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: Numididae Genus: *Guttera*

Species: G. pucherani

Binomial name: Guttera pucherani, Hartlaub, 1860

The **Crested Guineafowl** (*Guttera pucherani*) is a member of the guineafowl <u>bird</u> family. It breeds in Southern Africa.

Crested guineafowls can be distinguished from other guinea fowls by their black headplumes. Adults measure up to 50 cm.

References

• BirdLife International (2004). <u>Guttera pucherani</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 10 August 2006. Database entry includes justification for why this species is of least concern

Domestic Canary

The **Canary** is a domesticated form of the <u>Wild Canary</u>, (*Serinus canaria*) a small <u>songbird</u> in the <u>finch</u> family originating from Madeira and the Canary Islands.

- <u>1 History</u>
- <u>2 Varieties</u>
- <u>3 Keeping Canaries</u>
- 4 Trivia
- 5 See also
- 6 References

History

Canaries were first bred in captivity in the 1600s. They were brought over by Spanish sailors to Europe. Monks started breeding them and only sold the males (which sing). This kept the birds in short supply and drove the price up. Eventually Italians obtained hens and were able to breed the birds themselves. This made them very popular and resulted in many breeds arising and the birds being bred all over Europe.

The same occurred in England. First the birds were only owned by the rich but eventually the local citizens started to breed them and, again, they became very popular. Many breeds arose through selective breeding.

Miner's canaries were early forms of carbon monoxide detection in mines. Three or more canaries (or other small birds with high metabolism) were taken down new shafts, and if one or more exhibited abnormal behavior, the parties determined that the shaft was unsafe.

Varieties

Canaries are generally divided into three main groups: Colorbred Canaries (bred for their many color mutations - Ino, Eumo, Satinette, Bronze, Ivory, Onyx, Mosaic, Brown, etc.), Type Canaries (bred for their shape and conformation - Border, Fife, Gloster, Gibber Italicus, Raza Española, Berner, Lancashire, Yorkshire, etc.), and Song Canaries (bred for their unique and specific song patterns - Spanish Timbrado, Roller, Waterslager (also known as "Malinois"), American Singer, Russian Singer, Persian Singer).

Canaries are judged in competitions every fall. Shows generally begin in October and November after the breeding season ends. Birds can only be shown by the person who raised them. They all have unique bands on their legs that indicate the year of birth, the unique band number, the club to which the breeder belongs. Song Canaries are judged later in the year (January).

There are many canary bird shows all over the world. The world show (C.O.M.) is held in Europe each year and attracts thousands of breeders. As many as 20,000 birds are brought for competition.

Keeping Canaries

The keeping of Canaries for their appearance and song is a tradition that dates back centuries.

Most bird veterinarians today recommend a diet of 80% canary pellets. Many breeders still use the canary seed mix available in pet shops. All canaries benefit from a supply of green food such as lettuce, dandelion leaves and nasturtium leaves. They can eat any produce you do, with the exception of avocado. Care should be taken to ensure leaves supplied are clean and have not been sprayed with any chemicals. Canaries also enjoy little bits of fruit, but be careful to offer only what the bird can eat in one sitting, or you may wind up attracting ants, or hornets.

During the moulting period it is advisable to supplement their diet with egg food or nestling food (can be bought as a dry mix to which water is added until a crumbly but not soggy consistency is achieved. Some nestling or egg foods can be served dry, others are best served with a soak seed mix; this is a special mixture of seeds meant to be soaked, rinsed, and sometimes sprouted a little, before being served).

To ensure caged birds are happy, toys should be provided and swapped regularly to avoid boredom (which can lead to aggression and feather plucking). Most people keep males and females in separate cages, except during breeding season. When buying pet canaries, great care must be taken to ensure the right mix of sexes in a cage. A mistake could lead to the birds attacking each other, even to the extent that one may kill another.

In general, pet canaries do not require companionship; the canary species is territorial, not social, and does not generally appreciate company in the same cage. It will be seen as an intruder, not as a companion, and although it might take up to two years or so, if they remain in a single cage all year round, usually one or the other will eventually die. A male and a female stand a better chance of getting along amicably, but all too often the less dominant bird will eventually die, although it may take some time.

This is because the dominant bird will feel the need to constantly 'oversee' the less dominant bird of the two. It will never be able to eat, sleep, or drink its fill in peace, and eventually the stress will take its toll.

If a bird is present in the home and a companion is bought, it must be kept in a separate cage for at least couple of weeks, both for quarantine, and to ensure the birds get used to each other; the new bird can then gradually be introduced to ensure that no fighting ensues. A male and female will often get along reasonably well if introduced in this way, but should not be allowed to remain together all year round; each should have some privacy, during the period from midwinter until the start of breeding season in early spring, at the very least.

Two males will very rarely be happy together, although keeping them permanently in separate cages will prompt them each to sing more than they probably would on their own however a good recording of canary song will work equally well. A cage with a number of males may work as long as no female is present, but again, they should not be expected to

live in peace all year round, and each should be separated into an individual cage during the spring/early summer breeding season at the very least.

Male canaries can mimic sounds such as telephone ring tones and door bell chimes but only if they hear these sounds while young. Canaries can be taught tricks over time but great patience is required as they are fairly timid birds. To get the birds to play with toys, toys must be safely constructed (no sharp edges or parts the bird's feet could become entangled upon).

If pet canaries become ill they will rapidly lose weight and this is why it is essential to treat disease as quickly as possible. It is wise to have glucose powder and an eye dropper in store to administer drops of diluted solution via the beak if a canary stops eating. When a bird is sick, it puffs up its feathers to stay warm; give it gentle heat. You can often drape a heating pad over or under the cage, but be sure the bird can also get OUT of the heat if it wants.

Common household hazards include fumes from the kitchen (cooking fumes and especially fumes from non-stick pans) - canaries should never be kept in a kitchen for this reason. They are also sensitive to smoke from cigarettes, aerosol sprays such as deodorant, air freshener and polish.

Plug in air fresheners/ stand-alone fan fresheners are very toxic, as are some candles, especially scented ones (except unscented beeswax candles).

Avoid placing a canary's cage where it is in a draft, or be in full glare of sunlight without any shade available. If you let your canary out to fly about for exercise, always cover mirrors and windows, as they may fly into them and break their neck.

A number of houseplants/cut flowers are very poisonous to canaries (as are some herbs), so never let them nibble leaves of houseplants. Be very wary, as canaries love to eat greens of all kinds! Safe plants include spider plants, African violets and boston ferns. Clean water must be available for drinking and separate water should be made available for bathing.

Canaries love bathing and should be allowed to bathe often. Offer cold water for them to bathe in, as it improves their feather condition. Warm water, on the other hand, will help to strip essential oils from the feathers, and will encourage itching and picking, rather than preening. Plentiful time to bathe is especially important to a canary during the moult.

Food dishes/cage parts can be safely sterilised in a hot dishwasher or in baby-bottle fluid such as diluted Milton. When it comes to disease, prevention is better than cure. Canaries should be examined for mites and, if mites are found (especially easy to spot around the neck and rump) they can be treated with over-the-counter medication (canary mites don't bite humans). Abnormalities of the skin and feet may be caused by mites and this can also be treated with over-the-counter pet medication. Be aware that dietary problems can cause skin, foot, and feather problems that may look as if they are due to mite damage, so before treating with any drug, get an experienced opinion from a good avian vet on the actual cause of the condition.

Trivia

- Canaries were once regularly used in coal mining as an early warning system.
 Toxic gases such as carbon monoxide and methane in the mine would kill the bird before affecting the miners. Because canaries tend to sing much of the time, they provided both a visual and audible cue in this respect. The use of Canaries in British mines was phased out as recently as 1986.
- However, Canaries were also used by the first Mercedes-Benz airbag designers.
 They were often placed in passenger compartments to check for leaks from the airbag.
- Canaries have been depicted in <u>cartoons</u> from the middle 20th century as being harassed by domestic <u>cats</u>; the most famous cartoon canary is Warner Brothers' "Tweety Bird".
- Norwich City, an English football team is nicknamed 'The Canaries' due to the city once being a famous centre for breeding and export of the birds. The club adopted the colours of yellow and green in homage.

See also

- Wild Canary
- British finches

References

- McDonald, Robirda, "Brats in Feathers, Keeping Canaries" ISBN 0-9730434-4-X
- Miley-Russell, Marie, "The Practical Canary Handbook, A Guide to Breeding and Keeping Canaries" (especially useful to American Singer canary owners) ISBN 1-5911-3851-5
- Excellent sources of further reading are Linda Hogan's book *Canary Tales* and GB Walker's wonderful reference, *Colour, Type, and Song Canaries*. Some commercially published (but less reliable) resources are David Alderton's books *Birds Care* and *You and your pet bird, The Canary Handbook* and *Canaries*, both published by Barrons, *Health Care for Birds* by Tim Hawcroft and *Fife Canaries* by James Blake.

Domesticated duck

- <u>1 Breeds</u>
- 2 Gender differences
- 3 Farming
- 4 As pets and ornamentals
- <u>5 See also</u>

Domesticated ducks are kept for meat, eggs and down. Many ducks are also kept for show, as pets or for their ornamental value. Most domesticated ducks originated from the Mallard *Anas platyrhynchos*.

Breeds

There are many existing breeds with more being created today. Most domesticated breeds are descendants from the wild Mallard with exception of the Muscovy. Breeds are sorted into size classes. Below are breeds accepted by the American Poultry Association.

Bantam

- Call
- East Indie
- Mallard
 - Australian Spotted

Lightweight

- Bali
 - Indian Runner
 - Khaki Campbell
- Welsh Harlequin
- Magpie

Mediumweight

- Ancona
 - Cayuga Duck
- Crested
- Buff Orpington
- Swedish

Heavyweight

- Appleyard
- Aylesbury
- Muscovy
 - Pekin
- Rouen
- Saxony
- Gressingham (Wild Mallard crossed with Pekin)

Gender differences

There are several ways to tell if a duck is a female or a drake. They can be sexed by voice when their voice changes at 4 to 5 weeks old. Females have a loud quack which ducks are known for. Drakes, however, have a raspy quiet quack. Depending on the breed and variety, drakes have different plumage than females. Day-old ducklings can be sexed by looking inside their vents, but if this is done incorrectly it can hurt or possibly kill the duckling.

Sometimes drakes have curly tail feathers and female ducks have straight tail feathers.

Farming

Ducks have been farmed for hundreds of years. They are not as popular as the <u>chicken</u>, because chickens have much more white lean meat and are easier to keep confined. Nevertheless, the duck is a popular and well known farm bird.

Ducks are farmed for their meat, eggs, and down. Their eggs are bluey green to white depending on the breed.

Ducks can be kept free range, in cages, or in batteries. To be healthy, ducks should be allowed access to water, though battery ducks are often denied this. They should be fed a grain and insect diet. Its a popular misconception that ducks should be fed bread; bread is no nutritional value and can be deadly when fed to developing ducklings.

The females of most breeds of domestic duck are very unreliable at sitting their eggs and raising their young, and it has been the custom on farms for centuries to put duck eggs under a broody hen for hatching; nowadays incubators are usually used. However, young ducklings rely on their mother for a supply of preen oil to make them waterproof, and a hen does not make as much preen oil as a duck; and an incubator makes none.

As pets and ornamentals

Ducks can be kept as pets. They can be kept in a garden or backyard and will often eat insects and slugs. A pond or water dish is recommended although they will probably dredge out and eat any wildlife and frogspawn in a pond, and even swallow adult frogs and toads, as

they have been bred to much bigger than wild ducks with a "hull length" (base of neck to base of tail) up to a foot or more. A coop should be provided for shelter, and for safety at night from predators such as foxes, as their size makes them unable to fly properly.

Ducks are also kept for their ornamental value. Breeds have been developed with crests and tufts or striking plumage. Shows are held in which ducks can be displayed.

See also

- <u>Peking Duck</u>
- <u>Poultry</u>

Domesticated goose

Domesticated geese are descendants of wild <u>geese</u> now kept as <u>poultry</u>, used for meat or for their down feathers.

In Europe and North America, most are derived from the Greylag Goose. The domestication of this species, as Charles Darwin remarks (*Animals and Plants under Domestication*, i. 287), is of very ancient date.

Few other animals have been bred so largely in captivity over such a long period, yet has varied so little. The domesticated goose has changed very little as compared to say the domesticated turkey.

It has increased greatly in size and fecundity, but almost the only change in plumage is that tame geese are commonly bred to lose the browner and darker tints of the wild bird, and are more or less marked with white — being often wholly of that colour.

From the time of the Romans, white geese have been held in great esteem. Perhaps white geese are preferred because they look better plucked and dressed.

The most generally recognized breeds of domestic geese are those to which the distinctive names of Emden and Toulouse are applied; but a singular breed, said to have come from Sevastopol, was introduced into western Europe about the year 1856. In this the upper plumage is elongated, curled and spirally twisted, having their shaft transparent, and so thin that it often splits into fine filaments, which, remaining free for an inch or more, often coalesce again; while the quills are aborted, so that the birds cannot fly.

In eastern Asia, the Swan Goose has been domesticated for centuries, and is familiarly known as the **Chinese Goose**.

Geese have proved remarkably resistant to intensive rearing methods, and they therefore remain an expensive luxury compared to other poultry, such as the <u>chicken</u> and <u>domesticated turkey</u>.

Geese in cooking

Geese can be roasted as a whole bird, though their size precludes this preparation except for banquets and other festive meals (such as on <u>Christmas</u>). Geese contain much more fat than <u>turkeys</u> or <u>chickens</u> do - at least 500 ml (two cups) of fat may be rendered from an average-sized goose during cooking. The Cantonese barbecue also features prominently roasted goose over a charcoal spit with a "tuned" crispy skin.

Geese are used for the production of *foie gras*.

Geese produce large edible eggs, approximately four inches (100mm) from top to bottom. They can be used in cooking just as ordinary chicken's eggs, though they have proportionally more yolk, and this cooks to a slightly denser consistency. Taste is more or less the same as a chicken's egg.

Geese in fiction and myth

When Aphrodite first came ashore she was welcomed by the Charites (Roman "Graces"), whose chariot was drawn by geese.

There are Mother Goose tales, such as a farmwife might have told; there is the proverbial goose that laid the golden eggs, warning about the perils of greed. And there is the goose as a veiled reference to the penis in the verses

Goosy Goosy Gander, where dost thou wander?

Upstairs, downstairs, in my lady's chamber.

The geese in the temple of Juno on the Capitoline Hill were said by Livy to have saved Rome from the Gauls around 390 BC when they were disturbed in a night attack. The story may be an attempt to explain the origin of the sacred flock of geese at Rome.

There is a tale of Trickster and the geese in the North American Trickster cycle [1].

Liliane Bodson and Daniel Marcolungo, *L'oie de bon aloi: Aspects de l'histoire ancienne de l'oie domestique* [The goose in ancient life and folklore]. Vise (Musée Regional d'Archeologie et d'Histoire de Vise), 1994, discusses the image and lore of domestic geese in classical antiquity, with a separate chapter on the goose in folklore.

There is a Christian reference (Father Augustine) to the goose that relates to the coming of the winter solstice or as it is called "The Great Freezing". One of the reasons for harsh winter seasons was to scare or cull the goose population (a creation of the devil). This cyclical process is supposed to be symbolic of the struggle between evil (Satan) and God. Evil may never be completely put down, but God shall always triumph.

One of Aesop's Fables relates the story of The Goose That Laid the Golden Eggs, the phrase itself passing into the language.

Domesticated turkey

Conservation status: Domesticated

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: Meleagrididae Genus: *Meleagris*

Species: Meleagris gallopavo (modern), Meleagris ocellata (historical)

The **domesticated turkey** is a large <u>poultry</u> <u>bird</u> raised for food. The modern domesticated turkey descends from the wild turkey (Meleagris gallopavo), one of the two species of turkey (genus Meleagris); however, in the past the ocellated turkey (Meleagris ocellata) was also domesticated. Despite the name, turkeys have no relation to the country of Turkey and are instead native to North America.

The turkey is reared throughout temperate parts of the World, and is a popular form of poultry, partially because industrialised farming has made it very cheap for the amount of meat it produces. The female domesticated turkey is referred to as a *hen* and the chick as a *poult*. In the United States, the male is referred to as a tom, whilst in Europe, the male is a *stag*.

The great majority of domesticated turkeys have white feathers, although brown or bronze-feathered varieties are also raised.

- <u>1 History</u>
- 2 Availability and Commercial Production
- 3 Breeding
- 4 Butchering
- 5 Turkeys as food
 - o 5.1 Cooking
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History

Turkeys were brought back to Europe shortly after their discovery in the New World. For this reason, many distinct turkey breeds were developed in Europe due to cross breeding. (e.g. Spanish Black, Royal Palm). Turkey was one of the many game species hunted by early American colonists and is traditionally (though not in actuality) thought to have been served

at the first Thanksgiving. Turkeys have been a staple on farms since their discovery in colonial times. In the midwestern United States in the mid to late 1800s, domestic turkeys were actually herded across the range in a manner similar to herding cattle. In the early 20th century, many advances were made in the breeding of turkeys resulting in varieties such as the Beltsville Small White.

Suggestions have been made that the Mexican Ocellated Turkey (*Meleagris ocellata*) might also be involved, but the plumage of domestic turkeys does not support this theory; in particular, the chest tuft of domestic turkeys is a clear indicator of descent from the Wild Turkey (the Ocellated Turkey does not have this tuft)

Availability and Commercial Production

Prior to World War II, turkey was something of a luxury in Britain, with goose or beef a more common Christmas dinner [1] (In Charles Dickens' A Christmas Carol Bob Cratchit had a goose before Scrooge bought him a turkey). Intensive farming of turkeys from the late 1940s, however, dramatically cut the price and it became far and away the most common Christmas dinner meat. With the availability of refrigeration, whole turkeys could be shipped frozen to distant markets. Later advances in control of disease increased production even more. Advances in shipping, changing consumer preferences and the proliferation of commercial poultry plants for butchering animals has made fresh turkey available to the consumer.

Approximately two to four billion pounds of poultry feathers are produced every year by the poultry producing industry. Most of the feathers are usually ground up and used as filler for animal feed. Researchers at the United States Department of Agriculture (USDA) have patented a method of removing the stiff quill from the fibers which make up the feather. As this a potential untapped supply of natural fibers, research has been conducted at Philadelphia University to determine textile applications for feather fibers. To date, turkey feather fibers have been blended with nylon and spun into yarn which was then used for knitting. The yarns were tested for strength while the fabrics were evaluated as potential insulation materials. In the case of the yarns, as the percentage of turkey feather fibers increased the strength decreased. In fabric form, as the percentage of turkey feather fibers increased the heat retention capability of the fabric increased.

Breeding

Modern animal husbandry has resulted in significant differences between wild turkeys and commercial farm animals. Broad-breasted varieties are prized for their white meat, fast growth, and excellent feed-conversion ratios. Broad-breasted varieties are typically produced by artificial insemination to avoid injury of the hens by the much larger toms and because the physical changes resulting in broad (double) breasts have also rendered most males incapable of natural mating. Modern commercial varieties have also lost much of their natural ability to forage for food, fly, walk normally, and to escape predators. For this reason,

many non-commercial hobbyists as well as organic farmers grow "heritage" breeds such as the Royal Palm or Naragansett -- varieties traditionally grown on farms prior to the advent of large-scale agriculture. Heritage breeds do not grow as quickly as commercial breeds and are single-breasted and thus have less white meat. Their meat has a much stronger turkey taste and does not require flavor additives or brining. Heritage turkeys are disease resistant, strong flyers and foragers, and can mate naturally and raise their young successfully.

Male turkeys strut and demonstrate, usually in groups, to attract hens. They fan out their tail, puff up the feathers on their backs, and drag their primary flight feathers on the ground to produce a "scraping" sound. Part of the demonstration includes gobbling and producing a "puff" sound followed by a very low resonating "boing" that sounds like a rubber band in an echo chamber. The low resonating sound is low enough that it cannot be captured with traditional audio equipment. The hen in turn makes a "yelp" or call that attracts the males. Hens select their mate and crouch on the ground with neck extended to signal their willingness to mate. Hens continue to lay fertile eggs for three to four weeks from just one mating. However, when given the opportunity hens will mate everyday.

Some commercial turkey hens occasionally produce young from unfertilized eggs in a process called parthenogenesis.

Most Domesticated turkeys are grain fed.

Butchering

To kill a live turkey, withhold food for a day to help ensure the digestive system is empty. (Some recommend also feeding the turkey hard liquor before slaughter, both to sedate it and perhaps as a way of flavoring the meat.) Putting the turkey in a bag, with one corner cut out for the head, helps keep the turkey from thrashing and damaging itself or the people involved in preparing it. One method is to hammer two nails into a stump and bend them, then put the turkey's head on the stump and turn the nails to hold the turkey's head still, then remove the turkey's head with an axe. The turkey will thrash for a few moments. More commonly, a turkey is placed upside down inside a metal cone manufactured for this purpose, its neck is cut, and the blood is allowed to drain out. At this point, a process known as debraining may be applied, where the brain stem is severed by pushing a sharp knife or screwdriver in to the mouth and through the back of the throat towards the base of the skull and applying a twisting motion. Successful debraining will generally result in a bird that is easier to pluck.

Hang the carcass upside down to bleed for a half hour or so. When bleeding is complete, the bird can be manually plucked, which gives a good quality carcass. Smaller feathers can be pulled off in a bunch; larger feathers need to be removed one at a time so as not to tear the skin. Stubborn feathers can be pulled with pliers or a forceps. The alternative is to scald the carcass in hot water for 1-3 minutes at a temperature of 60-80°C before manual plucking. This greatly reduces the amount of labor required to remove the feathers, but care must be taken to avoid accidentally "cooking" the skin. When all the feathers are removed, rinse the turkey's anus to remove any residue, then insert a sharp knife just below the hip bone, but not so deep as to puncture any of the internal organs. Cut down and around on either side of the anus, making sure it's angled up to keep any excretion off the meat. Carefully pull out and

discard. Then reach inside the turkey and remove all organs, as well as large globs of fat. If desired, the heart, liver (slice away from other innards, being careful not to puncture the green gall), and gizzard can be saved for giblets. If the gizzard is saved, slice it in half until the gravel inside grates against the knife, then slice around and open up, peeling away the inner layer and discarding the contents. After all the organs have been removed, turn the turkey around and cut around the circumference of the neck and peel down, exposing the esophogus and windpipe. For each, separate them from their attachment points and pull them out, including the crop in the case of the esophogus. Rinse the turkey out with cold water and, if desired, hang and chill for a day or so before freezing.

Turkeys as food

Turkeys are traditionally eaten as the main course of large feasts at Christmas in Europe and North America, as well as Thanksgiving in the United States and Canada, in both cases having displaced the traditional goose. While eating turkey was once mainly restricted to special occasions such as these, turkey is now eaten year round and forms a regular part of many diets.

In countries where turkey is popular, it is available commonly in supermarkets. Turkeys are sold sliced and ground, as well as "whole" in a manner similar to chicken with the head, feet, and feathers removed. Frozen whole turkeys remain popular. Sliced turkey is frequently used as a sandwich meat or served as cold cuts. Ground turkey is sold just as ground beef, and is frequently marketed as a healthy beef substitute. Without proper preparation, turkey is usually considered to end up less moist than, say, chicken or duck. Leftovers from roast turkey are generally served as cold cuts on Boxing Day.

Wild turkeys, while technically the same species as domesticated turkeys, have a very different taste from farm-raised turkeys. Almost all of the meat is "dark" (even the breasts) with a more intense turkey flavor. Older heritage breeds also differ in flavor.

Turkey is often found as a processed meat. It can be smoked and as such is sometimes sold as turkey ham. Twisted helices of turkey meat sold as turkey twizzlers came to prominence in the UK in 2004 when chef Jamie Oliver campaigned to have them and similar foods removed from school dinners.

Cooking

Both fresh and frozen turkeys are used for cooking; as with most foods, fresh turkeys are generally preferred, although they cost more. Around holiday seasons, high demand for fresh turkeys often makes them difficult to purchase without ordering in advance. However, the large size of the turkeys typically used for consumption makes defrosting them a major endeavor: a typically-sized turkey will take several days to properly defrost.

Turkeys are usually baked or roasted in an oven for several hours, often while the cook prepares the rest of the meal. Sometimes, a turkey is brined before baking to enhance flavor

and moisture content. In some areas, particularly the American South, they may also be deep fried in hot oil (often peanut oil) for 30 to 45 minutes by using a turkey fryer. Deep frying turkey has become something of a fad, with hazardous consequences for those unprepared to safely handle the large quantities of hot oil required. [2]

Accompaniments

For <u>Christmas</u> in Britain, turkey is traditionally served with winter vegetables including roast potatoes, Brussels sprouts, and parsnips. Cranberry sauce is the traditional condiment in the northern rural areas of Britain where wild cranberries grow. In the south and in urban areas, where cranberries until recently were difficult to obtain, bread sauce was used in its place, but the availability of commercial cranberry sauce has seen a rise in its popularity in these areas too. Sometimes sausagemeat, cocktail sausages or liver wrapped in bacon is also served (known as bacon rolls or "pigs in blankets").

Especially during holiday seasons, stuffing is traditionally served with turkey. There are many varieties: oatmeal, chestnut, sage and onion (flavoured bread), and sausage (possibly with mashed potato) are the most traditional. Stuffing may either be used to stuff the turkey (as the name implies), or may be cooked separately and served as a side dish.

For Thanksgiving in the United States and Canada, turkey is traditionally served with cranberry sauce and gravy. Other items vary, but common complementary dishes include mashed potatoes, dinner rolls, various vegetables (such as corn, green beans, squash, and sweet potatoes), and various types of pie for dessert (such as pumpkin, apple and pecan). One humorous decades-old Thanksgiving tradition in the United States is the annual Presidential "pardon" of a selected turkey, which meets with the President and then is taken to a petting zoo instead of a slaughterhouse.

Health concerns

Turkey is generally considered healthier and less fattening than red meat. Turkey is high in tryptophan, and is commonly credited with causing sleepiness after a meal, however this is largely a misconception. Turkey dinners are commonly large meals served with carbohydrates, fats, and alcohol in a relaxed atmosphere, all of which are bigger contributors to post-meal sleepiness than the tryptophan in turkey.

Turkeys in culture

Norman Rockwell featured a roast turkey as a symbol of prosperity in his painting "Freedom from Want", one of his Four Freedom Series.

Turkey dung for fuel

Turkey droppings are planned to fuel an electric power plant in western Minnesota. The plant will provide 55 megawatts of power using 700,000 tons of dung per year. Plant will begin operating in 2007. Three such plants are in operation in England.[3]

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 - All about Turkeys for kids(Link may not work)

Homing pigeon

The **homing pigeon** is a variety of domesticated <u>Rock Pigeon</u> (*Columba livia*) that has been selectively bred to be able to find its way home over extremely long distances. Because any <u>pigeon</u> generally returns to its own nest and its own mate, it was relatively easy to selectively breed the birds that repeatedly found their way home over long distances. Flights as long as 1689 miles have been recorded by exceptional birds in competition pigeon racing. Their average flying speed over moderate distances is around 30 miles per hour, but they can achieve bursts of speed up to 60 mph. Homing pigeons have been used to carry messages written on thin light paper (such as cigarette paper) in a small tube attached to one leg; this is called pigeon post.

This bird is to be distinguished from the <u>carrier pigeon</u>, an entirely different breed.

- 1 Navigation
- 2 History
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Navigation

Some research has been performed with the intention of discovering how birds can find their way back from distant places they have never visited before. Some researchers believe that pigeons navigate by Earth's magnetic field. Near their home lofts, in areas they have previously visited, pigeons probably are guided by natural and artificial landmarks. Research by Floriano Papi (Italy, early 1970s) and newer research published in the February, 2004 issue of *Animal Behaviour* suggest that pigeons also orient themselves by odors and/or combinations of odors. (See the August 20, 2005 issue of *Science News*.)

Various experiments suggest that different breeds of homing pigeons rely on different cues to different extents. Charles Walcott at Cornell was able to demonstrate that one strain of pigeons was confused by a magnetic anomaly in the Earth that had no effect on another strain of birds. Other experiments have shown that altering the perceived time of day with artificial lighting or using air conditioning to eliminate odors in the pigeons' home roost affected the pigeons' ability to return home.

Some research also indicates that homing pigeons navigate by following roads and other man-made features, making 90 degree turns and following habitual routes, much the same way that humans navigate [1].

History

Messenger pigeons were used as early as 1150 in Baghdad [2] and also later by Genghis Khan.

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In 1850, Paul Reuter, who later founded Reuters press agency, used a fleet of over 45 pigeons to deliver news and stock prices between Brussels and Aachen. The outcome of the Battle of Waterloo was also first delivered by a pigeon to England.

Possibly the first regular air mail service in the world was Mr Howie's Pigeon-Post service from the Auckland New Zealand suburb of Newton to Great Barrier Island, starting in 1896. Certainly the world's first 'airmail' stamps were issued for the Great Barrier Pigeon-Gram Service from 1898 to 1908. [3]

They were used extensively during World War I, and one homing pigeon, Cher Ami, was awarded the French Croix de Guerre for his heroic service in delivering 12 important messages, despite being shot once.

Eighty-two homing pigeons were dropped into Holland with the First Airborn Division Signals as part of Operation Market-Garden in World War II. The pigeons' loft was located in London which would have required them to fly 240 miles to deliver their messages.¹

Homing pigeons were still employed in the 21st century by certain remote police departments in Orissa state in eastern India to provide emergency communication services following natural disasters. In March 2002, it was announced that India's Police Pigeon Service messenger system in Orissa was to be retired.

The humorous IP over Avian Carriers (RFC 1149) is an Internet protocol for the transmission of messages via homing pigeon. This protocol has been used, once, to transmit a message in Bergen, Norway.

Notable pigeon enthusiasts in the United Kingdom include Gerry Francis (football manager) and Duncan Ferguson (Everton and Scotland footballer).

In Chinese martial art (wushu) films and dramas, homing pigeons are often used for "Pigeon Mail" (\hat{U} ? 3 ø). People often labor under the misapprehension that the pigeons know where to deliver the mail. The fact is that they can only go back to one "mentally marked" point that they have identified as their home. So "pigeon mail" can only work when the sender is actually holding the receiver's pigeons.

The Taliban banned homing pigeons (or probably more realistically the keeping of homing pigeons and/or the use for sport) in Afghanistan.

References

¹ 'A Bridge too Far' by Cornelius Ryan

Indian Runner Duck

The **Indian Runner Duck** is a favorite among <u>poultry</u> lovers. Although their name suggests otherwise, they are native to Malaysia. They are a light weight <u>duck</u> with a upright pose and are bred in many colors, including, white, black, grey, penciled, tan and blue. They are quiet and known for their very good egg laying production (up to roughly 365 per year, or one per day), but don't take care of their eggs. These ducks stand upright like humans and stand up to 14" tall. They are also bred throughout farms for natural pest control, being released by the thousands. Their waste makes good fertilizer. They are often kept as pets.

Khaki Campbell

A **Khaki Campbell** (or just **Campbell**) is a breed of <u>domesticated duck</u> kept for its high level of egg production. The breed was developed by Adele Campbell of England at the end of the 19th century. The "Khaki" portion of the name refers to the duck's typical color.

Adult Campbell ducks weigh approximately 4 pounds. Campbells can come in three color varieties: khaki, dark and white. The Khaki Campbell duck is mostly khaki colored with a darker head. They have Mallard, Rouen and Runner duck blood in them.

The egg production of the Campbell breed can exceed even the most efficient of egg laying domestic <u>chickens</u>, with the breed laying an average of 300 eggs a year. [2].

This breed of duck is listed as watch by the American Livestock Breeds Conservancy.[3]

History

In the late 1800s Adele Campbell purchased a Fawn and White Indian Runner Duck which was an exceptional layer (195 eggs in 197 days) and crossed it with a Rouen in an attempt to create a strain that would lay well and have bigger bodies. The offspring were crossed with Mallards to increase their hardiness. The resulting birds were prolific layers. The "Campbell" breed was introduced to the public in 1898. In an attempt to create a more attractive buff-colored duck Mrs. Campbell crossed her original Campbells with Penciled Runner ducks. The resulting color reminded Mrs. Campbell of British army uniforms, so she named these new ducks "Khaki Campbell".[1]

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Ostrich

Phylum: Chordata

Class: Aves

Order: Struthioniformes

Family: Struthionidae, Vigors, 1825Genus: Struthio

Species: S. camelus Binomial name: Struthio camelus, Linnaeus, 1758

The **ostrich** (*Struthio camelus*) is a <u>flightless bird</u> native to Africa. It is the only living species of its <u>family</u>, *Struthionidae*, and its <u>genus</u>, *Struthio*. They are distinct in their appearance, with a long neck and legs and the ability to run at speeds of about 65 km/h (40 mph). Ostriches are the largest living species of <u>bird</u> and are farmed in many areas all over the world. The scientific name for the ostrich is from the Greek for "camel <u>sparrow</u>" in allusion to their long necks^[1].

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- 2 Systematics and distribution
 - o 2.1 Evolution
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Description

Ostriches usually weigh from 90 to 130 kg (200 to 285 pounds), although some male ostriches have been recorded with weights of up to 155 kg (340 pounds). The feathers of adult males are mostly black, with some white on the wings and tail. Females and young males are grayish-brown, with a bit of white. The small vestigial wings are used by males in mating displays. They can also provide shade for chicks. The <u>feathers</u> are soft and serve as insulation, and are quite different from the stiff airfoil feathers of flying birds. There are claws on two of the wings' fingers. The strong legs of the ostrich lack feathers. The bird stands on two toes, with the bigger one resembling a hoof. This is an adaptation unique to ostriches that appears to aid in running.

At sexual maturity (two to four years old), male ostriches can be between 1.8 m and 2.7 m (6 feet and 9 feet) in height, while female ostriches range from 1.7 m to 2 m (5.5 ft to 6.5 ft). During the first year of life, chicks grow about 25 cm (10 inches) per month. At one year, ostriches weigh around 45 kg (100 pounds). An ostrich can live up to 75 years.

Systematics and distribution

The ostrich belong to the Struthioniformes order (ratites). Other members of this group include rheas, emus, cassowaries and the largest bird ever, the now-extinct Aepyornis. However, the classification of the ratites as a single order has always being questioned, with the alternative classification restricting the Struthioniformes to the ostrich lineage and elevating the other groups to oder status also. Presently, molecular evidence is equivocal while paleobiogeographical and paleontological considerations are slightly in favor of the multi-order arrangement.

Ostriches occur naturally in the savannas and the Sahel of Africa, both north and south of the equatorial forest zone. Five subspecies are recognized:

- S. c. australis in Southern Africa
 - S. c. camelus in North Africa, sometimes called the North African ostrich or rednecked ostrich.
 - S. c. massaicus in East Africa, sometimes called the Masai ostrich. During the mating season, the male's neck and thighs turn pink-orange. Their range is from Ethiopia and Kenya in the east to Senegal in the west, and from eastern Mauritania in the north to southern Morocco in the south.
 - S. c. syriacus in the Middle East, sometimes called the Arabian ostrich or Middle Eastern ostrich, was a subspecies formerly very common in the Arabian Peninsula, Syria, and Iraq; it became extinct around 1966.
 - S. c. molybdophanes in Somalia, Ethiopia, and northern Kenya, is called the Somali ostrich. During the mating season, the male's neck and thighs turn blue. Its range overlaps with S.c. massaicus in northeastern Kenya.

Analyses indicate that the Somali ostrich may be better considered a full species. mtDNA haplotype comparisons suggest that it diverged from the other ostriches not quite 4 mya due to formation of the Great Rift Valley. Subsequently, hybridization with the subspecies that evolved southwestwards of its range, S. c. massaicus, has apparently been prevented to occur on a significant scale by ecological separation, the Somali ostrich preferring bushland where it browses middle-height vegetation for food while the Masai ostrich is, like the other subspecies, a grazing bird of the open savanna and miombo habitat (Freitag & Robinson, 1993).

The population from Río de Oro was once separated as Struthio camelus spatzi because its eggshell pores were shaped like a teardrop and not round, but as there is considerable variation of this character and there were no other differences between these birds and adjacent populations of S. c. camelus, it is not anymore considered valid. This population has disappeared in the later half of the 20th century. In addition, there have been 19th century reports of the existence of small ostriches in North Africa; these have been referred to as Levaillant's Ostrich (Struthio bidactylus) but remain a hypothetical form not supported by material evidence (Fuller, 2000). Given the persistence of savanna wildlife in a few mountaineous regions of the Sahara (such as the Tagant Plateau and the Ennedi Plateau), it is not at all unlikely that ostriches too were able to persist in some numbers until recent times after the drying-up of the Sahara.

Evolution

The earliest fossil of ostrich-like birds is the Central European Palaeotis from the Middle Eocene, a middle-sized flightless bird that was originally believed to be a bustard. Its distribution indicates that its ancestors must have flown across the ocean which at that time separated the continents from each other, and this indicates that theories about evolution and dispersal of the ratites need much more research before a consensus can be reached. Apart from this enigmatic bird, the fossil record of the ostriches continues with several species of the modern genus Struthio which are known from the Early Miocene onwards. While the relationship of the African species is comparatively straightforward, a large number of Asian species of ostrich have been described from very fragmentary remains, and their interrelationships and how they relate to the African ostriches is very confusing. In China, ostriches are known to have become extinct only around or even after the end of the last ice age; images of ostriches have been found there on prehistoric pottery and as petroglyphs.

- Struthio coppensi (Early Miocene of Elizabethfeld, Namibia)
- Struthio linxiaensis (Liushu Late Miocene of Yangwapuzijifang, China)
- Struthio orlovi (Late Miocene of Moldavia)
- Struthio karingarabensis (Late Miocene Early Pliocene of SW and CE Africa)
- Struthio kakesiensis (Laetolil Early Pliocene of Laetoli, Tanzania)
- Struthio wimani (Early Pliocene of China and Mongolia)
- Struthio daberasensis (Early Middle Pliocene of Namibia)
- Asian Ostrich, *Struthio asiaticus* (Early Pliocene Late Pleistocene of Central Asia to China)
- Struthio oldawayi (Early Pleistocene of Tanzania) probably subspecies of S. camelus
- Struthio anderssoni
- *Struthio brachydactylus* (Pliocene of Ukraine)
- Struthio chersonensis (Pliocene of SE Europe to WC Asia)
- Struthio oshanai

In addition, apparently ratite eggshell fragments were found on the Canary Islands. The fragments apparently date to the Middle or Late Miocene, and no satisfying theory has been proposed as to how they got there due to uncertainties about whether these islands were ever connected to the mainland.

Behavior

Ostriches live in nomadic groups of 5 to 50 birds that often travel together with other grazing animals, such as zebras or antelopes. They mainly feed on seeds and other plant matter; occasionally they also eat insects such as locusts. Lacking teeth, they swallow pebbles that help to grind the swallowed foods in the gizzard. They can go without water for a long time, exclusively living off the moisture in the ingested plants. However, they enjoy water and frequently take baths.

With their acute eyesight and hearing, they can sense predators such as lions from far away.

In popular mythology, the ostrich is famous for hiding its head in the sand at the first sign of danger. The Roman writer Pliny the Elder is noted for his descriptions of the ostrich in his Naturalis Historia, where he describes the ostrich and the fact that it hides its head in a bush. There have been no recorded observations of this behavior. A common counter-argument is that a species that displayed this behavior would not likely survive very long. The myth may have resulted from the fact that, from a distance, when ostriches feed they appear to be burying their head in the sand because they deliberately swallow sand and pebbles to help grind up their food. Burying their heads in sand will in fact suffocate the ostrich. When lying down and hiding from predators, the birds are known to lay their head and neck flat on the ground, making them appear as a mound of earth from a distance. This even works for the males, as they hold their wings and tail low so that the heat haze of the hot, dry air that often occurs in their habitat aids in making them appear as a nondescript dark lump. When threatened, ostriches run away, but they can also seriously injure with kicks from their powerful legs.

The ostrich's behavior is also mentioned in what is thought to be the most ancient book of the Bible in God's discourse to Job (Job 39.13-18). It is described as joyfully proud of its small wings, unmindful of the safety of its nest, treats its offspring harshly, lacks in wisdom, yet can put a horse to shame with its speed. Elsewhere, ostriches are mentioned as proverbial examples of bad parenting; see Arabian Ostrich for details.

Ostriches are known to eat almost anything (dietary indiscretion), particularly in captivity where opportunity is increased.

Ostriches can tolerate a wide range of temperatures. In much of its habitat temperature differences of 40°C between night- and daytime can be encountered. Their temperature control mechanism is more complex than in other birds and mammals, utilizing the naked skin of the upper legs and flanks (see the photo of the "dancing" female ostrich below) which can be covered by the wing feathers or bared according to whether the bird wants to retain or lose body heat.

Reproduction

Ostriches become sexually mature when 2 to 4 years old; females mature about six months earlier than males. The species is iteroparous, with the mating season beginning in March or April and ending sometime before September. The mating process differs in different geographical regions. Territorial males will typically use hisses and other sounds to fight for a harem of 2 to 5 females (which are called hens). The winner of these fights will breed with all the females in an area but only form a pair bond with one, the dominant female. The female crouches on the ground and is mounted from behind by the male.

Ostriches are <u>oviparous</u>. The females will lay their fertilized <u>eggs</u> in a single communal nest, a simple pit scraped in the ground and 30 to 60 cm deep. Ostrich eggs can weigh 1.3 kg and are the largest of all eggs (and the largest single cells), though they are actually the smallest eggs relative to the size of the bird. The nest may contain 15 to 60 eggs, with an

average egg being 6 inches (15 cm) long, 5 inches (13 cm) wide, and weigh 3 pounds (1.4 kg). They are shiny and whitish in color. The eggs are incubated by the females by day and by the male by night, making use of the different colors of the two sexes to escape detection. The gestation period is 35 to 45 days. Typically, the male will tend to the hatchlings.

The life span of an ostrich can extend from 30 to 70 years, with 50 being typical.

Ostriches and humans

In the past, ostriches were mostly hunted and farmed for their feathers, which used to be very popular as ornaments in ladies' hats and such. Their skins were also valued to make a fine leather. In the 18th century, they were almost hunted to extinction; farming for feathers began in the 19th century. The market for feathers collapsed after World War I, but commercial farming for feathers and later for skins, took off during the 1970s.

The Arabian Ostriches in the Near and Middle East were hunted to extinction by the middle of the 20th century.

Today, ostriches are bred all over the world, including climates as cold as that of Sweden. They will prosper in climates between 30 and 30 °C, and are farmed in over 50 countries around the world, but the majority are still found in Southern Africa. Since they also have the best feed to weight ratio gain of any land animal in the world (3.5:1 whereas that of cattle is 6:1), they are bound to appear attractive to farmers. Although they are farmed primarily for leather and secondarily for meat, additional useful byproducts are the eggs, offal, and feathers. It is traditional to place seven of the large eggs on the roof of an Ethiopian Orthodox church, to symbolise the Heavenly and Earthly Angels.

It is claimed that ostriches produce the strongest commercially available leather¹. Ostrich meat tastes similar to lean beef and is low in fat and cholesterol, as well as high in calcium, protein and iron. [1]

Ostriches are large enough for a small human to ride them; typically, the human will hold on to the wings while riding. They have been trained in some areas of northern Africa and Arabia as racing mounts. Ostrich races in the United States have been criticized by animal rights organizations, however there is little possibility of this becoming a widespread practice due to the fact that the animals are difficult to saddle (and ostriches are known to have a rather irascible temper).

Ostriches are classified as dangerous animals in Australia, the US and the UK. There are a number of recorded incidents of people being attacked and killed. Big males can be very territorial and aggressive and can attack and kick very powerfully with their legs. An ostrich will easily outrun any human athlete. Their legs are powerful enough to eviscerate large animals.

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Pekin duck

A **Pekin duck** is a breed of <u>domesticated duck</u> used primarily for egg and meat production. Bred from the Mallard in China, it was brought to the United States about 1873, where it is the most popular commercial duck breed.

Adult Pekin ducks weigh approximately 8 pounds, and are characterized by a yellow bill and creamy white <u>plumage</u>, with orange shanks and toes. Ducklings have bright yellow plumage. The ducks have an upright carriage and a peculiarly upturned rump.

When young it is difficult to determine the gender of the duck; when older the male ducks acquire a curled tail feather, called a drake feather.

Trivia

- It is widely believed that Donald Duck is modeled after a Pekin duck.
- The mascot of the insurance company Aflac is a Pekin duck.

References

- Pekin duck
- Pekin duck breed

Quail

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u>†

Genera: Coturnix, Anurophasis, Perdicula, Ophrysia† See also Pheasant, Partridge, Grouse

Quail is a collective name for several genera of mid-sized <u>birds</u> in the <u>pheasant</u> family <u>Phasianidae</u>, or in the family Odontophoridae. This article deals with the Old World species in the former family. The New World quails are not closely related, but are named for their similar appearance and behaviour.

The Old World buttonquails are also in a different family Turnicidae, and are not true quails.

The quails are small, plump terrestrial birds. They are seed eaters, but will also take insects and similar small prey. They nest on the ground.

Some quail are farmed in large numbers. These include Japanese quail, also commonly known as coturnix quail, which are mostly kept to produce eggs that are sold worldwide.

Species list

- Genus Coturnix
 - Coturnix coturnix, Common Quail

Coturnix japonica, Japanese Quail

Coturnix pectoralis, Stubble Quail

Coturnix novaezelandiae, New Zealand Quail Extinct

Coturnix coromandelica, Rain Quail

Coturnix delegorguei, Harlequin Quail

Coturnix ypsilophora, Brown Quail

Coturnix adansonii, Blue Quail

Coturnix chinensis, Blue-breasted Quail

- Genus Anurophasis
 - o Anurophasis monorthonyx, Snow Mountain Quail
- Genus Perdicula
 - o Perdicula asiatica, Jungle Bush-quail

Perdicula argoondah, Rock Bush-quail

Perdicula erythrorhyncha, Painted Bush-quail

Perdicula manipurensis, Manipur Bush-quail

- Genus Ophrysia
 - o Ophrysia superciliosa, Himalayan Quail Critically Endangered/Extinct

References

<u>Commercial coturnix quail farming</u>

Rock Pigeon

Conservation status Least concern

Rock Pigeon near the shore in Connecticut

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Columbiformes Family: <u>Columbidae</u> Genus: *Columba* Species: *C. livia*

Binomial name *Columba livia*, Gmelin, 1789

The **Rock Pigeon** (*Columba livia*), is a member of the <u>bird</u> family <u>Columbidae</u>, doves and pigeons. The bird is also known by the names of **feral pigeon** or **domestic pigeon**. In common usage, this bird is often simply referred to as the "pigeon". The species was commonly known as **Rock Dove** until the British Ornithologists' Union and the American Ornithologists' Union changed the official English name of the bird in their regions to Rock Pigeon.

The Rock Pigeon has a restricted natural resident range in western and southern Europe, North Africa, and into southwest Asia. Its habitat is natural cliffs, usually on coasts. Its domesticated form, the feral pigeon, has been widely introduced elsewhere, and is common, especially in cities, over much of the world. In Britain, Ireland, and much of its former range, the Rock Pigeon probably only occurs pure in the most remote areas. A Rock Pigeon's life span is anywhere from 3–5 years in the wild to 15 years in captivity, though longer-lived specimens have been reported.

The species was first introduced to North America in 1606 at Port Royal, Acadia (now Nova Scotia).

The Rock Pigeon is 30–35 cm long with a 62–68 cm wingspan. The white lower back of the pure Rock Pigeon is its best identification character, but the two black bars on its pale grey wings are also distinctive. The tail is margined with white. It is strong and quick on the wing, dashing out from sea caves, flying low over the water, its white rump showing well from above.

The head and neck of the mature bird are a darker blue-grey than the back and wings; the lower back is white. The green and lilac or purple patch on the side of the neck is larger than that of the Stock Dove, and the tail is more distinctly banded. Young birds show little lustre and are duller. Eye colour of the pigeon is generally an orange colour but a few pigeons may have white-grey eyes. The eyelids are orange in colour and are encapsulated in a greywhite eye ring.

When circling overhead, the white under wing of the bird becomes conspicuous. In its flight, behaviour, and voice, which is more of a dovecot *coo* than the phrase of the Wood Pigeon, it is a typical pigeon. Although it is a relatively strong flier, it also glides frequently, holding its wings in a very pronounced V shape as it does. Though fields are visited for grain and green food, it is nowhere so plentiful as to be a pest.

The bowing courtship, when the metallic lustre of the neck is fully displayed, often takes place on ledges where Guillemots and Razorbills sit.

A small prehistoric subspecies of the Rock Dove that lived during the last ice age in Italy has been described as *Columba livia minuta*.

- 1 Nest and Nestling
- 2 Domestication
- <u>3 Feral pigeons in cities</u>
- 4 See also
- <u>5 References</u>

Nest and Nestling

The nest is usually on a ledge in a cave; it is a slight structure of grass, heather, or seaweed. Like most pigeons it lays two white eggs. The eggs are incubated by both parents for about 18 days.

The nestling has pale yellow down and a flesh-coloured bill with a dark band. It is tended and fed on "crop milk" like other doves. The fledging period is 30 days.

Domestication

Rock Pigeons have been domesticated for several thousand years, giving rise to the **domestic pigeon**. Trained domestic pigeons are able to return to the home loft if released at a location that they have never visited before and that may be up to 1000 km away. A special breed, called homing.pigeons has been developed through selective breeding to carry messages and members of this variety of pigeon are still being used in pigeon racing.

Pigeons are also bred for meat and by fanciers to develop many exotic forms. Among those forms are the <u>carrier pigeons</u>, a variety of pigeon with wattles and a unique, almost vertical, stance (<u>pictures</u>). Young pigeon meat is often sold under the name *squab*.

Pigeons' extraordinary navigation abilities have been attributed to the theory that they are able to sense the Earth's magnetic field with tiny magnetic tissues in their head. This is all the more surprising as they are not a <u>migratory</u> species, which is a fact used by some ornithologists to dispute the "compass pigeon" theory.

Many domestic birds have escaped or been released over the years, and have given rise to the **feral pigeon**. These show a variety of plumages, although some look very like the pure Rock Pigeons. The scarcity of the pure wild species is due to interbreeding with feral birds.

Many people consider pigeons to be pests but they have made contributions of considerable importance to humanity, especially in times of war. In war the homing ability of pigeons has been put to use by making them messengers. So-called war pigeons have

carried many vital messages and some have been decorated for their service. Medals such as the Croix de guerre, awarded to Cher Ami, and the Dickin Medal awarded to G.I. Joe have been given to pigeons for their service.

Domestic pigeons are also commonly used in laboratory experiments in biology, medicine and cognitive science. They have been trained to distinguish between cubist and impressionist paintings, for instance. In another project, pigeons were shown to be more effective than humans in spotting shipwreck victims at sea. Current (2004) research in pigeons is widespread, encompassing shape and texture perception, exemplar and prototype memory, category-based and associative concepts, and many more unlisted here.

Feral pigeons in cities

Feral pigeons, also called **city doves** or **city pigeons**, find the ledges of high buildings a perfect substitute for sea cliffs, and have become abundant in cities all over the world. However, they are often considered a pest or even vermin, owing to concerns that they spread disease, damage property, cause pollution with their excrement, and drive out other bird species. Alternative, pejorative, nicknames for pigeons are **sky rats**, **rats with wings**, or **gutter birds**. In Montreal, Quebec, Canada, they are also commonly referred to as **flying ashtrays**.

Many city squares are famous for their large pigeon populations, including:

Trafalgar Square — London
 Dam Square — Amsterdam
 Martin Place — Sydney
 Piazza San Marco — Venice
 Misir Carshisi — Istanbul
 Rynek GBówny — Cracow
 Richard J. Daley Center — Chicago
 Piccadilly Gardens — Manchester

In the mid 20th century, the pigeons in Trafalgar Square were considered a tourist attraction, with street vendors selling packets of seeds for visitors to feed the pigeons. The feeding of the Trafalgar Square pigeons was controversially forbidden[1] in 2003 by London mayor Ken Livingstone. However, activist groups such as Save the Trafalgar Square Pigeons[2] flouted the ban, feeding the pigeons from a small part of the square that is under the control of Westminster City Council, not the mayor. The organisation has since come to an agreement to feed the pigeons only once a day, at 7.30am^[3].

Although pest exterminators using poison, a <a href="https://hawk.com/hawk.

Feral pigeons can be seen eating grass seeds and berries in urban parks and gardens in the spring, but there are plentiful sources throughout the year from scavenging (e.g. dropped

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fast-food cartons). Further food is also usually available from the disposing of stale bread in parks by restaurants and supermarkets, from tourists buying and distributing birdseed, etc. Pigeons tend to congregate in large, often thick flocks when going for discarded food, and many have been observed flying skillfully around trees, buildings, telephone poles and cables, and even moving traffic just to reach it.

Long term reduction of feral pigeon populations can only be achieved by restricting food supply, which in turn will involve legislation and litter (garbage) control.

As a result of the continuous food supply, pigeon courtship rituals can be observed in urban parks at any time of the year. Males on the ground initially puff up feathers at the nape of the neck to increase their apparent size and thereby impress or attract attention, then they single out a female in the vicinity and approach at a rapid walk, often bowing as they approach. Females invariably initially walk away or fly short distances, the males follow them at each stage. Persistence by the male will usually eventually cause the female to tolerate his proximity, at which point he will continue the bowing motion and very often turn full- or half-pirouettes in front of the female. Subsequent mating when observed is very brief with the male flapping his wings to maintain balance on the female. Sometimes the male and female beaks are locked together.

Nests are rudimentary as for the wild doves and pigeons. Favourite nesting areas are in damaged property. Mass nesting is common with dozens of birds sharing a building. Loose tiles and broken windows give pigeons access — they are remarkably good at spotting when new access points become available for example after strong winds cause property damage. Nests and droppings will quickly make a mess of any nesting area. Pigeons are particularly fond of roof spaces containing water tanks, though they frequently seem to fall into the tanks and drown. Any water tank or cistern in a roof space needs to have a secure lid for this reason. The popularity of a nesting area seems little affected if pigeons die or are killed there — corpses are seen among live birds, who seem unconcerned.

On undamaged property the gutters, chimney pots and external ledges will be used as nesting sites. Many building owners attempt to limit roosting by using bird control spikes and netting to cover ledges and resting places on the facades of buildings. These probably have little effect on the size of pigeon populations, but can help to reduce the accumulation of droppings on and around an individual building.

Only the larger and more wary Wood Pigeon (which often shares the same territory and food supply) will build a tree nest; for some reason it prefers trees close to roads.

The coo-ing of the feral pigeon is almost continuous when birds are on a nest; it is rarely heard at other times except courtship. Males are at least as likely to be on the nest as females, though a pair of birds will attend the nest.

Peregrine Falcons which are also originally cliff dwellers have also adapted to the big cities, living on the window ledges of skyscrapers and often feeding exclusively on Rock Pigeons.

See also

Birdfeeding

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• Homing pigeons

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Zebra Finch

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Estrildidae</u>
Genus: *Taeniopygia*Species: *T. guttata*

Binomial name: Taeniopygia guttata, Vieillot, 1817

The **Zebra Finch**, *Taeniopygia guttata* is the most common and familiar <u>estrildid finch</u> of Central Australia and ranges over most of the continent, avoiding only the cool moist south and the tropical far north. Zebra Finches inhabit open steppes with scattered bushes and trees, but have adapted to human disturbances, taking advantage of human-made watering holes and large patches of deforested land.

There are two distinct sub-species. *Taeniopygia guttata guttata*, the Timor Zebra Finch, extends from Lombok in the Lesser Sunda Islands or Nusa Tenggara in Indonesia to Sermata in addition to coastal areas around the continent of Australia. The other sub-species is *Taeniopygia gutatta castanotis*. This species is found over the wide range of continental Australia.

The morphological differences between the sub-species include differences in size. *Taeniopygia guttata guttata* is smaller than *Taeniopygia guttata castanotis*. In addition, the *T.g. guttata* males do not have the fine barring found on the throat and upper breast of *T.g. castanotis* as well as having small breast bands.

The Zebra Finch breeds after substantial rains in its native habitat, which can occur at any time of the year. Birds in captivity are ready to breed year-round. Wild birds are adaptable and varied in their nesting habits, with nests being found in cavities, scrub, low trees, bushes, on the ground, in termite hills, rabbit burrows, nests of other birds, and the in cracks, crevices, and ledges of human structures. Outside of the breeding time, brood nests are constructed for sleeping in.

"Zebra Finches are extremely gregarious birds that are never met singly in their native habitat but are always found in groups of several pairs. The closest bond is between the cock and the hen... these two do things separately only while the eggs and nestlings have to be kept warm. However, despite the close contact with their mates, adult females indulge in bodily contact only rarely. Males in full coloration never do" - Hans-Jürgen Martain, 'Zebra Finches'.

Zebra Finches are sometimes used as avian model organisms. They are commonly used to study the auditory processing capabilities of the brain, due to their ability to recognize and process other Zebra Finches' songs. Their popularity as model organisms is also related to their prolific breeding, an adaptation to their usually dry environment. This ability also makes them popular as pet songbirds, and they are usually found at relatively inexpensive prices.

- 1 Song and other vocalizations
- 2 Food and care
- <u>3 Zebra Finch breeding</u>
- 4 Domestication
- 5 References

Song and other vocalizations

Zebra Finches are loud and boisterous singers. Their call is a loud "beep", sounding something like a toy trumpet. Their song is a few small beeps, leading up to a rhythmic song of varying complexity. Each bird's song is different, although birds of the same bloodline will exhibit similarities, and all finches will overlay their own uniqueness onto a common rhythmic framework, which becomes obvious after a few minutes of listening to finch song.

Females, as a rule, do not sing.

Male Zebra Finches begin to sing at puberty. Their song begins as a few disjointed sounds, but as they experiment and grow it rapidly matures into a full-fledged song. During these formative times, they will incorporate sounds from their surroundings into their song, also using the song of their father and other nearby males for inspiration.

Male finches use their song, in part, as a mating call. The mating act is usually accompanied by a high pitched whining sound. They will also exhibit a hissing sound when they are protecting their territory.

Food and care

Zebra Finches, being weaverbirds, are primarily seedeating birds, as their <u>beaks</u> are adapted for dehusking small seeds. They prefer millet, but will eat many other kinds of fruit seeds as well. While they prefer seed, Zebra Finches will also eat fruits, vegetables, egg food, and live food, enjoying a meal of mealworms and other small insects. They are particularly fond of spray millet, and one or two of these small birds will decimate a spray millet stalk within a few days. Zebra Finches are messy and voracious eaters, typically dropping seed everywhere.

Zebra Finches also need a lot of calcium, especially when breeding, so a cuttlebone (the bone of a cuttlefish) should be provided. This is especially important when the female is laying eggs, as a calcium deficiency could cause egg binding, an exhausting and potentially fatal condition.

When setting up a cage for captive Zebra Finches, care should be provided to ensure that they have enough room to fly (a large cage is much better than a small cage), and that they have perches of several sizes. All perches being the same size will lead to a serious foot condition.

While Zebra Finches can survive with very little to no water, fresh water should always be provided for them - and a dish to bathe in is always greatly appreciated. They should

always be provided with food. Being small and active birds, Zebra Finches have a very high metabolism and cannot survive for any length of time without food.

Zebra Finch breeding

A pair of finches show signs of wanting to nest by sudden bursts of gathering behaviors. They will pull strings or plant leaves that they can reach. If they have nothing at all to gather, they will use feathers and bits of seed husks. Any item they can use to build a nest will be deposited in a corner of the cage floor, or in their food dish. When these behaviors are noticed a mating pair should be provided with a sturdy nest shell about the size of a large apple or orange. This shell should always be placed in the highest possible corner of the cage, opposite the food dish but near the normal night perch. Nesting finches will abandon a perch if it is across the cage with the male showing that he prefers to sit attop the nest while the female lays. During the nest building, however, both will spend the night cuddling inside the nest. When they accept the nest shell and begin using it each night, they should be provided with an ample supply of very soft bits of string and leaves. They prefer items that are only a couple of inches long and will used nearly any type and color of soft material. The nest shell will be packed with everything they can reach for at least a week before laying begins. The egg clutch (amount of eggs) ranges from 3-12 eggs per egg laying period.

Males and females are very similar in size, but easily distinguished from one another as the males usually have bright orange cheek feathers. Offspring from a similary colored nesting pair may sometimes vary from the parents coloration, with nestlings from plain grey to completely white. These variations are usually due to mixed breeding between finch types somewhere down the family line especially in pet store birds. However, the orange cheeks are a stubborn indication that a young Zebra Finch is indeed a male and the cheeks begin to appear when the young are about two months old.

A nesting pair of parents may produce as many as 5 to 12 eggs over a few days of active laying. The chicks will hatch according to the laying time of each egg. It is common to have one or two eggs remaining unhatched as the parents begin the task of feeding the nestlings. Nests should be left completely alone after the egg laying begins, and until the young begin to venture out on their own. The time from laying until a fledgling adventures outside will vary with each clutch, but it is a good rule of thumb that good eggs will hatch within two weeks of laying and young will begin to venture out within about three or four weeks of hatching. Be prepared for all the eggs to hatch, and the nest to be a very busy, crowded house for the entire nesting time. Chicks that do hatch very often thrive, even in a very crowded nest. Zebra Finch are usually excellent parents and will readily take turns sitting on the nest and bringing food to the young.

Do not remove the nest from the cage until all the young adventure out freely and join the parents in perching for the night. But owners should not leave the nest for more than a very few weeks after the family moves out, as the mother finch will begin to nest for a new clutch very quickly. While the female is laying, only her mate will be allowed in the nest. Allowing the pair to start a new family while the first clutch is still in the cage will overly

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stress all the birds in the family. The father bird will not allow any other birds near the nest while eggs are being laid, so the fussing and shoving will be noisy and tiring for all the birds.

Domestication

Zebra Finches are generally decorative birds, and prefer to be left to their own devices. It is, however, possible to hand-tame a Zebra Finch. In order to do so successfully the finch should be very young, and it should not be provided with a mate. Keep in mind when doing so that finches are social creatures and that the tamer will have to take up the slack caused by the lack of a companion. With a lot of time and patience, however, a finch can be tamed almost as well as a parakeet. For guaranteed tameness the bird should be hand fed from a young age, and well socialized with humans. The bird is hand fed similar to a parrot, it will be just as tame and loving as a larger parrot, however because of its high soc

References

 BirdLife International (2004). <u>Taeniopygia guttata</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern socks

African Grey Parrot

Conservation status: Least concern

Psittacus erithacus erithacus Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Genus: *Psittacus* Species: *P. erithacus*

Binomial name *Psittacus erithacus*, Linnaeus, 1758Subspecies: *P. e. erithacus, P. e. timneh*

The **African Grey Parrot** is a medium-sized parrot of the genus *Psittacus*, native to Africa. As the name implies, they are predominantly grey, with accents of white. Some of their feathers are very dark grey and others are a lighter grey colour. They have red or maroon tails depending on the subspecies. They feed primarily on nuts and fruits, supplemented by leafy matter.

- <u>1 Subspecies</u>
- 2 Mimicry and intelligence
 - 3 African Grey Parrots as Pets
 - 4 References

Subspecies

There are two subspecies:

- Congo African Grey parrot, Psittacus erithacus erithacus these are larger birds (about 12 inches/30cm long) with light grey feathers, deep red tails and black beaks.
- Timneh African Grey parrot, Psittacus erithacus timneh these are smaller in size, have a darker charcoal gray coloring, a darker maroon tail, and a light, horn colored upper mandible.

Some avian enthusiasts (incorrectly) recognize a third subspecies, Ghana African Grey (*Psittacus erithacus princeps*). This bird is described to be similar to the Congo African greys, but darker and slightly smaller; however, scientifically this subspecies has not been found. Among breeders, there is said to be a fourth subspecies, the Cameroon African Grey, most often referred to as *the big silvers*.

Mimicry and intelligence

While comparative judgements of animal intelligence are always very difficult to make objectively, Psittaciformes are generally regarded as being the most intelligent of <u>birds</u>.

African grey parrots are particularly noted for their cognitive abilities, which are believed to have evolved as a consequence of their history of cooperative feeding on the ground in central Africa.

Irene Pepperberg's extensively published research with captive African greys, including Alex, has shown that these parrots are capable of associating human words with their meanings, at least to some extent. Ambitious claims of language use have also been made for another African grey N'kisi, who has a vocabulary of over a thousand words and speaks in sentences. However, there is little doubt that Greys and other parrots (especially macaws and cockatoos), along with corvines (Crows, Ravens, and Jays), are highly intelligent in comparison with other birds.

African Grey Parrots as Pets

The history of African Grey parrots kept as pets dates back over 4,000 years. Some Egyptian hieroglyphics clearly depict pet parrots. The ancient Greeks also valued parrots as pets, and this custom was later adopted by the Wealthy Roman families often kept parrots in ornate cages, and parrots were prized for their ability to talk. King Henry VIII of England also had an African Grey parrot. The Portuguese sailors kept them as companions on their long sea voyages.

Today, many African Grey parrots are hand reared by breeders for the pet trade and they make wonderful and very affectionate <u>companion parrots</u>; however, because they can be unpredictable at times, they may not be compatible with small children. African Grey parrots are very strong and they can bite with their strong pointed beak and scratch with their claws. African Grey parrots have a high intelligence and they are generally thought to be the best mimics of all parrots. Pet owners often refer to their relationship with their hand reared pet African Greys as being "like having a five-year-old child". On the other hand, wild-caught African Grey parrots captured from the wild need time and effort to adapt to human presence, and have a tendency to growl and bite when they are approached. The Convention on the International Trade in Endangered Species (CITES) has made the sale of all wild caught parrot species illegal.

African Grey parrots, like any pet parrot, can require a large commitment as they require a lot of attention. While numbers vary with each source, most agree that three hours out of cage daily and 45 minutes of physical interaction is the minimum attention required for good mental health. African Greys – particularly Congo African Greys – are known to be shy amongst strangers. African Greys have the tendency to bond to only one person if they do not interact with different people regularly. While inter-species friendships with other parrots are uncommon with African Greys, they require socialization with other parrots of any species.

African Greys require a lot of stimulating toys due to their high intelligence and to avoid boredom. Three to five toys at a time are typically enough to satisfy African Greys, but too many toys can crowd the cage. Toys should be rotated and switched regularly to keep the stimulation constant and diverse. For an African Grey spending most of its day in the cage, 36"W x 24"D is a good cage size. The height of a cage is typically not important, except in the case of playtop cages that are taller than the owner, in which case the bird can become

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territorial. An African Grey who spends most of its time on a playstand and uses the cage solely for sleeping only needs a cage large enough so that the bird's wingspan doesn't touch the cage's sides and its head and tail do not touch the cage's top and bottom respectively. The bar-spacing should from be ¾ inch to 1 inch. A companion African Grey should be kept in a bird-safe environment and placed in a busy part of the home, such as the living room, where the bird can occupy himself (or herself) in watching the household activities.

African Greys have special dietary requirements and should be fed with calcium and Vitamin A rich foods such as leafy greens like mustard greens, broccoli etc., almonds or little amount of cheese. It is usual to give African grey parrots carefully calculated quantities of calcium and vitamin supplements. An excess of these added vitamins and minerals in an African Grey's diet can lead to health problems. Only a few feathers should be clipped from the wings of an African Grey since they are heavy birds. Clipping too many feathers can severely impair flight and may lead to injuries as they may have a tendency to crash to the ground. If very young birds are wing clipped they may never gain full coordination and agility in flight. African Grey parrots' lifespans are upto about 50 years (or more) in captivity.

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Bird-safe

Bird-safe (or less popularly **bird-proof**) is a term used to describe objects that are safe for captive birds and it is most commonly associated with pet birds. Birds are smaller than humans and other pets and therefore are considerably more vulnerable to dangers.

- 1 Household dangers
- 2 Cage Safety
- 3 Toxic foods for birds
- 4 Toxic plants for birds
- <u>5 Toxicity of overheated non-stick surfaces</u>
- <u>6 Introducing your bird to strangers</u>

Household dangers

Household dangers can lurk almost everywhere, from a lead-painted wall to a burning stove. Many forgetful and/or unaware bird owners lose their birds just because of ignoring household dangers. One of the biggest household dangers is an open window: a bird may try to fly out of it and a flighted bird can possibly be successful in doing so, therefore it is recommended to wing-clip a pet bird.

Always supervise your bird outside its cage and make sure it isn't eating anything from surfaces outside the cage, especially the floor. Sometimes pet birds can crash into a fan and injure themselves. Therefore turn fans off before letting your bird outside its cage and keep its wings clipped. Don't let your bird access any surface with lead, this especially includes metals. Very hot or cold surfaces can also injure a bird and therefore also keep them away from your bird. Even some polishes may contain toxic materials. Alcohol, pesticides and other chemicals must also be avoided. More information can be found here here.

Cage Safety

Before buying a cage make sure it does not contain lead (lead is potentially toxic to birds). Excess of zinc can also be harmful. Lead and zinc are two main factors one should consider before buying a cage for a pet bird. Rectangular cages are preferred over round cages because a round cage does not give a bird a safe corner when it is frightened or alarmed. The round bar positioning in round cages may also affect a bird's feathers, particularly the tailfeathers. Another point to consider in bird cages are the toys that the bird will play with.

The toys should be constructed of material non-toxic to birds (marketed as "bird-safe"). The toys should not contain lead and/or zinc. If a toy contains colored leather and/or wood, it must be vegetable tanned or colored with food coloring. If a toy contains rope, it should not get tangled in a bird's toe (though sometimes even the best bird-safe ropes get tangled in bird's toes). The best bird-safe ropes are the Supreme Cotton Rope - which dispenses fluff

when its strands are plucked from the rope - or the Paulie Rope. However, Paulie Ropes designed for industrial purposes are not suitable for birds.

The same applies for playgyms, food bowls, perches and all other accessories a pet bird will interact with. More information on pet bird safety can be found here.

Toxic foods for birds

Toxic foods are foods that can cause allergies and/or health problems in birds. Avocados, chocolate, milk, foods high in salt and/or sugar and fatty foods should be avoided. Any food considered junk food for humans should also be considered junk food for pet birds.

Toxic plants for birds

There are many plants that can be harmful to pet birds. In some cases an entire plant can be harmful to a bird and in some cases only some parts of certain plants can be dangerous to birds. Click here to see a comprehensive list of plants that can be harmful to pet birds.

Toxicity of overheated non-stick surfaces

Many reports from bird owners claim that their pet birds died after the owners used non-stick cookware around the birds. The cause of this phenomenon is PTFE, a fume that is released by non-stick coatings when they are overheated. The most common source of these non-stick coatings is DuPont's Teflon, which is now very common in stock, but there are many other brands that use non-stick coatings. Make sure to buy cookware that is PTFE-free or use non-stick surfaces very carefully.

PTFE usually burns when the surface is heated over 500 degrees Celsius, and disposing non-stick cookware is the best thing to do, however, there are alternate options. Non-stick cookware is not the only source of PTFE, other sources include wafflemakers, some irons, some self-cleaning ovens among other things. If you are using PTFE-coated surfaces in a household that has birds, make sure that:

- You don't heat the stove more than the conventional heat level, which is, 500 degrees Celsius
- The area where the bird is kept and the non-stick is located should both be well-ventilated.

Introducing your bird to strangers

Strangers to a bird include new people and animals. It is recommended that a stranger bird be quarantined before being kept in a cage with another bird. Some people don't know the sensitivity of a bird and handle it recklessly, this is especially with younger children who may be too excited to handle a bird, therefore first tell a stranger that a bird is frail and

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sensitive and that it needs to be handled in the gentlest way. Sometimes even house pets (dogs and cats) are prone to eat birds, therefore it is recommended to keep them away from the bird. Some new bird owners trust their house pets too much and are very confident that they won't eat the bird, but this is not always the case. Even the tamest dog may eat a bird when it is very hungry and has nothing else to eat, cats are even more prone to such incidents.

British finches

The **British finches** are made up of several species of <u>Finch</u> which were formerly very popular as cage birds in Great Britain. Nowadays they are not commonplace, but are still keped by a few dedicated fanciers. British finches are often associated with **Mules** - a term used by cagebird breeders to refer to hybrids of finch species bred in captivity, such as that of a Goldfinch and Canary. There are now strict ringing regulations on British finches in places such as the UK, but they are still kept by aviculturists who care for them in much the same way as applies for canaries. The seed mixture in the UK known as *British Finch & Mule* is their basic diet.

- <u>1 History</u>
- <u>2 Species</u>
- 3 Mules and Hybrids
- 4 Other British birds
- <u>5 See also</u>

History

In Victorian times British finches were hugely popular as cage birds throughout the British Isles, often replacing Canaries. Due to a lack of protection, thousands of birds were captured for pets every year.

Their popularity is reflected in the well known British rhyme, Don't Dilly Dally on the Way, in the line, "I walked behind wiv me old cock linnet..." referring to the Linnet, *Carduelis cannabina*.

Since the Wildlife and Countryside Act 1981, it has been illegal to capture, attempt to capture or sell any British bird, and only those on Shedule 3 Part 1, may be sold if they are closed ringed and proof can be given that it was bred in captivity. Unfortunately, some people do still capture wild birds using cruel methods such as illegal bird lime.

Species

British finches are quite simply birds in the <u>Finch family</u> which to this day live wild in the British Isles.

The species most popular include:

- Genus *Fringilla* Bramblings and chaffinches
 - Chaffinch (Fringilla coelebs)
 Brambling (Fringilla montifringilla) (Note: this species is often known in aviculture as the Bramble finch)
- Genus *Carduelis* Linnets, redpolls, goldfinches, greenfinches, some siskins.

- Greenfinch (Carduelis chloris)
 Redpoll (Carduelis sp.)
 - Siskin (Carduelis spinus)

Goldfinch (Carduelis carduelis)

Twite (Carduelis flavirostris)

Linnet (Carduelis cannabina)

- Genus *Loxia* Crossbills
 - Common Crossbill (*Loxia sp.*) (**Note**: In Victorian times the Scottish Crossbill had not been identified)
- Genus Pyrrhula Bullfinches
 - o Bullfinch (*Pyrrhula pyrrhula*)

Mules and Hybrids

During the Victorian era, it was found that if a British finch, e.g. a Goldfinch, was crossed with a Canary, the result was an attractive looking, good singing bird. The resulting birds were sterile, but continue to be bred to this day under the name of **Mules**. Many clubs specialise in Mules. [1]

Also around this time a few people began to experiment crossing British finches. The resulting birds, including Siskin x Goldfinch and even such beauties as Bullfinch x Crossbill also remain to this day, often winning prizes at prestigious shows. The breeding of such hybrids can, however be notriously difficult. [2]

Other British birds

Not just finches were/are popular in British aviculture, and the following have had a following of fanicers for many years. They are all protected under the Wildlife and Countryside Act 1981 as are finches.

Buntings

Reed Bunting (Emberiza schoeniclus)
 Yellowhammer (Emberiza citrinella) (Note: This species is often known in aviculture as the Yellow Bunting)

Thrushes

• Blackbird (Turdus merula) Song Thrush (Turdus philomelos)

Crows

Jackdaw (Corvus monedula)
 Jay (Garrulus glandarius)
 Magpie (Pica pica)

Others

Dunnock (Prunella modularis)
 Starling (Sturnus vulgaris)

Birds such as Jackdaws were often kept by children who marvelled at their ability to talk in the days before parrots were readily available

Other more unusual birds, including Redstarts and Flycatchers, are sometimes bred by specialised owners.

See also

• Finch

Caique

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u> Genus: *Pionites,* Heine

A **Caique** is one of two species of small, brightly colored parrot of the genus *Pionites*.

Caiques originate from the area of the Amazon Rainforest of northern Brazil and southern Venezuela, and the Guiana highlands.

In the wild, caiques generally prefer forested areas and subsist on fruit and seeds. Caiques are generally canopy dwellers, spending most of their time in the tops of trees, foraging and playing.

Caiques are also occasionally known as the "Seven-Color Parrot" because black, green, yellow, orange, white and blue feathers have all been observed. They have also been historically known as "The Dancing Parrot" for their habit of hopping and dancing, especially when encouraged by rhythmic clapping.

- 1 Species
 - o 1.1 The White-Bellied Caique
 - o 1.2 The Black-Headed Caique
- 2 Aviculture
- 3 Sexing

Species

There are only two species of caique: the White-bellied Parrot or White-bellied Caique and the Black-headed Parrot or Black-headed Caique.

The White-Bellied Caique

The White-Bellied Caique, *Pionites leucogaster*, has an orange-yellow head, a white belly, green wings and back, bluish primary feathers, a horn-colored beak, and pink or grey feet. The white-belly tends to flock in pairs.

The Black-Headed Caique

The Black-Headed Caique, *Pionites melanocephala*, has a black crown, yellow to orange head, white belly, yellow leg feathers and underside of tail, green back and wings, bluish primaries, greyish bill, and black feet. Minor variations in this coloration exist. The blackhead tends to flock in groups of about three dozen.

Aviculture

Caiques are growing in popularity in <u>aviculture</u>, the more commonly found species being the black-head. Caiques bond well with humans and have a reputation as playful birds, and enjoy playing with toys while laying on their backs. They are not particularly good flyers, instead preferring to walk, jump, or hop as a mode of transportation. Their behavior has been said to be most comparable to Lories and Lorikeets.

Caiques can be quiet (compared with the maximum volume of larger parrots) if trained properly. They have a peculiar call which has been compared to a smoke alarm, used for warning and for making contact with flock members who are out of visual range. This call is high, piercing, and loud enough to alert flock members across the jungle or neighboring apartment dwellers. They are extremely active, prefer lots of physical interaction and playtime, and are prolific chewers. They can be distrustful of or aggressive toward other species of parrot, so prospective buyers should be careful if they have or plan to have other types of parrots. They can also be highly demanding of human attention, and stubborn, not easily distracted from stealing eyeglasses or chewing unapproved items even when tempted with favorite treats and toys.

Caiques are poor imitators of human speech, and their appeal as a pet lies in their playfulness, not their speaking ability. They can learn to mimic words, and will speak in a soft and gravelly voice. They can also learn to whistle and some birds enjoy developing a large repertoire which they creatively recombine to come up with new calls and short tunes. They also enjoy learning environmental sounds such as telephone rings and microwave beeps.

Caiques have a particular odor. Some birds smell more strongly than others, and the scent can be described as a dry, cardboardlike smell. Prospective buyers should interact with a bird before buying it (as all pet buyers should) to see whether they find the smell unpleasant.

Sexing

As with most parrots, males and females of either species of caique look exactly the same. The only ways to determine sex are surgical sexing and DNA sexing.

Carrier pigeon

A **carrier pigeon** is a breed of <u>pigeon</u> (specifically a domesticated <u>Rock Pigeon</u>, *Columba livia*) that has wattles, a nearly vertical stature, and that may once have been used to carry messages. The carrier pigeons of today are not good flyers; they are instead kept as an ornamental or fancy breed, valued for their unusual appearance. They are about 33 cm (about 13 in) in length, with the male generally larger than the female.

Carrier pigeons should not be confused with homing pigeons, another variety of Columba livia. Homing pigeons, not carrier pigeons, were used to carry messages in World War I and World War II and are nowadays used for pigeon racing.

The Egyptians and the Persians first used carrier pigeons 3,000 years ago. They also were used to proclaim the winner of the Olympics.

Citron-crested Cockatoo

Conservation status: Critical Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Cacatuidae Subfamily: <u>Cacatuinae</u>

Genus: *Cacatua* Subgenus: *Cacatua* Species: *C. sulphurea*

Subspecies: C. s. citrinocristata

Trinomial name Cacatua sulphurea citrinocristata, Fraser, 1844

The **Citron-crested Cockatoo**, *Cacatua sulphurea citrinocristata* is a medium-sized <u>cockatoo</u> with an orange crest, dark grey <u>beak</u>, pale orange ear patches, and strong feet and claws. The underside of the larger wing and tail <u>feathers</u> have a pale yellow colour. The eye colour ranges from brown through very dark brown to black. Both sexes are similar.

The smallest of the Yellow-crested Cockatoo subspecies, it is distributed and endemic to Sumba and Lesser Sunda Islands in Indonesia. The diet consists mainly of seeds, buds, fruits, nuts and herbaceous plants.

The Citron-crested Cockatoo as an endangered bird

The Citron-crested Cockatoo is classified as critically endangered. Its numbers in the wild have declined due to habitat loss and illegal trapping for the cage-bird trade. It is listed in appendix II of the CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) list of protected species. CITES protects endangered species like the cockatoo, by making the trade of wild-caught birds illegal. However, trade of the cockatoos bred in captivity is permitted. Each bird bred in captivity is given a CITES certificate to prove that it is not a wild caught bird. The CITES certificate must accompany its sale or resale.

The Citron-crested Cockatoo as pets

As hand-reared birds Citron-crested Cockatoos can make good pets, as they are friendly and sociable. They are not as noisy as most <u>cockatoos</u>, but are curious and like to chew. Generally they are quiet, but they can make a moderately loud honking or screeching sound. They can also make a repetitive quieter whistling or squeaking noise. They are not good at imitating human speech as some members of the parrot family, having a vocabulary of up to only 15 words or phrases. They readily learn tricks and they can be trained. They often raise the coloured crest feathers in display or when surprised. Their droppings are semi-solid and can be messy. As with many cockatoo species, Citron-crested Cockatoos taken as pets need much greater care and attention than other companion parrots.

They are not common in pet stores, but are becoming more popular with breeders. Each bird must be sold with an official CITES certificate to prove that it was bred in captivity.

Companion parrot

Companion parrot is a general term used for any parrot kept as a pet that interacts with its human a great deal, while **companion parrots** is the collective designation for any <u>species</u> of parrot that is considered by practitioners of <u>aviculture</u> to make an affectionate pet parrot.

Generally, almost all species of parrots are considered to make good companion parrots. All larger varieties of parrots, such as Amazons, African Greys, Cockatoos, Eclectus, Hawk-Heads, Keas and Macaws; most mid-sized birds such as Caiques, Conures, Pionus, Poicephalus, Rose-ringed parakeets, and Rosellas, and quite a few of the smaller types including Brotegeris, Budgies, Cockatiels, Grass parakeets, Lovebirds, and some Parrotlets are often considered companion parrots.

Species of pet parrots that are not generally considered companion parrots include Lories and Lorikeets, Hanging parrots, and Fig parrots, fruit and nectar eating birds which are generally kept in colonies. Such species as Pygmy parrots and Kakapos, Night Parrots, and about half of the species of parrotlet, are not considered companion parrots due to the apparent impossibility of keeping them alive in captivity for extended periods of time.

Generally, depending on one's definition of a good pet though, the definition of a companion parrot can vary considerably, and there are some in aviculture who go by the individual parrot rather than the species.

Conure

Conures are a diverse, loosely-defined group of medium-sized to small New World parrots. Essentially they are large parakeets native to Central and South America. For parrots, conures are lightly built, with long tails (Conure literally means 'cone tail') and small, strong beaks. They have a diverse range of colors.

- <u>1 Description</u>
- <u>2 Conure Species</u>
 - o 2.1 Aratinga
 - o 2.2 Pyrrhura
 - o 2.3 Nanday Conure
 - o 2.4 Golden Conure
 - o 2.5 Patagonian Conure
 - o 2.6 Enicognathus
 - o 2.7 Golden-Plumed Conure
 - o 2.8 Yellow-Eared Conure
 - o 2.9 Carolina Parakeet
- 3 Scientific Classification

Description

Conures are either large parakeets or small parrots that are found in the western hemisphere. They are analogous in size and way of life to the Old World's <u>Rose-ringed Parakeets</u> or the Australian parakeets. All living conure species are found in Central and South America; the extinct Conuropsis carolinensis or Carolina Parakeet was an exception.

Despite being large for parakeets, conures are lightly built with long tails and small (but strong) beaks. Conure beaks always have a small cere and are usually horn-colored or black. Most conure species live in flocks of 20 or more birds. Conures often eat grain, which causes them to be treated as agricultural pests in some places.

Conures are as diverse a group as African Parrots, so trying to characterize them all is difficult and inaccurate. The category *conure* is loosely-defined because they do not currently constitute a natural, scientific grouping. The <u>macaws</u> are so closely related to conures that strictly by descent, <u>macaws</u> could also be called "conures". The term *conure* is now used mostly in <u>aviculture</u>. Scientists and laypeople alike tend to refer to these birds as "parrots" or "parakeets." (*See below under <u>Scientific Classification for more details.</u>)*

Conure Species

Conures, as the term is used by aviculturists, include only the genera Aratinga and Pyrrhura, as well as several single-species genera and one double-species genus*. These other genera are listed below:

Conuropsis: Carolina Parakeet (extinct)

• Cyanoliseus: Patagonian Conure

• Enicognathus: Austral and Slender-Billed Conures

• Guarouba: Golden or Queen Of Bavaria Conure

• Leptosittaca: Golden-Plumed Conure

• Nandayus: Nanday Conure

• Ognorhynchus: Yellow-Eared Conure

Aratinga

Latin for "little macaw," (ara - macaw, tinga - diminutive) the Aratinga conures generally seem to have a more mischievous personality than the real little macaws or mini macaws. The Aratinga conures are generally larger with brighter plumage and are generally the noisier, more outgoing, more demanding of the two primary conure genera. The Sun Conure and Jenday Conure are among the species of conures more commonly kept as pets.

Pyrrhura

Pyrrhura is the other large genus of conures. These generally greenish conures including the very common Green-cheeked Conure. Usually smaller, duller-colored, and quieter than the Aratinga conures, the Pyrrhura conures contain almost every conure species with a hyphen in the name, and the majority of *Pyrrhura* species names are hyphenated.

Nanday Conure

The **Nanday conure**, *Nandayus nenday* is the most commonly kept pet conure species outside of the two main genera. Some experts believe that Nandays should actually be grouped with the Aratinga genus, since they are cross-fertile with such species as Jendays and Suns. Nanday conures have a distinctive black head, and wings and tails tipped with dark blue feathers. They have a light-blue scarf and bright orange feathers on their legs and around their vents. The maturity of a Nanday can be told by the edges of its black hood: if the hood has a ragged edge of brown, then the bird is over a year old. Although Nandays are often said to be extremely noisy, it might be more accurate to say that they are a heavily flock-oriented species, used to making their demands known, calling out warnings for the group, and making inquiries about other members of the group who are out of sight. They are also extremely intelligent birds, capable of learning tricks, mimicking sounds, and learning a small vocabulary. At least one report suggests that they are highly adaptable to human encroachment on their territories, but the exact status of the species in the wild is unknown.

Golden Conure

The **Golden conure** or **Queen of Bavaria Conure**, *Guarouba guarouba* (recently reclassified from *Aratinga guarouba*) is, as the name implies, covered all over with bright yellow feathers, except for the green wing-tip feathers and the greyish-horn-colored beak. Golden conures are among the most expensive conures both to purchase and to care for, although many owners feel that the benefits outweigh the cost. It is one of the rarest Conures in the wild in addition to the pet trade. Many experts believe that these birds should not be kept in captivity unless in a breeding program.

Patagonian Conure

The **Patagonian conure**, *Cyanoliseus patagonus*, is a large conure found in the Patagonia region of south-central Argentina and Chile. Drab on the top, brighly colored underneath, the Patagonian conure has exploded in popularity since the 1990s, leading to an increase in illegal importation which threatens the wild populations. It is also known as the "burrowing parrot," due to its habit of nesting in holes in the ground. Unsurprisingly, Patagonians in captivity are great chewers, and have been known to munch through furniture and even walls.

Enicognathus

The dusky red-tailed and green **Austral conure** and the descriptively named **Slender-billed conure** make up the genus *Enicognathus*. Although both birds in the genus are available in aviculture, neither is especially common in captivity.

Golden-Plumed Conure

The **Golden-plumed conure**, *Leptosittaca branickii*, is a small Andean conure not found in aviculture and endangered in its own habitat.

Yellow-Eared Conure

The exceedingly rare **Yellow-eared conure** or *Ognorhynchus icterotis* of Colombia and Ecuador was never common in aviculture and has not successfully bred in captivity.

Carolina Parakeet

Conuropsis carolinensis, the Carolina Parakeet, was the only parrot species indigenous to the United States. The Carolina parakeet was a remarkably social bird, living in vast flocks. American bird hunters reported that Carolina Parakeets would return to mourn dead members of the flock, making themselves easy targets. Considered a pest, popular in the pet trade, and bearing plumes feathers valued for hats, this species was hunted to extinction around the beginning of the 1900's.

Scientific Classification

The word *conure* is an old term and was originally used as a descriptive name for the members of the nolonger-used genus *Conurus*, which included the members of Aratinga and Pyrrhura.

The parrot order Psittaciformes is a rather confusing tangle of genera, many containing only one species. Parrots or Psittacines (order Psittaciformes) includes about 353 species of bird which are generally grouped into two families: the Cacatuidae or cockatoos, and the Psittacidae or true parrots. The term parrot is generally used for both the entire order as well as for the Psittacidae alone.

All members of the Psittaciformes order have a characteristic curved beak shape with the upper mandible having slight mobility in the joint with the skull and a generally erect stance. All parrots are zygodactyl, having the four toes on each foot placed two at the front and two back.

The conures and all other New World parrots are often placed in a subfamily or tribe Arinae. Internal relationships of conures are poorly understood though it seems evident that, to make them a natural grouping, the Quaker parakeet1, the thick-billed parrot, and Brotogeris2 should be included, and often are. Neotropical parakeets, macaws, and other are also candidates potential for inclusion. In this scheme, "conure" would comprise members of the genera:

- Aratinga
- Pyrrhura
- Nandavus
- Guarouba
- Cyanoliseus
- Enicognathus
- Leptosittaca
- Ognorhynchus
- Conuropsis
- *Rhynchopsitta*: Thick-billed parrot
- *Myopsitta*: Quaker parakeet

Macaws:

- Ara
- Anodorhynchus

- Cyanopsitta
- Diopsittaca
- Orthopsittaca
- Primolius

In addition the <u>caiques</u> and the hawk-headed parakeets have also been proposed for inclusion. Both the caiques and the Hawk-headed parakeets have a heavier build and different tail structure from traditional conures.

¹The Quaker or Monk parakeet is technically a conure by almost anybody's definition, but due to its popularity in aviculture and its uniqueness, it is generally considered in a category of its own. ²Brotogeris are not only often counted as conures, but as parrotlets as well, and it is not clear precisely which one, or both, or neither, they belong to. Certainly the tail structure is different from that of the parrotlets, although the basic body structure seems to be analogous with both groups.

Cyanoramphus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u>

Genus: *Cyanoramphus*, Bonaparte, 1854Species: *Cyanoramphus auriceps, Cyanoramphus erythrotis, Cyanoramphus malherbi, Cyanoramphus novaezelandiae, Cyanoramphus saisetti, Cyanoramphus ulietanus (extinct), Cyanoramphus unicolor, Cyanoramphus zealandicus (extinct), Cyanoramphus cooki*

Cyanoramphus is a genus of parakeets native to New Zealand and islands of the southern Pacific Ocean.

The list curreently accepted of *Cyanoramphus* taxa, following Boon et al. (2001) is:

- Yellow-crowned Parakeet C. auriceps (Kuhl, 1820)
 Orange-fronted Parakeet C. malherbi Souancé, 1857Conservation status: Critical
- Red-crowned Parakeet C. novaezelandiae (Sparrman, 1787)
 - New Zealand Red-crowned Parakeet C. novaezelandiae novaezelandiae Chatham Island Red-crowned Parakeet C. novaezelandiae chathamensis
- Forbes' Parakeet C. forbesi (formerly considered a subspecies of C. auriceps).
 Antipodes Island Parakeet C. unicolor
 Black-fronted Parakeet C. zealandicus (extinct)

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Subantarctic Red-crowned Parakeet C. erythrotis

- Macquarie Island Red-crowned Parakeet C. erythrotis erythrotis (extinct; formerly considered a subspecies of C. novaezelandiae).
 Reischek's Parakeet C. erythrotis hochstetteri (formerly considered a subspecies of C. novaezelandiae).
- New Caledonia Red-crowned Parakeet C. saisetti (formerly considered a subspecies of C. novaezelandiae).

Norfolk Island Parakeet C. cooki (formerly considered a subspecies of C. novaezelandiae).

Society Parakeet C. ulietanus (extinct)

The two forms of *C. erythrotis* may be distinct species: the single specimen believed to be from Macquarie Island (Canterbury Museum specimen AV2099, O'Connor catalog 369) in Boon et al.'s analysis has turned out to be from the Antipodes Islands population (*hochstetteri*) instead (Scofield, 2005).

References

 Boon, W.M.; Kearvell, J.; Daugherty, C. H.; Chambers, G. K. (2001): Molecular systematics and conservation of kakariki (*Cyanoramphus* spp.). Science for Conservation 176 PDF fulltext

• Scofield, R. Paul (2005): The supposed Macquarie Island parakeet in the collection of Canterbury Museum. *Notornis* **52**(2): 117-120. <u>PDF fulltext</u>

Hawaiian Goose

Conservation status: Vulnerable

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u> Genus: **Branta**

Species: *B. sandvicensis*

Binomial name: *Branta sandvicensis*, (Vigors, 1833)

The **Hawaiian Goose** or **Nn**, *Branta sandvicensis*, is a <u>species</u> of <u>goose endemic</u> to the Hawaiian Islands. It shares a recent common ancestor with *Branta canadensis*, the <u>Canada Goose</u>. The official bird of the State of Hawai»i, the Nn is exclusively found in the wild of the islands of Mau»i, Kaua»i and Hawai»i. A larger, extinct and possibly flightless species, the Nnnui (*Branta hylobadistes*) was present in prehistoric times on Maui; related, but hitherto undescribed forms also occurred on Kaua»i and O»ahu, and there was a gigantic, flightless relative on the island of Hawai»i.

The Nn gets its Hawaiian name from its soft call.

The species has a black head, buff cheeks and heavily furrowed neck. Bill, legs and feet are black. The young birds are as the male but duller brown and with less demarcation between the colours of the head and neck, and striping and barring effects are much reduced. Bill, legs and feet as for the adult.

The female Hawaiian Goose is similar to the male in colouring but slightly smaller.

Its strong toes have much reduced webbing, an adaptation to the lava flows on which it breeds. It mates on land unlike most other wildfowl.

This is the world's rarest goose. Once common, hunting and introduced predators such as mongooses, pigs, and <u>cats</u> reduced the population to 30 birds by 1952. However, this species breeds well in captivity, and has been successfully re-introduced so in 2004 it was estimated that there were 500 birds in the wild (and good numbers in wildfowl collections).

References

 BirdLife International (2004). <u>Branta sandvicensis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is vulnerable

Hill Myna

Conservation status: Lower risk (lc)

Southern Hill Myna Gracula religiosa indica

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Sturnidae</u>
Genus: <u>Gracula</u>
Species: **G. religiosa**

Binomial name *Gracula religiosa*, Linnaeus, 1758

The **Hill Myna**, *Gracula religiosa*, is a member of the <u>starling</u> family.

This myna is a resident breeder in tropical southern Asia from India and Sri Lanka east to Indonesia and has been introduced to the USA.

The races found in the Western Ghats of India and in Sri Lanka, *G. r. indica* and *G. r. ptilogenys*, have recently been split off as a separate species, the **Southern Hill Myna** (*Gracula indica*) and the **Ceylon Hill Myna** (*Gracula ptilogenys*).

This <u>passerine</u> is typically found in forest and cultivation. The Hill Myna builds a nest in hole. The normal clutch is 2-3 <u>eggs</u>.

These 25-29 cm long birds have green-glossed black <u>plumage</u>, purple-tinged on the head and neck. There are large white wing patches which are obvious in flight. The bill and strong legs are bright yellow, and there are yellow wattles on the nape and under the eye, which are separate in the Southern Hill Myna, but joined in other forms. The sexes are similar, but juveniles have a duller bill. They are often detected by their loud shrill descending whistles followed by other calls. They are most vocal at dawn and dusk and they are found in forest clearings high on the canopy in small groups.

Like most starlings, the Hill Myna is fairly omnivorous, eating fruit, nectar and insects.

The Hill Myna is a popular cage bird, renowned for its ability to imitate speech. Demand in the West outstrips breeding capacity so they are rarely found in pet stores. They are becoming increasingly rare in their native countries due to capture for the illegal pet trade.

References

• Birds of India by Grimmett, Inskipp and Inskipp, ISBN 0-691-04910-6

Kkriki

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u> Genus: <u>Cyanoramphus</u>

Species: C. auriceps, C. malherbi, C. novaezelandiae

Binomial name: *Cyanoramphus auriceps* (Kuhl, 1820), *Cyanoramphus malherbi* Souancé, 1857,

Cyanoramphus novaezelandiae (Sparrman, 1787)

The three species of **Kkriki** or **New Zealand parakeets** are the most common <u>species</u> of parakeet in the <u>genus *Cyanoramphus*</u>, <u>family</u> Psittacidae. The birds' Mori name, which is the most commonly used, means "small parrot", and is also used as the term for the colour green.

The three species on mainland New Zealand are the **Yellow-crowned Parakeet** *Cyanoramphus auriceps*, the **Orange-fronted Parakeet** *C. malherbi* and the **Red-crowned Parakeet** or **Red-fronted Parakeet**, *C. novaezelandiae*. All are native to New Zealand, and have become endangered as a result of habitat destruction following European settlement and nest predation by introduced species of mammal. Scarce on the mainland, they have survived well on outlying islands, and also through breeding in captivity since they make good pets. A licence from the New Zealand Department of Conservation is now required to breed them in captivity.

In October 2004, according to the Porirua City News (17 November, page 8), two pairs of Red-crowned Parakeets were seen in the Porirua Scenic Reserve, probably having flown from Kapiti Island.

Mitochondrial DNA analysis has indicated that the Orange-fronted Parakeet is a separate species and not just a colour variation of the Yellow-crowned Parakeet. The Orange-fronted Parakeet is highly endangered, with less than 200 individuals remaining in the North Canterbury region of the South Island. Furthermore, Chatham Island's Yellow-crowned Parakeet and the red-crowned populations of New Caledonia, Norfolk Island and the subantarctic islands have been determined to be distinct species (Boon *et al.*, 2001).

There is one remaining subspecies of the Red-crowned Parakeet, the **Chatham Island Red-crowned Parakeet**, *C. n. chathamensis*, all other forms having been split off (see also Scofield, 2005).

Aviculture

The red-crowned parakeets are common in aviculture and they are relatively easy to breed. They lay about 3 to 5 white eggs in a nesting box. A cinnamon colour variety and a pied variety are available.

References

- Boon, W.M.; Kearvell, J.; Daugherty, C. H.; Chambers, G. K. (2001): Molecular systematics and conservation of kakariki (*Cyanoramphus* spp.). Science for Conservation 176 PDF fulltext
- Scofield, R. Paul (2005): The supposed Macquarie Island parakeet in the collection of Canterbury Museum. *Notornis* **52**(2): 117-120. <u>PDF fulltext</u>

Lilian's Lovebird

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u> Genus: *Agapornis* Species: *A. lilianae*

Binomial name: Agapornis lilianae (Selby, 1836)

The **Lilian's Lovebird** also know as **Nyasa Lovebird** (*Agapornis lilianae*) is rare and endemic to Malawi. Nyasa species is one of the least studied of all lovebird species. There have not been any previous ecological and field studies of this species but there is a new Research Project conducted by Research Centre for Parrot Conservation (University of KwaZulu-Natal, South Africa). This study represents a very important step towards defining Nyasa Lovebird ecology and conservation.

The Nyasa Lovebird currently inhabits Liwonde National Park (LNP) and a few cluster groups occur in the surrounding forests outside LNP. Its distribution is rapidly becoming restricted to LNP because their feeding and breeding habitats are being exploited over for agricultural purposes. The extent of habitat loss outside LNP has not been determined scientifically although remaining habitat outside the LNP are fragmented Miombo Forest Reserves. Liwonde National Park is located in the southern region of Malawi, which has the highest human population density in the country approximating 100-115 inhabitants per km² (FAO, 1997). LNP is greatly impacted by population growth and agricultural activities than any other national park in the country. Recently, cases of Nyasa Lovebird poisoning have intensified although it is not known why poachers are poisoning the birds. Nyasa Lovebird Researchers assume poachers mean to poison larger mammals and Lovebirds fall victims.

Nyasa Lovebirds have proved to be a difficult species to rear in captivity. Many breeders worldwide struggle to breed the species.

References

 BirdLife International (2004). <u>Agapornis lilianae</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes a brief justification of why this species is near threatened

Long-billed Vulture

Conservation status: Critical Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u>

Genus: Gyps

Species: G. indicus

Binomial name: Gyps indicus (Scopoli, 1786)

The **Long-billed Vulture**, *Gyps indicus*, is an <u>Old World vulture</u> in the family <u>Accipitridae</u>, which also includes <u>eagles</u>, <u>kites</u>, buzzards and <u>hawks</u>. It is closely related to the European Griffon Vulture, *G. fulvus*. Some sources treat the birds in the eastern part of its range as a separate species, the **Slender-billed Vulture** *Gyps tenuirostris*.

It breeds on crags or in trees in mountains in India and South-east Asia, laying one egg. Birds may form loose colonies. The population is mostly resident.

Like other <u>vultures</u> it is a scavenger, feeding mostly from carcasses of dead animals which it finds by soaring over savannah and around human habitation. It often moves in flocks.

The Long-billed Vulture is a typical vulture, with a bald head, very broad wings and short tail. It is smaller and less heavily-built than European Griffon. It is distinguished from that species by its less buff body and wing coverts It also lacks the whitish median covert bar shown by Griffon.

This and the Indian White-rumped Vulture, G. bengalensis species have suffered a 99% - 97% decrease in India and the cause of this has been identified as poisoning caused by a veterinary drug Diclofenac. Diclofenac is a non-steroidal antiinflamatory drug (NSAID) and it is given to working animals to help prevent joint pain and so keep them working. The drug is believed to be swallowed by vultures with the flesh of dead cattle which have been given diclofenac in the last days of life. Diclofenac causes kidney failure in the birds. [1]. In March 2005 the Indian Government announced its support for a ban on the veterinary use of diclofenac. Meloxicam (another NSAID) has been found to be harmless to vultures and should prove to be an acceptable substitute. In March 2006 diclofenac was still being used for animals throughout India and the changes in Indian legislation are awaited. When meloxicam production is increased it is hoped that it will be as cheap as diclofenac.

Captive breeding programmes

Captive breeding programmes for several species of Indian vultue have been started. The vultures are long lived and slow in breeding, so the programmes are expected to take decades. Vultures reach breeding age at about 5 years old. It is hoped that captive breed birds will be released back to the wild when the invironment is clear of diclofenac.

References

• BirdLife International (2004). <u>Gyps indicus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 09 May 2006. Database entry includes a range map and justification for why this species is critically endangered

Moluccan Cockatoo

Conservation status: Vulnerable

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes
Family: Cacatuidae
Subfamily: Cacatuinae
Genus: Cacatua

Genus: *Cacatua*Subgenus: *Cacatua*Species: *C. moluccensis*

Binomial name: Cacatua moluccensis Gmelin, 1788

The **Moluccan Cockatoo**, *Cacatua moluccensis* also known as **Salmon-crested Cockatoo** is a <u>cockatoo</u> endemic to south Moluccas in eastern Indonesia. At 50 cm, it is the largest of the white <u>cockatoos</u>. The female is larger than the males on average. It has white-pink feathers with a definite peachy glow, a slight yellow on the underwing and a large retractable recumbent crest which it raises when threatened to frighten potential attackers. It also has a loud voice and in captivity is a capable mimic.

In the wild the Moluccan Cockatoo inhabits lowland forests below 1000m. The diet consists mainly of seeds, nuts and fruit, as well as coconuts.

- 1 Endangered status in the wild
- 2 Aviculture
 - 3 References

Endangered status in the wild

The Moluccan Cockatoo is an endangered species, and has been listed on appendix I of CITES since 1989, which makes trade in wild-caught birds illegal. Trade in captive bred birds is legal only with appropriate CITES certification. Numbers have declined due to illegal trapping for the cage-bird trade and habitat loss. During the height of the trapping of this species over 6,000 birds were being removed from the wild per year. It has a stronghold in Manusela National Park on Seram, although even today some illegal trapping continues.

Aviculture

The Moluccan Cockatoo can no longer be imported into the United States because of its being listed on the Wild Bird Conservation Act. However they are being bred in captivity. The potential owner should be aware of the bird's needs, and know how loud these birds can be.

References

• BirdLife International (2004). <u>Cacatua moluccensis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is vulnerable

Parrotlet

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u>

Genera: Forpus, Touit, Nannopsittaca

Parrotlets are a species of the smallest, New World parrots, comprised of three genera. One of these genera: *Forpus* is growing in popularity within the world of <u>aviculture</u>, raising interest in the group as a whole.

- 1 General
- 2 Speech/Learning
- <u>3 Aviculture</u>
- 4 Genera
 - o <u>4.1 Forpus</u>
 - 4.2 Touit
 - o 4.3 Nannopsittaca

General

Parrotlets are distinguished from parakeets in that despite their small size, they have a thick build and a broad tail, much like the <u>lovebird</u> species of East Africa and fig parrot and pygmy parrot species of Australasia. At $4\frac{1}{2}$ –5 inches long, they are the second smallest kind of parrot in the world.

These miniature parrots in the wild travel in flocks which, depending on the species can range from as low as four to over 100 birds. Most either species travel in flocks of about 5–12 or of about 10–40.

Speech/Learning

They can learn more than 10–15 words and can "whistle" songs well. They have about the same speaking and whistling capabilities of a cockatiel. They are also very good learners for commands such as "step up", "kiss-kiss", "step down", and other small commands. Some parrotlets can learn advanced tricks, but not advanced as a macaw or an african grey.

Aviculture

The most commonly kept parrotlet in <u>aviculture</u> is by far the **Pacific Parrotlet**, which now has several color mutations. The Mexican, Spectacled, and Yellow-Faced are also fairly common pets. Their popularity as pets has grown due to their small size and large

personalities. Parrotlets are commonly known as playful birds that enjoy the chewing as much as their larger Amazon Parrot counterparts. However, their largest quirk lies in the fact that they don't grow as bored as other species of parrots. Parrotlets keep themselves more than occupied when left alone for several hours, so long as they are provided with an array of chewable and destructable toys to play with. However, when their keepers get home, they often greet them with lovely chirps and whistles to let them know they want attention....

Genera

Forpus

Forpus, the most well known genus of parrotlet, includes all species of parrotlet commonly kept as pets including the **Pacific Parrotlet**, **Mexican Parrotlet**, and the **Spectacled Parrotlet**.

Touit

The *Touit Parrotlets* are a genus of parrotlets found in The Venezuela-Guyana area, Northern Andes, and Bahia. Only three of the seven species have ever been brought into aviculture, with all three failing to keep them alive, or breed them.

Nannopsittaca

There are only two species in the Genus *Nannopsittaca*, of which only one—*Nannopsittaca panychlora*, the Tepui Parrot—has been successfully kept in captivity.

Pigeon racing

Pigeon racing is a sport in which <u>pigeons</u> are removed by an agreed distance from their home coops and then released at a predetermined time. The arrival of each bird at its home coop is carefully recorded. For each bird, a velocity, usually in meters per minute or yards per minute, is calculated from the recorded time and the distance the coop is from the release point (distance/time). The velocities for each of the <u>birds</u> in the race are then compared to determine the order in which they reached their homes, and a winner is declared on that basis.

During the 1920s and 1930s successful racing pigeons would often have their portraits painted. Notable among pigeon artists at the time was E H Windred.

<u>Homing pigeons</u>, selectively bred to be able to navigate back to their homes from places they have never visited, are used in these races. (Homing pigeons should be clearly distinguished from the ornamental breed called <u>carrier pigeons</u>. Carrier pigeons, as they exist today, are poor fliers.)

As with many other sports, the gaming behavior involved is not only exciting for participants and spectators, but it also serves a very real purpose. Homing pigeons were originally bred to carry messages at high speeds over long distances. Since the birds can only carry the weight of a few sheets of cigarette paper, and since preparation for sending messages involves transporting the messenger pigeons overland from their home loft to wherever the messages will originate from, the messages generally had to be short and important. Emergency messages pertaining to catastrophes and to warfare were therefore the primary use to which pigeon flight was devoted.

In order to breed messenger pigeons that were both fast and dependable, it was necessary to carry them long distances from home, release them at a recorded time, and calculate the speed with which they returned. Some pigeons would fail to return, and they would automatically be eliminated from the breeding program.

The procedures necessary for improving the breed of homing pigeons are almost identical to the procedures needed for a race. All that need be added is a collection of competitors and a prize. The homing pigeon gets improved at the same time the pigeon racers and observers are entertained. Some care is needed to assure that birds are released at the same time, and that arrival times are properly verified.

Pigeons are banded both for ease in recording and maintaining genealogies and also so that homing pigeons that become lost during a race and are found by helpful people can be returned to their owners.

On Race days a rubber ring is placed on the birds foot and the number noted by a club official. When the birds are released and fly home the rubber ring is taken off and "clocked into" a specially made sealed Pigeon Racing Clock. This records the time of arrival of the bird and a average speed, normally in yards per minute is calculated.

Like all sports, pigeon racing also has drug problems, although they are minor. The main drug is a steroid called Cortisone. It works like amphetamines on young birds, and is administered with eyedrops. After a while, it slows down the muscles of the bird, making it useless for flying anyway.

Famous pigeon flyers include:

• The Janssen Brothers

Pink Pigeon

Conservation status: Endangered

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Columbiformes Family: <u>Columbidae</u> Genus: *Streptopelia* Species: *S. maveri*

Binomial name: *Columba mayeri* Prevost, 1843, *Nesoenas mayeri* Salvadori, 1893, *Streptopelia*

mayeri Johnson et al, 2001

The **Pink Pigeon** is a species of <u>Columbidae</u> (doves and pigeons) endemic to Mauritius, and now very rare. It has been conserved through the efforts of Gerald Durrell and the Durrell Wildlife Conservation Trust in the 1960s. The book Golden Bats and Pink Pigeons by Gerald Durrell refers to the conservation efforts. The IUCN has recently downlisted the species from critically endangered to endangered. Mauritius has brought out a series of stamps depicting the endemic Pink Pigeon.

- <u>1 Description</u>
- <u>2 Phylogeny</u>
- 3 Range
- 4 Habitat
- 5 Habits
 - o 5.1 Feeding Habits
 - o 5.2 Social Habits
 - o 5.3 Breeding Habits
 - o 5.4 Rearing Young
- 6 Demography and Longevity
- <u>7 References</u>

Description

An adult pigeon is about 32 cm from beak to tail and 350 gram in weight. Pink pigeons have pale pink plumage on their head, shoulders and underside, along with pink feet and beak. They have dark brown wings, and a broad, reddish-brown tail. They have dark brown eyes surrounded by a ring of red skin.

Newly hatched pigeons have sparse, downy-white feathers and closed eyes.

Phylogeny

Initially classified as a true pigeon, it was re-classified in a monotypic genus by Tommaso Salvadori. Recent DNA analyses suggests its nearest neighbour on the phylogenetic tree is the geographically close Madagascar Turtle Dove (Streptopelia picturata), and has thus been placed in the Streptopelia genus, which mostly contains turtle doves. However, the two species form a distinct group that cannot unequivocally be assigned to either *Streptopelia* or *Columba*, and indeed, placing the *two* species in *Nesoenas* may best reflect the fact that they seem to belong to a distinct evolutionary lineage (Johnson *et al.*, 2001).

Range

It is only found in the Mascarene island of Mauritius, a related form having become extinct in the neighbouring larger Reunion Island.

On Mauritius, it is found in patches of forest in the Southwest.

Habitat

It prefers upland evergreen forests. Destruction of these forests have been a major reason for its decline.

Habits

Feeding Habits

It feeds on native plants - by consuming buds, flowers, leaves, shoots, fruits and seeds. Non-native species like Guava pose a threat to it by preventing growth of native trees. It does supplement its diet at feeding stations manned by conservation officials.

Social Habits

They feed and roost in small flocks.

Breeding Habits

The breeding season starts in August-September. The male courts the female with a "step and bow" display. Mating is monogamous, with the pair making a flimsy platform nest and

defending a small area around it (even though the pigeons initially had no natural predators). The female usually lays 2 white eggs, and incubation duration is 2 weeks. The male incubates during the day, and the female during night and early day.

Males remain fertile till 17 - 18 years of age, females till 10 - 11 years of age.

Rearing Young

- 1 7 days: Chicks eyes closed, fed entirely on crop milk.
- 7 10 days: Chicks undergo a dietary transformation to solid food.
- 2 4 weeks: Chicks fledge, but are parent-fed.
- 4 6/7 weeks: Chicks remain in the nest. After this the chicks leave the nest.

Demography and Longevity

Due to habitat destruction, and non-native predators, the population had dropped to 10 in 1991. The captive breeding and reintroduction program initiated and supported by the Durrell Wildlife Conservation Trust, and largely carried out by the Mauritian Wildlife Foundation has resulted in a stable population of about 350 in the wild in 2001, as well as a healthy captive population as backup. There are more males than females in a population due to greater life expectancy of the male (about 5 years more). The average life expectancy upper bound is estimated at 17 - 18 years.

References

- Johnson, Kevin P.; de Kort, Selvino; Dinwoodey, Karen, Mateman, A. C.; ten Cate, Carel; Lessells, C. M. & Clayton, Dale H. (2001): A molecular phylogeny of the dove genera *Streptopelia* and *Columba*. Auk **118**(4): 874-887. PDF fulltext
- The Mauritius Pink Pigeon Report. Durrell Wildife Conservation Trust, 2001.

Red-and-green Macaw

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae

Genus: Ara

Species: A. chloroptera

Binomial name: *Ara chloroptera* (Gray, 1859)

The **Red-and-green Macaw** or **Green-winged Macaw** (*Ara chloroptera*) is often mistaken for the Scarlet Macaw because of its predominantly red feathering. The breast of the Red-and-green Macaw is bright red, but the lower feathers of the wing are green. In addition, the Red-and-green Macaw has characteristic red lines around the eyes formed by rows of tiny feathers on the otherwise bare skin. This is the commonest of the large macaws and the largest of the "Ara" genus, widespread in the forests of Northern South America. However, in common with other macaws, in recent years there has been a marked decline in it's numbers due to habitat loss and illegal capture for the pet trade.

The superficially similar Scarlet Macaw has no eye lines and a yellow bar on each wing. Some macaw owners and experts call the Green-winged Macaw the "gentle giant", as it is larger in size than the Scarlet Macaw and Blue-and-yellow Macaw, but has a more docile nature which often makes it a more desirable pet than the other two popular species. It is second only in size to the Hyacinth Macaw, the largest bird of the macaw family.

Red-and-green Macaws as pets

<u>Bird</u> experts often advise those interested in obtaining a macaw as a pet to educate themselves extensively about these birds prior to obtaining one, as they require more attention than a <u>dog</u> or <u>cat</u>.

Rose-ringed Parakeet

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u> Genus: *Psittacula* Species: *P. krameri*

Binomial name: *Psittacula krameri* (Scopoli, 1769)

The **Rose-ringed Parakeet** (*Psittacula krameri*), also known as the **Ring-necked Parakeet**, is a gregarious tropical parakeet species that is popular as a pet. Its scientific name commemorates the Austrian naturalist Wilhelm Heinrich Kramer.

This <u>non-migrating</u> species is one of few parrot species that have successfully adapted to living in 'disturbed habitats', and in that way withstood the onslaught of urbanisation and deforestation. In the wild, this is a noisy species with an unmistakable squawking call. Roseringed Parakeets are sexually dimorphic, and adult males sport black markings under their beaks and a dark band of colors around their necks.

- 1 Phylogeny and distribution
- 2 Diet
- 3 Size
- 4 Feral Rose-ringed Parakeets
- <u>5 Rose-ringed Parakeets as pets</u>
- 6 References

Phylogeny and distribution

Four subspecies are recognized, though they do not differ much:

- African subspecies:
- African Rose-ringed Parakeet (*P. krameri krameri*): West Africa in Guinea, Senegal and southern Mauretania, east to Western Uganda and Southern Sudan.
- **Abyssinian Rose-ringed Parakeet** (*P. krameri parvirostris*): Northwest Somalia, west across northern Ethiopia to Sennar district, Sudan.
- Asian subspecies:
- **Indian Rose-ringed Parakeet** (*P. krameri manillensis*): Originated from the southern Indian subcontinent; introduced populations worldwide.
- Neumann's Rose-ringed Parakeet (P. krameri borealis): east Pakistan, northern
 India and Nepal to central Burma; introduced populations worldwide in
 localities.

A phylogenetic analysis using DNA (see Psittacula) showed that the Mauritius Parakeet (Psittacula echo) is closely related to this species, and probably needs to be placed between the African and Asian subspecies. Consequently, this species is paraphyletic.

Diet

In the wild, Rose-ringed Parakeets usually feed on buds, fruits, vegetables, nuts, berries and seeds.

Size

The Rose-ringed Parakeet is on average 40 cm (16 inches) long including the tail feathers. Its average single wing length is about 15–17.5 cm (6-7 inches). The tail accounts for a large portion of the length. The Indian Rose-ringed Parakeet, African Rose-ringed Parakeet, Abyssinian Rose-ringed Parakeet and Neumann's Rose-ringed Parakeet measure 42 cm, 40 cm, 40 cm and 43 cm long, respectively.

Feral Rose-ringed Parakeets

The Rose-ringed Parakeet has established feral populations in India and a number of European cities. There are also apparently stable populations in the USA in Florida and California. There also a small but sizeable population of Rose-ringed Parakeets in Tehran, Iran mostly concentrated in the northern parts of city.

The Indian subspecies established itself in Britain during the mid to late 20th Century from introduced and escaped birds. There are two main population centres: the largest is based around south London, Surrey and Berkshire, and by 2005 consisted of many thousands of birds. A smaller population occurs around Margate and Ramsgate, Kent. Elsewhere in Britain, smaller feral populations have established from time to time (e.g., at Studland, Dorset).

However, in some parts of South Asia - from where the Rose-ringed Parakeets originated, populations of these birds are decreasing due to trapping for the pet trade. Despite some people's attempts to revive their population by freeing these birds from local markets, the Rose-ringed Parakeet's population has dropped drastically in many areas of the Indian subcontinent.

Rose-ringed Parakeets as pets

These birds where first bred by the people of India at least 3,000 years ago, and color mutations of Rose-ringed parakeets were also bred. The royals prized them as pets and for their ability to speak. It was a popular status symbol in Indian culture to have a Rose-ringed

parakeet. They were the first parrots brought to Europe and the Greeks were the first Europeans to breed them. Socrates is reported to have praised its beauty and ability to speak. The Romans then bred them for pets, and their beauty in their aviaries. In the 1920's aviculturists the popularity of the breed began to increase greatly. Now widely available in the pet trade, Rose-ringed Parakeets continue to gain popularity. Hand-fed Rose-ringed Parakeets are regarded as excellent pets if provided with daily attention, though even parent-raised Rose-ringed Parakeets make good pets when provided with regular handling and attention. They are generally family birds and are less likely to bond to only one person. With adequate attention, handling, and love, a Rose-ringed Parakeet can quickly become a beloved companion.

Rose-ringed Parakeets are known to be hardy birds requiring less interaction than most other parakeets of their size. This makes them ideal for a bird owner who cannot spend as much time with his/her bird as other species need. Rose-ringed Parakeets can cope with as little as half an hour of interaction a day. However, they can become untame if not provided with daily interaction, especially during their early months.

They require a relatively tall cage because of their long tails. A Rose-ringed Parakeet who will be spending most of his/her day inside the cage should be kept in a cage about 60 cm (24") wide x 45 cm (18") deep x 90 cm (36") high, though the larger the better, and the bar spacing should be between 1.25 cm (1/2 inch) and 1.875 cm (3/4 inch). Rose-ringed Parakeets are avid chewers and climbers and should therefore be provided with chewing toys in their cages. The cages should be in a place out of direct sunlight and free of drafts. A pet or captive Rose-ringed Parakeet should be kept in a bird-safe environment.

Captive Rose-ringed Parakeets should be fed a nutritionally balanced diet of pellets and seeds, and the appreciated fruit, vegetable or nut treat should also be offered often. They should always have access to fresh water in their cages.

The Rose-ringed Parakeet is considered one of the best talking parakeets and can learn a vocabulary of up to 250 words. Now these birds come in many mutations, including the common green, blue, grey and lutino among many other colors.

References

 BirdLife International (2004). <u>Psittacula krameri</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 05 May 2006. Database entry includes justification for why this species is of least concern

Rosy-faced Lovebird

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Genus: *Agapornis* Species: *A. roseicollis*

Binomial name: *Agapornis roseicollis* (Vieillot, 1818)

The **Rosy-faced Lovebird** (*Agapornis roseicollis*), also known as the **Peach-faced Lovebird**, is a species of <u>lovebird</u> native to arid regions in southwestern Africa such as the Namib Desert. A loud and constant chirper, these birds are very social animals and often congregate in small groups in the wild. They eat throughout the day and take frequent baths. Coloration can vary widely among populations but females are generally darker and greener, whilst males are smaller and brighter. Lovebirds are reknowned for their sleep position in which they sit side-by-side and turn their faces in towards each other. Also, females are well noted to tear raw materials into long strips, "twisty-tie" them onto their backs, and fly distances back to make a nest.

- 1 Peach-faced Lovebirds as Pets
 - o 1.1 Housing
 - o 1.2 Feeding
- 2 References

Peach-faced Lovebirds as Pets

Adorable

Housing

Lovebirds, being an active bunch, need some room to move in their cage. A cage approximately 24" W x 14" D x 30" H is a good size, but if you can afford it, the bigger the better. Make sure the bars are spaced no wider than 3/8" apart, otherwise your bird will be able to stick its head through the bars. Add a variety of perches, so your lovebird can excerise its feet to prevent arthritis. The perches should be at least 4" long and 1/2" in diameter. Also, a variety of different toys should be placed in the cage to prevent your bird from boredom and loneliness. Do not get your lovebird parakeet toys, because they can tear them apart easily. Try getting cockatiel toys that are more durable. Do not get toys with small bells,

because your lovebird can get them stuck in its throat. Also, please, PLEASE don't put the food and water dishes under the perches, because droppings will contaminate them.

Feeding

Peachfaced lovebirds thrive when fed the proper diet. They should be fed a wide variety of active food, including vegetables, whole grains, and fruits. They are not to be fed dairy products, like chocolate and cheese. Carrots, beans, squash, and corn are excellent foods that provide healthy proteins. Grains should include millet, quinoa, winterwheat, and others. Except strawberries (which contain trace amounts of carcinogenic pesticides) feed lovebirds a rare treat of fresh fruit. Many are attuned to the taste of grapes. These birds also eat various seeds, pellets, and pastas. While seeds and pellets are easy to give to birds, they are not part of their natural diet and should be used in conjunction with vegetables. Good seed and pellet mixes include a large array of different seed types. Be sure to change any perishable food within a few hours of placing it in their housing or at the maximum within one day.

References

 BirdLife International (2004). <u>Agapornis roseicollis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is of least concern

Senegal Parrot

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Tribe: Psittacini Genus: *Poicephalus* Species: *P. senegalus*

Binomial name: Poicephalus senegalus Linnaeus, 1766

The **Senegal Parrot** (*Poicephalus senegalus*) is a parrot which is a resident breeder in west Africa. It undergoes local movements, driven mainly by the availability of the fruit and blossoms which make up its diet. It is considered a farm pest, often feeding on crops.

The Senegal Parrot is a bird of open woodland and savannah. It nests in holes in trees, often Oil Palms, laying 2-3 white eggs. The eggs are about 3cm long x 2.5cm wide. It is a gregarious species, continuously chattering with a range of whistling and squawking calls. Senegal Parrots live an average of approximately 25-30 years in the wild, but have been known to live for 50 years in captivity.

The Senegal Parrot is about 23 cm long, plump-looking, and weighs about 125 to 170 gm. Males are generally larger and heavier then female birds. Adults have a charcoal grey head, yellow eyes, green back and throat, and yellow underparts and rump. The yellow and green areas on a Senegal Parrot's front form a V-shape and resemble a yellow vest worn over green. Immature birds are duller, with a lighter grey head and grey eyes. Senegals are not sexually dimorphic, but there are some hypotheses on how to tell the genders apart; it is thought that a female's beak and head are smaller and narrower than the male's and also, the V-shape of the vest is usually longer in females, so that the green area extends down over the chest to between the legs whereas in males it ends midway down the chest.

There are three generally recognized subspecies. They do not differ in behaviour, but only in the color of the "vest". In the pet trade, the nominate subspecies is the most common though all three are raised and sold as pets.

- Poicephalus senegalus senegalus (the nominate subspecies): The vest is yellow.
 Its native range includes southern Mauritania, southern Mali to Guinea and the
 Island of Los.
- *P. s. mesotypus*: This subspecies has an orange vest. It comes from eastern and northeastern Nigeria and Cameroon into southwest Chad.
- *P. s. versteri*: The vest of this subspecies is red. Its native range is the Côte d'Ivoire and Ghana east to western Nigeria.

Senegal Parrots as pets

The Senegal Parrot has recently begun to be bred in captivity and is the most popular Poicephalus parrot in aviculture, with the Meyers Parrot being the second most popular. They can live up to 40 or 50 years in a safe clean home. They eat seeds, most fruits and vegetables.

Hand reared Senegal Parrots make excellent pets, and, like all *Poicephalus* parrots, they are curious, fun-loving animals that are much "mellower" compared with many other parrots. They are acrobatic, amusing, and generally sweet. They are able to speak in a limited fashion, often with a high squeaky voice, and can learn to mimic many sounds such as whistling, kisses, microwave beeps, and smoke alarms. They do not make very loud noises, like some parrots do. They are known for their jealousy of other family members and pets. They can develop a bond with only one human and refuse to interact with other people, even attacking them in some cases. Although a Senegal is a small bird it does not seem to believe so, and will attack larger birds and even dogs if it feels it or its human is threatened. Owners should be cautious in multiple-pet homes. Continuing to socialize the hand reared pet bird from a young age and letting many people handle and interact with it can prevent single-person bonding and allow it to become an excellent family pet.

Wild-caught Senegal Parrots do not make good pets, because they do not become tame and they will always be frightened of humans. The Convention on the International Trade in Endangered Species (CITES) has made the trade of wild caught parrots illegal.

References

- BirdLife International (2006). <u>Poicephalus senegalus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 09 May 2006.
- Birds of The Gambia by Barlow, Wacher and Disley, ISBN 1-873403-32-1
- <u>SENEGAL Parrot</u>. Retrieved on September 20, 2005.

Softbill

The following description has been taken, with permission, from Softbills.org-

The term softbill is not a scientific one and has been used, and more often misused, in aviculture for numerous years. It is a very misleading title, as many species that fall into the category do not have a soft bill at all; anyone who has ever been attacked by a hornbill can attest to this.

The proper use of the term is in reference to the 'soft food' diets which basically fall into the following six categories:

- Carnivorous those who feed on small mammals, birds or other vertebrates (eg. Kingfishers, Rollers)
- Insectivorous those who feed on insects and other invertebrates (eg. Beeeaters, Fly-catchers)
- Omnivorous those who feed on both animal and plant material (eg. Corvids, Hornbills)
- Frugivorous those who feed on fruit (eg. Turacos, Fruit Doves)
- Nectarivorous those who feed on flower nectar (eg. Hummingbirds, Sunbirds)
- Folivorous those who feed on leafs, petals and other plant material (Turacos, Mousebirds)

This sixth diet type is usually in association with one of the above, as very few birds are solely foliverous, a few species of Galliforme come to mind, however they are not considered to be Softbills.

A more recent definition by Clive Roots is, "Cage and aviary birds with relatively soft bills, which feed upon insects* and soft plant material and whose young are helpless at birth".

- including other larger animal prev

This latter definition does discriminate against a few species, however as can be seen, the definition is very subjective and can encompass numerous species not generally included in the group.

References-

- The New Softbill Handbook Werner & Steinigeweg
- The Bird Keepers Guide to Softbills David Alderton
- Softbills: their care, breeding & conservation Martin Vince
- Encyclopedia of Softbilled birds Dr. Matthew Vriends
- Softbilled Birds Clive Roots
- The Encyclopedia of Aviculture IN PRESS
 - Softbills.org

Spix's Macaw

Conservation status: Critical
Kingdom: Animalia
Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Subfamily: Arinae

Genus: *Cyanopsitta* Bonaparte, 1854Species: *C. spixii* Binomial name: *Cyanopsitta spixii* (Wagler, 1832)

The **Spix's Macaw** (*Cyanopsitta spixii*) is the only member of the parrot genus *Cyanopsitta*. This <u>macaw</u> was found in Brazil, in the north part of the state Bahia. The species went extinct in the wild around 2000, when the last male bird died [2], however, there is a captive population of some 68 individuals [2][3][4]. Most of these individuals are bred in captivity. Of these individuals, only 9 are found in breeding programs of zoos; two birds are in Loro Parque, Tenerife, Spain and seven birds are in the Sao Paulo Zoo, Brazil. The pair at the Loro Parque produced two young in 2004. The aim of the breeding program is to eventually reintroduce this species back to the wild. Some 47 animals belong to Sheikh Saoud Bin Mohammed Bin Ali Al Thani in Doha, Quatar, who acquired them from private keepers in the Philippines and Switzerland and founded the Al Wabra Wildlife Preservation Center. It runs its own breeding program which has produced 12 young so far, 7 of them in 2006.

This bird is a delicate, blue-grey <u>macaw</u> with long tail and wings. It has a pale ashy-blue head, distinctively square shaped, and pale blue underparts. Its upperparts, wings and long tail are a more vivid blue.

The decline of the species is attributed to hunting and trapping of the birds, destruction of its habitat, and the introduction of the Africanized bee, which competes for nesting sites and killed breeding individuals at the nest. The three last birds were captured for trade in 1987 and 1988. A single male, paired with a female Blue-winged Macaw, was discovered at the site in 1990. A female Spix's Macaw released from captivity at the site in 1995 disappeared after seven weeks. The last wild male died probably at the site in October 2000.^[2]

This bird is named for the German naturalist Johann Baptist von Spix.

References

- 1. <u>^</u> BirdLife International (2004). <u>Cyanopsitta spixii</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is critically endangered
 - 2. ^ a b c d BirdLife Species Factsheet
 - 3. **^** <u>University of Michigan</u> The Spix's Macaw

- 4. ^ a b Al Wabra Annual Report 2005
- 5. Al Wabra Newsletter 6-2006

Further reading

• Juniper, Tony (2003) *Spix's Macaw : The Race to Save the World's Rarest Bird* ISBN 0-7434-7550-X

Sun Parakeet

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Genus: *Aratinga* Species: *A. solstitialis*

Binomial name: Aratinga solstitialis (Linnaeus, 1758)

The **Sun Parakeet**, [2][3] previously and in aviculture called **Sun Conure**, [4] (*Aratinga solstitialis*) is a member of the parrot family (Psittacidae). It is native to the north-eastern coastal forests of South America. The average weight for a Sun Conure is approximately 110g. Their length is approximately 305mm from head to tail. They are monomorphic and reach sexual maturity around two years of age. It is noted for its loud squawking compared to its relatively small size. The bird is capable of mimicking humans but not as well as some larger parrots.

They are especially popular as pets because of their bright coloration. Due to their inquisitive temperament, they demand a great deal of attention from their owners, and can sometimes be loud. Like many parrots, they are high-grade chewers and require toys and treats to chew on. They can live for 25 to 30 years.

References

- 1. <u>^</u> BirdLife International (2004). <u>Aratinga solstitialis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006.
- 2. <u>A classification of the bird species of South America</u> South American Classification Committee, American Ornithologists' Union
- 3. <u>^</u> World Institute for Conservation & Environment, WICE: <u>Nature World Wide</u>: Nature in Brazil
- 4. <u>^</u> Forshaw, Joseph M., Cooper, William T. [1973, 1978] (1981). Parrots of the World, corrected second edition, David & Charles, Newton Abbot, London. ISBN 0-7153-7698-5.
 - 5. <u>^ Alternate image (PBase)</u>
 - 6. <u>http://sunconure.com/</u>

Umbrella Cockatoo

Conservation status: Vulnerable

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Cacatuidae Subfamily: <u>Cacatuinae</u>

Genus: *Cacatua* Subgenus: *Cacatua* Species: *C. alba*

Binomial name: Cacatua alba Muller, 1776

The **Umbrella Cockatoo**, *Cacatua alba* also known as **White Cockatoo** is a medium-sized cockatoo endemic to the islands of Halmahera, Bacan, Ternate, Tidore, Kasiruta and Mandiole in North Maluku, Indonesia. At first sight it appears to be a white parrot with brown or black eyes and a dark grey beak. If it is surprised, it extends a large and striking crest, which has a semicircular shape (similar to an umbrella, hence the name). The crest is normally recumbent. The underside of the wings and tail have pale yellow or lemon colour, which flash when they fly.

The Umbrella Cockatoo can live up to, and perhaps beyond, 80 years in age. They are very social, needing a lot of interaction. They can be very loud and their calls (a very loud screeching noise) can be heard up to three miles away.

The Umbrella Cockatoo weighs about 600gm (based on weights of two male pet birds aged about 1 and 3 years).

- 1 Feathers
- <u>2 Umbrella Cockatoo as a vulnerable species</u>
- 3 Umbrella Cockatoo as pet birds
- 4 References

Feathers

The feathers of the Umbrella Cockatoo are mostly white. However, both upper and lower surfaces of the inner half of the trailing edge of the large wing feathers are a yellow colour. The yellow colour is most notable on the underside of the wings because the yellow portion of the upper surface of the feather is covered by the white of the feather immediately medial (nearer to the body) and above. Similarly, areas of larger tail feathers that are covered by other tail feathers, and the innermost covered areas of the larger crest feathers are yellow. Short white feathers grow from and closely cover the upper legs.

Umbrella Cockatoo as a vulnerable species

Although the Umbrella Cockatoo is not classified as an endangered species it is classified as vulnerable. It numbers in the wild have declined owing to habitat loss and illegal trapping for the cage-bird trade. It is listed in appendix II of the CITES list of protected species. This gives it protection by making the trade of wild caught birds illegal.

Umbrella Cockatoo as pet birds

Hand reared Umbrella Cockatoos can make good pets, as they are sociable, intelligent and they can learn tricks and be trained. They require a large cage (at least 3ft x 3ft x 5ft) and they need to exercise outside of their cage often. They can imitate basic human speech, but they are not considered the most able speakers among parrots. They are not an easy pet to keep and require a lot of time, devotion and understanding from their caregivers. They can destroy furniture with their powerful beaks and even the sweetest cockatoo may inflict a serious bite without provocation. Additionally, they can make a lot of loud noise and their large droppings are quite messy. Umbrella cockatoos as pets need so much care and attention, and can be so destructive and expensive to keep, that they are often passed from one owner to the next.

References

 BirdLife International (2004). <u>Cacatua alba</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is vulnerable

Bird migration flyways

Many species of birds undertake seasonal journeys of various lengths, a phenomenon known as **Bird migration**. The different strategies followed by bird groups are detailed below.

- 1 Long-distance land bird migration
- 2 Broad-winged long distance migrants
- 3 Short-distance land bird migration
- 4 Wildfowl and waders
- 5 Seabirds
- 6 The tropics
- 7 Australasia
- 8 Study techniques
- 9 Migration conditioning
- 10 References

Long-distance land bird migration

Many species of land migratory birds migrate very long distances, the most common pattern being for birds to breed in the temperate or arctic northern hemisphere and winter in warmer regions, often in the tropics or the temperate zones of the southern hemisphere.

There is a strong genetic component to migration in terms of timing and route, but this may be modified by environmental influences. An interesting example where a change of migration route has occurred because of such a geographical barrier is the trend for some Blackcaps in central Europe to migrate west and winter in Britain rather than cross the Alps. Theoretical analyses, summarised by Alerstam (2001), show that detours that increase flight distance by up to 20% will often be adaptive on aerodynamic grounds - a bird that loads itself with food in order to cross a long barrier flies less efficiently. However some species show circuitous migratory routes that reflect historical range expansions and are far from optimal in ecological terms. An example is the migration of continental populations of Swainson's Thrush, which fly far east across North America before turning south via Florida to reach northern South America; this route is believed to be the consequence of a range expansion that occurred about 10,000 years ago. Detours may also be caused by differential wind conditions, predation risk, or other factors.

The advantage of the migration strategy is that, in the long days of the northern summer, breeding birds have more hours to feed their young on often abundant food supplies, particularly insects. As the days shorten in autumn and food supplies become scarce, the birds can return to warmer regions where the length of the day varies less and there is an all year round food supply. Most of the passerine migrants fly by night in small flocks. During dusk prior to migration, they show a restlessness which is termed *zugunruhe*. They may also sing at night during this period of pre-migration restlessness.

The downside of migration is the hazards of the journey, especially when difficult habitats such as deserts and oceans must be crossed, and weather conditions may be adverse.

The risks of predation are also high. The Eleonora's Falcon which breeds on Mediterranean islands has a very late breeding season, timed so that autumn <u>passerine</u> migrants can be hunted to feed its young.

Whether a particular species migrates depends on a number of factors. The climate of the breeding area is important, and few species can cope with the harsh winters of inland Canada or northern Eurasia. Thus the Blackbird Turdus merula is migratory in Scandinavia, but not in the milder climate of southern Europe.

The nature of the staple food is also important. Most specialist insect eaters are long-distance migrants, and have little choice but to head south in winter.

Sometimes the factors are finely balanced. The Whinchat Saxicola rubetra of Europe and the Siberian Stonechat Saxicola maura of Asia are a long-distance migrants wintering in the tropics, whereas their close relative, the European Stonechat Saxicola rubicola is a resident bird in most of its range, and moves only short distances from the colder north and east.

Certain areas, because of their location, have become famous as watchpoints for migrating birds. Examples are the Point Pelee National Park in Canada, and Spurn in England. Drift migration of birds blown off course by the wind can result in "falls" of large numbers of migrants at coastal sites.

Another cause of birds occurring outside their normal ranges is the "spring overshoot" in which birds returning to their breeding areas overshoot and end up further north than intended.

A mechanism which can lead to great rarities turning up as vagrants thousands of kilometres out of range is reverse migration, where the genetic programming of young birds fails to work properly.

Recent research suggests that long-distance passerine migrants are of South American and African, rather than northern hemisphere, evolutionary origins. They are effectively southern species coming north to breed rather than northern species going south to winter.

Broad-winged long distance migrants

Some large broad-winged birds rely on thermal columns of rising hot air to enable them to soar. These include many <u>birds of prey</u> such as <u>vultures</u>, <u>eagles</u> and buzzards, but also <u>storks</u>.

Migratory species in these groups have great difficulty crossing large bodies of water, since thermals can only form over land, and these birds cannot maintain active flight for long distances.

The Mediterranean and other seas therefore present a major obstacle to soaring birds, which are forced to cross at the narrowest points. This means that massive numbers of large raptors and storks pass through areas such as Gibraltar, Falsterbo and the Bosphorus at migration times. Commoner species, such as the Honey Buzzard, can be counted in hundreds of thousands in autumn.

Other barriers, such as mountain ranges, can also cause funnelling, particularly of large diurnal migrants.

Short-distance land bird migration

The long-distance migrants in the previous section are effectively genetically programmed to respond to changing lengths of days. However many species move shorter distances, but may do so only in response to harsh weather conditions.

Thus mountain and moorland breeders, such as Wallcreeper and White-throated Dipper, may move only altitudinally to escape the cold higher ground. Other species such as Merlin and Skylark will move further to the coast or to a more southerly region.

Species like the Chaffinch are not migratory in Britain, but will move south or to Ireland in very cold weather. Interestingly, in Scandinavia, the female of this species migrates, but not the male, giving rise to the specific name *coelebs*, a bachelor.

Short-distance passerine migrants have two evolutionary origins. Those which have long-distance migrants in the same family, such as the Chiffchaff, are species of southern hemisphere origins which have progressively shortened their return migration so that they stay in the northern hemisphere.

Those species which have no long-distance migratory relatives, such as the <u>waxwings</u>, are effectively moving in response to winter weather, rather than enhanced breeding opportunities.

Wildfowl and waders

The typical image of migration is of northern landbirds such as <u>swallows</u> and birds of prey making long flights to the tropics. Many northern-breeding <u>ducks</u>, <u>geese</u> and <u>swans</u> are also long-distance migrants, but need only to move from their arctic breeding grounds far enough south to escape frozen waters.

This means that most wildfowl remain in the Northern hemisphere, but in milder countries. For example, the Pink-footed Goose migrates from Iceland to Britain and neighbouring countries. Usually wintering grounds are traditional and learned by the young when they migrate with their parents.

Some ducks, such as the Garganey, do move completely or partially into the tropics.

A similar situation occurs with <u>waders</u> (called "shorebirds" in North America). Many species, such as Dunlin and Western Sandpiper, undertake long movements from their arctic breeding grounds to warmer locations in the same hemisphere, but others such as Semipalmated Sandpiper travel huge distances to the tropics.

Most of the wildfowl are large and powerful, and even the waders are strong fliers. This means that birds wintering in temperate regions have the capacity to make further shorter movements in the event of particularly inclement weather.

The same considerations about barriers and detours that apply to long-distance landbird migration apply to water birds, but in reverse: a large area of land without bodies of water that offer feeding sites is a barrier to a water bird. Open sea may also be a barrier to a

bird that feeds in coastal waters. Detours avoiding such barriers are observed: for example, Brent Geese migrating from the Taymyr Peninsula to the Wadden Sea travel via the White Sea coast and the Baltic Sea rather than directly across the Arctic Ocean and northern Scandinavia.

For some species of waders, migration success depends on the availability of certain key food resources at stopover points along the migration route. This gives the migrants an opportunity to "refuel" for the next leg of the voyage. Some examples of important stopover locations are the Bay of Fundy and Delaware Bay.

Some Alaskan Bar-tailed Godwits have the longest non-stop flight of any migrant, flying 11,000 km to their New Zealand wintering grounds (*BTO News* 258: 3, 2005). Prior to migration, 55% of their bodyweight is stored fat to fuel this uninterrupted journey.

Seabirds

Much of what has been said in the previous section applies to many <u>seabirds</u>. Some, such as the Black Guillemot and some <u>gulls</u>, are quite sedentary; others, such as most of the <u>terns</u> and <u>auks</u> breeding in the temperate northern hemisphere, move south varying distances in winter. The Arctic Tern has the longest-distance migration of any bird, and sees more daylight than any other, moving from its arctic breeding grounds to the antarctic wintering areas. One Arctic Tern, ringed (banded) as a chick on the Farne Islands off the British east coast, reached Melbourne, Australia in just three months from fledging, a sea journey of over 22,000 km (14,000 miles). Seabirds, of course, have the advantage that they can feed on migration.

The most pelagic species, mainly in the 'tubenose' order Procellariiformes, are great wanderers, and the <u>albatrosses</u> of the southern oceans may circle the globe as they ride the "roaring forties" outside the breeding season. The tubenoses in general spread thinly over large areas of open ocean, but congregate when food becomes available. Many of them are also among the longest-distance migrants; Sooty Shearwaters nesting on the Falkland Islands migrate 14,000 km (9,000 miles) between the breeding colony and the North Atlantic Ocean off Norway, and some Manx Shearwaters do the same journey in reverse. As they are long-lived birds, they may cover enormous distances during their lives; one record-breaking Manx Shearwater is calculated to have flown 8 million km (5 million miles) during its over-50 year lifespan.

Pelagic birding trips attract petrels and other procellarids by tipping "chum", a mixture of fish oil and offal, into the sea. Within minutes, a previously apparently empty ocean is full of petrels, fulmars and shearwaters attracted by the food.

A few seabirds, such as Wilson's Petrel and Great Shearwater, breed in the southern hemisphere and migrate north in the southern winter.

The tropics

In the tropics there is little variation in the length of day throughout the year, and it is always warm enough for an adequate food supply. Apart from the seasonal movements of northern hemisphere wintering species, most species are in the broadest sense resident. However many species undergo movements of varying distances depending on the rainfall.

Many tropical regions have wet and dry seasons, the monsoons of India being perhaps the best known example. An example of a bird whose distribution is rain associated is the Woodland Kingfisher of west Africa.

There are a few species, notably cuckoos, which are genuine long-distance migrants within the tropics. An example is the Lesser Cuckoo, which breeds in India and winters in Africa.

In the high mountains, such as the Himalayas and the Andes, there are also seasonal altitudinal movements in many species.

Australasia

Bird migration is primarily, but not entirely, a Northern-Hemisphere phenomenon. In the Southern Hemisphere, seasonal migration tends to be much less marked. There are several reasons for this.

First, the largely uninterrupted expanses of land mass or ocean tend not to funnel migrations into narrow and obvious pathways, making them less obvious to the human observer. Second, at least for terrestrial birds, climatic regions tend to fade into one another over a long distance rather than be entirely separate: this means that rather than make long trips over unsuitable habitat to reach particular destinations, migrant species can usually travel at a relaxed pace, feeding as they go. Short of banding studies it is often not obvious that the birds seen in any particular locality as the seasons change are in fact different members of the same species passing through, gradually working their way north or south.

Relatively few Australasian birds migrate in the way that so many European and North American species do. This is largely a matter of geography: the Australasian climate has seasonal extremes no less compelling than those of Europe; however, they are far less predictable and tend to take place over periods both shorter and longer. A couple of weeks of heavy rain in one part or another of the usually dry centre of Australia, for example, produces dramatic plant and invertebrate growth, attracting birds from all directions. This can happen at any time of year, summer or winter and, in any given area, may not happen again for a decade or more.

Broader climatic extremes are highly unpredictable also: expected seasonal heat or rain arrives or does not arrive, depending on the vagaries of El Niño. It is commonplace to have stretches of five or ten years at a time when winter rains do not eventuate during the El Niño cycle, and equally common to have La Niña periods which turn arid zones into areas of lush grass and shallow lakes. Long distance migration requires a heavy investment in time and body mass—and, given the random nature of El Niño, an investment with an uncertain return.

In broad terms, Australasian birds tend to be sedentary or nomadic, moving on whenever conditions become unfavourable to whichever area happens to be more suitable at the time.

There are many exceptions, however. Some species make the long haul to breed in far distant northern climes every year, notably <u>swifts</u>, and a great many wading birds that breed in the Arctic Circle during the southern winter.

Many others arrive for the southern spring and summer to breed, then fly to tropical northern Australia, New Guinea, or the islands of South East Asia for the Southern winter. Examples include cuckoos, the Satin Flycatcher, the Dollarbird, and the Rainbow Bee-eater.

Others again are altitudinal migrants, moving to higher country during summer, returning to warmer areas in winter such as several robins, or travel north and south with the seasons but within a relatively restricted range. The tiny 10 cm Silvereye is an example: most of the southernmost Tasmanian race crosses the 200 miles of Bass Strait after breeding to disperse into Victoria, South Australia, New South Wales and even southern Queensland, replacing the normal residents who fly still further north, following the band of fertile country along the coast, feeding through the day and travelling mostly at night. The northernmost populations, however, are nomadic rather than migratory, as are the Silvereyes of southern Western Australia, which is bounded by thousands of miles of desert to the north and east, and sea to the south and west.

Study techniques

Bird migration has been studied by a variety of techniques of which ringing is the oldest. Color marking, use of radar, satellite tracking and stable hydrogen isotopes are some of the other techniques being used to study the migration of birds.

Migration conditioning

It has been possible to teach a new migration route to a flock of birds, for example in reintroduction schmes. After a trial with <u>Canada Geese</u>, microlites were used in the US to teach safe migration routes to reintroduced Whooping Cranes [1].

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Flyway

Flyway is also a 90's rock/alternative band from Southeastern Wisconsin. The link to their website is down below.

See also

- <u>bird migration</u>
- <u>Atlantic Flyway</u>
- <u>Central Flyway</u>
- East Asian Australasian Flyway
- <u>Pacific Flyway</u>

Atlantic Flyway

The **Atlantic Flyway** is a <u>bird migration</u> route that generally follows the Mississippi River in the United States and the Mackenzie River in Canada. The main endpoints of the flyway include the Canadian Maritimes and the region surrounding the Gulf of Mexico; the migration route tends to narrow considerably in the southern United States in the states of Virginia, North Carolina, South Carolina, Georgia (U.S. state), and Florida. which account for the high number of bird species found in those areas. Once in Florida, the flyway diverges into a path over eastern Mexico and a longer path across the Caribbean Sea via Cuba and Jamaica.

This route is used by birds typically because no mountains or even ridges of hills block this path over its entire extent. Good sources of water, food, and cover exist over its entire length.

The other primary migration routes for North American birds includes the Mississippi, Central and <u>Pacific Flyways</u>.

Central Flyway

The **Central Flyway** is a <u>bird migration</u> route that generally follows the Great Plains in the United States and Canada. This main endpoints of the flyway include central Canada and the region surrounding the Gulf of Mexico; the migration route tends to narrow considerably in the Platte River and Missouri River valleys of central and eastern Nebraska, which accounts for the high number of bird species found there. Some birds even use this flyway to migrate from the Arctic Ocean to Patagonia. Routes used by birds are typically established because no mountains or large hills block the flyway over its entire extent. Good sources of water, food, and cover exist over its entire length.

The other primary migration routes for North American birds includes the <u>Atlantic</u>, Mississippi and <u>Pacific Flyways</u>. The Central Flyway merges with the Mississippi Flyway between Missouri and the Gulf of Mexico.

The **Central Flyway Council** is comprised of representatives from agencies responsible for migratory bird management in 10 states, two Canadian provinces and the Northwest Territories. Member states and provinces in the council are: Montana, Wyoming, Colorado, New Mexico, Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Alberta and Saskatchewan.

East Asian - Australasian Flyway

The **East Asian - Australasian Flyway** is ones of the world's great flyways. At its northernmost it stretches eastwards from the Taimyr Peninsula in Russia to Alaska. Its southern end encompasses Australia and New Zealand. Between these extremes the Flyway covers much of eastern Asia, including China, Japan, Korea, South-East Asia and the western Pacific. It is especially important for the millions of migratory <u>waders</u> or shorebirds that breed in northern Asia and Alaska and spend the non-breeding season in South-East Asia and Australasia.

Mississippi Flyway

The **Mississippi Flyway** is a <u>bird migration</u> route that generally follows the Mississippi River in the United States and the Mackenzie River in Canada. This main endpoints of the flyway include central Canada and the region surrounding the Gulf of Mexico; the migration route tends to narrow considerably in the lower Mississippi River valley in the states of Missouri, Arkansas, and Louisiana, which account for the high number of <u>bird</u> species found in those areas. Some birds even use this flyway to migrate from the Arctic Ocean to Patagonia.

This route is used by birds typically because no mountains or even ridges of hills block this path over its entire extent. Good sources of water, food, and cover exist over its entire length. About 40% of all North American migrating waterfowl and shorebirds use this route.

The other primary migration routes for North American birds includes the <u>Atlantic</u>, <u>Central</u> and <u>Pacific Flyways</u>. The Central Flyway merges with the Mississippi Flyway between Missouri and the Gulf of Mexico.

Pacific Flyway

The **Pacific Flyway** is a major north-south route of travel for migratory birds in the Americas, extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall, following food sources, heading to breeding grounds, or travelling to over-wintering sites.

Any given bird species travels roughly the same route every year, at almost the same time. Ornithologists and bird-lovers can often predict to the day when a particular species will show-up in their area.

Along the Pacific Flyway, there are many key rest-stops where birds of many species gather, sometimes in the millions to feed, and regain their strength before continuing. Some species may remain in these rest-stops for the entire season, but most stay a few days before moving on. One of these rest-stops, Boundary Bay, Canada, has been listed as an Important Bird Area by the Canadian government in recognition of its value to migratory birds.

Bird topography

Beak

The **beak**—otherwise known as the **bill** or **rostrum**—is an external anatomical structure which serves as the mouth in some animals. It is a distinctive feature of <u>birds</u> and, in addition to eating, is used by them for grooming, manipulating objects, killing prey, probing for food, courtship, and feeding their young.

- 1 Anatomy
- 2 Billing
- 3 See also
- 4 References

Anatomy

Beaks can vary significantly in size and shape from species to species. The beak is composed of an upper jaw called the maxilla, and a lower jaw called the mandible. The jaw is made of bone, typically hollow or porous to conserve weight for flying. The outside surface of the beak is covered by a thin horny sheath of keratin called the **rhamphotheca**. Between the hard outer layer and the bone is a vascular layer containing blood vessels and nerve endings. The rhamphotheca also includes the **knob** which is found above the beak of some swans, such as the Mute Swan and some Swan Geese (*pictured*).

The beak has two holes called **nares** which connect to the hollow inner beak and thence to the respiratory system. In some birds, these are located in a fleshy, often waxy structure at the base of the beak called the **cere** (from Latin cera. Hawks, parrots, <u>doves</u>, and skuas are among the birds that have ceres. Budgerigars are dimorphic because the males' ceres turn bright blue upon maturity, while the females' ceres turn tan. The female budgies' ceres also appear wrinkled, to a greater extent during periods of fertility. Immature budgies have pale pinkish ceres which are smooth and shiny.

Nares are bird nostrils. The nares of birds are usually located directly above the **beak**. On some birds, such as the budgerigar, the nares are situated within the cere.

Beak

Gray's *subject #223 994*

Dorlands/Elsevier *n 01/12558781*

Nares can also refer to nostrils on other animals, such as sharks, rays, and sawfishes. Nares is a medical term from Latin that describes human nostrils.

On some birds, the tip of the beak is hard, dead tissue used for heavy-duty tasks such as cracking nuts or killing prey. On other birds, such as ducks, the tip of the bill is sensitive and contains nerves, for locating things by touch. The beak is worn down by use, so it grows continuously throughout the bird's life.

Unlike jaws with teeth, beaks are not used for chewing. Birds swallow their food whole, which is broken up in the gizzard.

Examples of birds with unusual beaks include the <u>hummingbird</u>, the toucan and the spoonbill.

Billing

During courtship, mated pairs of a variety of bird species touch and clasp each other's bills. This is called **billing**, and appears to strengthen the pair bond (Terres, 1980). <u>Gannets</u> raise their bills high and repeatedly clatter them (*pictured*); the male <u>puffin</u> nibbles at the female's beak; the male <u>waxwing</u> puts his bill in the female's mouth; and <u>ravens</u> hold each other's beaks in a prolonged "kiss".

See also

• Bird anatomy

References

- Gilbertson, Lance; *Zoology Lab Manual*; McGraw Hill Companies, New York; ISBN 0-07-237716-X (fourth edition, 1999)
- Terres, John. K. *The Audubon Society Encyclopedia of North American Birds*, New York: Alfred A. Knopf, 1980. ISBN 0394466519

Supercilium

The term **supercilium** is a name for a plumage feature present on the heads of many bird species. It is a stripe which starts above the bird's loral area, continuing above the eye, and finishing somewhere towards the rear of the bird's head. It is distinct from the eyestripe which is a line which runs across the lores, and continues behind the eye. Informally, the supercilium is often known as the "eyebrow". Where a stripe is present only above the lores, and does not continue behind the eye, it is called a **supraloral stripe** or simply **supraloral**.

On most species which display a supercilium, it is paler than the adjacent feather tracts.

The colour, shape or other features of the supercilium can be useful in bird identification. For example, one way to tell Dusky and Radde's Warblers apart is to look at their supercilium. On Dusky it is sharply demarcated in front of the eye, a bright cream colour here, but becoming duller to the rear, whereas on Radde's, it is loosely-demarcated in front of the eye, buff-orange here and bright to the rear.

A **split supercilium** is a feature present on some shorebirds (e.g. Broad-billed Sandpiper). This term is used to describe a plumage pattern where the supercilium has an extra stripe branching off of it above the lores, and extending up into the crown.

A **supercilium drop** is a feature found on some pipits; it is a pale spot on the rear of the ear-coverts which, although separated from the supercilium by an eyestripe, can appear at some angles to be a downward continuation of the supercilium.

Birds by classification

This page lists living orders and families of <u>birds</u>, class <u>Aves</u> (for extinct birds, please see <u>Extinct birds</u> and Prehistoric birds). The links below should then lead to family accounts and hence to individual species.

Taxonomy is very fluid in the age of DNA analysis, so comments are made where appropriate, and all numbers are approximate. In particular see Sibley-Ahlquist taxonomy for a very different classification.

This article and the descendant family articles follow the taxonomy of the *Handbook of Australian, New Zealand and Antarctic Birds* (HANZAB) for families largely endemic to that region, and otherwise the *Handbook of Birds of the World* (HBW).

Paleognathae

The flightless and mostly giant Struthioniformes lack a keeled sternum and are collectively known as <u>ratites</u>. Together with the Tinamiformes, they form the *Paleognathae* (or 'old jaws'), one of the two evolutionary "super orders".

• **Struthioniformes**: mainly southern hemisphere; 12 species, 2 extinct

o Struthionidae: Ostrich

Casuariidae: emus and cassowaries

Apterygidae: kiwis Rheidae: rheas

• **Tinamiformes**: South America; 45 species

o Tinamidae: tinamous

Neognathae

Nearly all living birds belong to the super order of *Neognathae*— or 'new jaws'. With their keels, unlike the ratites, they are known as carinates. The <u>passerines</u> alone account for well over 5000 species.

• **Anseriformes**: worldwide; 150 species

o Anhimidae: screamers

Anseranatidae: Magpie-goose Anatidae: swans, geese and ducks

• **Galliformes**: worldwide except northern Eurasia; 256 species.

o Megapodidae: mound-builders

Cracidae: chachalacas, guans and curassows

Tetraonidae: grouse

Phasianidae: partridges, pheasants, quail and allies

Odontophoridae: New World quails

Numididae: guineafowl Meleagrididae: turkeys Mesitornithidae: mesites

• **Sphenisciformes**: Antarctic and southern waters; 16 species

Spheniscidae: penguins

• **Gaviiformes**: North America, Eurasia; 5 species

Gaviidae loons or divers

Podicipediformes: worldwide; 20 species

o Podicipedidae: grebes

• **Procellariiformes**: pan-oceanic; 93 species

o Diomedeidae: albatrosses

Procellariidae: fulmars, prions, shearwaters, gadfly and other petrels

Pelecanoididae: diving petrels Hydrobatidae: storm petrels

• **Pelecaniformes**: worldwide; 57 species

o Pelecanidae: pelicans

Sulidae: gannets and boobies Phalacrocoracidae: cormorants

Fregatidae: frigatebirds

Anhingidae: Anhinga and darters

Phaethontidae: tropicbirds

• **Ciconiiformes**: all continents; 115 species.

o Ardeidae: herons and bitterns

Cochlearidae: Boatbill
Balaenicipitidae: Shoebill
Scopidae: Hammerkop

Ciconiidae: storks

Threskiornithidae: ibises and spoonbills

Phoenicopteridae flamingos

• **Accipitriformes**: worldwide; about 226 species. Some classifications also include the Falconidae.

o Cathartidae: New World vultures and Condors

Pandionidae: Osprey

Accipitridae: hawks, eagles, buzzards and Old World vultures, harriers,

kites, and allies

Sagittaridae: Secretary Bird

• **Falconiformes**: worldwide; 60 species. Sometimes included in the Accipitriformes.

o Falconidae: falcons

Turniciformes: Old World, 15 species

o Turnicidae: buttonquail

Gruiformes: worldwide; 196 species

Gruidae: cranes
 Aramidae: Limpkin
 Psophiidae: trumpeters

Rallidae: rails, crakes, coots and allies Heliornithidae: finfoots and Sungrebe

Rhynochetidae: Kagu

Eurypigidae: Sunbittern Cariamidae: seriemas Otidae: bustards

Charadriiformes: worldwide; 305 species

o Jacanidae: jacanas

Rostratulidae: painted snipe Haematopodidae: oystercatchers

Charadriidae: plovers

Pluvianellidae: Magellanic Plover

Ibidorhynchidae: Ibisbill

Recurvirostridae: avocets and stilts

Scolopacidae: typical waders or shorebirds

Dromadidae: Crab Plover Burhinidae: thick-knees

Glareolidae: coursers and pratincoles

Thinocoridae: seedsnipe

Pedionomidae: Plains Wanderer

Chionididae: sheathbill Stercorariidae: skuas

Laridae: gulls Sternidae: terns

Rhynchopidae: skimmers

Alcidae: auks

Pterocliformes: Africa, Europe, Asia; 16 species

o Pteroclidae: sandgrouse

Columbiformes: worldwide; 300 species

o Raphidae: dodos

Columbidae: pigeons and doves

Psittaciformes: pan-tropical, southern temperate zones; 330 species

 Cacatuidae: cockatoos Psittacidae: parrots

Cuculiformes: worldwide; 151 species

Musophagidae: turacos and allies

Cuculidae: cuckoos Opisthocomidae: Hoatzin

Strigiformes: worldwide; 134 species

o Tytonidae: barn owls Strigidae: typical owls

Caprimulgiformes: worldwide; 96 species

o Steatornithidae: Oilbird Podargidae: frogmouths Nyctibiidae: potoos

> Aegothelidae: owlet-nightjars Caprimulgidae: nightjars

Apodiformes: worldwide; 403 species

o Apodidae: swifts

Hemiprocnidae: tree swifts

Trochiliformes

o Trochilidae: hummingbirds

• Coliiformes: Sub-Saharan Africa; 6 species

o Coliidae: mousebirds

• Trogoniformes: Sub-Saharan Africa, Americas, Asia; 35 species

Trogonidae: trogons and quetzals
 Coraciiformes: worldwide: 192 species

Alcedinidae: river kingfishers
 Halcyonidae: tree kingfishers

Cerylidae: water or belted kingfishers

Todidae: todies

Momotidae: motmots Meropidae: bee-eaters

Leptosomatidae: Cuckoo Roller Brachypteraciidae: ground rollers

Coraciidae: rollers Upupidae: Hoopoe

Phoeniculidae: woodhoopoes

Bucerotidae: hornbills

• **Piciformes**: worldwide except Australasia; 376 species

Galbulidae: jacamars
 Bucconidae: puffbirds
 Capitonidae: barbets

Indicatoridae: honeyguides Ramphastidae: toucans Picidae: woodpeckers

<u>Passeriformes</u>: worldwide; about 5200 species

o Suborder Tyranni ("suboscines")

Tyrannidae: tyrant flycatchers

Acanthisittidae: New Zealand wrens

Pittidae: pittas

Eurylaimidae: broadbills

Dendrocolaptidae: woodcreepers

Furnariidae: ovenbirds Thamnophilidae: antbirds

Formicariidae: antpittas and antthrushes

Conopophagidae: gnateaters Rhinocryptidae: tapaculos

Cotingidae: cotingas Pipridae: manakins Philepittidae: asities

Suborder Passeri ("oscines")

o Atrichornithidae: scrub-birds

Menuridae: lyrebirds Turnagridae: Piopio Alaudidae: larks

Hirundinidae: swallows

Motacillidae: wagtails and pipits Campephagidae: cuckoo-shrikes

Pycnonotidae: bulbuls Regulidae: kinglets Chloropseidae: leafbirds Aegithinidae: ioras

Ptilogonatidae: silky-flycatchers

Bombycillidae: waxwings Hypocoliidae: hypocolius

Dulidae: Palmchat Cinclidae: dippers Troglodytidae: wrens

Mimidae: mockingbirds, thrashers and Gray Catbird

Prunellidae: accentors

Turdidae: thrushes and allies Cisticolidae: cisticolas and allies Sylviidae: Old World warblers Polioptilidae: gnatcatchers

Muscicapidae: Old World flycatchers

Platysteiridae: wattle-eyes Petroicidae: Australasian robins Pachycephalidae: whistlers and allies

Picathartidae: rockfowl Timaliidae: babblers

Pomatostomidae: pseudo-babblers Paradoxornithidae: parrotbills

Orthonychidae: logrunner and chowchilla Cinclosomatidae: whipbirds and quail-thrushes

Aegithalidae: long-tailed tits

Maluridae: fairy-wrens, emu-wrens and grasswrens

Neosittidae: sitellas

Climacteridae: Australasian treecreepers

Paridae: chickadees and tits

Sittidae: nuthatches

Tichodromidae: Wallcreeper Certhiidae: treecreepers

Rhabdornithidae: Philippine creepers

Remizidae: penduline tits

Nectariniidae: sunbirds and spiderhunters

Melanocharitidae: berrypeckers and longbills

Paramythiidae: tit berrypecker and crested berrypeckers

Dicaeidae: flowerpeckers

Pardalotidae: pardalotes, thornbills and alies

Zosteropidae: white-eyes Promeropidae: sugarbirds

Meliphagidae: honeyeaters and chats

Oriolidae: Old World orioles Irenidae: fairy-bluebirds

Laniidae: shrikes

Malaconotidae: bushshrikes and allies

Prionopidae: helmetshrikes

Vangidae: vangas Dicruridae: drongos Callaeidae: wattlebirds

Corcoracidae: White-winged Chough and Apostlebird

Artamidae: currawongs, woodswallows, butcherbirds & allies

Pityriaseidae: bristlehead

Paradisaeidae: birds-of-paradise Ptilonorhynchidae: bowerbirds Corvidae: crows, jays and magpies

Sturnidae: starlings

Passeridae: Old World sparrows Ploceidae: weavers and allies Estrildidae: waxbills and allies

Viduidae: indigobirds

Vireonidae: vireos and allies

Fringillidae: finches, crossbills and allies Drepanididae: Hawaiian honeycreepers

Peucedramidae: Olive Warbler Parulidae: New World warblers

Coerebidae: Bananaguit

Thraupidae: tanagers and allies

Emberizidae: buntings, seedeaters and allies Cardinalidae: saltators, cardinals and allies

Icteridae: troupials and allies

See also

- List of African birds
- List of Asian birds
- <u>List of Australian birds</u>
- List of European birds
- Extinct birds

Extinct birds

Since 1500, over 100 species of <u>birds</u> have become **extinct**, and this rate of extinction seems to be increasing. The situation is exemplified by Hawai'i, where 30% of all known recently extinct species originally lived. Other areas, such as Guam, have also been hard hit; Guam has lost over 60% of its native species in the last 30 years, many of them to the introduced Brown Tree Snake.

There are today about 10,000 species of birds, with roughly 1200 considered to be under threat of extinction. Except for a dozen or so species the threat is man-made.

Island species in general, and flightless island species in particular are most at risk. The disproportionate number of rails in the list reflects the tendency of that family to lose the ability to fly when geographically isolated. Even more rails became extinct before they could be described by scientists; these taxa are listed in <u>Later Quaternary Prehistoric Birds</u>.

The **extinction dates** given below are usually approximations of the actual date of extinction. In some cases, more exact dates are given as it is sometimes possible to pinpoint the date of extinction to a specific year or even day (the San Benedicto Rock Wren is possibly the most extreme example - its extinction could be timed with an accuracy of maybe half an hour). Extinction dates in the literature are usually the dates of the last verified record (credible observation or specimen taken); in many Pacific birds which became extinct shortly after European contact, however, this leaves an uncertainty period of over a century because the islands on which they used to occur were only rarely visited by scientists.

- 1 Extinct bird species
 - o 1.1 Struthioniformes
 - o 1.2 Tinamiformes
 - 1.3 Anseriformes
 - 1.4 Galliformes
 - o 1.5 Charadriiformes
 - 1.6 Gruiformes
 - 1.7 Podicipediformes
 - o 1.8 Ciconiiformes
 - 1.9 Pelecaniformes
 - o 1.10 Procellariiformes
 - o <u>1.11 Sphenisciformes</u>
 - 1.12 Columbiformes
 - o 1.13 Psittaciformes
 - o 1.14 Cuculiformes
 - o 1.15 Falconiformes
 - o 1.16 Strigiformes
 - 1.17 Caprimulgiformes
 - o 1.18 Apodiformes
 - o 1.19 Coraciiformes
 - 1.20 Piciformes
 - 1.21 Passeriformes

- 2 (Probably) Extinct subspecies of birds
 - o 2.1 Struthioniformes
 - o 2.2 Tinamiformes
 - o 2.3 Anseriformes
 - o 2.4 Galliformes
 - 2.5 Charadriiformes
 - o 2.6 Gruiformes
 - o <u>2.7 Ciconiiformes</u>
 - 2.8 Pelecaniformes
 - o 2.9 Pteroclidiformes
 - o 2.10 Columbiformes
 - o 2.11 Psittaciformes
 - o 2.12 Cuculiformes
 - o 2.13 Falconiformes
 - o 2.14 Strigiformes
 - o 2.15 Caprimulgiformes
 - o 2.16 Apodiformes
 - o 2.17 Coraciiformes
 - o 2.18 Piciformes
 - o 2.19 Passeriformes
- 3 See also

Extinct bird species

Struthioniformes

The Ostrich and related ratites.

• Elephant bird, Aepyornis maximus (Madagascar, 16th century?)

The taxonomy of the elephant birds is not fully resolved; it is almost certain that at least one taxon survived until Recent times, but it is not clear which species the reports refer to, if there were indeed more than one.

• Lesser Megalapteryx, *Megalapteryx didinus* (South Island, New Zealand, late 15th century?)

Generally believed to have been extinct by 1500, this is the only <u>moa</u> species that according to current knowledge might have survived until later times, possibly as late as the 1830s.

• King Island Emu, *Dromaius ater* (King Island, Australia, 1822)

Extinct in the wild c.1805, the last captive specimen died in 1822 in the Jardin des Plantes.

- Kangaroo Island Emu, *Dromaius baudinianus* (Kangaroo Island, Australia, 1827)
- West Coast Spotted Kiwi, Apteryx occidentalis (South Island, New Zealand, c.1900)

A doubtful form known from a single bird; may be a Little Spotted Kiwi subspecies or a hybrid between that species and the rowi.

Tinamiformes

Tinamous

• Magdalena Tinamou, *Crypturellus saltuarius* (Colombia, late 20th century?) Sometimes considered a Red-legged Tinamou subspecies, this bird is only known from the 1943 type specimen. Recent research suggest it is still extant.

Anseriformes

Ducks, geese and swans.

- Korean Crested Shelduck, *Tadorna cristata* (Northeast Asia, late 20th century?) A relict species from Northeast Asia. Officially critically endangered due to recent unconfirmed reports.
 - Réunion Shelduck, Alopochen kervazoi (Réunion, Mascarenes, c.1690s) Mauritian Shelduck, Alopochen mauritianus (Mauritius, Mascarenes, late 1690s) Amsterdam Island Duck, Anas marecula (Amsterdam Island, South Indian Ocean, 1800)

Mauritian Duck, Anas theodori (Mauritius and Réunion, Mascarenes, late 1690s) Mariana Mallard, Anas oustaleti (Marianas, West Pacific, 1981) Finsch's Duck, Chenonetta finschi from New Zealand possibly survived to 1870 Pink-headed Duck, Netta caryophyllacea (East India, Bangladesh, North Myanmar, 1945?)

Officially critically endangered; recent surveys have failed to rediscover it.

• Madagascar Pochard, *Aythya innotata* (Madagascar, 1992?)

Officially **critically endangered**, **possibly extinct**.

- Réunion Pochard, *Aythya* cf. *innotata* (Réunion, Mascarenes, c.1690s)
 A bone of a pochard found on Réunion seems to resolve the reports of *canards* other than the Mauritian Duck having occurred on the island. The taxonomic status of this form cannot be resolved until more material is found, however.
 - Labrador Duck, Camptorhynchus labradorius (Northeast North America, c.1880) Auckland Islands Merganser, Mergus australis (Auckland Islands, Southwest Pacific, c.1902)

Galliformes

Quails and relatives.

- The Giant Scrubfowl, *Megapodius molistructor*, may have survived on New Caledonia to the late 18th century as evidenced by decriptions of the bird named *"Tetrao australis"* and later *"Megapodius andersoni"*.
- The Viti Levu Scrubfowl, *Megapodius amissus* of Viti Levu and possibly Kadavu, Fiji, may have survived to the early 19th or even the 20th century as suggested by circumstantial evidence.
- Raoul Island Scrubfowl, *Megapodius* sp. (Raoul, Kermadec Islands, 1876)

A megapode is said to have inhabited Raoul Island until the population was wiped out in a volcanic eruption. It is not clear whether the birds represent a distinct taxon or derive from a prehistoric introduction by Polynesian seafarers.

• New Zealand Quail, Coturnix novaezelandiae (New Zealand, 1875) Himalayan Quail, Ophrysia superciliosa (North India, late 19th century?)

Officially critically endangered. Not recorded with certainty since 1876, but thorough surveys are still required, and there is a recent set of possible (though unlikely) sightings around Naini Tal in 2003. A little-known native name from Western Nepal probably refers to this bird, but for various reasons, no survey for *Ophrysia* has ever been conducted in that country, nor is it generally assumed to occur there (due to the native name being overlooked).

Charadriiformes

Shorebirds, gulls and auks.

- Javanese Lapwing, *Vanellus macropterus* (Java, Indonesia, mid-20th century) Officially classified as critically endangered, but as this conspicuous bird has not been recorded since 1940, it is almost certainly extinct.
 - Tahitian Sandpiper, Prosobonia leucoptera (Tahiti, Society Islands, 19th century)
 White-winged Sandpiper, Prosobonia ellisi (Moorea, Society Islands, 19th century)

Doubtfully distinct from *P. leucoptera*.

- Eskimo Curlew, *Numenius borealis* (Northern North America, late 20th century?) May still exist; officially classified as critically endangered, possibly extinct.
- Slender-billed Curlew, *Numenius tenuirostris* (Western Siberia, early 2000s?) May still exist; officially classified as critically endangered. Last seen in 1999 following several decades of increasing rarity.
 - Great Auk, Pinguinus impennis (North Atlantic, c.1844)
 Canarian Black Oystercatcher, Haematopus meadewaldoi (Fuerteventura and Lanzarote, Canary Islands, early 20th century)

Gruiformes

Rails and allies.

 Antillean Cave-Rail, Nesotrochis debooyi from Puerto Rico and the Virgin Islands possibly survived into the Modern Era.

Hawkins' Rail, Diaphorapteryx hawkinsi (Chatham Islands, SW Pacific, 19th century)

Red Rail, Aphanapteryx bonasia (Mauritius, Mascarenes, c.1700)

Rodrigues Rail, Aphanapteryx leguati (Rodrigues, Mascarenes, mid-18th century)

Bar-winged Rail, Nesoclopeus poecilopterus (Fiji, Polynesia, c.1980)

New Caledonian Rail, Gallirallus lafresnayanus (New Caledonia, Melanesia, c.1990?)

Officially classified as critically endangered, the last records were in 1984 and it seems that all available habitat is overrun by feral pigs and dogs which prey on this bird.

Wake Island Rail, Gallirallus wakensis (Wake Island, Micronesia, 1945)
 Tahitian Red-billed Rail, Gallirallus pacificus (Tahiti, Society Islands, late 18th - 19th century)

Dieffenbach's Rail, Gallirallus dieffenbachii (Chatham Islands, SW Pacific, mid-19th century)

Sharpe's Rail, Gallirallus sharpei (Indonesia?, 20th century?)

A bird known from a single skin of unknown origin. A reseach project has been proposed to shed light on its relationships and possible place of origin.

- Vava'u Rail, *Gallirallus* cf. *vekamatolu* (Vava'u, Tonga, early 19th century?) This bird is known only from a drawing by the 1793 Malaspina expedition, apparently depicting a species of Gallirallus. The 'Eua Rail, Gallirallus vekamatolu, is known from prehistoric bones found on 'Eua, but this species cannot have been the bird depicted, as it was flightless. However, it probably was a close relative.
 - The Norfolk Island Rail, Gallirallus sp. may be the bird shown on a bad watercolor illustration made around 1800 Chatham Rail, Cabalus modestus (Chatham Islands, SW Pacific, c.1900) Réunion Rail, Dryolimnas augusti (Réunion, Mascarenes, late 17th century) Red-throated Wood-rail, Aramides gutturalis (Peru, 20th century?)

Usually considered a badly prepared specimen of the Grey-necked Wood Rail, the single known individual of this bird may prove a distinct species though.

- Ascension Island Rail, Mundia elpenor (Ascension, Island, Atlantic, late 17th century) formerly Atlantisia
 Saint Helena Crake, Porzana astrictocarpus (Saint Helena, Atlantic, early 16th century)
 - Laysan Rail, Porzana palmeri (Laysan Island, Hawaiian Islands, 1944) Hawaiian Rail, Porzana sandwichensis (Big Island, Hawaiian Islands, c.1890)
- Kosrae Island Crake, Porzana monasa (Kosrae, Carolines, c. mid-late 19th century)

Miller's Crake, Porzana nigra (Tahiti, Society Islands, c.1800)

Known only from paintings and descriptions; taxonomic status uncertain as the material is often believed to refer to the extant Spotless Crake.

 Saint Helena Swamphen, Aphanocrex podarces (Saint Helena, Atlantic, 16th century) - formerly Atlantisia
 Réunion Swamphen or Oiseau bleu, Porphyrio coerulescens (Réunion, Mascarenes, 18th century)

Known only from descriptions. Former existence of a *Porphyrio* on Réunion is fairly certain, but not proven to date.

 New Caledonian Swamphen, Porphyrio kukwiedei from New Caledonia, Melanesia, may have survived into historic times. The native name n'dino is thought to refer to this bird.

Lord Howe Swamphen, Porphyrio albus (Lord Howe Island, SW Pacific, early 19th century)

Marquesan Swamphen, Porphyrio paepae (Hiva Oa and Tahuata, Marquesas) May have survived into the 19th century. In the lower right corner of Paul Gauguin's 1902 painting *Le Sorcier d'Hiva Oa ou le Marquisien à la cape rouge* there is a bird which reminds of native descriptions of *P. paepae*.

• The North Island Takah, Porphyrio mantelli known from subfossil bones found on North Island, New Zealand, may have survived to 1894 or later. Samoan Wood Rail, Gallinula pacifica (Savai'i, Samoa, 1907?)

Probably better placed in the genus *Pareudiastes*, unconfirmed reports from the late 20th century suggest it still survives in small numbers, and therefore it is officially classified as critically endangered.

• Makira Wood Rail, *Gallinula silvestris* (Makira, Solomon Islands, mid-20th century?)

Only known from a single specimen, this rail is probably better placed in its own genus, *Edithornis*. There are some unconfirmed recent records that suggest it still survives, thus, it is officially classified as critically endangered.

• Tristan Moorhen, Gallinula nesiotis (Tristan da Cunha, Atlantic, late 19th century)

Mascarene Coot, Fulica newtoni (Mauritius and Réunion, Mascarenes, c.1700) Rallidae gen. et sp. indet.

Unknown rail from Amsterdam Island, one specimen found but not recovered. Extinct by 1800 or may have been straggler of extant species.

• Fernando de Noronha Rail, Rallidae gen. et sp. indet. (Fernando de Noronha, W Atlantic, 16th century)

A distinct species of rail inhabited Fernando de Noronha island, but it has not been formally described yet. Probably was extant at Western contact.

- Tahitian "Goose", ?Rallidae gen. et sp. indet. (Tahiti, late 18th century?) Early travellers to Tahiti reported a "goose" that was found in the mountains. Altogether, a species of the rail genus *Porphyrio* seems the most likely choice.
 - "Leguat's Giant" or géant, a hypothetical giant rail from the Mascarenes, is based on his descriptions of flamingos, as Leguat was not familiar with their French name flamand or thought that it referred to other birds (it was in his time sometimes used for spoonbills, for example).

Podicipediformes

Grebes.

- Colombian Grebe, Podiceps andinus (Bogotá area, Colombia, 1977) Alaotra Grebe, Tachybaptus rufolavatus (Lake Alaotra, Madagascar, late 1980s?) Officially critically endangered, possibly extinct, this species almost certainly became extinct through habitat destruction and hybridization with the Little Grebe.
 - Atitlán Grebe, *Podilymbus gigas* (Lake Atitlán, Guatemala, 1989)

Ciconiiformes

Herons and related birds.

• Bermuda Night Neron, *Nycticorax carcinocatactes* (Bermuda, West Atlantic, 16th century)

Sometimes assigned to the genus *Nyctanassa*

Réunion Night Heron, Nycticorax duboisi (Réunion, Mascarenes, late 17th century)

Mauritius Night Heron, Nycticorax mauritianus (Mauritius, Mascarenes, c.1700) Rodrigues Night Heron, Nycticorax megacephalus (Rodrigues, Mascarenes, mid-18th century)

Ascension Night Heron, Nycticorax olsoni (Ascension Island, Atlantic, late 16th century?)

Known only from subfossil bones, but the description of a flightless Ascension bird by F. André Thevet cannot be identified with anything other than this species.

• New Zealand Little Bittern, *Ixobrychus novaezelandiae* (New Zealand, late 19th century)

Long considered to be vagrant individuals of the Australian Little Bittern, bones recovered from Holocene deposits indicate that this was indeed a distinct taxon, but it might not be a separate species.

• Réunion Sacred Ibis, *Threskiornis solitarius* (Réunion, Mascarenes, early 18th century)

This species was the base for the supposed "Réunion Solitaire", a supposed relative of the Dodo and the Rodrigues Solitaire. Given the fact that ibis, but no dodo-like bones were found on Réunion and that old descriptions match a flightless Sacred Ibis quite well, the "Réunion Solitaire" hypothesis has been refuted.

• The "Painted Vulture" (*Sarcorhamphus sacra*), a Floridan bird supposedly similar to the King Vulture, is based on a misidentification of the Crested Caracara.

Pelecaniformes

Cormorants and related birds.

• Spectacled Cormorant, Phalacrocorax perspicillatus (Komandorski Islands, North Pacific, c.1850)

Procellariiformes

Petrels and storm-petrels.

• Guadalupe Storm-petrel, *Oceanodroma macrodacyla* (Guadalupe, East Pacific, 1910s)

Officially critically endangered, possibly extinct, but a thorough survey in 2000 concluded the species was certainly extinct.

• St Helena Bulwer's Petrel, Bulweria bifax (Saint Helena, Atlantic, early 16th century)

Jamaica Petrel, Pterodroma caribbaea (Jamaica, West Indies)

Possibly a subspecies of the Black-capped Petrel; unconfirmed reports suggest it might survive. Officially classified as critically endangered, possibly extinct.

• Pterodroma cf. leucoptera (Mangareva, Gambier Islands, 20th century?)

A wing of a carcass similar to Gould's Petrel was recovered on Mangareva in 1922, where it possibly bred. No such birds are known to exist there today.

• St Helena Petrel, *Pseudobulweria rupinarum* (Saint Helena, Atlantic, early 16th century)

Sphenisciformes

Penguins

• The Chatham Islands Penguin, *Eudyptes* sp. (Chatham Islands, SW Pacific), is only known from subfossil bones, but a bird kept captive at some time between 1867 and 1872 might refer to this taxon.

Columbiformes

Pigeons, doves and dodos.

• St Helena Flightless Pigeon, Dysmoropelia dekarchiskos, possibly survived into the Modern Era.

Passenger Pigeon, Ectopistes migratorius (Eastern North America, 1914)

The passenger pigeon was once probably the most common bird in the world, a single swarm numbering up to several billion birds. It was hunted close to extinction for food and sport in the late 19th century. The last individual died in the Cincinnati Zoo in 1914.

• The Silvery Pigeon, Columba argentina, has not been reliably observed since 1931 and may be extinct. It is difficult to distinguish from the common Pied Imperial Pigeon, however.

Bonin Wood-pigeon, Columba versicolor (Nakodo-jima and Chichi-jima,

Ogasawara Islands, c.1890)

found. It disappeared at the same time.

Ryukyu Wood-pigeon, Columba jouyi (Okinawa and Daito Islands, Northwest Pacific, late 1930s)

Réunion Pink Pigeon, Streptopelia duboisi (Réunion, Mascarenes, c.1700) Its generic allocation is not fully resolved. There seems to have been at least another species of pigeon on Réunion (probably an *Alectroenas*), but bones have not yet been

• Rodrigues Turtle Dove, *Streptopelia rodericana* (Rodrigues, Mascarenes, before 1690?)

Its generic allocation is not fully resolved. A possible subspecies of the Madagascar Turtle Dove, this seems not to be the bird observed by Leguat. Introduced rats might have killed it off in the late 17th century.

• Liverpool Pigeon, "Caloenas" maculata

Also known as the Spotted Green Pigeon, the only specimen has been in Liverpool Museum since 1851, and was probably collected on a Pacific island for Edward Stanley, 13th Earl of Derby. It has been suggested that this bird came from Tahiti based on native lore about a somewhat similar extinct bird called *titi*, but this has not been verified.

- Sulu Bleeding-heart, *Gallicolumba menagei* (Tawitawi, Philippines, late 1990s?) Officially listed as critically endangered. Only known from 2 specimens taken in 1891, there have been a number of unconfirmed reports from all over the Sulu Archipelago in 1995. However, these reports stated that the bird had suddenly undergone a massive decline, and by now, habitat destruction is almost complete. If not extinct, this species is very rare, but the ongoing civil war prevents comprehensive surveys.
 - Norfolk Island Ground Dove, Gallicolumba norfolciensis (Norfolk Island, Southwest Pacific, c.1800)
 Tanna Ground Dove, Gallicolumba ferruginea (Tanna, Vanuatu, late 18th-19th century)

Only known from descriptions of 2 now-lost specimens.

• Thick-billed Ground Dove, *Gallicolumba salamonis* (Makira and Ramos, Solomon Islands, mid-20th century?)

Last recorded in 1927, only 2 specimens exist. Declared extinct in 2005.

 Choiseul Crested Pigeon, Microgoura meeki (Choiseul, Solomon Islands, early 20th century)

Marquesas Fruit Pigeon, Ptilinopus mercierii (Nuku Hiva and Hiva Oa, Marquesas, mid-20th century)

Two subspecies, the little-known *P. m. mercierii* of Nuku Hiva (extinct mid-late 19th century) and *P. m. tristrami* of Hiva Oa.

- Negros Fruit Dove, *Ptilinopus arcanus* (Negros, Philippines, late 20th century?) Known only from one specimen taken at the only documented sighting in 1953, the validity of this species has been questioned, but no good alternative to distinct species status has been proposed. Officially critically endangered, it might occur on Panay, but no survey has located it. One possible record in 2002 seems not to have been followed up.
 - Mauritius Blue Pigeon, *Alectroenas nitidissima* (Mauritius, Mascarenes, c.1830s)
 - Farquhar Blue Pigeon, *Alectroenas* sp. (Farquhar Group, Seychelles, 19th century)

Only known from early reports; possibly a subspecies of the Comoro or Seychelles Blue Pigeon.

• Rodrigues Grey Pigeon, "Alectroenas" rodericana (Rodrigues, Mascarenes, mid-18th century)

A mysterious bird of unknown affinities, known from a few bones and, as it seems, two historical reports.

- Dodo, *Raphus cucullatus* (Mauritius, Mascarenes, late 17th century) Called Didus ineptus by Linnaeus. A meter-high flightless bird found on Mauritius. Its forest habitat was lost when Dutch settlers moved to the island and the dodo's nests were
- destroyed by the monkeys, pigs, and cats the Dutch brought with them. The last specimen was killed in 1681, only 80 years after the arrival of the new predators.
 - Rodrigues Solitaire, *Pezophaps solitaria* (Rodrigues, Mascarenes, c.1730)
 - For the "Réunion Solitaire"

Psittaciformes

Parrots.

• New Caledonian Lorikeet, *Charmosyna diadema* (New Caledonia, Melanesia, mid-20th century?)

Officially critically endangered, there have been no reliable reports of this bird since the early 20th century. It is, however, small and inconspicuous.

Norfolk Island Kk, Nestor productus (Norfolk and Philip Islands, SW Pacific, 1851?)

Society Parakeet, Cyanoramphus ulietanus (Raiatea, Society Islands, late 18th

Black-fronted Parakeet, Cyanoramphus zealandicus (Tahiti, Society Islands, c.1850)

Paradise Parrot, Psephotus pulcherrimus (Rockhampton area, Australia, late 1920s)

The Night Parrot, (Pezoporus occidentalis), officially critically endangered, is a mysterious species which might be extinct. It was only reliably recoded twice in the late 20th century, the last time in 1991. More probably, it still persists in small numbers.

The Pacific Eclectus Parrot, Eclectus infectus, known from subfossil bones found on Tonga, Vanuatu, and possibly Fiji, may have survived until the 18th century: a bird which seems to be a male Eclectus parrot was drawn in a report on the Vava'u Tongan island of bv the Malaspina Seychelles Parakeet, Psittacula wardi (Seychelles, W Indian Ocean, 1883) Newton's Parakeet, Psittacula exsul (Rodrigues, Mascarenes, c.1875) Mascarene Parrot, Mascarinus mascarinus (Réunion and possibly Mauritius, Mascarenes, 1834?)

Last known individual was a captive bird which was alive before 1834.

- Broad-billed Parrot, *Lophopsittacus mauritianus* (Mauritius, Mascarenes, 1680?) May have survived to the late 18th century. A smaller related form described as Mauritius Grey Parrot (*Lophopsittacus bensoni*) may be the female of *L. mauritianus*.
 - Rodrigues Parrot, Necropsittacus rodericanus (Rodrigues, Mascarenes, late 18th century)

The species *N. francicus* is fictional, *N. borbonicus* most likely so.

- Glaucous Macaw, *Anodorhynchus glaucus* (N Argentina, early 20th century) Officially critically endangered due to persistent rumours of wild birds, but probably extinct.
- Cuban Red Macaw, *Ara tricolor* (Cuba, West Indies, late 19th century)
 A number of related species have been described from the West Indies, but are not based on good evidence. Several prehistoric forms are now known to have existed in the region, however.
- Carolina Parakeet, *Conuropsis carolinensis* (SE North America, c.1930?) Although the date of the last captive bird's death in the Cincinnati Zoo, 1918, is generally given as extinction date, there are convincing reports of some wild populations persisting until later. 2 subspecies, *C. c. carolinensis* (east and south of the Appalachian range extinct 1918 or c.1930) and *C. c. ludovicianus* (Louisiana Parakeet, west of the Appalachian range extinct early 1910s).
 - Guadeloupe Parakeet, *Aratinga labati* (Guadeloupe, West Indies, late 18th century)

Only known from descriptions, the former existence of this bird is likely for biogeographic reasons and because details as described cannot be referred to known species.

- Sinú Parakeet, *Pyrrhura subandina* (Colombia, mid-20th century?) Recently recognized as a distinct species, this bird has a very restricted distribution and was last reliably recorded in 1940. It was not found in 2004 and seems to be extinct.
 - Martinique Amazon, Amazona martinica (Martinique, West Indies, mid-18th century)
 Guadeloupe Amazon, Amazona violacea (Guadeloupe, West Indies, mid-18th century)

The extinct amazon parrots were originally described after travelers' descriptions. Both are nowadays considered valid extinct species closely related to the Imperial Parrot.

Cuculiformes

Cuckoos.

Delalande's Coua, Coua delalandei (Madagascar, late 19th century?)
 St Helena Cuckoo, Nannococcyx psix (Saint Helena, Atlantic, 16th century)

Falconiformes

Birds of prey.

• Guadalupe Caracara, Polyborus lutosus (Guadelupe, E Pacific, 1900 or 1903) Réunion Kestrel, Falco duboisi (Réunion, Mascarenes, c.1700)

Strigiformes

Owls.

Réunion Owl, Mascarenotus grucheti (Réunion, Mascarenes, late 17th century?)
 Mauritius Owl, Mascarenotus sauzieri (Mauritus, Mascarenes, c.1850)
 Rodrigues Owl, Mascarenotus murivorus (Rodrigues, Mascarenes, mid-18th century)

New Caledonian Boobook, Ninox cf. novaeseelandiae (New Caledonia, Melanesia)

Known only from prehistoric bones, but might still survive.

• Laughing Owl, Sceloglaux albifacies (New Zealand, 1914?)

Two subspecies, *S. a. albifacies* (South Island and Stewart Island, extinct 1914?) and *S. a. rufifacies* (North Island, extinct c.1870s?) - circumstantial evidence suggests small remnants survived until the early/mid-20th century.

• The Puerto Rican Barn Owl, *Tyto cavatica*, known from prehistoric remains found in caves of Puerto Rico, West Indies, may still have existed in 1912 given reports of the presence of cave-roosting owls.

Caprimulgiformes

Nightiars and allies.

• Jamaican Parauque, *Siphonorhis americana* (Jamaica, West Indies, late 19th century

Reports of unidentifiable nightjars in habitat appropriate for *S. americanus* suggest that this cryptic species may still exist. Research into this possibility is currently underway; pending further information, it is classified as critically endangered, possibly extinct.

• Cuban Parauque, Siphonorhis daiquiri (Cuba, West Indies)

Described from subfossil bones in 1985. There are persistent rumors that this bird, which was never seen alive by scientists, may still survive. Compare Puerto Rican Nightjar.

• Vaurie's Nightjar, Caprimulgus centralasicus

Only known from a single 1929 specimen from Xinjiang, China. It has never been found again, and it is quite possibly invalid as it has not yet been compared to the similar subspecies of the European Nightjar, *C. europaeus plumipes*, which occurs at the locality where *C. centralasicus* was found.

Apodiformes

Swifts and hummingbirds.

• Coppery Thorntail, *Discosura letitiae* (Bolivia?)

Known only from 3 trade specimens of unknown origin. Might still exist.

Brace's Emerald, Chlorostilbon bracei (New Providence, Bahamas, late 19th century)

Gould's Emerald, Chlorostilbon elegans (Jamaica or northern Bahamas, West Indies, late 19th century)

Alfaro's Hummingbird, Saucerottia alfaroana (Costa Rica, c.1900)

Bogota Sunangel, Heliangelus zusii (Colombia?)

A mysterious bird known only from a single specimen of unknown origin. Might be a hybrid (although the specimen is very distinct) or might still exist.

• Turquoise-throated Puffleg, *Eriocnemis godini* (Ecuador, 20th century?)
Officially classified as critically endangered, possibly extinct. Known only from 6 pre1900 specimens, the habitat at the only known site where it occurred has been destroyed.
However, the bird's distribution remains unresolved.

Coraciiformes

Kingfishers and related birds.

• Ryukyu Kingfisher, *Todiramphus miyakoensis* (Miyako-jima, Ryukyu Islands, late 19th century)

This was probably a sub-species of the Micronesian Kingfisher *Todiramphus cinnamomina*. Only seen once by scientists, in 1887; the specimen taken is somewhat damaged, making identification by other than molecular analysis difficult.

• Giant Hoopoe, *Upupa antaois* (Saint Helena, Atlantic, early 16th century)

Piciformes

Woodpeckers and related birds.

- Caatinga Woodpecker, *Celeus obrieni* (Western Piauí, Brazil, mid-20th century) This bird is known from a single specimen taken in 1926 and was long believed to be a subspecies of the Rufous-headed Woodpecker. As it was confined to caatinga habitat, which has been largely destroyed where the bird was once found, it is most likely extinct.
- Imperial Woodpecker, *Campephilus imperialis* (Mexico, late 20th century) This 60-centimeter-long woodpecker is officially listed as critically endangered, possibly extinct. Occasional unconfirmed reports come up, the most recent in late 2005.
 - There is currently a major debate on whether the North American Ivory-billed Woodpecker (Campephilus principalis principalis) was indeed rediscovered in the White River National Wildlife Refuge of Arkansas in 2004. The Cuban Ivory-billed Woodpecker (*Campephilus principalis bairdii*) was last seen in 1987 and is

generally considered extinct, but there are a few patches of habitat not yet surveyed.

Passeriformes

Perching birds.

Formicariidae - Antpittas and antthrushes

• Táchira Antpitta, *Grallaria chthonia* (Venezuela, late 20th century?) Officially critically endangered, this species has not been recorded since 1956 and although some habitat still exists, it was not found in dedicated searches in the 1990s.

Acanthisittidae - New Zealand "wrens"

• Stephens Island Wren, Xenicus lyalli (New Zealand, 1895?)

The species famously (but erroneously) claimed to have been made extinct by a single cat named "Tibbles".

• Bush Wren, *Xenicus longipes* (New Zealand, 1972)

3 subspecies: *X. l. stokesi* - North Island, extinct 1955; *X. l. longipes* - South Island, extinct 1968; *X. l. variabilis* - Stewart Island, extinct 1972.

Meliphagidae - Honeyeaters and Australian chats

Kioea, Chaetoptila angustipluma (Big Island, Hawaiian Islands, 1860s) Hawai'i 'O'o, Moho nobilis (Big Island, Hawaiian Islands, 1930s) O'ahu 'O'o, Moho apicalis (O'ahu, Hawaiian Islands, mid-19th century) Moloka'i 'O'o, Moho bishopi (Moloka'i and probably Maui, Hawaiian Islands, c.1910 1980s) Kauaʻi '0'o, Moho braccatus (Kauaʻi, Hawaiian Islands. 1987) Chatham Island Bellbird, Anthornis melanocephala (Chatham Islands, Southwest Pacific, c.1910)

Unconfirmed records exist from the early-mid 1950s

Pardalotidae - Pardalotes, scrubwrens, thornbills, and gervgones

• Lord Howe Gerygone, *Gerygone insularis* (Lord Howe Island, Southwest Pacific, c.1930)

Pachycephalidae - Whistlers, shrike-thrushes, pitohuis and allies

• Mangarevan Whistler, ?Pachycephala gambierana (Mangareva, Gambier Islands, late 19th century?)

A mysterious bird of which no specimen exists today. It was initially described as a shrike, then classified as an *Eopsalteria* "robin", and may actually be an *Acrocephalus* flycatcher. **Dicruridae** - Monarch flycatchers and allies

Maupiti Monarch, Pomarea pomarea (Maupiti, Society Islands, mid-19th century)
 Eiao Monarch, Pomarea fluxa (Eiao, Marquesas, late 1970s)

Previously considered a subspecies of the Iphis Monarch, this is an early offspring of the Marquesan stock.

• Nuku Hiva Monarch, *Pomarea nukuhivae* (Nuku Hiva, Marquesas, mid-late 20th century)

Previously considered a subspecies of the Marquesas Monarch, this is another early offspring of the Marquesan stock.

• Ua Pou Monarch, *Pomarea mira* (Ua Pou, Marquesas, c.1986)

Previously considered another subspecies of the Marquesas Monarch, this was a distinct species most closely related to that bird and the Fatuhiya Monarch.

• Guam Flycatcher, *Myiagra freycineti* (Guam, Marianas, 1983)

Corvidae - Crows, ravens, magpies and jays

• Banggai Crow, *Corvus unicolor* (Banggai or Peleng Island, Indonesia, 20th century?)

Officially critically endangered, it is known only from two specimens taken on an unspecified island at some date in the late 19th century, probably in 1884 or 1885. Possible sightings in 1981 and 1991, but no unequivocal recent records and amount of habitat destruction suggest this species is extinct.

Malaconotidae - Bushshrikes

• Bulo Burti Boubou, *Laniarius liberatus* (Somalia, early 1990s?)

Only found once, in 1988, this bird is officially critically endangered, as it may still exist. However, it was never found again despite being looked for, and there seems to be much habitat degradation. Owing to the political situation in Somalia, further research has not been possible.

Vangidae - Vangas

• Short-toed Nuthatch Vanga, *Hypositta perdita* (Madagascar, mid-20th century?) An enigmatic bird known only from 2 recently fledged juveniles collected in 1931, it was not found during a thorough search in 1996.

†Turnagridae - Piopio

- North Island Piopio, *Turnagra tanagra* (North Island, New Zealand, c.1970?) Not reliably recoded anymore since about 1900.
- South Island Piopio, *Turnagra capensis* (South Island, New Zealand, 1960s?) Two subspecies, *T. c. minor* from Stephens Island (extinct c.1897) and the nominate *T. c. capensis* from the South Island mainland (last specimen taken in 1902, last unconfirmed record in 1963)

Callaeidae - New Zealand wattlebirds

- Huia, *Heteralocha acutirostris* (North Island, New Zealand, early 20th century) **Estrildidae** - Estrildid finches (waxbills, munias, etc)
- Black-lored Waxbill, *Estrilda nigriloris* (D.R. Congo, Africa, late 20th century?) An enigmatic waxbill not seen since 1950; since part of its habitat is in Upemba National Park it may survive.

Parulidae - New World warblers

- Bachman's Warbler, *Vermivora bachmanii* (Southern USA, c.1990?) Officially critically endangered, possibly extinct
 - Semper's Warbler, *Leucopeza semperi* (Saint Lucia, Caribbean, 1970s)

Icteridae - Grackles

• Slender-billed Grackle, Quiscalus palustris (Mexico, 1910)

Fringillidae - True finches

• Tawny-headed Mountain Finch, *Leucosticte sillemi* (Xinjiang, mid-/late 20th century?)

An enigmatic bird known from just 2 specimens collected in 1929. As no threats are known, probably still extant, but the lack of recent records is puzzling.

- Bonin Grosbeak, *Chaunoproctus ferreorostris* (Chichi-jima, Bonin Islands, 1830s) **Drepanididae** - Hawaiian honeycreepers
 - '0'u, Psittirostra psittacea (Hawaiian Islands, c.2000?)

Officially classified as critically endangered, possibly extinct, this was once the most widespread species of Hawaiian honeycreeper. It has not been reliably recorded since 1987 or 1989.

• Lana'i Hookbill, Dysmorodrepanis munroi (Lana'i, Hawaiian Islands, 1918) The Kaua'i Palila, Loxioides kikuichi (Kaua'i, Hawaiian Islands), possibly survived to the early 18th century.

Lesser Koa Finch, Rhodacanthus flaviceps (Big Island, Hawaiian Islands, 1891) Greater Koa Finch, Rhodacanthus palmeri (Big Island, Hawaiian Islands, 1896) Kona Grosbeak Finch, Psittirostra kona (Big Island, Hawaiian Islands, 1894) Greater 'Amakihi, Hemignathus sagittirostris (Big Island, Hawaiian Islands, 1901)

Hawai'i 'Akialoa, Akialoa obscura (Big Island, Hawaiian Islands, 1940)

Maui Nui 'Akialoa, Akialoa lanaiensis (Lana'i and prehistorically probably Maui and Moloka'i, Hawaiian Islands 1892)

Oʻahu ʻAkialoa, Akialoa ellisiana (Oʻahu, Hawaiian Islands, 1940)

Kaua'i 'Akialoa, Akialoa stejnegeri (Kaua'i, Hawaiian Islands, 1969)

Nukupu'u, Hemignathus lucidus (Hawaiian Islands, c.2000?)

The subspecies from O'ahu (*H. l. lucidus*) is extinct since the late 19th century, that of Kaua'i (*H. l. hanapepe*) most probably since the late 1990s and that of Maui (*H. l. affinis*) has not been reliably seen since 1995. It is currently classified as critically endangered, possibly extinct.

- Kakawahie, Paroreomyza flammea (Molokaʻi, Hawaiian Islands, 1963) OʻahuʻAlauahio, Paroreomyza maculata (Oʻahu, Hawaiian Islands, early 1990s?) Officially classified as critically endangered, possibly extinct. Last reliable record was in 1985, with an unconfirmed sighting in 1990.
 - 'Ula-'ai-hawane, Ciridops anna (Big Island, Hawaiian Islands, 1892 or 1937)
 Black Mamo, Drepanis funerea (Moloka'i, Hawaiian Islands, 1907)
 Hawai'i Mamo, Drepanis pacifica (Big Island, Hawaiian Islands, 1898)
 Po'o-uli, Melamprosops phaeosoma (Maui, Hawaiian Islands, 2004?)

The most recent extinction on this list. What was most likely the last known bird has died in captivity on 28 November 2004.

Emberizidae - Buntings and American sparrow

• Hooded Seedeater, Sporophila melanops (Brazil, 20th century?)

Officially classified as critically endangered, possibly extinct. It is known only from a single male collected in 1823, and has variously been considered an aberrant Yellow-bellied Seedeater or a hybrid.

<u>Hirundinidae</u> - Swallows and martins

- White-eyed River Martin, *Pseudochelidon sirintarae* (Thailand, late 1980s?) Officially critically endangered, this enigmatic species is only known from migrating birds and it was last seen in 1986 at its former roost site. Recent unconfirmed repors suggest it may occur in Cambodia.
- Red Sea Swallow, *Petrochelidon perdita* (Red Sea area, late 20th century?) Known from a single specimen, this enigmatic swallow probably still exists, but the lack of recent records is puzzling.

Sylviidae - Old World warblers

• Aldabra Brush Warbler, Nesillas aldabranus (Aldabra, Indian Ocean, c.1984) Large-billed Reed Warbler, Acrocephalus orinus (India, 20th century?)

A mysterious bird known only from a 1867 specimen that was long considered invalid, but has recently been determined to be a very distinct species. It may still exist and simply have been overlooked due to the former fact.

Chatham Islands Fernbird, Bowdleria rufescens (Chatham Islands, New Zealand, c.1900)

Often placed in genus *Megalurus*, but this is based on an incomplete review of the evidence.

<u>Cisticolidae</u> - Cisticolas and allies

• Tana River Cisticola, *Cisticola restrictus* (Kenya, 1970s?)

A mysterious bird, found in the Tana River basin in small numbers at various dates, but not anymore since 1972. Probably invalid, based on aberrant or hybrid specimens.

Zosteropidae - White-eyes

• Seychelles White-eye, *Zosterops semiflava* (Marianne, Seychelles, early 20th century)

Sometimes considered a subspecies of the Mayotte White-eye. Possibly occurred on other islands in the Seychelles as well.

• Lord Howe White-eye, *Zosterops strenua* (Lord Howe Island, Southwest Pacific, c.1918)

Timaliidae - Old World babblers

• Black-browed Babbler, *Malacocincla perspicillata* (Borneo?, Indonesia, 20th century?)

Known from a single mid-19th century specimen, this bird may be extinct or could still exist. If the specimen label, usually considered erroneous in claiming "Java" as the bird's origin, is correct, it may have gone extinct earlier.

Muscicapidae - Old World Flycatchers and chats

• Rueck's Blue Flycatcher, *Cyornis ruckii* (Malaysia or Indochina, 20th century?) An enigmatic bird known from 2 or 4 possibly migrant specimens, last recorded in 1918. Might exist in NE Indochina and might be a subspeices of the Hainan Blue Flycatcher. **Turdidae** - Thrushes and allies

Grand Cayman Thrush, Turdus ravidus (Grand Cayman, West Indies, late 1940s)
 Bonin Thrush, Zoothera terrestris (Chichi-jima, Bonin Islands, c.1830s)
 'maui, Myadestes woahensis (Oʻahu, Hawaiian Islands, mid-19th century)
 Kma'o, Myadestes myadestinus (Kaua'i, Hawaiian Islands, 1990s)
 Oloma'o, Myadestes lanaiensis (Hawaiian Islands, 1980s?)

Officially critically endangered, possibly extinct because a possible location on Moloka'i remains unsurveyed. Two subspecies are known from Lana'i (*M. l. lanaiensis*, extinct early 1930s), Moloka'i (*M. l. rutha*, extinct 1980s?) and a possible third subspecies from Maui (extinct before late 19th century).

Sturnidae - Starlings

• Kosrae Island Starling, Aplonis corvina (Kosrae, Carolines, mid-19th century) Mysterious Starling, Aplonis mavornata (Mauke, Cook Islands, mid-19th century)

Tasman Starling, Aplonis fusca (Norfolk Island and Lord Howe Island, Southwest Pacific, c.1923)

Two subspecies, *A. f. fusca* - Norfolk Island Starling (extinct c.1923); *A. fuscus hulliana* - Lord Howe Starling (extinct c.1919).

- Pohnpei Starling, *Aplonis pelzelni* (Pohnpei, Micronesia, c.2000) Only once reliable record since 1956, in 1995, leaves the species' survival seriously in doubt.
- Bay Starling, *Aplonis ulietensis* (Raiatea, Society Islands, between 1774 and 1850) Usually called "Bay Thrush"; a completely mysterious bird from Raiatea, now only known from a painting and some descriptions of a (now lost) specimen. Its taxonomic position is thus unresolvable at present, although for biogeographic reasons and because of the surviving description, it has been suggested to have been a honeyeater. However, with the discovery of fossils of the prehistorically extinct starling Aplonis diluvialis on neighboring Huahine, it seems likely that this bird also belonged into this genus.
 - Bourbon Crested Starling, Fregilupus varius (Réunion, Mascarenes, 1850s)
 Rodrigues Starling, Necropsar rodericanus (Rodrigues, Mascarenes, late 18th century?)

The bird variously described as *Testudophaga bicolor*, *Necropsar leguati* or *Orphanopsar leguati* which was considered to be identical with *N. rodericanus* (which is only known from fossils) was finally resolved to be based on a misidentified partially albinistic specimen of the Martinique Trembler (*Cinclocerthia gutturalis*) (Olson *et al.*, Bull. B.O.C. **125**:31).

See also

- Bird
- Late Quaternary prehistoric birds
- Fossil birds
- <u>Flightless birds</u>

List adapted, expanded and updated from that in *Extinct Birds*, Fuller, ISBN 0-19-850837-9 (Extinct Birds is an absorbing study of the world's recently extinct bird species, the first complete survey since Walter Rothschild's classic work of 1907)

(Probably) Extinct birds

Extinction of subspecies is a subject very dependent on guesswork. National and international conservation projects and research publications such as redlists usually focus on species as a whole. Reliable information on the status of threatened subspecies usually has to be assembled piecemeal from published observations such as regional checklists. Therefore, the following listing contains a high proportion of taxa that may just as well still exist, but are listed here due to any combination of absence of recent records, a known threat such as habitat destruction, or an observed decline.

- 1 (Probably) Extinct subspecies of birds
 - o <u>2.1 Struthioniformes</u>
 - o 2.2 Tinamiformes
 - o 2.3 Anseriformes
 - o 2.4 Galliformes
 - o <u>2.5 Charadriiformes</u>
 - o 2.6 Gruiformes
 - o 2.7 Ciconiiformes
 - o 2.8 Pelecaniformes
 - 2.9 Pteroclidiformes
 - o 2.10 Columbiformes
 - o 2.11 Psittaciformes
 - o 2.12 Cuculiformes
 - o 2.13 Falconiformes
 - o 2.14 Strigiformes
 - o 2.15 Caprimulgiformes
 - o 2.16 Apodiformes
 - o 2.17 Coraciiformes
 - o 2.18 Piciformes
 - o 2.19 Passeriformes
 - 2 See also

Struthioniformes

The Ostrich and related ratites.

Tinamiformes

Tinamous

Pernambuco Solitary Tinamou, Tinamus solitarius pernambucensis (E Brazil, c.1970s)

A subspecies of the Solitary Tinamou which may not be valid but probably is.

• Huila Black Tinamou, *Tinamus osgoodi hershkovitzi* (Colombia, 1980s?)

A Black Tinamou subspecies or possibly a distinct species; not seen since 1976 but might persist in Cueva de los Guácharos National Park.

Anseriformes

Ducks, geese and swans.

• Bering Cackling Goose, *Branta hutchinsii asiatica* (Komandorskie and Kurile Islands, N Pacific, c.1914 or 1929)

A subspecies of the Cackling Goose (formerly "Lesser Canada Geese") which is doubtfully distinct from the Aleutian one.

- Washington Island Gadwall, Anas strepera couesi (Teraina, Kiribati, late 19th century) Gadwall subspecies. Controversial species, as many scientists think that it just might be a immature of the Common Gadwall *Anas strepera strepera* which was drifted to Teraina.
- Rennell Island Teal, *Anas gibberifrons remissa* (Rennell, Solomon Islands, c.1959) A subspecies of the Sunda Teal which disappeared due to predation on young birds by the introduced tilapia Oreochromis mossambicus.
 - Niceforo's Pintail, *Anas georgica niceforoi* (Colombia, 1950s) Yellow-billed Pintail subspecies
 - Borrero's Cinnamon Teal, *Anas cyanoptera borreroi* (Colombia, late 20th century?)

A subspecies of the Cinnamon Teal known only from a restricted area in the Cordillera Occidental of Colombia. It is either very rare or already extinct.

Galliformes

Quails and relatives.

• Italian Grey Partridge, Perdix perdix italica (Italy, c.1990)

A subspecies of the Grey Partridge whose validity has been questioned; the last purebred individuals disappeared during the late 1980s due to hybridization with introduced birds.

 Amik Gölü Black Francolin, Francolinus francolinus billypayni (S Turkey, possibly Lebanon, 1960s)

A doubtfully distinct subspecies of the Black Francolin.

• Sicilian Black Francolin, *Francolinus francolinus* ssp. (Sicily, Mediterranean, c.1869)

Another doubtfully distinct Black Francolin subspecies.

- Heath Hen, *Tympanuchus cupido cupido*, (New England, North America, 1932) A subspecies of the Greater Prairie-Chicken or possibly a distinct species.
 - New Mexico Sharp-tailed Grouse, *Tympanuchus phasianellus hueyi* (New Mexico, North America, 1954) Sharp-tailed Grouse subspecies
 - Moroccan Guineafowl, *Numida meleagris sabyi* (Morocco, mid-20th century or early 1980s)

A subspecies of the Helmeted Guineafowl. Reportedly still kept in captivity in Morocco in late 1990s. Possibly extinct by 1950, the 3 1970s records may refer to feral domestic hybrids.

Charadriiformes

Shorebirds, gulls and auks.

North Island Snipe, Coenocorypha aucklandica barrierensis (North Island, New Zealand, 1870s) - New Zealand Snipe subspecies
 South Island Snipe, Coenocorypha aucklandica iredalei (South and Stewart Islands, New Zealand, 1964) - New Zealand Snipe subspecies
 Tawitawi Small Buttonquail, Turnix sylvatica suluensis (Tawitawi, Philippines, mid-20th century) - Small Buttonquail subspecies
 New Caledonia Painted Buttonquail, Turnix varia novaecaledoniae (New Caledonia, Melanesia, early 20th century)

A subspecies of the Painted Buttonquail of somewhat unclear status, it is variously considered anything between a hybrid between introduced species to a full species. Plentiful subfossil bones indicate that it was indeed a good endemic form.

• Kiritimati Sandpiper, *Prosobonia cancellata cancellata* (Kiritimati, Kiribati, 19th century?)

The doubtfully distinct nominate subspecies of the Tuamotu Sandpiper, sometimes considered a distinct species, but only known from a painting.

Gruiformes

Rails and allies.

 Goldman's Yellow Rail, Coturnicops noveboracensis goldmani (Mexico, late 1960s) - Yellow Rail subspecies
 Macquarie Island Buff-banded Rail, Gallirallus philippensis macquariensis (Macquarie Islands, SW Pacific, 1880s) - Buff-banded Rail subspecies
 Raoul Island Banded Rail, Gallirallus philippensis ssp. (Raoul, Kermadec Islands, SW Pacific, late 19th century?) Reports of the former occurrence of the species on Raoul seem plausible enough, but they may relate to vagrant individuals of another Buff-banded Rail subspecies.

• Peruvian Rail, *Rallus semiplumbeus peruvianus* (Peru, 20th century?)

A subspecies of the Bogota Rail which is known from a single specimen collected in the 1880s. It may still be extant.

- Western Australian Lewin's Rail, *Lewinia pectoralis cleleandi* (SW Australia, late 1930s) Lewin's Rail subspecies
- Flores Lewin's Rail, *Lewinia pectoralis exsul* (Flores, Indonesia, late 19th century?)

A Lewin's Rail subspecies known only form 4 specimens. Not seen since 1959 despite attempts to find it, it is apparently extinct.

- Assumption White-throated Rail, *Dryolimnas cuvieri abbotti* (Assumption, Astove and Cosmoledo, Aldabra Islands, early 20th century) White-throated Rail subspecies.
- Jamaican Uniform Crake, *Amaurolimnas concolor concolor* (Jamaica, West Indies, 1890) Uniform Crake nominate subspecies
- Intact Rail, *Gymnocrex plumbeiventris intactus* (Melanesia, 20th century?)

A subspecies of the Bare-eyed Rail which is known from a single specimen, c. mid-19th century, from the Solomon Islands or New Ireland. The taxon may be extant.

• Bornean Baillon's Crake, *Porzana pusilla mira* (Borneo, 20th century?)

A subspecies of Baillon's Crake known from a single 1912 specimen and not found since; may be extinct, but species is hard to find.

• Iwo Jima White-browed Crake, *Porzana cinerea brevipes* (Iwo Jima and Minami IMjima, Ogasawara Islands, early 20th century).

A subspecies of the White-browed Crake that is often considered synonymous with the nominate.

• Moroccan Bustard, *Ardeotis arabs lynesi* (Morocco, 1990s)

A subspecies of the Arabian Bustard. Last observed in 1993 at Lac Merzouga/Lac Tamezguidat.

• Luzon Sarus Crane, *Grus antigone luzonica* (Luzon, Philippines, late 1960s)

A subspecies of the Sarus Crane which is not always accepted as valid, probably mainly because the specimens have never been thoroughly studied since the subspecies' description.

Ciconiiformes

Herons and related birds.

 Bonin Nankeen Night Heron, Nycticorax caledonicus crassirostris (Nakoudo-jima and Chichi-jima, Ogasawara Islands, c.1890) - Nankeen Night Heron subspecies Principe Olive Ibis, Bostrychia olivacea rothschildi (Principe, Gulf of Guinea, 1900s) - Olive Ibis subspecies

Pelecaniformes

Cormorants and related birds.

• Tasman Booby, *Sula dactylatra tasmani* fide van Tets *et al.*, 1988 (Lord Howe and Norfolk Islands, SW Pacific, c.1790?)

This is often regarded as a distinct species, but at best it is a subspecies of the Masked Booby. Probably identical to the extant Lord Howe Island population described as *S. d. fullagari*, which would in this case be named *S. d. tasmani* fide Holdaway & Anderson, 2001.

• Levant Darter, *Anhinga rufa chantrei* (Middle East, early 1990s?)

A questionable subspecies of the African Darter (Anhinga melanogaster chantrei if all Old World darters are considered one species) which ultimately seems to have become a victim of war and habitat destruction in Iraq.

Pteroclidiformes

Sandgrouse.

• Fayyum Sandgrouse, *Pterocles exustus floweri* (Egypt, c.1940) Chestnut-bellied Sandgrouse subspecies, may have survived until early 1980s.

Columbiformes

Pigeons, doves and dodos.

Madeiran Wood Pigeon, Columba palumbus maderensis (Madeira, East Atlantic, early 20th century) - Wood Pigeon subspecies
 Ogasawara Japanese Wood-pigeon, Columba janthina nitens (Ogasawara Islands, Northwest Pacific, 1980s) - Japanese Wood-pigeon subspecies
 Lord Howe Metallic Pigeon, Columba vitiensis godmanae (Lord Howe Island, Southwest Pacific, 1853)- Metallic Pigeon subspecies
 Tongan Metallic Pigeon, Columba vitiensis ssp. (Vava'u, Tonga, late 18th century?)

This subspecies of the Metallic Pigeon is only known from a footnote in John Latham's "General History of Birds", and seems to have died out some time before 1800; possibly, the location is erroneous and the note really refers to the extant population of Fiji.

• Catanduanes Bleeding-heart, *Gallicolumba luzonica rubiventris* (Catanduanes, Philippines, late 20th century?)

A subspecies of the Luzon Bleeding-heart known from a single specimen collected in 1971. It is either near extinction or already extinct.

• Basilan Bleeding-heart, *Gallicolumba crinigera bartletti* (Basilan, Philippines, mid-20th century?)

A subspecies of the Mindanao Bleeding-heart, it was last reported in 1925 and given the massive habitat destruction is likely extinct.

• Vella Lavella Ground Dove, *Gallicolumba jobiensis chalconota* (Vella Lavella, Makira and Guadalcanal, Solomon Islands, late 20th century?)

A subspecies of the White-bibbed Ground Dove or possibly a distinct species. Known from only 4 specimens, there are no recent records and the local population report it has disappeared.

• White-headed Polynesian Ground-dove, *Gallicolumba erythroptera albicollis* (Central Tuamotu Islands, 20th century)

The Central Tuamotu subspecies of the Polynesian Ground-dove, often referred to as *G. e. pectoralis*, disappeared at an undetermined date, but might still exist on some unsurveyed atolls. The identity of Northern Tuamotu populations, possibly still extant, is undetermined.

• Ebon Purple-capped Fruit Dove, *Ptilinopus porphyraceus marshallianus* (Ebon, Marshall Islands?, late 19th century?)

Known from a single specimen collected in 1859, it is not certain whether this bird actually occurred on Ebon. All that can be said is that this subspecies is no longer found anywhere.

• Mauke Fruit Dove, *Ptilinopus rarotongensis "byronensis"* (Mauke, Cook Islands, mid-/late 19th century)

A subspecies of the Rarotonga Fruit Dove, known only from the description of a now-lost specimen. the prehistorically extinct population on Mangaia is likely to belong to another distinct subspecies too.

- Negros Grey-necked Imperial-pigeon, *Ducula carola nigrorum* (Negros and probably Siquijor, late 20th century) Grey-necked Imperial Pigeon subspecies
- Norfolk Island Kererk, *Hemiphaga novaeseelandiae spadicea* (Norfolk Island, Southwest Pacific, mid-19th century)

A subspecies of the Kererk or New Zealand Pigeon. Similar birds were reported from Lord Howe Island; these seem to represent another extinct subspecies but are undescribed to date.

• Raoul Island Kererk, *Hemiphaga novaeseelandiae* ssp. nov. (Raoul, Kermadec Islands, 19th century)

Another undescribed subspecies (or possibly species) of the Kererk, known from bones and a brief report.

Psittaciformes

Parrots.

• Sangir Red and Blue Lory, *Eos histrio histrio* (Sangir Archipelago, Indonesia, c.1997)

The nominate subspecies of the Red and Blue Lory was hybridized out of existence by escaped trade individuals of the subspecies *talautensis*, the last purebred individuals disappearing in the 1990s or even much earlier.

• Challenger's Lory, *Eos histrio challengeri* (Nenusa Islands, Talaud Archipelago, early 20th century?)

A supposed subspecies of the Red and Blue Lory, but probably invalid.

 Macquarie Island Red-crowned Parakeet, Cyanoramphus erythrotis erythrotis (Macquarie Islands, SW Pacific, c.1891) - Subantarctic Red-crowned Parakeet nominate subspecies

Lord Howe Island Red-fronted Parakeet, Cyanoramphus novaezelandiae subflavescens (Lord Howe Island, SW Pacific, c.1870) - Red-crowned Parakeet subspecies

Westerman's Eclectus Parrot, Eclectus roratus westermani (Indonesia, 20th century?)

Known only from 16 captive birds specimens and last recorded in 1899, this enigmatic subspecies of the Eclectus Parrot is often considered an aviary hybrid. However, it may has well have occurred on islands at the northern or eastern end of the Banda Sea, becoming extinct some time in the 20th century - or might even still exist in a little-surveyed location.

• Réunion Parakeet, *Psittacula eques eques* (Réunion, Mascarenes, mid-18th century)

Known only from a painting and descriptions; if it is accepted as valid, it would become the nominate subspecies of the Echo Parakeet, extant on Mauritius, which would then have to be called *P. eques echo*.

- Siquijor Colasisi, *Loriculus philippensis siquijorensis* (Siquijor, Philippines, 1990s) A subspecies of the Colasisi or Philippine Hanging Parrot, either very rare or already extinct.
 - Puerto Rican Parakeet, *Aratinga chloroptera maugei* (Mona and possibly Puerto Rico, West Indies, 1890s)

A weakly differentiated subspecies of the Hispaniolan Parakeet.

• Sinú Brown-throated Parakeet, *Aratinga pertinax griseipecta* (Colombia, mid-/late 20th century?)

A subspecies of the Brown-throated Parakeet known from only 2 specimens collected in 1949 and of unclear taxonomical and conservation status.

• Culebra Island Parrot, *Amazona vittata gracilipes* (Culebra, West Indies, 1900s) A weakly differentiated subspecies of the Puerto Rican Parrot which is itself highly endangered.

Cuculiformes

Cuckoos.

- Greater Crested Coua, *Coua cristata maxima* (SE Madagascar, late 20th century) Crested Coua subspecies, known only from a single specimen taken in 1950
 - Timor Pheasant Coucal, *Centropus phasianinus mui* (Timor, Indonesia, late 20th century?)

A very distinctive Pheasant Coucal subspecies or possibly a distinct species which is mysteriously only known from one specimen.

 Assumption Island Coucal, Centropus toulou assumptionis (Assumption Island, Seychelles, c.1920s)

A Madagascar Coucal subspecies often considered synonymous with the Aldabra form *insularis*, which has recolonized Assumption Island at a later date.

• Cabo San Lucas Groove-billed Ani, *Crotophaga sulcirostris pallidula* (Mexico, c.1940)

A weakly differentiated and probably invalid subspecies of the Groove-billed Ani

• Bahía Rufous-vented Ground Cuckoo, *Neomorphus geoffroyi maximiliani* (E Brazil, mid-20th century) - Rufous-vented Ground Cuckoo subspecies

Falconiformes

Birds of prey.

- Cape Verde Kite, *Milvus milvus fasciicauda* (Cape Verde Islands, E Atlantic, 2000) Considered either a subspecies of the Red Kite, a distinct species, the validity of this taxon has recently being questioned based on molecular analysis. However, hybridization and a confusing molecular phylogeny of Red Kite populations coupled with the distinct phenotype of the Cape Verde birds suggest that the taxonomic status of this form is far from resolved.
 - Anjouan Island Sparrow Hawk, Accipiter francesii pusillus

This subspecies of Frances' Goshawk from Ndzouani (Anjouan), Comoros, was last seen in 1978; given that few habitat remains, it is probably extinct.

• Car Nicobar Sparrowhawk, *Accipiter butleri butleri* (Car Nicobar, Nicobar Islands, 20th century?)

The nominate subspecies of the **Nicobar Sparrowhawk - which is currently listed as Vulnerable -** is possibly extinct. It was last reliably recorded in 1901 and despite searches, has not been sighted after an unconfirmed record in 1977.

• Korean Sea Eagle, *Haliaeetus pelagicus niger* (Korea, 1950s) - Steller's Sea Eagle subspecies

Strigiformes

Owls.

• Sulu Reddish Scops Owl, *Otus rufescens burbidgei* (Sulu, Philippines, mid-20th century)

A subspecies of the Reddish Scops Owl. Known from a single questionable specimen and may not be valid.

• Virgin Islands Screech Owl, Otus nudipes newtoni

A subspecies of the Puerto Rican Screech Owl of somewhat doubtful validity which occurred on several of the Virgin Islands, West Indies. The last reliable records are in 1860: it was not found in thorough surveys in 1995.

• Socorro Elf Owl, *Micrathene whitneyi graysoni* (Socorro, Revillagigedo Islands, c.1970)

A subspecies of the Elf Owl; the last specimen was taken in 1932, but there apparently still was a large population in 1958.

- Antiguan Burrowing Owl, *Athene cunicularia amaura* (Antigua, St Kitts and Nevis, West Indies, c.1905) Burrowing Owl subspecies
- Bahaman Burrowing Owl, *Athene cunicularia guadeloupensis* (Guadeloupe and Marie-Galante, West Indies, c.1890) Burrowing Owl subspecies
- Lord Howe Island Morepork, *Ninox novaeseelandiae albaria* (Lord Howe Island, Southwest Pacific, 1950s) Southern Boobook subspecies
- Norfolk Island Morepork, *Ninox novaeseelandiae undulata* (Norfolk Island, Southwest Pacific, 1996)

Individuals of the nominate subspecies were introduced in a last-ditch effort to save the local owl population. There now exists a hybrid population of a few dozen birds; the last individual of *N. n. undulata*, a female named *Miamiti* died in 1996.

• Cave-nesting Masked Owl, *Tyto novaehollandiae troughtoni* (Nullarbor Plain, Australia, 1960s)

Doubtfully distinct from nominate subspecies, but differed behaviorally.

- Buru Masked Owl, *Tyto sororcula cayelii* (Buru, Indonesia, mid-20th century) Subspecies of Lesser Masked Owl. Last seen in 1921; the identity of a similar bird found on Seram remains to be determined.
 - Peleng Masked Owl, *Tyto rosenbergii pelengensis* (Peleng, Banggai Islands, mid-20th century)

Subspecies of Sulawesi Owl or separate species. Possibly extant, but only specimen known taken in 1938 and no further records.

• Samar Bay Owl, *Phodilus badius riverae* (Samar, Philippines, mid-20th century) Subspecies of Oriental Bay Owl or possibly distinct species. Taxonomy doubtful but only specimen lost in 1945 bombing raid so validity cannot be verified; no population exists on Samar today.

Caprimulgiformes

Nightjars and allies.

• New Caledonian White-throated Eared-Nightjar, *Eurostopodus mystacalis exsul* (New Caledonia, Melanesia, mid-20th century)

This distinct subspecies of the White-throated Eared-Nightjar is possibly a separate species. It was found only once; due to its cryptic habits, it possibly still exists, but this is now considered unlikely.

Apodiformes

Swifts and hummingbirds.

- Alejandro Selkirk Firecrown, Sephanoides fernandensis leyboldi (Alejandro Selkirk Island, Juan Fernandez Islands, Southeast Pacific, 1908) - Juan Fernandez Firecrown subspecies
- Luzon Whitehead's Swiftlet, Collocalia whiteheadi whiteheadi (Luzon Philippines, 20th century?)

The nominate subspecies of Whitehead's Swiftlet is only known from four specimens collected at Mount Data in 1895 and from the lack of further records and the massive habitat destruction, it is usually considered extinct. Given the size of the island, it might still exist though.

Coraciiformes

Kingfishers and related birds.

- Sangihe Dwarf-kingfisher, *Ceyx fallax sangirensis* (Sangihe, Indonesia, 1998?) This subspecies of the Sulawesi Kingfisher was last seen in 1997 but not during a thorough survey one year later; it is either close to extinction or already extinct. Sometimes it is said to occur on Talaud Islands also, but this is erroneous.
 - Rarotonga Kingfisher, Todiramphus cf. tuta (Rarotonga, Cook Islands, mid-1980s?)

There exist reports of locals that kingfishers - probably a subspecies of the Chattering Kingfisher which is found on neighboring islands, but possibly vagrants from there - were found until around 1979, and there is a last record from 1984. Presently, no kingfishers are known to exist on Rarotonga.

• Mangareva Kingfisher, *Todiramphus gambieri gambieri* (Mangareva, Gambier Islands, late 19th century)

Only known from a single 1844 specimen, the nominate subspecies of the Tuamotu Kingfisher was not found anymore when it was next searched for in 1922.

• Javan Blue-banded Kingfisher, *Alcedo euryzona euryzona* (Java, Indonesia, mid-20th century)

The nominate subspecies of the Blue-banded Kingfischer; the last specimen was taken in 1937 and the last unconfirmed records are from the 1950s.

 Guadalcanal Little Kingfisher, Alcedo pusilla aolae (Guadalcanal, Solomon Islands) - Little Kingfisher subspecies
 Malaita Variable Kingfisher, Ceyx lepidus malaitae (Malaita, Solomon Islands) -Variable Kingfisher subspecies

Sakarha Pygmy Kingfisher, Ispidina madagascariensis dilutus (Southwest Madagascar, late 20th century?)

This subspecies of the Madagascar Pygmy Kingfisher is only known from one specimen taken in 1974 in an area where most habitat had already been lost.

• Ticao Tarictic Hornbill, *Penelopides panini ticaensis* (Ticao, Philippines, 1970s)

A subspecies of the Tarictic Hornbill of somewhat uncertain status - possibly a distinct species, possibly a color morph -; the last confirmed report was in 1971 and it became extinct shortly thereafter.

Piciformes

Woodpeckers and related birds.

- Guadalupe Flicker, *Colaptes cafer rufipileus* (Guadalupe, East Pacific, c.1910) A subspecies of the Red-shafted Flicker (or the Northern Flicker, as *C. auratus rufipileus*), it was last recorded in 1906 and not found anymore in 1911 and 1922. Recently, vagrant birds of a mainland subspecies have begun recolonizing the island as the habitat improves after the removal of feral goats.
- Javan Buff-rumped Woodpecker, *Meiglyptes tristis tristis* (Java, Indonesia, c.1920) The nominate subspecies of the Buff-rumped Woodpecker became rare during the 19th century due to destruction of habitat. The last confirmed record was in 1880, and it obviously became extinct in the early 20th century.
 - Northern White-mantled Barbet, *Capito hypoleucus hypoleucus* (Colombia, mid-20th century)

The nominate subspecies of the White-mantled Barbet has not been seen since the late 1940s and its habitat has been almost completely destroyed.

• Botero White-mantled Barbet, *Capito hypoleucus carrikeri* (Colombia, mid-20th century)

Another subspecies of the White-mantled Barbet, last seen in 1950.

• Todd's Jacamar, *Brachygalba lugubris phaeonota* (Brazil, late 20th century?) A subspecies of the Brown Jacamar, or possibly a hybrid, color morph or full species. Might survive as it is only known from a remote and seldom visited area.

Passeriformes

Perching birds.

Tyrannidae - Tyrant flycatchers

Bogotá Bearded Tachuri, Polystictus pectoralis bogotensis (C Colombia, late 20th century?)

A Bearded Tachuri subspecies or possibly a distinct species that has not been recorded for some time and is probably extinct.

• Grenadan Euler's Flycatcher - *Lathrotriccus euleri flaviventris* (Grenada, West Indies, early 1950s)

A subspecies of Euler's Flycatcher, formerly known as *Empidonax euleri johnstonei*.

Pittidae - Pittas

• Bougainville Black-faced Pitta, *Pitta anerythra pallida* (Bougainville, Solomon Islands, mid-20th century)

A subspecies of the Black-faced Pitta. Once common on Bougainville, but not recorded since 1938.

• Choiseul Black-faced Pitta, *Pitta anerythra nigrifrons* (Choiseul, Solomon Islands, late 20th century?)

Another subspecies of the Black-faced Pitta. Not found anymore during recent searches; doubtful records from nearby islands.

Furnariidae - Ovenbirds

• Peruvian Scale-throated Earthcreeper, *Upucerthia dumetaria peruana* (Peru, late 20th century?)

A subspecies of the Scale-throated Earthcreeper, it is only known from 2 specimens taken in the early 1950s at Puno, Peru, and has never been found since. It might still exist, or have become extinct due to habitat destruction in the meantime.

• Northern Stripe-crowned Spinetail, *Cranioleuca pyrrhophia rufipennis* (N Bolivia, late 20th century?)

A Stripe-crowned Spinetail subspecies known from a few specimens and not recorded since the 1950s; may be endangered or even extinct.

Formicariidae - Antpittas and antthrushes

• Northern Giant Antpitta, *Grallaria gigantea lehmanni* (Colombia, late 20th century?)

A Giant Antpitta (or possibly Great Antpitta) subspecies apparently not recorded since the 1940s. Might still survive in Puracé National Park.

• Nariño Giant Antpitta, *Grallaria gigantea hylodroma* (Colombia, c.1990?)

Another Giant Antpitta subspecies, or possibly a distinct species, probably last recorded in 1989, but not anymore some years later. might still persist in La Planada Nature Reserve, but searches were unsuccessful.

Pardalotidae - Pardalotes, scrubwrens, thornbills, and gerygones

- Western Rufous Bristlebird, *Dasyornis broadbenti littoralis* (Australia, 20th century) Rufous Bristlebird subspecies
- King Island Brown Thornbill, *Acanthiza pusilla archibaldi* (King Island, Australia, early 1970s) Brown Thornbill subspecies

Cinclosomatidae - Whipbirds and allies

• Mount Lofty Spotted Quail-thrush, *Cinclosoma punctatum anachoreta* (Australia, mid-1980s)

A subspecies of the Spotted Quail-thrush, last recorded in 1984.

<u>Dicruridae</u> - Monarch flycatchers and allies

• Negros Celestial Monarch, *Hypothymis coelestis rabori* (Negros and possibly Sibuyan, Philippines, late 20th century?)

A subspecies of the Celestial Monarch, not uncommon on Negros in 1959, but never recorded afterwards. A single Sibuyan specimen from a unspecified locality taken in the 19th century is the only record for this island.

- Hiva Oa Monarch, *Pomarea mendozae mendozae* (Hiva Oa and Tahuata, Marquesas, late 1970s) Marquesas Monarch nominate subspecies
- Manu'a Shrikebill, Clytorhynchus vitiensis powelli (Manu'a Islands, Samoa, 1990s?)

Usually treated as a subspecies of the Fiji Shrikebill but probably a distinct species, the American Samoan population declined due to habitat destruction and may have become extinct following the cyclones Ofa and Val.

• Nendo Shrikebill, *Clytorhynchus nigrogularis sanctaecrucis* (Nendo, Santa Cruz Islands, mid-20th century?)

A subspecies of the Black-throated Shrikebill or more probably a distinct species that was only once found, in 1927. Due to lack of research it is not known whether this bird still exists; it was not found during the single thorough survey in recent times and it can be presumed to be affected by habitat destruction and typhoons.

- Lord Howe Fantail, *Rhipidura fuliginosa cervina* (Lord Howe Island, Southwest Pacific, c.1925) Grey Fantail subspecies
- Guam Rufous Fantail, *Rhipidura rufifrons uraniae* (Guam, Marianas, 1984) Rufous Fantail subspecies

Campephagidae - Cuckoo-shrikes and trillers

- Cebu Bar-bellied Cuckoo-shrike, *Coracina striata cebuensis* (Cebu, Philippines, early 20th century) Bar-bellied Cuckoo-shrike subspecies
- Maros Cicadabird, *Coracina tenuirostris edithae* (Sulawesi, mid-20th century)

A subspecies of the Cicadabird known from a single specimen collected in 1931; quite possibly just a vagrant individual.

• Cebu Blackish Cuckoo-shrike, *Coracina coerulescens altera* (Cebu, Philippines, early 20th century)

A Blackish Cuckoo-shrike subspecies; possibly extant as the birds are rather unmistakable and a 1999 record therefore likely to be valid.

• Marinduque Blackish Cuckoo-shrike, *Coracina coerulescens deschauenseei* (Marinduque, Philippines, late 20th century?)

Another Blackish Cuckoo-shrike subspecies, described from specimens collected in 1971, but apparently not seen since.

• Norfolk Island Long-tailed Triller, *Lalage leucopyga leucopyga* (Norfolk Island, Southwest Pacific, 1942)

A subspecies of the Long-tailed Triller, possibly a distinct species.

Oriolidae - Orioles and Figbird

• Cebu Dark-throated Oriole, *Oriolus xanthonotus assimilis* (Cebu, Philippines, early 20th century) - Dark-throated Oriole subspecies

Corvidae - Crows, ravens, magpies and jays

• Pied Raven, Corvus corax varius morpha leucophaeus (Faroe Islands, 1948)

A distinct local variety of the Icelandic subspecies of the Common Raven.

Callaeidae - New Zealand wattlebirds

• South Island KMkako, *Callaeas cinerea cinerea* (South Island, New Zealand, 1960s?)

The nominate subspecies of the KMkako is usually considered extinct, as it has not been reliably recorded for decades. However, there are recent reports from Fiordland suggesting a population still exists.

Cinclidae - Dippers

• Cyprus Dipper, *Cinclus cinclus olympicus* (Cyprus, Northeast Mediterranean, 1950s)

A subspecies of the White-throated Dipper of questionable validity.

Ploceidae - Weavers

• Ruwet's Masked-Weaver, *Ploceus reichardi ruweti* (D.R. Congo, late 20th century?)

A subspecies of the Tanzania Masked-weaver, formerly considered a distinct species. No recent information on its status, and it may be a hybrid.

Estrildidae - Estrildid finches (waxbills, munias, etc)

• Southern Star Finch, *Neochmia ruficauda ruficauda* (Australia, c.2000)

A subspecies of the Star Finch; officially critically endangered but probably recently extinct. Not known to survive in captivity.

Thraupidae - Tanagers

• Gonâve Western Chat-tanager, *Calyptophilus tertius abbotti* (Gonâve, West Indies, c.1980?)

A Western Chat-tanager subspecies last recorded in 1977 and probably extinct.

• Samaná Eastern Chat-tanager, *Calyptophilus frugivorus frugivorus* (E Hispaniola, West Indies, 1980s?)

An Eastern Chat-tanager; the last (unconfirmed?) record was in 1982.

Icteridae - Grackles

• Grand Cayman Oriole, *Icterus leucopteryx bairdi* (Grand Cayman, West Indies, mid-20th century)

A subspecies of the Jamaican Oriole, last reliably recorded in 1938.

Fringillidae - True finches

• San Benito House Finch, *Carpodacus mexicanus mcgregori* (San Benito, East Pacific, c.1940s) - House Finch subspecies

<u>Drepanididae</u> - Hawaiian honeycreepers

• Lana'i 'Alauahio, *Paroreomyza montana montana* (Lana'i, Hawaiian Islands, 1937)

A subspecies of the Maui 'Alauahio (or properly Maui Nui 'Alauahio).

- Maui Akepa, *Loxops coccineus ochraceus* (Maui, Hawaiian Islands, 1988) Akepa subspecies
- Oʻahu Akepa, *Loxops coccineus wolstenholmei* (Oʻahu, Hawaiian Islands, 1990s) Akepa subspecies
- Laysan 'Apapane, *Himatione sanguinea freethi* (Laysan Island, Hawaiian Islands, 1923)

The last individuals of this subspecies of the 'Apapane, possibly a distinct species, disappeared in a sandstorm, probably on the night of April 23/April 24, 1923.

Emberizidae - Buntings and American sparrows

• Saint Kitts Bullfinch, Loxigilla portoricensis grandis (Saint Kitts and prehistorically Barbuda, West Indies, 1930) - Puerto Rican Bullfinch subspecies Todos Santos Rufous-crowned Sparrow, Aimophila ruficeps sanctorum (Islas Todos Santos, E Pacific, 1970s) - Rufous-crowned Sparrow subspecies

Dusky Seaside Sparrow, Ammodramus maritimus nigrescens (Florida, 1987) - Seaside Sparrow subspecies

Guadalupe Spotted Towhee, Pipilo maculatus consobrinus (Guadalupe Island, East Pacific, c.1900) - Spotted Towhee subspecies

Darwin's Large Ground Finch, Geospiza magnirostris magnirostris (Floreana?, Galapagos Islands, 1957?)

The subspecies of the Large Ground Finch collected by Charles Darwin in 1835; he gave no precise locality. A similar bird was found in 1957, but no others have ever been seen. **Mimidae** - Mockingbirds and thrashers

• Barbados Scaly-breasted Thrasher, *Allenia fusca atlantica* (Barbados, West Indies, c.1990) - Scaly-breasted Thrasher subspecies

Troglodytidae - Wrens

• San Benedicto Rock Wren, *Salpinctes obsoletus exsul* (San Benedicto, Revillagigedo Islands, 1952)

A subspecies of the Rock Wren which became extinct around 9 AM, August 1, 1952, when its island habitat was devastated by a massive volcanic eruption.

 Guadalupe Bewick's Wren, Thyromanes bewickii brevicauda (Guadalupe, East Pacific, 1900s) - Bewick's Wren subspecies San Clemente Bewick's Wren, Thryomanes bewickii leucophrys (San Clemente, East Pacific, 1940s) - Bewick's Wren subspecies Daito Winter Wren, Troglodytes troglodytes orii (Daito Islands, Northwest Pacific, c.1940)

A disputed Winter Wren subspecies; as it is known from a single specimen that may have been a vagrant individual, it is possibly invalid.

• Guadeloupe House Wren, *Troglodytes aedon guadeloupensis* (Guadeloupe, Caribbean, after 1914)

A subspecies of the House Wren (or, if that species is split, the Southern House Wren, as *T. musculus quadeloupensis*).

• Martinique House Wren, *Troglodytes aedon martinicensis* (Martinique, Caribbean, c.1890)

Another subspecies of the (Southern, as *T. musculus martinicensis*) House Wren.

Paridae - Tits, chickadees and titmice

• Daito Varied Tit, Sittiparus varius orii (Daito Islands, Northwest Pacific, c.1940) - Varied Tit subspecies

Hirundinidae - Swallows and martins

• Jamaican Golden Swallow, *Tachycineta euchrysea euchrysea* (Jamaica, West Indies, c.1990?)

The nominate subspecies of the Golden Swallow, endemic to Jamaica. The last major roost-site was destroyed in 1987, and the last confirmed sighting was in 1989. May still exist in the Cockpit Country, but probably extinct.

Regulidae - Kinglets

• Guadalupe Ruby-crowned Kinglet, *Regulus calendula obscurus* (Guadalupe, East Pacific, 20th century?)

A subspecies of the Ruby-crowned Kinglet that has not been found in recent times.

Pycnonotidae - Bulbuls

• Sumatra Blue-wattled Bulbul, *Pycnonotus nieuwenhuisii inexspectatus* (Sumatra, Indonesia, late 20th century?)

A subspecies of the Blue-wattled Bulbul known from a single 1937 specimen. The entire "species" may be a hybrid.

• Cebu Streak-breasted Bulbul, *Ixos siquijorensis monticola* (Cebu, Philippines, early 20th century) - Streak-breasted Bulbul subspecies

Sylviidae - Old World warblers

- Babar Stubtail, *Urosphena subulata advena* (Babar, Indonesia, mid-20th century)
 Timor Stubtail subspecies
- Aguiguan Nightingale Reed Warbler, *Acrocephalus luscinia nijoi* (Aguiguan, Marianas, c.1997)

A subspecies of the Nightingale Reed Warbler of uncertain validity.

• Astrolabe Nightingale Reed Warbler, *Acrocephalus luscinia astrolabii* (Marianas?, mid-19th century?)

A valid taxon, probably a subspecies of the Nightingale Reed Warbler, known from just 2 specimens found at an unknown location in the western Pacific.

• Pagan Nightingale Reed Warbler, *Acrocephalus luscinia yamashinae* (Pagan, Marianas, 1970s)

Another doubtful subspecies of the Nightingale Reed Warbler.

- Laysan Millerbird, *Acrocephalus familiaris familiaris* (Laysan Island, Hawaiian Islands, late 1910s) Millerbird subspecies
- Huahine Reed Warbler, *Acrocephalus caffer garretti* (Huahine, Society Islands, 19th century?)

A poorly known subspecies of the Tahiti Reed Warbler.

• Raiatea Reed Warbler, *Acrocephalus caffer musae* (Raiatea, Society Islands, 19th century?)

Another subspecies of the Tahiti Reed Warbler, known only from a drawing.

• Western Turner's Eremomela, *Eremomela turneri kalindei* (Congo Basin, early 1980s)

The West African subspecies of Turner's Eremomela has not been recorded since the end of the 1970s and habitat at the locations where it was once found is much reduced or destroyed.

• Vanua Levu Long-legged Warbler, *Trichocichla rufa clunei* (Vanua Levu, Fiji, late 20th century?)

A subspecies of the Long-legged Warbler; it was only found once, but there was an unconfirmed sighting in 1990.

 Eastern Canary Islands Chiffchaff, Phylloscopus canariensis exsul (Lanzarote and possibly Fuerteventura, Canary Islands, 1986) - Canary Islands Chiffchaff subspecies

Fayyum Warbler, Sylvia melanocephala norissae (Egypt, c.1940) - Sardinian Warbler subspecies

<u>Cisticolidae</u> - Cisticolas and allies

• Northern White-winged Apalis, *Apalis chariessa chariessa* (Kenya, 1960s?) The nominate subspecies of the White-winged Apalis remains known only from the Tana River, a center of endemism. It was last recorded in 1961.

Zosteropidae - White-eyes

 Guam Bridled White-eye, Zosterops conspicillatus conspicillatus (Guam, Marianas, 1983) - Bridled White-eye nominate subspecies or possibly monotypic species.

Mukojima White-eye, Apalopteron familiare familiare (Mukojima Group, Bonin Islands, 1930s) - Bonin White-eye ("Bonin Honeyeater") subspecies

Paradoxornithidae - Parrotbills

• Amik Gölü Bearded Tit, *Panurus biarmicus kosswigi* (S Turkey, 1970s) - Bearded Tit subspecies

Timaliidae - Old World babblers

• Vanderbilt's Babbler, *Malacocincla sepiarium vanderbilti* (Sumatra, Indonesia, late 20th century?)

An enigmatic subspecies of the Horsfield's Babbler, known from a single specimen. Not seen since the 1940s at least.

• Javan Large Wren-babbler, *Napothera macrodactyla lepidopleura* (Java, Indonesia, mid-20th century?)

A Large Wren-babbler subspecies that is either very rare or already extinct.

• Burmese Jerdon's Babbler, *Chrysomma altirostre altirostre* (Myanmar, 1940s) The nominate subspecies of Jerdon's Babbler was last seen in 1941, but due to the lack of recent fieldwork, it might still exist.

Muscicapidae - Old World Flycatchers and chats

• Tonkean Henna-tailed Jungle Flycatcher, *Rhinomyias colonus subsolanus* (Sulawesi, Indonesia, late 20th century?)

A Henna-tailed Jungle Flycatcher subspecies that is known from a single specimen; it may not be valid.

• Chinijo Chat, *Saxicola dacotiae murielae* (Chinijo Archipelago, Canary Islands, early 20th century) - Fuerteventura Chat subspecies

Turdidae - Thrushes and allies

- Norfolk Island Thrush, *Turdus poliocephalus poliocephalus* (Norfolk Island, Southwest Pacific, c.1975) Island Thrush subspecies
- Maré Island Thrush, *Turdus poliocephalus mareensis* (Maré, Melanesia, early 20th century)

A subspecies of the Island Thrush, last collected in 1911 or 1912 and not found anymore in 1939.

- Lord Howe Island Thrush, *Turdus poliocephalus vinitinctus* (Lord Howe Island, Southwest Pacific, 1920s) Island Thrush subspecies
- Lifou Island Thrush, *Turdus poliocephalus pritzbueri* (Lifou, Melanesia, early 20th century)

Yet another subspecies of the Island Thrush. Similar birds still exist on Tanna, New Hebrides, but given the fact that the species readily differentiates into subspecies and

that the distance between Tanna and Lifou is considerable, it is far from certain that the Tanna birds belong to this subspecies.

• Cauca Black-hooded Thrush, *Turdus olivater caucae* (Colombia, late 20th century?)

A subspecies of the Black-hooded Thrush or possibly a distinct species. Not recorded for decades and at least highly threatened by deforestation.

- Peleng Red-and-black Thrush, *Zoothera mendeni mendeni* (Peleng, Indonesia, mid-20th century) Red-and-black Thrush nominate subspecies
- Kibale Black-eared Ground Thrush, *Zoothera cameronensis kibalensis* (SW Uganda, late 20th century?)

A Black-eared Ground Thrush subspecies known only from 2 1966 specimens. Rare or possibly already extinct.

• Choiseul Russet-tailed Thrush, *Zoothera heinei choiseuli* (Choiseul, Solomon Islands, mid-20th century?)

A subspecies of the Russet-tailed Thrush known from a single specimen found in 1924 and probably killed off by introduced cats, most likely in the 1940s.

• St Lucia Forest Thrush, *Cichlherminia Iherminieri sanctaeluciae* (St Lucia, West Indies, 1980s)

A subspecies of the Forest Thrush, last seen in 1980.

• Pines Solitaire, *Myadestes elisabeth retrusus* (Isla de la Juventud, West Indies, late 1930s?)

A subspecies of the Cuban Solitaire. Unconfirmed records suggest it did still exist in the early 1970s.

See also

- Bird
- <u>Late Quaternary prehistoric birds</u>
- Fossil birds
- Flightless birds

List adapted, expanded and updated from that in *Extinct Birds*, Fuller, ISBN 0-19-850837-9 (Extinct Birds is an absorbing study of the world's recently extinct bird species, the first complete survey since Walter Rothschild's classic work of 1907)

Late Quaternary prehistoric birds

Prehistoric birds are various taxa of <u>birds</u> that became <u>extinct</u> before recorded history, or more precisely, before they could be studied alive by bird scientists. They are known from subfossil remains and sometimes folk memory, as in the case of New Zealand's Haast Eagle.

Birds (Aves) are generally believed to have evolved from feathered dinosaurs, and there is no real dividing line between birds and dinosaurs except of course that the former survived the Cretaceous-Tertiary extinction event and the latter did not. For the purposes of this article, a "bird" is considered to be any member of the clade Neornithes, that is the bird lineage as exists today. The other lineages of the Aves also became extinct at the end of the Cretaceous.

Taxon extinctions taking place before the Late Quaternary happened in the absence of significant human interference. Rather, reasons for extinction are stochastic abiotic events such as bolide impacts, climate changes, mass volcanic eruptions etc. Alternatively, species may have gone extinct due to evolutionary displacement by successor or competitor taxa - it is notable for example that in the early Neogene, seabird biodiversity was much higher than today; this is probably due to competition by the radiation of marine mammals after that time. The relationships of these ancient birdsre often hard to determine, as many are known only from very fragmentary remains and due to the complete fossilization precludes analysis of information from DNA, RNA or protein sequencing.

For further discussion, see main article Fossil birds

- 1 Late Quaternary avian extinctions
- 2 Taxonomic list of Late Quaternary prehistoric birds
 - o 2.1 Struthioniformes
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Late Quaternary avian extinctions

This page lists bird taxa that have been become extinct before they could be researched by science, but nonetheless survived into (geologically) recent times. Their remains are not or not completely fossilized and therefore may yield organic material for molecular analyses to provide additional clues for resolving their taxonomic affiliations. As these species' extinction coincided with the expansion of *Homo sapiens* across the globe, in most (but not necessary all) cases, anthropogenic factors have played a crucial part in their extinction, be it through hunting, introduced predators or habitat alteration. It is notable that a large proportion of the species are from oceanic islands, especially in Polynesia. Bird taxa that evolved on oceanic islands are usually very vulnerable to hunting or predation by rats, cats, dogs or pigs - animals commonly introduced by humans -, as there evolved in the absence of mammalian predators and therefore only have rudimentary predator avoidance behavior. Many, especially rails, have additionally become flightless for the same reason and thus presented even easier prey.

The taxa in this list became extinct during the Late Quaternary - the Holocene or Late Pleistocene -, but before the period of global scientific exploration that started in the late 15th century. More precisely, their extinction was coincident with the expansion of Homo sapiens beyond Africa and Eurasia, i.e. this list basically deals with extinctions between 40000 BC and 1500 AD. They should be classified with the Wikipedia conservation status category "Prehistoric" in their individual accounts.

Taxonomic list of Late Quaternary prehistoric birds

All of these are **Neornithes**.

Struthioniformes

The Ostrich and related ratites.

- †Aepyornithidae Elephant Birds
 - o Aepyornis
 - Aepyornis hildebrandti (Madagascar)
 - Aepyornis maximus (Madagascar)
 - Aepyornis medius (Madagascar)
 - Aepyornis gracilis (Madagascar)
 - *Aepyornis titan* may be a synonym of *A. maximus* (Madagascar)

Up to 4 more undescribed species are known, but taxonomy is not fully resolved. At least one species survived until historic times.

- †Dinornithidae Moa
- Anomalopteryx
 - Bush Moa, Anomalopteryx didiformis (South Island, New Zealand)

- Euryapteryx
 - North Island Broad-billed Moa, Euryapteryx curtus (North Island, New Zealand)
 - South Island Broad-billed Moa, Euryapteryx geranoides (South Island, New Zealand)
- Pachyornis
 - Crested Moa, *Pachyornis australis* (South Island, New Zealand)
 - Heavy-footed Moa, Pachyornis elephantopus (South Island, New Zealand)
 - Pachyornis cf. elephantopus (South Island, New Zealand)
 - Mappin's Moa, Pachyornis mappini (North Island, New Zealand)
 - Pachyornis cf. mappini (North Island, New Zealand)
- o Dinornis
 - North Island Giant Moa, Dinornis novaezealandiae (North Island, New Zealand)
 - Dinornis robustus (South Island, New Zealand)
 - Dinornis cf. robustus (South Island, New Zealand)
 - Dinornis cf. robustus (South Island, New Zealand)
- o Emeus
 - Eastern Moa, Emeus crassus (South Island, New Zealand)
- Megalapteryx
 - Benham's Megalapteryx, Megalapteryx benhami (South Island, New Zealand)
 - Lesser Megalapteryx, Megalapteryx didinus (South Island, New Zealand) may have survived until historic times
- Struthionidae Ostriches
 - Extinct species of extant genera
 - Asian Ostrich, Struthio asiaticus (Central Asia to China)
 - **Apterygidae** Kiwi
 - Extinct species of extant genera
 - Eastern Tokoeka, Apteryx sp. (South Island, New Zealand) possibly the same as the Okarito, Haast or South Island tokoeka.

Anseriformes

Artist's rendition of a moa-nalo, flightless ducks which had evolved to become larger than a swan and possessed massive beaks shaped much like a turtle's bill. Moa-nalo were the dominant herbivores on the larger Hawaiian Islands and were hunted to extinction during the second half of the 1st millennium AD.

The group that includes modern ducks and geese.

- †Dromornithidae The Australian *mihirungs* or "demon ducks"
 - o †Genyornis
 - Genyornis newtoni (Australia)
- Anatidae Ducks, geese and swans

- o †Geochen
 - Wetmore's Goose, *Geochen rhuax* (Big Island, Hawaiian Islands)
- o †Cnemiornis
 - South Island Goose, *Cnemiornis calcitrans* (South Island, New Zealand)
 - North Island Goose, *Cnemiornis gracilis* (North Island, New Zealand)
- o †Pachyanas
 - Chatham Island Duck, Pachyanas chathamica (Chatham Islands, SW Pacific)
- o †Centrornis
 - Malagasy Sheldgoose, Centrornis majori (Madagascar)
- o †Chelychelynechen
 - Turtle-jawed Moa-nalo, Chelychelynechen quassus (Kaua'i, Hawaiian Islands)
- o †Ptaiochen
 - Small-billed Moa-nalo, Ptaiochen pau (Maui, Hawaiian Islands)
- o †Thambetochen
 - Maui Nui Large-billed Moa-nalo, Thambetochen chauliodous (Maui and Moloka'i, Hawaiian Islands)
 - O'ahu Large-billed Moa-nalo, *Thambetochen xanion* (O'ahu, Hawaiian Islands)
- †Chendytes
 - Law's Diving-goose, Chendytes lawi (California and Southern Oregon Coasts and Channel Islands, E Pacific)
 - Extinct species of extant genera
 - Nn-nui, Branta hylobadistes (Maui, possibly Kaua'i and O'ahu, Hawaiian Islands)
 - Chatham Islands Shelduck, Tadorna cf. variegata (Chatham Islands, SW Pacific)
 - Malagasy Shelduck, Alopochen sirabensis (Madagascar; may be subspecies of the Mauritian Shelduck)
 - Scarlett's Duck, *Malacorhynchus scarletti* (New Zealand)
 - Finsch's Duck, *Chenonetta finschi* (New Zealand; possibly survived to 1870)
 - Macquarie Islands Teal, Anas cf. chlorotis (Macquarie Islands, SW Pacific)
 - Chatham Islands Merganser, Mergus cf. australis (Chatham Islands, SW Pacific)
 - New Zealand Stiff-tailed Duck, Oxyura vantetsi (North Island, New Zealand)
 - De Lautour's Duck, Biziura delautouri (New Zealand)
 - Extinct subspecies of extant species
 - New Zealand Swan, Cygnus atratus sumnerensis (New Zealand, possibly Chatham Islands)
 - Chatham Islands Teal, Anas chlorotis ssp. nov. (Chatham Islands, SW Pacific)
 - Placement unresolved

- Giant Hawaii Goose, ?Branta sp. (Big Island, Hawaiian Islands)
- Giant Oʻahu Goose, Anatidae sp. et gen. indet. (Oʻahu, Hawaiian Islands)
- Long-legged "Shelduck", Anatidae sp. et gen. indet. (Kaua'i, Hawaiian Islands)
- Rota Flightless Duck, Anatidae sp. et gen. indet. (Rota, Marianas)
- Small-eyed Duck, Anatidae sp. et gen. indet. (Kaua'i, Hawaiian Islands)

Galliformes

The group that includes modern chickens and quails.

- †Sylviornithidae The Sylviornis or New Caledonian Giant Megapode
 - Sylviornis
 - Sylviornis, Sylviornis neocaledoniae (New Caledonia, Melanesia)
- Megapodidae Megapodes
 - o †Megavitiornis
 - Noble Megapode, Megavitiornis altirostris (Viti Levu, Fiji)
 - Extinct species of extant genera
 - Consumed Scrubfowl, Megapodius alimentum (Tonga and Fiji)
 - Viti Levu Scrubfowl, Megapodius amissus (Viti Levu and possibly Kadavu, Fiji) - may have survived to the early 19th or the 20th century.
 - Giant Scrubfowl, Megapodius molistructor (New Caledonia and Tonga) may have survived to the late 18th century
 - 'Eua Scrubfowl, *Megapodius* sp. ('Eua, Tonga)
 - Lifuka Scrobfowl, Megapodius sp. (Lifuka, Tonga)
 - New Ireland Scrubfowl, *Megapodius* sp. (New Ireland, Melanesia)
- Phasianidae Pheasants and allies
 - Extinct species of extant genera
 - Canary Islands Quail, Coturnix gomerae (Canary Islands, East Atlantic)

Charadriiformes

Gulls, auks, shorebirds

- Laridae Gulls
 - Extinct species of extant genera
 - Huahine Gull, Larus utunui (Huahine, Society Islands)
 - Kaua'i Gull, *Larus* sp. (Kaua'i, Hawaiian Islands)
 - Larus sp. (Saint Helena, Atlantic) may be extant form
- Charadriidae Lapwings and plovers
 - Extinct species of extant genera
 - Malagasy Lapwing, Vanellus madagascariensis (Madagascar)
- Alcidae Auks
 - Extinct species of extant genera

- Dow's Puffin, Fratercula dowi (Channel Islands, E Pacific)
- Scolopacidae Waders and snipes
 - Extinct species of extant genera
 - Henderson Island Sandpiper, Prosobonia sp. (Henderson Island, S Pacific)
 - Mangaian Sandpiper, Prosobonia sp. (Mangaia, Cook Islands)
 - Ua Huka Sandpiper, Prosobonia sp. (Ua Huka, Marquesas)
 - Giant Chatham Island Snipe, Coenocorypha chathamensis (Chatham Islands, Southwest Pacific)
 - Viti Levu Snipe, Coenocorypha miratropica (Viti Levu, Fiji)
 - New Caledonia Snipe, *Coenocorypha* sp. (New Caledonia, Melanesia)
 - Norfolk Island Snipe, *Coenocorypha* sp. (Norfolk Island, Southwest Pacific)
 - *Gallinago* sp. (Cayman Brac, Cayman Islands) may be the same as
 - *Gallinago* sp. (Cuba, West Indies) may be the same as
 - Gallinago sp. (Bahamas, West Indies)
 - Puerto Rican Woodcock, Scolopax anthonyi

Gruiformes

The group that includes modern rails and cranes.

- Rallidae Rails
 - o †Capellirallus
 - Snipe-rail, *Capellirallus karamu* (North Island, New Zealand)
 - o †Vitirallus
 - Viti Levu Rail, Vitirallus watlingi (Viti Levu, Fiji)
 - o †Hovacrex
 - Hova Gallinule, Hovacrex roberti (Madagascar)
 - o †Nesotrochis
 - Antillean Cave-Rail, Nesotrochis debooyi (Puerto Rico and Virgin Islands, West Indies) - may have survived until historic times
 - Haitian Cave-Rail, Nesotrochis steganinos (Haiti, West Indies)
 - Cuban Cave-Rail, Nesotrochis picapicensis (Cuba, West Indies)
 - Extinct species of extant genera
 - New Caledonian Swamphen, Porphyrio kukwiedei (New Caledonia, Melanesia) - may have survived into historic times
 - North Island Takah, *Porphyrio mantelli* (North Island, New Zealand)
 - Huahine Swamphen, Porphyrio mcnabi (Huahine, Society Islands)
 - Marquesan Swamphen, Porphyrio paepae (Hiva Oa and Tahuata, Marquesas) - may have survived to the late 19th century
 - Buka Swamphen, *Porphyrio* sp. (Buka, Solomon Islands)
 - Giant Swamphen, *Porphyrio* sp. (New Ireland, Melanesia)
 - Mangaia Swamphen, ?Porphyrio sp. (Mangaia, Cook Islands)
 - New Ireland Swamphen, *Porphyrio* sp. (New Ireland, Melanesia)

- Norfolk Island Swamphen, Porphyrio sp. (Norfolk Island, Southwest Pacific)
- Rota Swamphen, Porphyrio sp. (Rota, Marianas)
- Ibiza Rail, Rallus eivissensis (Ibiza, Mediterranean)
- Lifuka Rail, Nesoclopeus sp. (Lifuka, Tonga)
- Niue Rail, Gallirallus huiatua (Niue, Cook Islands)
- Mangaian Rail, Gallirallus ripleyi (Mangaia, Cook Islands)
- Huahine Rail, *Gallirallus storrsolsoni* (Huahine, Society Islands)
- 'Eua Rail, *Gallirallus vekamatolu* ('Eua, Tonga)
- Marianas Rail, Gallirallus cf. owstoni (Marianas, West Pacific)
- Marquesan Rail, Gallirallus sp. (Marquesas)
- New Ireland Rail, *Gallirallus* sp. (New Ireland, Melanesia)
- Norfolk Island Rail, Gallirallus sp. (Norfolk Island, Southwest Pacific) may have survived to the 19th century
- Great O'ahu Crake, *Porzana ralphorum* (O'ahu, Hawaiian Islands)
- Great Maui Grake, Porzana severnsi (Maui, Hawaiian Islands)
- Mangaian Crake, Porzana rua (Mangaia, Cook Islands)
- Liliput Crake, Porzana menehune (Moloka'i, Hawaiian Islands)
- Small O'ahu Crake, Porzana ziegleri (O'ahu, Hawaiian Islands)
- Small Maui Crake, Porzana keplerorum (Maui, Hawaiian Islands)
- Easter Island Crake, Porzana sp. (Easter Island, Southeast Pacific)
- Great Big Island Crake, Porzana sp. (Big Island, Hawaiian Islands)
- Great Kaua'i Crake, Porzana sp. (Kaua'i, Hawaiian Islands)
- Huahine Crake, Porzana sp. (Huahine, Society Islands)
- Mangaian Crake #2, Porzana sp. (Mangaia, Cook Islands)
- Marquesan Crake, Porzana sp. (Ua Huka, Marquesas)
- Marianas Crake, Porzana sp. (Marianas, West Pacific) possibly 2 species
- Medium Kaua'i Crake, Porzana sp. (Kaua'i, Hawaiian Islands)
- Medium Maui Crake, Porzana sp. (Maui, Hawaiian Islands)
- Small Big Island Crake, Porzana sp. (Big Island, Hawaiian Islands)
- Hodgen's Waterhen, *Gallinula hodgenorum* (New Zealand)
- 'Eua Gallinule, *Gallinula* sp. ('Eua, Tonga) if genus *Pareudiastes* is accepted this species belongs there
- Viti Levu Gallinule, ?Gallinula sp. (Viti Levu, Fiji) would also be separated in *Pareudiastes* if that genus is considered valid, or may be new genus.
- Chatham Island Coot, Fulica chathamensis (Chatham Islands, Southwest Pacific)
- New Zealand Coot, *Fulica prisca* (New Zealand)

Placement unresolved

- Barbados Rail, Rallidae gen. et sp. indet. (Barbados, West Indies) formerly Fulica podagrica (partim)
- Easter Island Rail, Rallidae gen. et sp. indet. (Easter Island)
- Fernando de Noronha Rail, Rallidae gen. et sp. indet. (Fernando de Noronha, Atlantic) - may have survived until historic times

- †**Aptornithidae** Adzebills
 - o Aptornis
 - North Island Adzebill, Aptornis otidiformis (North Island, New Zealand)
 - South Island Adzebill, Aptornis defossor (South Island, New Zealand)
 - **Rhynochetidae** Kagus
 - o Extinct species of extant genera
 - Lowland Kagu, Rhynochetos orarius (New Caledonia, Melanesia)

Ciconiiformes

The diverse group that includes storks, herons and New World vultures.

- **Ardeidae** Herons
 - Extinct species of extant genera
 - Bennu Heron, Ardea bennuides (United Arab Emirates)
 - 'Eua Night Heron, *Nycticorax* sp. ('Eua, Tonga)
 - Lifuka Night Heron, Nycticorax sp. (Lifuka, Tonga) may be same as 'Eua species
 - Niue Night Heron, Nycticorax kalavikai (Niue, Cook Islands)
 - o Placement unresolved
 - Ardeidae gen. et sp. indet. (Easter Island, E Pacific)
 - Threskiornithidae Ibises
 - o †Apteribis
 - Maui Upland Apteribis, Apteribis brevis (Maui, Hawaiian Islands)
 - Moloka'i Apteribis, Apteribis glenos (Moloka'i, Hawaiian Islands)
 - Maui Lowland Apteribis, Apteribis sp. (Maui, Hawaiian Islands)
 - †Xenicibis
 - Club-winged Ibis, Xenicibis xympithecus (Jamaica, West Indies)
 - †Teratornithidae Teratorns
 - Teratornis
 - Merriam's Teratorn, Teratornis merriami (SW and S USA)
- Cathartidae New World Vultures
 - Extinct species of extant genera
 - Pleistocene Black Vulture, *Coragyps occidentalis* (SW and W USA)
 - Placement unresolved
 - *?Cathartes* sp. (Cuba, West Indies)

Pelecaniformes

The group that includes modern pelicans and cormorants.

- Sulidae Gannets and boobies
 - Extinct subspecies of extant species
 - Ua Huka Booby, Papasula abbotti costelloi (Ua Huka, Marquesas)

Procellariiformes

The group that includes modern <u>albatrosses</u>, petrels and storm-petrels.

- **Procellariidae** Petrels
 - Extinct species of extant genera
- Hole's Shearwater, Puffinus holeae (Fuerteventura, Canary Islands, and Atlantic coast of Iberian peninsula)
- Olson's Shearwater, *Puffinus olsoni* (Canary Islands, E Atlantic)
- Scarlett's Shearwater, *Puffinus spelaeus* (South Island, New Zealand)
- Oʻahu Petrel, *Pterodroma jugabilis* (Oʻahu, Hawaiian Islands)
- Canary Islands Petrel, *Pterodroma* sp. (El Hierro, Canary Islands) possibly extirpated population of extant species
- Chatham Extinct Petrel, *Pterodroma* sp. (Chatham Islands, SW Pacific)
- Henderson Island Petrel, Pterodroma sp. (Henderson Island, S Pacific)
 - o Placement unresolved
- Procellariidae sp. (Easter Island, East Pacific)

Sphenisciformes

- **Spheniscidae** Penguins
 - o Extinct species of extant genera
 - Chatham Islands Penguin, *Eudyptes* sp. (Chatham Islands, Southwest Pacific) possibly still extant in 1867

Columbiformes

- Columbidae Doves and pigeons
 - o †Dysmoropelia
 - Saint Helena Flightless Pigeon, *Dysmoropelia dekarchiskos* (Saint Helena, Atlantic) - may have survived to the 16th century
 - o †Natunaornis
 - Viti Levu Giant Pigeon, Natunaornis gigoura (Viti Levu, Fiji)
 - Extinct species of extant genera
 - Society Islands Cuckoo-Dove, Macropygia arevarevauupa (Huahine, Society Islands)
 - Marquesan Cuckoo-Dove, Macropygia heana (Marquesas, Pacific)
 - Puerto Rican Quail-dove, Geotrygon larva (Puerto Rico, West Indies)
 - Tongan Tooth-billed Pigeon, Didunculus placopedetes (Tonga, Pacific)
 - Greater Maned Pigeon, *Caloenas canacorum* (New Caledonia, Tonga)
 - Henderson Island Imperial Pigeon, Ducula harrisoni (Henderson Island, S Pacific)

- Lakeba Imperial Pigeon, Ducula lakeba (Lakeba, Fiji)
- Steadman's Imperial Pigeon, *Ducula david* ('Eua, Tonga, and Wallis Island)
- Tongan Imperial Pigeon, Ducula sp. ('Eua, Foa and Lifuka, Tonga) may be
 D. david, D. lakeba or new species
- Ducula cf. galeata (Cook Islands) possibly new species
- Ducula cf. galeata (Society Islands) possibly new species
- Ducula sp. (Viti Levu, Fiji) may be D. lakeba
- Great Ground Dove, *Gallicolumba nui* (Marquesas and Cook Islands)
- Henderson Island Ground Dove, Gallicolumba leonpascoi (Henderson Island, S Pacific)
- New Caledonian Ground Dove, *Gallicolumba longitarsus* (New Caledonia)
- Huahine Ground Dove, *Gallicolumba* sp. (Huahine, Society Islands) *G. nui*?
- Mangaia Ground Dove, Gallicolumba sp. (Mangaia, Cook Islands) G. nui?
- Rota Ground Dove, *Gallicolumba* sp. (Rota, Marianas)
 - Placement unresolved
- Henderson Island Archaic Pigeon, Columbidae gen. et sp. indet. (Henderson Island, S Pacific)

Psittaciformes

- Cacatuidae Cockatoos
 - Extinct species of extant genera
 - New Caledonian cockatoo, Cacatua sp. (New Caledonia)
 - New Ireland cockatoo, *Cacatua* sp. (New Ireland)
- **Psittacidae** Parrots, parakeets and lorikeets
 - Extinct species of extant genera
 - Sinoto's Lorikeet, Vini sinotoi (Marquesas, Pacific)
 - Conquered Lorikeet, Vini vidivici (Mangaia, Cook Islands, and Margesas)
 - Chatham Islands Kaka, *Nestor* sp. (Chatham Islands, Southwest Pacific)
 - Pacific Eclectus Parrot, Eclectus infectus (Tonga, Vanuatu, possibly Fiji) may have survived to the 18th century.
 - Saint Croix Macaw, Ara autocthones (Saint Croix, West Indies)
 - Placement unresolved
 - Psittacidae gen. et sp. indet. 1 (Easter Island)
 - Psittacidae gen. et sp. indet. 2 (Easter Island)
 - Psittacidae gen. et sp. indet. (Rota, Marianas)

Cuculiformes

- Cuculidae Cuckoos
 - Extinct species of extant genera
 - Henderson Island Koel, *Eudynamis* cf. *taitensis*
 - Ancient Coua, Coua primaeva (Madagascar)

- Bertha's Coua, Coua berthae (Madagascar)
- Extinct subspecies of extant species
 - Conkling's Roadrunner, Geococcyx californianus conklingi (Inland SW North America)

Falconiformes

Birds of prey

- Accipitridae Hawks and eagles
 - o †Gigantohierax
 - Cuban Giant-Hawk, Gigantohierax suarezi (Cuba, West Indies)
 - o †Titanohierax
 - Bahaman Titan-Hawk, Titanohierax gloveralleni (Bahamas, West Indies)
 - Hispaniolan Titan-Hawk, *Titanohierax* sp. (Hispaniola, West Indies)
 - o †Harpagornis
 - Haast's Eagle, Harpagornis moorei (South Island, New Zealand)
 - Extinct species of extant genera
 - Powerful Goshawk, Accipiter efficax (New Caledonia, Melanesia)
 - Gracile Goshawk, *Accipiter quartus* (New Caledonia, Melanesia)
 - *Accipiter* sp. 1 (New Ireland, Melanesia)
 - Accipiter sp. 2 (New Ireland, Melanesia) one of the two New Ireland species may be Meyer's Goshawk
 - Malagasy Crowned Hawk-eagle, Stephanoaetus mahery (Madagascar)
 - Malagasy Eagle, Aquila sp. (Madagascar)
 - Mime Harrier, Circus dossenus (Moloka'i, Hawaiian Islands)
 - Eyles' Harrier, *Circus eylesi* (New Zealand)
 - Placement unresolved
 - Accipitridae gen. et sp. indet. (Cuba, West Indies) formerly Aquila/Titanohierax borrasi
- Falconidae Falcons
 - Extinct species of extant genera
 - Cuban Kestrel, *Falco kurochkini* (Cuba, West Indies)
 - Bahaman Caracara, *Polyborus creightoni* (Bahamas and Cuba, West Indies)
 may be same as *P. latebrosus*
 - Puerto Rican Caracara, Polyborus latebrosus (Puerto Rico, West Indies)

Caprimulgiformes

Nightjars, potoos and allies.

- **Aegothelidae** Owlet-nightjars
 - Extinct species of extant genera
 - New Zealand Owlet-Nightjar, *Aegotheles novaezealandiae* (New Zealand)

- **Caprimulgidae** Nightjars
 - Extinct species of extant genera
 - Cuban Parauque, Siphonorhis daiquiri (Cuba, West Indies) possibly extant

Apodiformes

Swifts and <u>hummingbirds</u>.

- **Apodidae** Swifts
 - Extinct species of extant genera
 - Mangaia Swiftlet, Aerodramus manuoi (Mangaia, Cook Islands) formerly Collocalia

Strigiformes

Owls and barn owls.

- **Strigidae** Owls
- o †Grallistrix
 - Kaua'i Stilt Owl, Grallistrix auceps (Kaua'i, Hawaiian Islands)
 - Maui Stilt Owl, Grallistrix erdmani (Maui, Hawaiian Islands)
 - Moloka'i Stilt Owl, Grallistrix geleches (Moloka'i, Hawaiian Islands)
 - Oʻahu Stilt Owl, *Grallistrix orion* (Oʻahu, Hawaiian Islands)
- o †*Ornimegalonyx*
 - Cuban Giant Owl, Ornimegalonxy oteroi (Cuba, West Indies)
 - *Ornimegalonyx* sp.
 - Extinct species of extant genera
 - Cretan Little Owl, Athene cretensis (Crete, Mediterranean)
 - New Caledonian Boobook, Ninox cf. novaeseelandiae (New Caledonia, Melanesia) - possibly extant
- **Tytonidae** Barn Owls
 - Extinct species of extant genera
 - Puerto Rican Barn Owl, Tyto cavatica (Puerto Rico, West Indies) may still have existed in 1912
 - New Caledonian Barn Owl, ?Tyto letocarti (New Caledonia, Melanesia)
 - Malta Barn Owl, Tyto melitensis (Malta, Mediterranean)
 - Noel's Barn Owl, Tyto noeli (Cuba, West Indies)
 - Hispaniolan Barn Owl, Tyto ostologa (Hispaniola, West Indies)
 - Bahaman Barn Owl, Tyto pollens (Andros, Bahamas)
 - Rivero's Barn Owl, *Tyto riveroi* (Cuba, West Indies)
 - Mussau Barn Owl, Tyto cf. novaehollandiae (Mussau, Melanesia)
 - New Ireland Greater Barn Owl, Tyto cf. novaehollandiae (New Ireland, Melanesia)

- New Ireland Lesser Barn Owl, *Tyto* sp. (New Ireland, Melanesia)
- Cuban Barn Owl, Tyto sp. (Cuba, West Indies)
 - Placement unresolved
- Easter Island Barn Owl, Tytonidae sp. (Easter Island, Southeast Pacific)

Passeriformes

Placement unresolved

- Slender-billed Kaua'i passerine, Passeriformes gen. et sp. indet. (Kaua'i, Hawaiian Islands)
- Tiny Kaua'i passerine, Passeriformes gen. et sp. indet. (Kaua'i, Hawaiian Islands)
- Acanthisittidae New Zealand "Wrens"
 - †Pachyplichas
 - Yaldwyn's Wren, Pachyplichas yaldwyni (North Island, New Zealand)
 - Grant-Mackie's Wren, Pachyplichas jagmi (South Island, New Zealand) may be subspecies of P. yaldwyni
 - o †Dendroscansor
 - Long-billed Wren, Dendroscansor decurvirostris (South Island, New Zealand)
 - Extinct subspecies of extant species
 - North Island Piwauwau, Xenicus gilviventris ssp. nov. (North Island, New Zealand)
- Meliphagidae Honeyeaters
 - o Prehistorically extinct species of Recently extinct genera
 - Oʻahu Kioea, *Chaetoptila* cf. *angustipluma* (Oʻahu and Maui, Hawaiian Islands)
 - Narrow-billed Kioea, ?Chaetoptila sp. (Maui, Hawaiian Islands)
- **Dicruridae** Drongos, fantails and monarch flycatchers
 - o Placement unresolved
 - Ua Huka Flycatcher, cf. Myiagra sp. (Ua Huka, Marquesas)
- Corvidae Crows, Ravens, Jays and Magpies
 - Extinct species of extant genera
 - Chatham Islands Raven, Corvus moriorum (Chatham Islands, Southwest Pacific)
 - High-billed Crow, Corvus impluviatus (Oʻahu, Hawaiian Islands)
 - New Zealand Raven, *Corvus antipodum* (New Zealand)
 - North Island Raven, Corvus antipodum antipodum (North Island, New Zealand)
 - South Island Raven, Corvus antipodum pycrafti (South Island, New Zealand)
 - Robust Crow, *Corvus viriosus* (O'ahu and Moloka'i, Hawaiian Islands)
 - New Ireland Crow, *Corvus* sp. (New Ireland, Melanesia)

- Puerto Rican Crow, Corvus pumilis (Puerto Rico and St Croix, West Indies)
 - probably a subspecies of C. nasicus or C. palmarum
- Sturnidae Starlings
 - o Extinct species of extant genera
 - Huahine Starling, Aplonis diluvialis (Huahine, Society Islands)
- **Sylviidae** Old World warblers
 - Extinct species of extant genera
 - 'Eua Bush Warbler, *Cettia* sp. ('Eua, Tonga)
- **Zosteropidae** White-eves
 - o Placement unresolved
 - Tongan White-Eye, Zosteropidae gen. et sp. indet. ('Eua, Tonga)
- Turdidae Thrushes
 - Extinct species of extant genera
 - Maui Oloma'o, Myadestes cf. lanaiensis (Maui, Hawaiian Islands) may have survived until the 19th century
- Fringillidae Finches
 - o Extinct species of extant genera
 - Trías Greenfinch, *Carduelis triasi* (La Palma, Canary Islands)
- **<u>Drepanididae</u>** Hawaiian Honeycreepers
 - o †Orthiospiza
 - Highland Finch, Orthiospiza howarthi (Maui, Hawaiian Islands)
 - o †Xestospiza
 - Cone-billed Finch, *Xestospiza conica* (Kaua'i and O'ahu, Hawaiian Islands)
 - Ridge-billed Finch, Xestospiza fastigialis (Oʻahu, Maui and Molokaʻi, Hawaiian Islands)
 - o †Vangulifer
 - Strange-billed Finch, *Vangulifer mirandus* (Maui, Hawaiian Islands)
 - Thin-billed Finch, Vangulifer neophasis (Maui, Hawaiian Islands)
 - †Aidemedia
 - Oʻahu Icterid-like Gaper, *Aidemedia chascax* (Oʻahu, Hawaiian Islands)
 - Sickle-billed Gaper, Aidemedia zanclops (O'ahu, Hawaiian Islands)
 - Maui Nui Icterid-like Gaper, Aidemedia lutetiae (Maui and Moloka'i, Hawaiian Islands)
 - o Prehistorically extinct species of extant and Recently extinct genera
 - Kaua'i Finch, *Telespiza persecutrix* (Kaua'i and O'ahu, Hawaiian Islands)
 - Maui Nui Finch, Telespiza ypsilon (Maui and Moloka'i, Hawaiian Islands)
 - Maui Finch, Telespiza cf. ypsilon (Maui, Hawaiian Islands)
 - Kaua'i Palila, Loxioides kikuichi (Kaua'i, Hawaiian Islands) possibly survived until early 18th century
 - Scissor-billed Koa-Finch, Rhodacanthis forfex (Kaua'i and Maui, Hawaiian Islands)

- Primitive Koa-Finch, Rhodacanthis litotes (O'ahu and Maui, Hawaiian Islands)
- Oʻahu Grosbeak Finch, *Chloridops wahi* (Oʻahu and Maui, Hawaiian Islands)
- Giant ("King Kong") Grosbeak Finch, Chloridops regiskongi (Oʻahu, Hawaiian Islands)
- Kaua'i Grosbeak Finch, Chloridops sp. (Kaua'i, Hawaiian Islands) may be same as Chloridops wahi
- Maui Grosbeak Finch, Chloridops sp. (Maui, Hawaiian Islands)
- Giant Amakihi, *Hemignathus vorpalis* (Big Island, Hawaiian Islands)
- Hoopoe-billed 'Akialoa, Hemignathus upupirostris sometimes in genus Akialoa (Kaua'i and O'ahu, Hawaiian Islands)
- Stout-legged Finch, *Ciridops tenax* (Kaua'i, Hawaiian Islands)
- Moloka'i Ula-ai-Hawane, *Ciridops* cf. *anna* (Moloka'i, Hawaiian Islands)
- Oʻahu Ula-ai-Hawane, *Ciridops* sp. (Oʻahu, Hawaiian Islands)
 - o Placement unresolved
- Drepanididae gen. et sp. indet. (Maui, Hawaiian Islands) at least 3 species
- Drepanididae gen. et sp. indet. (O'ahu, Hawaiian Islands)
- **Emberizidae** Buntings
 - o †Pedinornis
 - Puerto Rican Obscure Bunting, Pedinornis stirpsarcana (Puerto Rico, West Indies)
 - Extinct species of extant genera
 - Long-legged Bunting, *Emberiza alcoveri* (Tenerife, Canary Islands)
- **Hirundinidae** Swallows and martins
 - Extinct subspecies of extant species
 - Henderson Island Pacific Swallow, Hirundo tahitensis ssp. nov. (Henderson Island, S Pacific)
- **Estrildidae** Waxbills
 - Extinct species of extant genera
 - Rota Parrotfinch, *Erythrura* sp. (Rota, Marianas)

References

1. <u>^</u> Wetmore, A. (1918). "Bones of birds collected by Theodoor de Booy from kitchen midden deposits in the islands of St Thomas and St Croix". Proceedings of the United States National Museum **54**: 513-522.

See also

- Bird
- Extinct birds

- <u>Fossil birds</u>
- <u>Flightless birds</u>

Paleornithology

Paleornithology is the scientific study of bird evolution and fossil birds. It is a mix of <u>ornithology</u> and paleontology. Paleornithology began with the discovery of *Archaeopteryx*. The reptilian relationship of birds and their ancestors, the theropod dinosaurs, are important aspects of paleornithological research. Other areas of interest to paleornithologists are the early sea-birds Ichthyornis, Hesperornis, and others.

See also

- <u>Birds</u>
- Fossil birds
- <u>Late Quaternary prehistoric birds</u>
- Ornithology

Fossil birds

Birds evolved from feathered dinosaurs and there is no real dividing line between birds and dinosaurs, except of course that the former survived the Cretaceous-Tertiary extinction event and the latter did not. For the purposes of this article, a 'bird' is considered to be any member of the clade <u>Aves</u>. Some dinosaur groups which may or may not be true birds are listed below under 'Proto-birds'.

This page contains a listing of prehistoric bird taxa only known from completely fossilized specimens. These extinctions took place before the Late Quaternary and thus took place in the absence of human interference. Rather, reasons for extinction are stochastic abiotic events such as bolide impacts, climate change due to orbital shifts, mass volcanic eruptions etc. Alternatively, species may have gone extinct due to evolutionary displacement by successor or competitor taxa - it is notable that an extremely large number of seabirds have gone extinct during the mid-Tertiary; this is probably due to competition by the contemporary radiation of marine mammals. The relationships of these taxa are often hard to determine, as many are known only from very fragmentary remains and due to the complete fossilization precluding analysis of information from DNA, RNA or protein sequencing. The taxa listed in this article should be classified with the Wikipedia conservation status category "Fossil".

- 1 Taxonomic List of Fossil Prehistoric Birds
- o 1.1 †"Proto-birds"
- o 1.2 †Basal Aves
 - 1.2.1 Omnivoropterygiformes
- 1.3 †Basal Pygostylia
- 1.4 †Enantiornithes
 - 1.4.1 Iberomesornithiformes
 - 1.4.2 Cathyornithiformes
 - 1.4.3 Gobipterygiformes
 - 1.4.4 Enantiornithiformes
- 1.5 †Basal Ornithurae
 - 1.5.1 Yanornithiformes
- 1.6 †Hesperornithes
- 1.7 †Ichthyornithes
 - o 1.8 Neornithes
 - 1.8.1 Struthioniformes
 - 1.8.2 †Lithornithiformes
 - 1.8.3 Tinamiformes
 - 1.8.4 Anseriformes
 - 1.8.5 Galliformes
 - 1.8.6 Charadriiformes
 - 1.8.7 Gruiformes
 - 1.8.8 Phoenicopteriformes

- 1.8.9 Podicipediformes
- <u>1.8.10 Ciconiiformes</u>
- 1.8.11 Pelecaniformes
- 1.8.12 Procellariiformes
- 1.8.13 Gaviiformes
- 1.8.14 Sphenisciformes
- 1.8.15 Pteroclidiformes
- 1.8.16 Columbiformes
- 1.8.17 Psittaciformes
- 1.8.18 Cuculiformes
- 1.8.19 Falconiformes
- 1.8.20 Caprimulgiformes
- 1.8.21 Apodiformes
- 1.8.22 Coliiformes
- 1.8.23 Strigiformes
- 1.8.24 Trogoniformes
- 1.8.25 Piciformes
- <u>1.8.26 Passeriformes</u>

o 1.9 Aves incertae sedis

- 1.9.1 †Liaoningornithiformes
- 1.9.2 †Eurolimnornithiformes
- 1.9.3 †Palaeocursornithiformes
 - o 1.10 Ichnotaxa
- 2 References
- 3 See also

Taxonomic List of Fossil Prehistoric Birds

Extinct genera are presented in ascending chronological order. Extinct forms of extant genera are sorted alphabetically by genus first, then chronologically.

The higher-level groups of non-Neornithes are arranged after Chiappe (2001, 2002), updated and expanded to incorporate recent research. These categories are inclusive in ascending order: e.g., every basal pygostylian is a member of the Aves (but more advanced than "basal Aves"), etc.

Please be aware that taxonomic assignments, especially in the pygostylian to early neornithine genera, are still very provisional and subject to quite frequent change.

†"Proto-birds"

This category contains very early fossils that some consider the earliest evidence of birds and others which are generally agreed to be theropods but the placement of which in regard to birds is controversial, with most scientists consider them closely related to birds and others avian enough to include in the latter. In any case, these forms demonstrate that

feathered wings were not limited to true birds, but evolved independently in several related lineages of theropods

- Protoavis (Late Triassic) a nomen dubium
 Palaeopteryx (Late Jurassic) a nomen dubium
- Alvarezsauridae
 - o *Shuvuuia* (Late Cretaceous)
- Oviraptorosauria
 - o Caudipteryx (Early Cretaceous)
- Scansoriopterygidae
 - o *Epidendrosaurus* (Early Cretaceous)
- Troodontidae
 - Mei (Early Cretaceous)
- Dromaeosauridae
 - o Rahonavis (Late Cretaceous)
- Yandangornis

†Basal Aves

The most primitive birds, usually still possessing a long bony tail with generally unfused vertebrae.

Unresolved forms

Dalianraptor (Jiufotang Early Cretaceous of Liaoning, China)
 Hebeiornis (Yixian? Early Cretaceous? of Hebei, China)
 Jixiangornis (Early Cretaceous)
 Shenzhouraptor (Early Cretaceous)
 Hulsanpes (Late Cretaceous)

Archaeopterygidae

Archaeopteryx (Late Jurassic)
 Wellnhoferia (Late Jurassic) - may be synonym of Archaeopteryx

Omnivoropterygiformes

Omnivoropterygidae

- Omnivoropteryx (Early Cretaceous)
- o Sapeornis (Jiufotang Early Cretaceous of Chaoyang City, China)

†Basal Pygostylia

The earliest birds with a modern pygostyle: a reduction and fusion of the tail vertebrae.

Placement unresolved

o *Abavornis* (Late Cretaceous) - enantiornithine?

- Catenoleimus
- o Explorornis
- o Incolornis

Confuciusornithidae

- o *Proornis* (Sinniju Late Jurassic/Early Cretaceous of Sinnuiju City, North Korea)
- o Changchengornis (Early Cretaceous of Chaomidianzi, China)
- o Confuciusornis (Early Cretaceous)
- Iinzhouornis

†Enantiornithes

"Opposite Birds" due to the way their foot bones are fused; an extinct Mesozoic sub-class.

Unresolved and basal forms

- o Concornis (Early Cretaceous)
- o Cuspirostrisornis (Early Cretaceous)
- o Eoenantiornis (Early Cretaceous)
- o Jibeinia (Early Cretaceous) a nomen dubium
- o Largirostrornis (Early Cretaceous)
- o *Liaoxiornis* (Early Cretaceous)
- o Longchengornis (Early Cretaceous)
- o *Longipteryx* (Early Cretaceous)
- Longirostravis (Early Cretaceous)
- o Vescornis (Early Cretaceous)
- o Enantiornithes gen. et sp. indet. CAGSIG020901 (Early Cretaceous)
- o Enantiornithes gen. et sp. indet. CAGSIG04CM007 (Early Cretaceous)
- Eoalulavis (Middle Cretaceous)
- o *Halimornis* (Late Cretaceous)
- o Kizylkumavis (Late Cretaceous)
- o Lenesornis (Late Cretaceous)
- Sazavis (Late Cretaceous)
- o Gurilynia (Late Cretaceous) enantiornithiform?
- o Yungavolucris (Late Cretaceous) enantiornithiform (avisaurid)?
- o Enantiornithes gen. et sp. indet. MCSNM V3882a (Late Cretaceous)
- o Enantiornithes gen. et sp. indet. RBCM.EH2005.003.0002 (Late Cretaceous)
- Aberratiodontus
- Alexornis
- o Dapingfangornis

Kuszholiidae

Kuszholia (Late Cretaceous)

Iberomesornithiformes

- Iberomesornithidae
- o *Iberomesornis* (Early Cretaceous)
- Noguerornis (Early Cretaceous)

Cathyornithiformes

- Cathayornithidae
- o Boluochia (Early Cretaceousa)
- o Cathayornis (Early Cretaceous) includes Sinornis
- Eocathayornis

Gobipterygiformes

- Gobipterygidae
- o Gobipteryx (Late Cretaceous)

Enantiornithiformes

- Placement unresolved
- o Lectavis (Late Cretaceous) avisaurid?
 - Enantiornithidae
- o Enantiornis (Late Cretaceous)
 - Zhyraornithidae
- o *Zhyraornis* (Late Cretaceous)
 - Avisauridae
- o Avisaurus (Late Cretaceous)
- Neuguenornis (Late Cretaceous)
- o Soroavisaurus (Late Cretaceous)

†Basal Ornithurae

Essentially modern birds, except many still possess a few primitive features such as teeth or wing claws.

Unresolved and basal forms

- o Gansus (Early Cretaceous) basal
- o Apsaravis (Djadokhta Late Cretaceous of Ukhaa Tolgod, Mongolia)
- o *Archaeorhynchus* (Early Cretaceous of Liaoning, China)
- o *Limenavis* (Allen Late Cretaceous of Salitral Moreno, Argentina)

- o "cf. *Parahesperornis*" (Nemegt Late Cretaceous of Tsagaan Kushu, Mongolia) hesperornithiform?
- Carinatae gen. et sp. indet. NHMM/RD 271 (Maastricht Late Cretaceous, CBR-Romontbos Quarry, Belgium) - ichthyornithine?
- o Ornithurae gen. et sp. indet. RBCM.EH2005.003.0001 (Northumberland Late Cretaceous of Hornby Island, Canada)
- o Ornithurae gen. et sp. indet. TMP 98.68.145 (Dinosur Park Late Cretaceous of Iddesleigh, Canada) hesperornithiform?
 - Ambiortidae
- o Ambiortus (Early Cretaceous of Mongolia)

Yanornithiformes

Songlingornithidae

- o Songlingornis (Jiufotang Early Cretaceous of Liaoning, China)
- o *Yanornis* (Jiutotang Early Cretaceous of Chaoyang City, China)
- o Yixianornis (Jiufotang Early Cretaceous of Chaoyang City, China)

†Hesperornithes

Large, toothed, loon-like diving birds.

Unresolved and basal forms

- o Hesperornithiformes gen. et sp. indet. (Late Cretaceous)
- o Hesperornithiformes gen. et sp. indet. TMP 89.81.12 (Late Cretaceous)
- o *Judinornis* (Late Cretaceous)
- o Potamornis (Late Cretaceous) hesperornithid?
- o Pasquiaornis

• Enaliornithidae

- o Enaliornis (Early Cretaceous)
 - Baptornithidae
- o Baptornis (Late Cretaceous)

Hesperornithidae

- Hesperornis (Late Cretaceous)
- o Parahesperornis (Late Cretaceous)
- Canadaga
- Coniornis

†Ichthyornithes

Toothed birds similar to modern gulls.

- Ichthyornidae
- o *Ichthyornis* (Late Cretaceous)

Neornithes

- o 1.8 Neornithes
 - 1.8.1 Struthioniformes
 - 1.8.2 †Lithornithiformes
 - 1.8.3 Tinamiformes
 - 1.8.4 Anseriformes
 - 1.8.5 Galliformes
 - 1.8.6 Charadriiformes
 - 1.8.7 Gruiformes
 - 1.8.8 Phoenicopteriformes
 - 1.8.9 Podicipediformes
 - 1.8.10 Ciconiiformes
 - 1.8.11 Pelecaniformes
 - 1.8.12 Procellariiformes
 - 1.8.13 Gaviiformes
 - <u>1.8.14 Sphenisciformes</u>
 - 1.8.15 Pteroclidiformes
 - 1.8.16 Columbiformes
 - 1.8.17 Psittaciformes
 - 1.8.18 Cuculiformes
 - 1.8.19 Falconiformes
 - 1.8.20 Caprimulgiformes
 - 1.8.21 Apodiformes
 - 1.8.22 Coliiformes
 - 1.8.23 Strigiformes
 - 1.8.24 Trogoniformes
 - 1.8.25 Piciformes
 - 1.8.26 Passeriformes

Neornithes

The sub-class that contains all modern birds.

Unresolved and basal forms

- †Apatornis (Smoky Hill Chalk Late Cretaceous of Twin Butte Creek, USA) anseriform?
- o †Ceramornis (Lance Creek Late Cretaceous) charadriiform?
- o †"Cimolopteryx" (Lance Creek Late Cretaceous) charadriiform?
- †Gallornis (Late Cretaceous of Haceg Basin, Romania) phoenicopteriform or galliform
- o †*Lonchodytes* (Lance Creek Late Cretaceous of Wyoming, USA) gaviiform?/procellariiform, pelecaniform?
- †Neornithes incerta sedis AMNH 25272 (Lance Creek Late Cretaceous of Converse County, USA) - phalacrocoracid?

- o †*Palintropus* (Lance Creek Late Cretaceous) quercymegapodiid or charadriform
- o †*Teviornis* (Nemegt Late Cretaceous of S Mongolia) presbyornithid?
- †Torotix (Late Cretaceous) pelecaniform, charadriiform, procellariform or phoeniopteriform
- o †UCMP 117598 (Hell Creek Late Cretaceous of Bug Creek West, USA)
- †UCMP 117599 (Hell Creek Late Cretaceous of Bug Creek West, USA) anseriform?
- †UCMP 143274 (Lance Creek Late Cretaceous of Niobrara County, USA) psittaciform?
- †Laornis (Late Cretaceous?)
- o †*Volgavis* (Early Palaeocene of Volgograd, Russia) charadriiform?
- o † Argillipes (London Clay Early Eocene of England) galliform?
- o †*Coturnipes* (Early Eocene of England, and Virginia, USA?) galliform, falconiform?
- o †*Neanis* (Early Eocene) primobucconid, piciform?
- o †Neptuniavis (London Clay Early Eocene of England) pelagornithid or procellariid
- o † Onychopteryx (Early Eocene of Argentina)
- †Paracathartes (Early Eocene of WC USA) lithornithiform?
- o †*Percolinus* (London Clay Early Eocene of England) galliform?
- o †"Green River Palaeognath" USNM 336103 (Green River Early/Middle Eocene)
- o †*Palaeopsittacus* (Early Middle Eocene of NW Europe) caprimulgiform (podargid?)
- o †Amitabha (Bridger Middle Eocene of Forbidden City, USA)
- o †*Hassiavis* (Middle Eocene of Messel, Germany) archaeotrogonid, piciform?
- o †*Protocypselomorphus* (Middle Eocene of Messel, Germany) caprimulgiform, apodiform or ancestral to both
- o † *Eocathartes* (Middle Eocene of Germany) cathartid?
- o †Ludiortyx (Montmartre Late Eocene of Montmartre, France) rallid, quercymegapodid?
- o †*Petropluvialis* (Late Eocene of England) may be same as *Palaeopapia*; anseriform?
- o †"Phasianus" alfhildae (Washakie B Late Eocene of Haystack Butte, USA) gruiform, ciconiiform, phoenicopteriform?
- o † *Talantatos* (Late Eocene of Paris Bain, France) gruiform?
- o † Telecrex (Irdin Manha Late Eocene of Shara Murun, Mongolia) meleagrid or gruiform (rallid?)
- †"Colymboides" anglicus (Late Eocene/Early Oligocene of Hordwell, England)
 gaviiform? previously included in Palaeopapia eous
- o † Agnopterus (Late Eocene Late Oligocene of Europe) phoenicopteriform or anseriform, includes *Cygnopterus lambrechti*
- o †*Plesiocathartes* (Late Eocene -? Early Miocene of SW Europe) cathartid, leptosomid?

- o †*Botauroides* (Eocene of Wyoming, USA)- coliiform?
- o †Aminornis (Deseado Early Oligocene of Rio Deseado, Argentina) gruiform?
- o †Ciconiopsis (Deseado Early Oligocene of Patagonia, Argentina) ciconiid?
- o †*Cruschedula* (Deseado Early Oligocene of Golfo San Jorge, Argentina) accipitrid?
- o †"Headonornis hantoniensis" BMNH PAL 4989 (Hampstead Early Oligocene of Isle of Wight, England) formerly "Ptenornis"; anseriform?
- o †Loncornis (Deseado Early Oligocene of Rio Deseado, Argentina) gruiform?
- o †Manu (Early Oligocene of New Zealand) diomedeid?
- o †Palaeocrex (Early Oligocene of Trigonias Quarry, USA) rallid?
- †Palaeopapia (Hampstead Early Oligocene of Isle of Wight, England) anseriform?
- †Paracygnopterus (Early Oligocene of Belgium and England) anatid?
- o †"Pararallus" hassenkampi (Sieblos Dysodil Early Oligocene of Sieblos, Germany)
- o † Teracus (Early Oligocene of France)
- o †"Anas" creccoides (Early/Middle Oligocene of Belgium) anseriform?
- †Limicorallus (Indricotherium Middle Oligocene of Chelkar-Teniz, Kazakhstan) - anatid?
- o †*Megagallinula* (Indricotherium Middle Oligocene of Chelkar-Teniz, Kazakhstan)
- o †"Palaeorallus" alienus (Middle Oligocene of Tatal-Gol, Mongolia) galliform?
- †Gnotornis (Brule Late Oligocene of Shannon County, USA)
- †Tiliornis (Late Oligocene of South America) lapsus for Teleornis?
- o † Gaviella (Oligocene? of Wyoming, USA) gaviiform? plotopterid?
- †Neculus (Patagonia Early Miocene of Patagonia, Argentina) sphenisciform?
- †"Propelargus" olseni (Hawthorne Early Miocene of Tallahassee, USA) ciconiiform?
- †MNHN SA 1259-1263 (Early/Middle Miocene of Sansan, France) passeriform?
- o †*Anisolornis* (Santa Cruz Middle Miocene of Karaihen, Argentina) gruiform, galliform, tinamiform?
- o †"Ardea" perplexa (Middle Miocene of Sansan, France) ardeid? strigiform?'
- o †"Cygnus herrenthalsi" (Middle Miocene of Belgium)
- o †Diamantornis (Middle Miocene of Namibia) ratite?
- o †Namornis (Middle Miocene of Namibia and Kenya Baynunah Late Miocene of Abu Dhabi) ratite?
- o †"Limnatornis" paludicola (Miocene of France) coliid? phoeniculid?
- o *†"Picus" gaudryi* (Miocene of France) piciform?
- o †Bathoceleus (Pliocene of New Providence, Bahamas) picid?
- †Climacarthrus
- o †Cunampaia
- o †Eoneornis
- †Eutelornis
- o †Foro

- o †Halcyornis
- o †Homalopus piciform?
- o † Juncitarsus phoenicopteriform?
- o †*Kashinia* phoenicopteriform?
- o †Liptornis
- o †Loxornis
- o †Procuculus
- o †Protibis
- o †Psammornis may be same as Eremopezus
- o †*Pseudocrypturus* lithornithiform?
- o †Pseudolarus
- o †Pumiliornis
- o †Qinornis
- o †Riacama
- o †Smiliornis
- o †Teleornis
- †Archaeotrogonidae ancestral to caprimulgiforms and apodiforms?
 - o Archaeotrogon
- †Cladornithidae pelecaniform?
 - o Cladornis (Deseado Early Oligocene of Patagonia, Argentina)
 - †Eleutherornithidae
 - Eleutherornis
 - o Proceriavis
- †Eocypselidae apodiform (hemiprocnid?)? caprimulgiform? basal to both?
 - o *Eocypselus* (Late Paleocene ?- Early Eocene of NC Europe)
- **†Eremopezidae** ratites?
 - o Eremopezus (Late Eocene of North Africa) includes Stromeria
 - †Fluvioviridavidae
 - o Fluvioviridavis (Green River Early Eocene of N America)
 - o Eurofluvioviridavis (Middle Eocene of Messel, Germany)
 - †Gracilitarsidae
 - o Eutreptodactylus (Late Paleocene of Brazil)
 - o Gracilitarsus (Middle Eocene of Messel, Germany)
- †Messelasturidae accipitrid? basal to Strigiformes?
 - o Tynskya (Early Eocene of N America and England)
 - o Messelastur (Middle Eocene of Messel, Germany)
- †Parvicuculidae cypselomorph, cuculiform, Primobucconidae?
 - o Parvicuculus (Early Eocene of NW Europe)
- †Remiornithidae palaeognath?
 - o Remiornis
 - †Sylphornithidae
 - o *Oligosylphe* (Borgloon Early Oligocene of Hoogbutsel, Belgium)
 - Svlphornis
- **†Tytthostonygidae** procellariiform, pelecaniform?

- o Tytthostonyx (Hornerstown Late Cretaceous/Early Palaeocene)
- †Zygodactylidae piciform?
 - Zygodactylus
- **†"Graculavidae"** a paraphyletic group, the "transitional shorebirds"
 - o *Graculavus* (Lance Creek Late Cretaceous Hornerstown Late Cretaceous/Early Palaeocene) charadriiform?
 - o Palaeotringa (Hornerstown Late Cretaceous?) charadriiform?
 - o Telmatornis (Navesink Late Cretaceous?) charadriiform?
 - o Scaniornis phoenicopteriform?
 - o Zhylgaia
 - Dakotornis
 - Placement unresolved
 - "Graculavidae" gen. et sp. indet. (Gloucester County, USA)

Struthioniformes

Ostrich and related ratites.

- Placement unresolved
- o †*Diogenornis* rheid?
- o † Opisthodactylus rheid?
- Casuariidae Emus and cassowaries
 - o †Emuarius (Late Oligocene Late Miocene) formerly Dromaius
 - o Extant genera with known prehistoric species
 - Dromaius (Middle Miocene Recent)
 - Casuarius
- **Rheidae** Rheas
 - o †*Heterorhea*
 - o †Hinasuri
- †Aepyornithidae Elephant Birds
 - o Mullerornis
- **Struthionidae** Ostriches
 - o †Palaeotis (Middle Eocene) includes Palaeogrus geiseltalensis
 - o Extant genera with known prehistoric species
 - Struthio (Early Miocene Recent)

†Lithornithiformes

- Lithornithidae Primitive ratites
 - Promusophaga
 - Lithornis

Tinamiformes

- **Tinamidae** Tinamous
 - o †Querandiornis
 - o Placement unresolved
 - Tinamidae gen. et sp. indet. MACN-SC Fleagle Collection (Early Middle Miocene of S Argentina) - at least 2 species
 - o Prehistoric species of extant genera
 - *Eudromia* sp. (Late Miocene of La Pampa Province, Argentina)
 - *Eudromia olsoni* (Late Pliocene of Buenos Aires Province, Argentina)
 - Nothura parvula (Late Pliocene of Buenos Aires Province, Argentina) formerly Cayeornis
 - *Eudromia intermedia* formerly *Tinamisornis*
 - *Nothura paludosa* (Pleistocene of Argentina)

Anseriformes

The group that includes modern <u>ducks</u> and geese.

Basal and unresolved forms

- †Anatalavis (Hornerstown Late Cretaceous/Early Paleocene of New Jersey, USA - London Clay Early Eocene of Walton-on-the-Naze, England) anseranatid or basal
- o †*Proherodius* (London Clay Early Eocene of London, England) presbyornithid?
- †Paranyroca (Rosebud Early Miocene of Bennett County, USA) Anatidae or own family?
- **Anhimidae** Screamers
 - o †Chaunoides
- †Dromornithidae The Australian mihirungs or "demon ducks".
 - Dromornis (Late Miocene Pliocene)
 Bullockornis (Middle Miocene)
 Barawertornis (Ilbandornis

• †Presbyornithidae

- o Presbyornithidae gen. et sp. indet. (Barun Goyot Late Cretaceous of Mongolia)
- o *Vegavis* (Late Cretaceous)
- Presbyornis (Paleocene of Maryland, USA Bembridge Marls Early Oligocene of Burnt Wood, England)
- Headonornis only BMNH PAL 30325 belongs to this species, may belong to Presbyornis.

- o Telmabates
- Anatidae Ducks, geese and swans
 - o †*Eonessa* (Eocene of Utah, USA)
 - †Cygnavus (Early Oligocene of Kazakhstan Early Miocene of Germany)
 - †Romainvillia (Early Oligocene of Belgium ?- Late Eocene of France)
 - o †Cygnopterus (Middle Oligocene of Belgium Early Miocene of France)
 - o † Guguschia (Oligocene of Azerbaijan)
 - †Megalodytes (Middle Miocene of California, USA)
 - †Afrocygnus (Late Miocene ?- Early Pliocene of C Sahara, Africa)
 - o †Presbychen (Temblor Late Miocene of Sharktooth Hill, USA)
 - †Paracygnus (Kimball Late Pliocene of Nebraska, USA)
 - o †Anabernicula (Late Pliocene ?- Late Pleistocene of SW and W North America)
 - †Archaeocygnus (Pleistocene of Australia)
 - †Aldabranas
 - †Brantadorna
 - o †Dendrochen
 - †Eremochen
 - o †Mionetta
 - †Sinanas
 - o †Wasonaka
 - Placement unresolved
 - "cf. Megalodytes" (Haraichi Middle Miocene of Annaka, Japan)
 - "Chenopis" nanus at least 2 taxa (Pleistocene of Australia)

Extant genera with known prehistoric (sub)species

- Somateria (Middle Oligocene? Recent)
- Cygnus (Middle Miocene Recent)
- Histrionicus (Middle Miocene Recent) includes Ocyplonessa
- Anas (Late Miocene Recent) includes Heterochen
- Oxyura (Middle Pleistocene Recent)

Additional prehistoric species of extant genera

- Anser arenosus (Big Sandy Late Miocene of Wickieup, USA)
- Anser arizonae (Big Sandy Late Miocene of Wickieup, USA)
- Anser cygniformis (Miocene)
- Anser condoni (Pleistocene of Fossil Lake, USA)
- Anser azerbaidzhanicus
- Anser oeningensis
- Anser thompsoni
- Branta woolfendeni (Big Sandy Late Miocene of Wickieup, USA)
- Branta dickeyi (Late Pliocene Late Pleistocene of W USA)
- Branta esmeralda (Pliocene)
- Branta howardae (Pliocene)
- Branta propingua (Middle Pleistocene of Fossil Lake, USA)
- Branta hypsibata (Pleistocene of Fossil Lake, USA)

- Bucephala ossivalis (Late Miocene/Early Pliocene of Bone Valley, USA) may be subspecies of extant Bucephala clangula
- Bucephala fossilis (Late Pliocene of California, USA)
- Bucephala angustipes
- Bucephala cereti
- Chen pressa (Glenns Ferry Late Pliocene of Hagerman, USA)
- Lophodytes floridana formerly Anas/Querquedula
- Mergus connectens
- Mergus miscellus
- Neochen debilis
- Neochen pugil

Galliformes

The group that includes modern chickens and quails.

Placement unresolved

- †Austinornis (Austin Chalk Late Cretaceous of Fort McKinney, USA) formerly Graculavus/Ichthyornis lentus
- o †*Procrax* (Middle Eocene Early Oligocene) cracid? gallinuloidid?
- o †Palaeortyx (Middle Eocene -? Late Oligocene) phasianid or odontophorid
- o †Palaeonossax (Brule Late Oligocene of South Dakota, USA) cracid?
- o †*Taoperdix* (Late Oligocene)
- o † Archaeophasianus (Oligocene ?- Late Miocene) tetraonid or phasianid
- †Palaealectoris (Agate Fossil Beds Early Miocene of Sioux County, USA) tetraonid?
- o †"Cyrtonyx" tedfordi (Barstow Late Miocene of Barstow, USA)
- o †Archaealectrornis
- o †Paleophasianus tetraonid or cracid

• †Gallinuloididae

- o Gallinuloides (Green River Early/Middle Eocene of Wyoming, USA)
- Paraortygoides (London Clay Early Eocene of Walton-on-the-Naze, England -Middle Eocene of Messel, Germany)

†Paraortygidae

- o Pirortyx
- Paraortyx

†Quercymegapodiidae

- o Quercymegapodius (Middle Eocene Early Oligocene)
- o Taubacrex (Late Oligocene/Early Miocene of Brazil)
- o Ameripodius (Late Oligocene Early Miocene of Brazil and France)
- Megapodidae Megapodes
 - o †Ngawupodius
 - o Prehistoric species of extant genera
 - Leipoa gallinacea formerly Progura

- Cracidae Guans and Curassows
 - o †Boreortalis (Early Miocene) may be same as Ortalis
 - Extant genera with known prehistoric species
 - Ortalis (Early Miocene Recent)
 - **Tetraonidae** Grouse
 - Placement unresolved
 - "Tympanuchus" stirtoni (Early Miocene)
 - "Tympanuchus" lulli (Pleistocene? of New Jersey)

Prehistoric species of extant genera

- Lagopus atavus (Late Pliocene)
- Lagopus balcanicus
- Tetrao partium (Early Pleistocene)
- Tetrao praeurogallus (Early Pleistocene)
- Tetrao conjugens
- Tetrao macropus
- *Tetrao rhodopensis*
- Dendragapus gilli (Late Pleistocene of WC and W USA) formerly Palaeotetrix
- Dendragapus lucasi (Late Pleistocene of Fossil Lake, USA)
- Bonasa praebonasia
- Prehistoric subspecies of extant species
 - Lagopus lagopus noaillensis
 - Lagopus mutus correzensis
- Phasianidae Pheasants, quails and partridges
 - †Schaubortyx (Middle Eocene Early Oligocene)
 - †Chauvireria
 - o †Miogallus
 - o †Miophasianus
 - †Palaeocryptonyx
 - †Palaeoperdix
 - o †Pliogallus
 - †Plioperdix

Prehistoric species of extant genera

- Coturnix gallica (Late Oligocene Late Miocene of SW to EC Europe)
- Coturnix longipes
- Gallus aesculapii (Late Miocene/Early Pliocene of Greece) possibly belongs into Pavo
- Gallus moldavicus (Late Pliocene of Moldavia)
- *Gallus beremendensis* (Late Pliocene/Early Pleistocene of E Europe)
- Gallus karabachensis (Early Pleistocene of Nagorno-Karabakh)
- Gallus europaeus (Middle Pleistocene of Italy)
- Pavo bravardi (Early Late Pliocene)
- Francolinus capeki (Late Pliocene of Hungary)
- Perdix palaeoperdix

Prehistoric subspecies of extant species

- Alectoris graeca martelensis
- **Odontophoridae** New World Quails
 - o †Nanortyx (Cypress Hills Early Oligocene of North Calf Creek, Canada)
 - o †Miortyx (Rosebud Early Miocene of Flint Hill, USA)
 - o †Neortyx (Early Pleistocene of Reddick, USA)
 - o Placement unresolved
 - †Odontophoridae gen. et sp. indet. KUVP 9393 (White River Early/Middle Oligocene of Logan County, USA)

o Prehistoric species of extant genera

- *Cyrtonyx cooki* (Late Miocene? of Upper Sheep Creek, USA)
- Callipepla'? shotwelli (Middle Pliocene of McKay Reservoir, USA) formerly Lophortyx
- Colinus hibbardi (Rexroad Late Pliocene of Rexroad, USA)
- Colinus sp. (Late Pliocene of Benson, USA)
- Colinus suilium (Early Pleistocene of SE USA)
- *Dendrortyx*? sp. (Late Pleistocene of San Josecito Cavern, Mexico)
- **Meleagrididae** Turkeys
- o †Rhegminornis (Early Miocene of Bell, USA)
- o †Proagriocharis (Kimball Late Miocene/Early Pliocene of Lime Creek, USA)
- o Placement unresolved
 - Meleagridae gen. et sp. indet. (Late Miocene of Westmoreland County, USA)

Prehistoric species of extant genera

- Meleagris sp. (Early Pliocene of Bone Valley, USA)
- Meleagris leopoldi (Late Pliocene of Cita Canyon, USA) formerly Agriochares
- Meleagris progenes (Rexroad Late Pliocene, Meade County, USA) formerly Agriochares
- Meleagris sp. (Late Pliocene of Macasphalt Shell Pit, USA)
- Meleagris anza (Early Pleistocene of San Diego County, USA)
- Meleagris californica (Late Pleistocene of SW USA) formerly Parapavo/Pavo
- *Meleagris crassipes* (Late Pleistocene of SW North America)

Charadriiformes

Gulls, auks, shorebirds

Basal and unresolved taxa

- †Charadriidae gen. et sp. indet. VI 9901 (Lopez de Bertodano Late Cretaceous of Vega Island, Antarctica) - burhinid? basal?
- o †Boutersemia (Early Oligocene of Boutersem, Belgium) glareolid?
- Scolopacidae Waders and snipes

- †Paractitis
- o †Erolia

Placement unresolved

 Scolopacidae gen. et sp. indet. (Middle Miocene of Františkovy Lázn, Czechia - Late Miocene of Kohfidisch, Austria)

Prehistoric species of extant genera

- Limosa? gypsorum (Montmartre Late Eocene of France) may belong to Numenius
- Limosa vanrossemi (Monterey Late Miocene of Lompoc, USA)
- Tringa edwardsi (Quercy Upper Eocene/Lower Oligocene of Mouillac, France)
- Tringa sp. 1 (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Tringa sp. 2 (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Tringa antiqua (Late Pliocene of Meade County, USA)
- Tringa ameghini (Late Pleistocene of Talara Tar Seeps, Peru)
- Gallinago cf. media (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Scolopax carmesinae (Early/Middle Pliocene? of Menorca, Mediterranean)
- "Scolopax baranensis (Early Pliocene of Hungary) a nomen nudum
- Scolopax hutchensi (Late Pliocene Early Pleistocene of Florida, USA)
- Phalaropus elenorae (Middle Pliocene)

• **Jacanidae** - Jacanas

- †Nupharanassa (Early Oligocene)
- †Ianipes

Prehistoric species of extant genera

†Jacana farrandi

• Laridae - Gulls

- o †Laridae gen. et sp. indet. (Early Oligocene)
- o †Gaviota (Late Miocene of Cherry County, USA)

Prehistoric species of extant genera

- Larus elegans (Late Oligocene/Early Miocene of St-Gérand-le-Puy, France)
- Larus totanoides (Late Oligocene/Early Miocene of SE France)
- Larus? desnoyersii (Early Miocene of SE France)
- Larus pristinus (John Day Early Miocene of Willow Creek, USA)
- Larus sp. (Grund Middle Miocene of Austria)
- Larus elmorei (Bone Valley Early/Middle Pliocene of SE USA)
- Larus lacus (Pinecrest Late Pliocene of SE USA)
- Larus perpetuus (Pinecrest Late Pliocene of SE USA)
- Larus sp. (San Diego Late Pliocene of SW USA)
- Larus oregonus (Late Pliocene Late Pleistocene of WC USA)
- Larus robustus (Late Pliocene Late Pleistocene of WC USA)
- Larus sp. (Lake Manix Late Pleistocene of W USA)

• Alcidae - Auks

- o †Hydrotherikornis (Late Eocene of Oregon, USA)
- o †Petralca (Early ?- Late Oligocene of Austria)

- o †*Miocepphus* (Middle Miocene of CE USA)
- o †Alcodes (Late Miocene of Orange County, USA)
- o †Praemancalla (Late Miocene Early Pliocene of Orange County, USA)
- †Mancalla (Late Miocene Early Pleistocene of W North America)
- o Extant genera with known prehistoric species
 - Cepphus (Late Miocene Recent)

Cerorhinca (Late Miocene - Recent)

Uria (Late Miocene - Recent)

Alca (Late Miocene/Early Pliocene - Recent)

Fratercula (Early Pliocene - Recent)

Pinguinus (Early Pliocene - Recent)

Ptychoramphus (Late Pliocene - Recent)

o Additional prehistoric species of extant genera

- Aethia rossmoori (Monterrey Late Miocene of Orange County, USA)
- *Aethia*? sp. (Late Miocene of SW North America)
- Brachyramphus dunkeli (San Diego Late Pliocene, SW USA)
- Brachyramphus pliocenum (San Diego Late Pliocene of California, USA)
- Synthliboramphus sp. (Late Miocene/Early Pliocene of Cedros Island, Mexico)
- Synthliboramphus rineyi (San Diego Late Pliocene, SW USA)
- **Stercorariidae** Skuas and jaegers
 - o Prehistoric species of extant genera
 - *Stercorarius* sp. (Middle Miocene)
 - Stercorarius shufeldti (Fossil Lake Middle Pleistocene of WC USA)
 - Prehistoric subspecies of extant species
 - Stercorarius pomarinus philippi
- **Glareolidae** Pratincoles
 - o †Paractiornis (Agate Fossil Beds Early Miocene of Sioux County, USA)
 - o †Mioglareola
 - o Prehistoric species of extant genera
 - Glareola neogena
- **Burhinidae** Thick-knees
 - o Prehistoric species of extant genera
 - Burhinus lucorum (Early Miocene)
 - Burhinus aquilonaris
 - Burhinus sp. (Cuba, West Indies)
 - Prehistoric subspecies of extant species
 - Burhinus bistriatus nanus (Bahamas, West Indies)
- Charadriidae Plovers
 - o † Jiliniornis (Huadian Middle Eocene of Huadian, China)
 - o †Viator
 - o Prehistoric species of extant genera
 - Belanopteryx edmundi formerly Vanellus

- *Belanopteryx downsi* formerly *Vanellus*
- Oreopholus orcesi
- Recurvirostridae Avocets
 - o Prehistoric species of extant genera
 - Himantopus olsoni (Big Sandy Late Miocene of Wickieup, USA)
 - Recurvirostra sanctaeneboulae

Gruiformes

The group that includes modern <u>rails</u> and cranes.

Placement unresolved

- †Propelargus (Late Eocene/Early Oligocene of Quercy, France) cariamid or idornithid
- o †Rupelrallus (Early Oligocene of Germany) rallid?
- o †Badistornis (Brule Middle Oligocene of Shannon County, USA)
- †"Probalearica" (Late Oligocene? Middle Pliocene of Florida, USA, France?, Moldavia and Mongolia) - gruid?
- †Aramornis (Sheep Creek Middle Miocene of Snake Creek Quarries, USA) gruid?
- o †*Euryonotus* rallid?
- o †Occitaniavis cariamid or idiornithid, includes Geranopsis elatus
 - †Parvigruidae
- o Parvigrus (Early Oligocene of Pichovet, France)
 - †Songziidae
- Songzia
- **†Gastornithidae** Diatrymas
 - o Gastornis (Late Paleocene Eocene of North America and W Europe) includes Diatryma
 - Gasthornithidae gen. et sp. indet. PU 13258 (Early Eocene of Parly County, USA)
 - o "Diatryma" corei (Middle Eocene of Lissieu, France)
 - o Omorhamphus
 - o Zhongyuanus
 - o Placement unresolved
- Rallidae Rails
 - †Eocrex (Wasatch Early Eocene of Steamboat Springs, USA)
 - o †*Palaeorallus* (Wasatch Early Eocene of Wyoming, USA)
 - o †Aletornis (Bridger Middle Eocene of Uinta County, USA)
 - o †Fulicaletornis (Bridger Middle Eocene of Henry's Fork, USA)
 - o † *Ibidopsis* (Hordwell Late Eocene of Hordwell, UK)

- o †Quercyrallus (Late Eocene -? Late Oligocene of France)
- †Belgirallus (Early Oligocene of WC Europe)
- o †Rallicrex (Corbula Middle/Late Oligocene of Kolzsvár, Romania)
- o †Palaeoaramides (Late Oligocene/Early Miocene Late Miocene of France)
- †Paraortygometra (Late Oligocene/Early Miocene of France)
- o †*Pararallus* (Late Oligocene? Late Miocene of C Europe)
- †*Miofulica* (Anversian Black Sand Middle Miocene of Antwerp, Belgium)
- †Miorallus (Middle Miocene of Sansan, France)
- o †Creccoides
- †Microrallus
- o †Montirallus
- †Parvirallus
- o †Youngornis

o Placement unresolved

- Rallidae gen. et sp. indet. (Late Miocene of Lemoyne Quarry, USA)
- Rallidae gen. et sp. indet. UMMP V55013/-14; UMMP V55012/V45750/V45746(Rexroad Late Pliocene of Saw Rock Canyon, USA)
- Rallidae gen. et sp. indet. UMMP V29080 (Rexroad Late Pliocene of Fox Canyon, USA)
- Rallidae gen. et sp. indet. (Bermuda, West Atlantic)

Extant genera with known prehistoric (sub)species

- Fulica (Early Pliocene Recent)
- *Gallinula* (Late Pliocene Recent)

Additional prehistoric species of extant genera

- Coturnicops avita (Glenns Ferry Late Pliocene of Hagerman, USA)
- Laterallus insignis (Rexroad Late Pliocene of Rexroad, USA)
- Laterallus sp. (Late Pliocene of Macasphalt Shell Pit, USA)
- Rallus lacustris (Late Pliocene of C North America)
- Rallus phillipsi (Late Pliocene of Wickieup, USA)
- Rallus prenticei (Late Pliocene of C North America) formerly Gallinuloides
- Rallus sp. (Rexroad Late Pliocene of Saw Rock Canyon, USA)
- Rallus auffenbergi (Middle Pleistocene of SE North America) formerly Porzana
- *Rallus ibycus* (Shore Hills Late Pleistocene of Bermuda, W Atlantic)
- *Rallus recessus* (St Georges Soil Late Pleistocene of Bermuda, W Atlantic)
- Rallus natator (Pleistocene of San Josecito Cavern, Mexico) formerly Epirallus
- Rallus richondi includes R. dubius
- *Porzana piercei* (Shore Hills Late Pleistocene of Bermuda, W Atlantic)
- Porzana estramosi
- Porzana cf. flaviventer (Bermuda, West Atlantic)
- †Geranoididae
- o *Eogeranoides* (Willwood Early Eocene of Foster Gulch, USA)

- o Geranoides (Willwood Early Eocene of South Elk Creek, USA)
- o Palaeophasianus (Willwood Early Eocene of Bighorn County, USA)
- o *Paragrus* (Early Eocene of WC USA)
- o Geranodornis (Bridger Middle Eocene of Church Buttes, USA)

†Eogruidae

- Eogrus (Irdin Manha Middle/Late Eocene Tung Gur Late Miocene/Early Pliocene of Mongolia)
- Sonogrus (Ergilin Dzo Leate Eocene/Early Oligocene of Khor Dzan, Mongolia)

• †Ergilornithidae

- o Ergilornis (Early/Middle Oligocene of Ergil-Obo, Mongolia)
- o Proergilornis (Early/Middle Oligocene of Ergil-Obo, Mongolia)
- o Amphipelargus includes Urmiornis

• **Gruidae** - Cranes

- o †*Palaeogrus* (Middle Eocene of Germany and Italy Middle Miocene of France)
- o † *Eobalearica* (Ferghana Late? Eocene of Ferghana, Uzbekistan)
- o † Geranopsis (Hordwell Late Eocene Early Oligocene of England)
- o †Camusia (Late Miocene of Menorca, Mediterranean)

o Placement unresolved

 Gruidae gen. et sp. indet. - formerly Grus conferta (Late Miocene/Early Pliocene of Contra Costa County, USA)

o Prehistoric species of extant genera

- Balearica rummeli (Early Miocene of Germany) formerly Basityto
- Balearica exigua
- *Grus miocaenicus* (Middle Miocene of Credinca, Romania) may be synonym of *Palaelodus ambiguus*
- *Grus afghana* (Late Miocene of Molayan, Afghanistan)
- Grus sp. 1 (Late Miocene of Love Bone Bed, USA)
- *Grus* sp. 2 (Late Miocene of Love Bone Bed, USA)
- *Grus* cf. *antigone* (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Grus nannodes (Late Miocene/Early Pliocene -? Middle Pliocene of Sherman County, USA)
- *Grus* sp. (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Grus haydeni (Late Miocene/Early Pliocene Pleistocene? of WC USA)
- Grus penteleci (Late Miocene Early Pliocene of C and SE Europe) formerly Pliogrus
- Grus latipes (Shore Hills Late Pleistocene of Bermuda, W Atlantic) formerly Baeopteryx
- Grus pagei (Late Pleistocene of Rancho La Brea
- *Grus melitensis* (Pleistocene of Malta)
- *Grus bogatshevi*
- Grus cubensis
- *Grus primigenia*

†Messelornithidae - Messel-birds

- Itardiornis
- Messelornis

Cariamidae - Seriemas

- Prehistoric species of extant genera
 - Chunga incerta
 - †Salmilidae
- Salmila

†Bathornithidae

- o Eutreptornis (Uinta Late Eocene of Ouray Agency, USA)
- Neocathartes (Late Eocene)
- o Palaeogyps (Early Oligocene of WC North America)
- o Bathornithidae gen. nov. (Early Middle Oligocene of C USA) formerly *Bathornis celeripes* and *B. cursor*
- o *Paracrax* (Early/Middle Oligocene of Gerry's Ranch, USA Brule Late Oligocene of South Dakota, USA)
- o Bathornis (Early Oligocene Early Miocene of C USA)

†Idiornithidae

- o *Idiornis* (Middle Eocene of Messel, Germany ?- Quercy Middle Oligocene of Quercy, France)
- o *Gypsornis* (Montmartre Late Eocene of Montmartre, France)
- o Elaphrocnemus (Quercy Late Eocene ?-Middle Oligocene of Quercy, France)
- o Oblitavis

• †Phorusrhacidae - Terror birds

- o Paleopsilopterus (Middle Paleocene of Itaboraí, Brazil)
- o Andrewsornis (Middle Late Oligocene of S Argentina)
- o *Physornis* (Middle Late Oligocene of Santa Cruz Province, Argentina)
- o *Psilopterus* (Deseado Middle Oligocene Arroyo Chasicó Late Miocene of S and E Argentina)
- Paraphysornis (Tremembé Late Oligocene/Early Miocene of São Paulo State, Brazil)
- o Brontornis (Early Middle Miocene)
- o *Patagornis* (Santa Cruz Early Middle Miocene of Santa Cruz Province, Argentina)
- o *Phorusrhacos* (Early Middle Miocene)
- Andalgalornis (Andalgala Late Miocene Early Pliocene of N Argentina)
- o *Devincenzia* (Late Miocene Early Pliocene of NE Argentina and Arroyo Roman, Uruguay)
- o Procariama (Late Miocene Early Pliocene of Catamarca Province, Argentina)
- o *Mesembriornis* (Late Miocene Late Pliocene of E and NW Argentina)
- o *Titanis* (Late Pliocene Early Pleistocene)

• **Otididae** - Bustards

- o †Gryzaja
- o Prehistoric species of extant genera

Chlamydotis affinis

Phoenicopteriformes

Placement unresolved

- Phoeniconotius (Etadunna Late Oligocene/Early Miocene of Lake Pitikanta, Australia)
- †Palaelodidae Swimming-flamingos
 - o Adelalopus (Borgloon Early Oligocene of Hoogbutsel, Belgium)
 - o Palaelodus (Middle Oligocene -? Middle Pleistocene)
 - o Megapaloelodus (Late Oligocene Early Pliocene)
 - Phoenicopteridae Flamingos
 - o † Elornis (Late Eocene Early Oligocene)
 - Extant genera with known prehistoric species
 - Phoenicopterus (Middle Oligocene Recent)

Podicipediformes

- **Podicipedidae** Grebes
- o †Pliolymbus (Late Pliocene of WC USA)
- †Miobaptus
- †Thiornis
- Placement unresolved
 - Podicipedidae gen. et sp. indet. (San Diego Late Pliocene of California) formerly included in *Podiceps parvus*
 - Podicipedidae gen. et sp. indet. UMMP 49592, 52261, 51848, 52276, KUVP 4484 (Late Pliocene of WC USA)
 - Podicipedidae gen. et sp. indet. (Glenns Ferry Late Pliocene/Early Pleistocene of Idaho, USA)

Prehistoric species of extant genera

- Podiceps cf. auritus (Early Pliocene of Florida, USA) formerly P. pisanus,
 P. howardae and Pliodytes lanquisti
- Podiceps subparvus (Middle Pliocene of California, USA)
- Podiceps discors (Late Pliocene of WC USA)
- Podiceps? sp. (Late Pliocene of WC USA)
- Podiceps parvus (Late Pleistocene of W North America)
- Podilymbus majusculus (Late Pliocene of WC USA)
- Podilymbus wetmorei (Late Pleistocene of Florida, USA)
- Podiceps dixi
- Podiceps oligocaenus
- Aechmophorus elasson (Late Pliocene of W USA)
- Prehistoric subspecies of extant species

- Aechmophorus occidentalis lucasi (Late Pleistocene of SW North America)
- Podilymbus podiceps magnus may be same as nominate subspecies

Ciconiiformes

The diverse group that includes storks, herons and New World vultures.

- Placement unresolved
- o "Teratornis" olsoni
- Ardeidae Herons
 - o †Xenerodiops (Early Oligocene of Fayyum, Egypt)
 - o † Zeltornis (Early Miocene)
 - o †Ardeagradis
 - o †Calcardea
 - o †Proardea
 - o †Proardeola possibly same as Proardea
 - o Extant genera with known prehistoric species
 - Nvcticorax (Early Oligocene Recent)

Ardea (Middle Miocene - Recent)

Egretta (Late Miocene/Early Pliocene - Recent)

Butorides (Early Pleistocene - Recent)

Botaurus

- **Scopidae** Hammerkop
 - Prehistoric species of extant genera
 - Scopus xenopus
 - Threskiornithidae Ibises
 - o †*Rhynchaeites*
 - Prehistoric species of extant genera
 - Plegadis paganus (Late Oligocene/Early Miocene of France) formerly Eudocimus
 - Plegadis gracilis (Late Pliocene of WC USA)
 - Plegadis pharangites (Late Pliocene of WC USA)
 - Theristicus wetmorei
 - Eudocimus leisevi
 - Eudocimus ?peruvianus
 - Eudocimus sp. (Florida)
 - †Teratornithidae Teratorns
 - o Argentavis (Late Miocene)
 - o Aiolornis (Early Pliocene Late Pleistocene)
 - Cathartornis
- **Cathartidae** New World vultures
 - o † Diatropornis (Late Eocene/Early Oligocene -? Middle Oligocene)
 - †Phasmagyps (Early Oligocene)

- o †Brasilogyps (Late Oligocene Early Miocene)
- o †*Hadrogyps* (Middle Miocene)
- o † Pliogyps (Late Miocene Late Pliocene)
- o †Perugyps (Late Miocene/Early Pliocene)
- o † Dryornis (Early Late Pliocene) may belong to modern genus Vultur
- o †*Aizenogyps* (Late Pliocene)
- o †Breagyps (Late Pleistocene)
- o †*Geronogyps* (Late Pleistocene)
- †Wingegyps (Late Pleistocene)
- †Parasarcoramphus

o Placement unresolved

- Cathartidae gen. et sp. indet. (Late Oligocene of Mongolia)
- Cathartidae gen. et sp. indet. (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Cathartidae gen. et sp. indet. (Middle Pliocene of Argentina)
- Cathartidae gen. et sp. indet. (Cuba)

Extant genera with known prehistoric (sub)species

- Sarcoramphus (Middle Pliocene ?- Recent)
 Gymnogyps (Early Pleistocene Recent)
 Vultur (Pliocene Recent) distinctiveness disputed
- **Balaenicipitidae** Shoebills
- o † Goliathia (Late Eocene/Early Oligocene of Egypt)
- o †*Paludavis* (Late Miocene of Tunisia and Pakistan)

• **Ciconiidae** - Storks

- o †*Palaeoephippiorhynchus* (Early Oligocene of Fayyum, Egypt)
- †Grallavis (Early Miocene of Saint-Gérand-le-Puy, France, and Djebel Zelten, Libya) - may be same as
- †Prociconia (Late Pleistocene of Brazil) may belong to modern genus Jabiru or Ciconia

Palaeoephippiorhynchus

- o † Pelargosteon (Early Pleistocene of Romania)
- o Placement unresolved
 - Ciconiidae gen. et sp. indet. formerly Cygnus bilinicus (Early Miocene of BYešeany, Czechia)
 - cf. *Leptoptilos* gen. et sp. indet. formerly *L. siwalicensis* (Late Miocene? Late Pliocene of Siwalik, India)
 - Ciconiidae gen. et sp. indet. (Late Pleistocene of San Josecito Cavern, Mexico)
 Ciconia or Mycteria
 - *Ciconia stehlini* (Early Pleistocene of Hungary)
 - Ciconia nana (Late Pleistocene of Australia) formerly Xenorhynchus
 - Mycteria milleri (Valentine Middle Miocene of Cherry County, USA) formerly Dissourodes
 - Mycteria wetmorei (Late Pleistocene of W and SE USA)
 - *Ephippiorhynchus pakistanensis* (Late Miocene of Pakistan)

- Leptoptilos richae (Beglia Late Miocene of Bled ed Douarah, Tunisia, and Wadi Moghara, Egypt?)
- Leptoptilos sp. (Ngorora Late Miocene of Baringo District, Kenya)
- Leptoptilos falconeri (Early Late Pliocene of S Asia and E Africa)
- Leptoptilos cf. falconeri (Early Pliocene of Odessa, Ukraine and Urugus, Ethiopia - Late Pliocene of Koro Toro, Chad and Olduvai, Tanzania) - includes L. pliocenicus, may be the same as L. falconeri
- Leptoptilos sp. (Late Pliocene of Siwalik, India) formerly Cryptociconia indica, may be the same as L. falconeri
- Leptoptilos titan (Notopuro Middle/Late Pleistocene of Watualang, Java)

Pelecaniformes

The group that includes modern pelicans and cormorants.

- Basal and unresolved forms
- o †"Sula" ronzoni (Early Oligocene of Ronzon, Frane) formerly Mergus
- o †? Anhinga laticeps (Pleistocene)
 - †Prophaethontidae
- o Prophaethon (Early Eocene London Clay of Isle of Sheppey, England)
- o Lithoptila (Late Paleocene of Ouled Abdoun Basin, Morocco)
- **Phaethontidae** Tropicbirds
 - o †Heliadornis
- Fregatidae Frigatebirds
 - o †Limnofregata (Early Eocene)
- **Sulidae** Gannets and boobies
 - o †Masillastega (Middle Eocene of Messel, Germany)
 - †Eostega (Middle/Late Eocene of Cluj-Manastur, Romania)
 - o † Empheresula (Late Oligocene of Gannat, France Middle Miocene of Steinheimer Becken, Germany)
 - o †Microsula (Lower Miocene of Léognan Grund Middle Miocene of Austria)
 - o †Sarmatosula (Middle Miocene of Credinca, Romania)
 - †Rhamphastosula (Pisco Early Pliocene of SC Peru)
 - †Miosula
 - o †Palaeosula
 - Placement unresolved
 - Sulidae gen. et sp. indet. (Thalberg Late Oligocene of Germany)
 - o Extant genera with known prehistoric species
 - Morus (Early? Miocene Recent)
 - Sula (Early Miocene Recent)
- Phalacrocoracidae Cormorants and shags
 - o † Oligocorax (Late Oligocene of WC Europe)
 - †Nectornis (Early Miocene of C Europe Middle Miocene of Bes-Konak, Turkey) - includes Oligocorax miocaenus

- o †Valenticarbo
- o Placement unresolved
 - †Oligocorax? sp. (Late Oligocene of Enspel, Germany)
- Prehistoric species of extant genera
 - *Phalacrocorax marinavis* (Oligocene? of Oregon) *Oligocorax*?
 - Phalacrocorax littoralis (Early Miocene of St-Gérand-le-Puy, France) formerly Oligocorax
 - Phalacrocorax intermedius (Early Middle Miocene of C Europe) includes
 P. praecarbo, Ardea/P. brunhuberi and Botaurites avitus
 - Phalacrocorax macropus (Early Miocene ?-? Pliocene of NW USA)
 - Phalacrocorax ibericus (Late Miocene of Valles de Fuentiduena, Spain)
 - Phalacrocorax lautus (Late Miocene of Golboçica, Moldavia)
 - Phalacrocorax serdicensis (Late Miocene of Hrabarsko, Bulgaria)
 - Phalacrocorax femoralis (Modelo Late Miocene/Early Pliocene of WC North America)
 - Phalacrocorax sp. (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
 - Phalacrocorax longipes (Late Miocene Early Pliocene of the Ukraine) formerly Pliocarbo
 - Phalacrocorax goletensis (Early Pliocene of Michoacán, Mexico)
 - Phalacrocorax wetmorei (Bone Valley Early Pliocene of Florida)
 - Phalacrocorax sp. (Bone Valley Early Pliocene of Polk County, USA) may be P. idahensis
 - Phalacrocorax idahensis (Middle Pliocene ?- Pleistocene of Idaho)
 - Phalacrocorax destefani (Late Pliocene of Italy)
 - Phalacrocorax filyawi (Pinecrest Late Pliocene of Florida, USA) may be P. idahensis
 - Phalacrocorax macer (Late Pliocene of Idaho, USA)
 - Phalacrocorax rogersi (Late Pliocene of Santa Barbara, USA)
 - Phalacrocorax kennelli (San Diego Pliocene of California)
 - Phalacrocorax sp. "Wildhalm" (Pliocene)
 - Phalacrocorax pampeanus (Pleistocene of Argentina)
 - Phalacrocorax gregorii (Pleistocene of Australia)
 - Phalacrocorax vetustus (Pleistocene of Australia)
 - Phalacrocorax anatolicus
 - Phalacrocorax chapalensis
 - Phalacrocorax kumeyaay
 - Phalacrocorax leptopus
 - Phalacrocorax mongoliensis
 - Phalacrocorax reliquus
 - Phalacrocorax sp. (Sarasota County, Florida) may be P. idahensis
- †Plotopteridae Diving-"boobies"
 - o Phocavis
 - Tonsala
 - Copepteryx

- o *Plotopterum*
 - †Protoplotidae
- o Protoplotus (Middle Eocene of Sumatra)
- **Anhingidae** Darters
 - o †*Meganhinga* (Early Miocene)
 - o †*Macranhinga* (Late Miocene -? Early Pliocene)
 - o † Giganhinga (Late Pliocene/Early Pleistocene)
 - o Extant genera with known prehistoric species
 - Anhinga (Early Miocene Recent)
- †Pelagornithidae Pseudotooth Birds
 - o Gigantornis (Middle Eocene of Nigeria)
 - o Osteodontornis (Early Oligocene Pliocene)
 - o Pelagornis (Middle Miocene of France)
 - Odontopteryx
 - Caspiodontornis
 - Cyphornis (Eocene of Vancouver, Canada)
 - Dasornis
 - o Palaeochenoides
 - Pseudodontornis
 - o Tympanoneisiotes
- **Pelecanidae** Pelicans
 - o †*Protopelicanus*
 - o †Miopelecanus
 - o Extant genera with known prehistoric species
 - Pelecanus (Late Pliocene Recent)

Procellariiformes

The group that includes modern <u>albatrosses</u>, petrels and storm-petrels.

- †Diomedeoididae
- o Rupelornis (Early Oligocene of Belgium)
- o *Diomedeoides* (Early Oligocene ?-Early Miocene of C Europe and Iran) includes *Frigidafrons*, may be synonym of *Rupelornis*
- **Diomedeidae** Albatrosses
 - o †Murunkus (Middle Eocene)
 - o †Plotornis (Middle Miocene)
 - o Placement unresolved
 - Diomedeidae gen. et sp. indet. (Late Oligocene of South Carolina)
 - o Extant genera with known prehistoric species
 - Diomedea (Middle Miocene Recent)
 Phoebastria (Middle Miocene Recent)
 Thalassarche (Late Miocene Recent)
- Hydrobatidae Storm-petrels

o Prehistoric species of extant genera

- Oceanodroma hubbsi (Capistrano Middle/Late Miocene of Orange County, USA)
- Oceanodroma sp.
- Pelagodroma sp. 1
- Pelagodroma sp. 2
- Procellariidae Petrels
- o † Argyrodyptes (Patagonia Early Miocene of Patagonia, Argentina)
- o †Pterodromoides

o Extant genera with known prehistoric species

Puffinus (Early Oligocene - Recent)

Fulmarus (Middle Miocene - Recent)

Calonectris

Pachyptila

Procellaria

- **Pelecanoididae** Diving-petrels
 - o Extant genera with known prehistoric species
 - Pelecanoides (Early Pliocene Recent)

Gaviiformes

- Gaviidae Loons
 - o †Colymboides (Late Eocene Early Miocene) includes Hydrornis
 - o Extant genera with known prehistoric species
 - *Gavia* (Early Miocene Recent)

Sphenisciformes

Unresolved and basal forms

- o †Waimanu (Early Late Palaeocene)
- Sphenisciformes gen. et sp. indet. CADIC P 21 (Leticia Middle Eocene of Punta Torcida, Argentina)
- Spheniscidae Penguins
 - †Crossvallia (Cross Valley Late Paleocene of Seymour Island, Antarctica)
 †Anthropornis (Middle Eocene ?- Early Oligocene of Seymour Island, Antarctica)

†Archaeospheniscus (Middle/Late Eocene - Late Oligocene)

†Delphinornis (Middle/Late Eocene ?- Early Oligocene of Seymour Island, Antarctica)

†Palaeeudyptes (Middle/Late Eocene - Late Oligocene)

†Pachydyptes (Late Eocene)

†Marambiornis (Late Eocene -? Early Oligocene of Seymour Island,

Antarctica)

†Mesetaornis (Late Eocene -? Early Oligocene of Seymour Island,

Antarctica)

†Tonniornis (Late Eocene -? Early Oligocene of Seymour Island, Antarctica)

†Wimanornis (Late Eocene -? Early Oligocene of Seymour Island,

Antarctica)

†Arthrodytes (San Julian Late Eocene/Early Oligocene - Patagonia Early

Miocene of Patagonia, Argentina)

†Duntroonornis (Late Oligocene of Otago, New Zealand)

†Korora (Late Oligocene of S Canterbury, New Zealand)

†Platydyptes (Late Oligocene of New Zealand)

†Chubutodyptes (Early Miocene)

†Eretiscus (Patagonia Early Miocene of Patagonia, Argentina)

†Palaeospheniscus (Early Miocene)

†Paraptenodytes (Early Miocene)

†Anthropodyptes (Middle Miocene)

†Pseudaptenodytes (Late Miocene/Early Pliocene)

†Dege

†Insuza

†Marplesornis

†Nucleornis

o Extant genera with known prehistoric species

Pygoscelis (Middle/Late Miocene - Recent)

Spheniscus (Late Miocene/Early Pliocene - Recent)

Aptenodytes (Early Pliocene - Recent)

Placement unresolved

- Spheniscidae gen. et sp. indet (Late Oligocene/Early Miocene of Hakataramea, New Zealand)
- Spheniscidae gen. et sp. indet (Pisco Middle Miocene of SC Peru) may be same as *Pygoscelis* small sp.

Pteroclidiformes

- Pteroclididae Sandgrouse
 - o †*Archaeoganga*
 - o †Leptoganga

Columbiformes

- Columbidae Doves and pigeons
 - o † *Gerandia* (Early Miocene)
 - Extant genera with known prehistoric (sub)species

- Patagioenas (Early Pliocene Recent)
- Columba

Psittaciformes

- Unresolved and basal forms
- †Psittacopes
 - †Pseudasturidae
- Pseudastur
- Pseudasturides
- Psittacidae Parrots, parakeets and lories
 - o † Archaeopsittacus (Late Oligocene/Early Miocene of France)
 - o †*Xenopsitta* (Early Miocene of Czechia)
 - o †Bavaripsitta (Middle Miocene of Steinberg, Germany)
 - o †"Pararallus dispar" (Middle Miocene of France) includes "Psittacus" lartetianus
 - †Precursor (Early Eocene of England)
 - o †Serundaptus
 - o †Quercypsitta
 - o †Pulchrapollia
 - o Extant and recently extinct genera with known prehistoric species
 - Conuropsis (Early? Miocene Holocene) may be subspecies of C. carolinensis or belong to different genus Rhynchopsitta (Late Pleistocene - Recent)
 - o Additional prehistoric species of extant genera
 - Aratinga roosevelti

Cuculiformes

Cuckoos, turacos and allies.

- **Opisthocomidae** Hoatzins
- o †Hoazinoides (Miocene of upper Magdalena Valley, Colombia)
- o †Hoatzi may be same as Foro
 - Musophagidae Turacos
- o Placement unresolved
 - Musophagidae gen. et sp. indet. (Egypt)
- Prehistoric species of extant genera
 - Musophaga africanus formerly Apopempsis
 - Musophaga meini formerly Apopempsis
- Cuculidae Cuckoos
 - o †Dynamopterus
 - o †Cursoricoccyx

- o †Neococcyx
- o Placement unresolved
 - Cuculidae gen. et sp. indet.

Falconiformes

Birds of prey

- Unresolved and basal forms
- o †Masillaraptor (Middle Eocene of Messel, Germany) basal?
 - †Horusornithidae
- Horusornis
- Pandionidae Ospreys
 - o Extant genera with known prehistoric species
 - Pandion (Early Oligocene Recent)
- Sagittariidae Secretary Birds
 - o †*Pelargopappus* (Late Eocene/Early Oligocene Late Oligocene/Early Miocene of France) formerly *Amphiserpentarius/Amynoptilon/Pelargopsis*
- Accipitridae Hawks
 - o †Milvoides (Late Eocene of England)
 - o †Aquilavus (Late Eocene/Early Oligocene of France)
 - o †*Palaeocircus* (Late Eocene/Early Oligocene of France)
 - o †Palaeastur (Agate Fossil Beds Early Miocene of Sioux County, USA)
 - o †*Pengana* (Early Miocene of Riversleigh, Australia)
 - o †*Promilio* (Agate Fossil Beds Early Miocene of Sioux County, USA)
 - o †*Proictinia* (Early Late Miocene/Early Pliocene of C and SE USA)
 - o †Palaeoborus (Miocene)
 - o *†Neophrontops* (Early Pliocene Late Pleistocene)
 - o †*Amplibuteo* (Late Pliocene of Peru Late Pleistocene of S North America and Cuba) may belong to extant genus *Harpyhaliaetus*
 - o †Neogyps
 - o †Palaeohierax
 - o †Wetmoregyps formerly Morphnus daggetti
 - o Placement unresolved
 - Accipitridae gen. et sp. indet. AMNH 7434 (Huerfano Early Eocene of Huerfano County, USA)
 - Accipitridae gen. et sp. indet. (Egypt)
 - "Aquila" danana (Miocene) formerly Geranoaetus or Buteo
 - Extant genera with known prehistoric species
 - Haliaeetus (Early Oligocene Recent)
 - Buteo (Middle Oligocene Recent)
 - Additional prehistoric species of extant genera
 - Aquila bivia

- Aquila sodalis
- Buteogallus enectus (Sheep Creek Middle Miocene of Sioux County, USA)
- Buteogallus fragilis (Rancho La Brea Late Pleistocene of California, USA) formerly Geranoaetus
- Buteogallus milleri (Late Pleistocene of New Mexico, USA)
- Gyps melitensis
- Neophron sp. (Late Miocene/Early Pliocene of Lee Creek Mine, USA)
- Neophron vetustus
- Neophron dakotensis
- Neophron slaughteri
- Neophron vallecitoensis
- Neophron ricardoensis
- Spizaetus grinnelli (Rancho La Brea Late Pleistocene of California, USA) formerly Geranoaetus
- Spizaetus pliogryps
- Falconidae Falcons
 - o †*Parvulivenator* (Early Eocene of England)
 - o †Stintonornis (Early Eocene of England)
 - o †Badiostes (Santa Cruz Early Miocene of Patagonia, Argentina)
 - o †Pediohierax (Middle Miocene of Nebraska, USA) formerly Falco ramenta
 - o Placement unresolved
 - Falconidae gen. et sp. indet. (Late Miocene of Neuquén, Argentina)
 - o Prehistoric species of extant genera
 - *?Falco* sp. (Late Miocene of Idaho)
 - *Falco* sp. (Early Pliocene of Kansas)
 - *Falco medius* (Late Miocene of Cherevichnyi, Ukraine)
 - Falco antiquus
 - Milvago alexandri
 - Milvago readei
 - ?Milvago sp. (Jamaica, West Indies)
 - Milvago sp. (Cuba, West Indies)
 - Prehistoric subspecies of extant species
 - Falco tinnunculus atavus
 Polyborus plancus grinnelli (Late Pleistocene of California)
 Polyborus plancus prelutosus (Late Pleistocene of Mexico)

Caprimulgiformes

Nightjars, potoos and allies.

- Placement unresolved
- o †*Paraprefica* Steatornithidae or Nyctibiidae
 - Steatornithidae Oilbirds
- o †Prefica

- o Prehistoric species of extant genera
 - *Steatornis* sp.
- Podargidae Frogmouths
 - o †Masillapodargus
 - o †Quercypodargus
 - **Nyctibiidae** Potoos
 - o †Euronyctibius
- Caprimulgidae Nightjars
 - o †Ventivorus

Apodiformes

Swifts, hummingbirds and owlet-nightjars.

- Basal and unresolved forms
- o †Primapus (Early Eocene) aegialornithid or apodid
- o †Parargornis (Middle Eocene) jungornithid, trochilid, basal as Argornis?
- o † Argornis (Late Eocene) basal to Jungornithidae and Trochilidae
- o †Cypselavus (Late Eocene Early Oligocene) aegialornithid or hemiprocnid
- **Aegothelidae** Owlet-nightjars
 - o † *Quipollornis* (Early/Middle Miocene)
 - †Aegialornithidae
 - o Aegialornis (Early Eocene of North America? Late Eocene of C Europe)
 - †Jungornithidae
 - o Jungornis (Early Oligocene of N Caucasus, Russia)
 - o Palescyvus
 - o Laputavis
- Trochilidae Hummingbirds
 - o †Eurotrochilus (Early Oligocene of Frauenweiler, Germany)
 - o Placement unresolved
 - Trochilidae sp. et gen. indet. (Bahamas, West Indies)
 - Trochilidae sp. et gen. indet. (Brazil)
- Apodidae Swifts
 - o †Scaniacypselus (Early Middle Eocene)
 - o † Procypseloides (Late Eocene/Early Oligocene Early Miocene)
 - o Extant genera with known prehistoric (sub)species
 - Apus
 - Tachornis

Coliiformes

Mousebirds and relatives

Unresolved and basal forms

- o †Chascacocolius (Late Paleocene ?- Early Eocene) basal? sandcoleid?
- o †Eocolius (Early Eocene) sandcoleid or coliid
- †Selmes (Middle Eocene ?-Late Oligocene) coliid?, possibly synonym of Primocolius
- o †"Necrornis" palustris (Miocene) coliid (genus Colius)?
- o †"Picus" archiaci (Miocene) coliid? genus Limnatornis?
- o †"Picus" consobrinus (Miocene) coliid?
- o †Eobucco sandcoleid?
- †Uintornis sandcoleid?
- o †Limnatornis

†Sandcoleidae

- Sandcoleus
- o Anneavis
- o Eoglaucidium
- Coliidae Mousebirds
 - o †Primocolius (Late Eocene/Oligocene)
 - o † Oligocolius (Early Oligocene)
 - o †Masillacolius (Middle Eocene)
 - o Prehistoric species of extant genera
 - Colius hendeyi (Early Pliocene)

Strigiformes

Owls and barn owls

- Unresolved and basal forms
- o †Ogygoptynx (Early Paleocene of Colorado, USA) basal
- †Berruornis basal
- o †Strigiformes gen. et spp. indet. (Early Oligocene of Wyoming, USA)
 - †Palaeoglaucidae
- Palaeoglaux
 - †Protostrigidae
- o *Protostrix* (Middle Late Eocene of W USA)
- o Eostrix (Early Eocene of WC USA and England Middle Eocene of WC USA)
 - †Sophiornithidae
- Sophiornis
- Strigogyps includes Aenigmavis and Ameghinornis
 - **Strigidae** Owls
- Placement unresolved
 - "Asio" henrici (Late Eocene/Early Oligocene of France) previously Otus
 - "Otus" wintershofensis (Early/Middle Miocene of Wintershof West, Germany)
 - "Strix" brevis (Early/Middle Miocene of Wintershof West, Germany)
- Prehistoric species of extant genera

- *Strix collongensis* (Early Miocene of France)
- ?Strix dakota (Early Miocene of South Dakota, USA)
- *Strix* sp. (Late Miocene of Nebraska, USA)
- ?Strix perpasta (Late Miocene Early Pliocene of Gargano Peninsula, Italy)
 - possibly same as *Bubo zeylonensis lamarmorae*
- Strix brea (Late Pleistocene of SW North America)
- Strix sp. (Late Pleistocene of Ladds, USA)
- Strix intermedia
- Asio brevipes (Glenns Ferry Late Pliocene of Hagerman, USA)
- Asio priscus (Late Pliocene of Santa Rosa Island, USA)
- Athene megalopeza (Rexroad Late Pliocene of WC USA)
- Athene trinacriae
- Athene cf. cunicularia (Barbuda, West Indies)
- Athene cf. cunicularia (Cayman Islands, West Indies)
- Athene cf. cunicularia (Jamaica, West Indies)
- Athene cf. cunicularia (Mona Island, West Indies)
- Athene cf. cunicularia (Puerto Rico, West Indies)
- Bubo sp. (Late Pleistocene of San Josecito Cavern, Mexico)
- o † Geranopterus (Late Eocene) basal
 - †Eocoraciidae
- Eocoracias
 - †Primobucconidae
- o Primobucco
- Todidae Todies
 - o †Palaeotodus
- Motmotidae Motmots
 - o †*Protornis*
 - Placement unresolved
 - Momotidae gen. et sp. indet. (Late Miocene of Alachua County, USA)
 - †Messelirrisoridae
 - o *Messelirrisor* (Middle Eocene of Messel, Germany)
- Bucerotidae Hornbills
 - o Extant genera with known prehistoric species
 - Bucorvus

Trogoniformes

- **Trogonidae** Trogons
 - o †Septentrogon (Fur Late Paleocene/Early Eocene of Ejersley, Denmark)
 - o †*Primotrogon* (Middle Eocene of Messel, Germany? Early Oligocene of France)
 - o †Paratrogon (Early Miocene of France)
 - Placement unresolved

- Trogonidae gen. et sp. indet. 1 (NW Europe)
- Trogonidae gen. et sp. indet. 2 (NW Europe)

Piciformes

Placement unresolved

- o †Piciformes gen. et sp. indet. IRScNB Av 65 (Early Oligocene)
- o †Rupelramphastoides (Early Oligocene) ramphastid?
- o †Piciformes gen. et sp. indet. SMF Av 429 (Late Oligocene)
- o †Capitonides (Early Middle Miocene) ramphastid or capitonid
 - †Primoscenidae
- Primoscens
- o Primozygodactylus
 - †Miopiconidae
- o Miopico
- **Picidae** Woodpeckers
 - o †Palaeopicus (Late Oligocene)
 - o †Palaeonerpes (Early Pliocene)
 - †Pliopicus (Early Pliocene)
 - Placement unresolved
 - Picidae gen. et sp. indet. (Middle Miocene)
 - Picidae gen. et sp. indet. (Late Miocene)
 - cf. Colaptes DMNH 1262 (Early Pliocene of Ainsworth, USA)
 - Extant genera with known prehistoric (sub)species
 - Campephilus (Late Pleistocene Recent)
 Colaptes
 Dendrocopos
 - Additional prehistoric subspecies of extant species
 - Melanerpes superciliaris ssp. (Little Exuma, Bahamas)
 Melanerpes superciliaris ssp. (New Providence, Bahamas)

Passeriformes

Placement unresolved

- o †Wieslochia (Early Oligocene of Frauenweiler, Germany)
- †Passeriformes gen. et sp. indet. SMF Av 504 (Late Oligocene of Luberon, France)
- o †Passeriformes gen. et sp. indet. (Late Oligocene of France)
- †Passeriformes gen. et sp. indet. MACN-SC-1411 (Pinturas Early/Middle Miocene of Santa Cruz Province, Argentina)
- †Passeriformes gen. et sp. indet. SMN Av 487-496 (Middle Miocene of Petersbuch, Germany)

- o †Passeriformes gen. et sp. indet. SMNS 86822,86825-86826
- o †"Palaeostruthus" eurius (Pliocene of Florida)
- **Eurylaimidae** Broadbills
 - Placement unresolved
 - Eurylaimidae gen. et sp. indet. (Early Miocene of Wintershof, Germany)
 - †Palaeoscinidae
 - Paleoscinis
- Furnariidae Ovenbirds
 - o Prehistoric species of extant genera
 - Pseudoseisura cursor (Ensenada Early/Middle Pleistocene of Anchorena, Argentina)
- Orthonychidae Logrunners
 - o Extant genera with known prehistoric species
 - Orthonyx (Middle/Late Miocene Recent)
- Corvidae Crows, Ravens, Jays and Magpies
 - o †Henocitta (Arredondo Early Pleistocene of Williston, USA)
 - o †Protocitta (Early Pleistocene of Reddick, USA)
 - o †Miocitta
 - o †Miocorvus
 - Extant genera with known prehistoric (sub)species
 - Corvus (Late Miocene Recent)

Pica

Pyrrhocorax

- o Placement unresolved
 - Corvidae gen. et sp. indet. (Sicily)
- **Laniidae** Shrikes
 - o Prehistoric species of extant genera
 - Lanius miocaenus (Early Miocene of Langy, France)
- Motacillidae Wagtails
 - o Prehistoric species of extant genera
 - Motacilla humata
 - Motacilla major
- Fringillidae Finches
 - o Prehistoric species of extant genera
 - Loxia patevi
 - Coccothraustes balcanicus
 - Coccothraustes simeonovi
- Cardinalidae Cardinals
 - o Placement unresolved
 - *?Passerina* sp. (Early Pliocene of Yepómera, Mexico)
- **Emberizidae** Buntings
 - o †Palaeospiza
 - o Prehistoric species of extant genera

- Ammodramus hatcheri (Late Miocene of Kansas, USA) formerly Palaeospiza or Palaeostruthus
- Pipilo angelensis (Pleistocene of Rancho La Brea, USA)
- **Regulidae** Kinglets
 - o Prehistoric species of extant genera
 - Regulus balcanicus
- Icteridae Grackles
 - o †Pandanaris (Pleistocene of Rancho La Brea, USA)
 - o †*Pyelorhamphus* (Shelter Cave, USA)
 - o Prehistoric species of extant genera
 - Euphagus magnirostris (Late Pleistocene of Rancho La Brea, California)

Aves incertae sedis

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- 1.9 Aves incertae sedis
 - 1.9.1 †Liaoningornithiformes
 - 1.9.2 †Eurolimnornithiformes
 - 1.9.3 †Palaeocursornithiformes
 - o 1.10 Ichnotaxa
 - 2 References
 - 3 See also

Aves incertae sedis

- †Holbotia (Early Cretaceous of Andaikhudag, Mongolia) basal pygostylian?
- †Hongshanornis (Yixian Early Cretaceous of China) pygostylian?
- †Nanantius (Early Cretaceous) enantiornithine
- †*Otogornis* (Yijinhuoluo Early Cretaceous of Yike Zhaomeng, China) basal pygostylian? enantiornithine?
- †*Protopteryx* (Early Cretaceous of China) enantiornithine?
- †*Wyleyia* (Early Cretaceous) enantiornithine? neornithine (paleognath)?
- † Asiahesperornis (Late Cretaceous of Eginsai, Kazakhstan) hesperornithiform?
- †Euornithes gen. et sp. indet. (Bissekty Late Cretaceous of Kyzyl Kum, Uzbekistan)
- † Gargantuavis (Late Cretaceous of S France) pygostylian (enantiornithine?)?
- † *Iaceornis* (Late Cretaceous of Gove County, USA) neornithine or basal ornithuran
- †*Horezmavis* (Bissekty Late Cretaceous of Kyzyl Kum, Uzbekistan) enantiornithine (gobipterygiform?), basal ornithuran or gruiform
- †"Ichthyornis" minusculus (Bissekty Late Cretaceous of Kyzyl Kum, Uzbekistan)
- †cf. *Nanantius* (Bissekty Late Cretaceous of Kyzyl Kum, Uzbekistan) enantiornithine?
- †*Neogaeornis* (Quinriquina Late Cretaceous of Chile) baptornithid or neornithine (gaviiform, procellariiform?)
- †*Patagopteryx* (Barro de la Carpa Late Cretaceous of Sierra Barrosa, Argentina) pygostylian (enantiornithine?)?
- †*Piksi* (Two Medicine Late Cretaceous of Montana) basal ornithuran, basal pygostylian or neornithine?
- †Platanavis (Bissekty Late Cretaceous of Kyzyl Kum, Uzbekistan)
- †"Polarornis" (Lopez de Bertodano Late Cretaceous of Seymour Island, Antarctica) gaviiform or pygostylian, may be synonym of Neogaeornis
- †"Cathayornis" aberransis
- †"Cathayornis" caudatus

- †Gobipipus
- † *Guildavis* (Cretaceous of Wallace County, USA) neornithine or basal ornithuran
- †"Ichthyornis" maltshevskyi
- †*Parascaniornis* (Cretaceous of Ivö, Sweden) neornithine (phoenicopteriform), hesperornithiform?
- †*Vorona* (Late Cretaceous) basal ornithuromorph?
- †Chaoyangidae pygostylian, yanornithiform?
 - o Chaoyangia (Jiufotang Early Cretaceous of Liaoning, China)

†Liaoningornithiformes

• Liaoningornithidae

o Liaoningornis (Yixian Early Cretaceous of Liaoning, China)

†Eurolimnornithiformes

Eurolimnornithidae

o Eurolimnornis (Early Cretaceous)

†Palaeocursornithiformes

Palaeocursornithidae

o Palaeocursornis (Early Cretaceous)

Ichnotaxa

- † Archaeornithipus (Late Jurassic/Early Cretaceous of Soria, Spain) footprints
- †*Aquatilavipes* (Early Cretaceous of Canada, ?and Japan, China -? Anacleto Late Cretaceous of Sierra Barrosa, Argentina) footprints (5-6 x 4-5 cm (h/v). Toes long, narrow, small webs; no hallux; T2-T4 100-140°; toe pads; step 6-20 cm. Avian: *Patagopteryx*? shorebird?)
- † Fuscinapedis (Early Cretaceous of Texas) footprints (35 x 35 cm (h/v). Toes long, wide; no hallux; T2-T4 80-85°. Avian: giant flightless bird?)
- †*Ignotornis* (Early -? Late Cretaceous) footprints (6 x 5 cm (h/v w/o hallux). Toes long, narrow, unwebbed, T2 smaller; hallux backwards and high; T1-T4 220°, T2-T4 130-145°; toe pads; step 9-33 cm. Avian: *Neuquenornis*? shorebird?)
- †Koreanaornis (Early Cretaceous of Korea) footprints
- †*Magnoavipes* (Early Cretaceous of Texas) footprints (25 x 20 cm (h/v). Toes long, very thin; no hallux; T2-T4 90°. Avian?)
- †Shandongornipes (Tianjialou Early Cretaceous of Junan County, China) footprints (6 x 9 cm (h/v). Toes long, thin, unwebbed; hallux backwards; T1-T4 220°; T2-T4 135°; toe pads. Avian: shorebird)

- †*Barrosopus* (Anacleto Late Cretaceous of Sierra Barrosa, Argentina) footprints (3.5 x 3 cm (h/v). Toes narrow, unwebbed, T2 separated (higher); no hallux; T2-T4 100-120°.; step 10-20 cm. Avian?)
- †Dispersituberoolithus (Oldman Late Cretaceous of S Alberta, Canada) egg; neornithine?
- †*Hwangsanipes* (Late Cretaceous) footprints
- †Sarjeantopodus (Lance Late Cretaceous of Niobrara County, USA) footprints
- † Saurexallopus (Late Cretaceous of Wyoming) footprints (30 x 25-30 cm (h/v). Toes long, thin; hallux sideways; T1-T4 130°; T2-T4 90°; deep heel; toe pads. Avian?)
- †*Tristraguloolithus* (Oldman Late Cretaceous of S Alberta, Canada) egg; galliform (cracid)?
- †*Uhangrichnus* (Late Cretaceous of SW Korea) footprints
- † Yacoraitichnus (Late Cretaceous of Salta, Argentina) footprints
- † Ornithoformipes (Puget Late Eocene of Kummer, USA) footprints; may be from Gastornis
- † *Gruipeda* footprints
- † Iranipeda (Paleocene of Iran) footprints; may be same as Gruipeda
- *†Jindongornipes* footprints
- †"Patagonichnornis" (Cretaceous, Rio Negro Province, Argentina) footprints

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See also

- <u>Bird</u>
- Extinct birds
- Late Quaternary prehistoric birds

Suborders of birds

Corvida

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Suborder: <u>Passeri</u> Parvorder: <u>Corvida</u> Families: Many, see text

Corvida is under the Sibley-Ahlquist taxonomy, one of two parvorders contained within the suborder Passeri. More recent research suggests that it is not a distinct clade but an evolutionary grade instead. As such the usage of this parvorder is likely to be subject to further revision.

Families

Menuridae: lyrebirds

Atrichornithidae: scrub birds

Climacteridae: Australian treecreepers

Maluridae: fairy-wrens, emu-wrens and grasswrens

Meliphagidae: honeyeaters and chats

Pardalotidae: pardalotes, scrubwrens, thornbills, and gerygones

Petroicidae: Australian robins Orthonychidae: logrunners

Pomatostomidae: Australasian babblers Cinclosomatidae: whipbirds and allies

Neosittidae: sittellas

Pachycephalidae: whistlers, shrike-thrushes, pitohuis and allies

Dicruridae: monarch flycatchers and allies Campephagidae: cuckoo shrikes and trillers

Oriolidae: orioles and Figbird

Icteridae: American blackbirds and orioles, grackles and cowbirds

Artamidae: wood swallows, butcherbirds, currawongs and Australian Magpie

Paradisaeidae: birds of paradise Corvidae: crows, ravens, and jays

Corcoracidae: White-winged Chough and Apostlebird

Irenidae: fairy-bluebirds

Laniidae: shrikes Vireonidae: vireos

Ptilonorhynchidae: bowerbirds

Turnagridae: Piopio

See also

• <u>list of birds</u>

Artamidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Artamidae Vigors, 1825 Subfamilies: Artaminae, Cracticinae

The family **Artamidae** gathers together 20 species of mostly crow-like birds native to Australasia and nearby areas.

There are two subfamilies: <u>Artaminae</u>, the woodswallows, are sombre-coloured, soft-plumaged birds that have a brush-tipped tongue but seldom use it for gathering nectar. Instead, they catch insects on the wing. They are agile flyers with large, pointed wings and are among the very few <u>passerine</u> birds that soar. One sedentary species aside, they are nomads, following the best conditions for flying insects, and often roosting in large flocks.

The cracticids—<u>currawongs</u>, <u>Magpie</u>, and <u>butcherbirds</u>, subfamily Cracticinae—are more obviously members of the broader corvid group. They have large, straight bills and mostly black, white or grey plumage. All are omnivorous to some degree: the butcherbirds mostly eat meat, Magpies usually forage through short grass looking for worms and other small creatures, currawongs are true omnivores, taking fruit, grain, meat, insects, eggs and nestlings.

The cracticids, despite their fairly plain, utilitarian appearance, are highly intelligent and have extraordinarily beautiful songs of great subtlety. Particularly noteworthy are the Pied Butcherbird, the Pied Currawong and the <u>Australian Magpie</u>.

Species of Artamidae

- Subfamily <u>Artaminae</u>
 - Ashy Woodswallow, Artamus fuscus
 Fiji Woodswallow, Artamus mentalis
 White-backed Woodswallow, Artamus monachus
 Great Woodswallow, Artamus maximus
 White-breasted Woodswallow, Artamus leucorynchus
 Bismarck Woodswallow, Artamus insignis
 Masked Woodswallow, Artamus personatus
 White-browed Woodswallow, Artamus superciliosus
 Black-faced Woodswallow, Artamus cinereus
 Dusky Woodswallow, Artamus cyanopterus
 Little Woodswallow, Artamus minor
- Subfamily Cracticinae:
 - Mountain Peltops, Peltops montanus Lowland Peltops, Peltops blainvillii Black Butcherbird, Cracticus quoyi Grey Butcherbird, Cracticus torquatus Hooded Butcherbird, Cracticus cassicus

Tagula Butcherbird, Cracticus louisiadensis Black-backed Butcherbird, Cracticus mentalis Pied Butcherbird, Cracticus nigrogularis Pied Currawong, Strepera graculina Black Currawong, Strepera fuliginosa Grey Currawong, Strepera versicolor Australian Magpie, Gymnorhina tibicen

Artamus

Woodswallows Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Artamidae</u>
Subfamily: **Artaminae**

Genus: Artamus Vieillot, 1816Species: Many, see text

Woodswallows are soft-plumaged, somber-coloured <u>passerine</u> birds found in Australia and the islands nearby. Given their moderate size—about the same as a Common Starling—and dull plumage, they are amongst the easiest of birds to observe and recognise. In flight, they look very like large, stiff-winged <u>swallows</u>, and like swallows, they mostly eat flying insects.

Woodswallows are smooth, agile flyers with moderately large, semi-triangular wings. They are among the very few <u>passerines</u> birds that soar, and can often be seen feeding just above the treetops. One sedentary species aside, they are nomads, following the best conditions for flying insects, and often roosting in large flocks.

Although woodswallows have a brush-tipped tongue they seldom use it for gathering nectar.

Species of Artamus

Ashy Woodswallow, Artamus fuscus
 Fiji Woodswallow, Artamus mentalis
 White-backed Woodswallow, Artamus monachus
 Great Woodswallow, Artamus maximus
 White-breasted Woodswallow, Artamus leucorynchus
 Bismarck Woodswallow, Artamus insignis
 Masked Woodswallow, Artamus personatus
 White-browed Woodswallow, Artamus superciliosus
 Black-faced Woodswallow, Artamus cinereus
 Dusky Woodswallow, Artamus cyanopterus
 Little Woodswallow, Artamus minor

Cracticus

Butcherbird

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Artamidae</u>

Genus: *Cracticus* Vieillot, 1816Species: *C. quoyi, C. torquatus, C. cassicus, C. louisiadensis, C.*

mentalis, C. nigrogularis

Butcherbirds are magpie-like <u>birds</u> in the genus *Cracticus*. They are native to Australasia.

Butcherbirds are mid-sized, growing up to 35cm in length. Their colour ranges from black-and-white to mostly black, with added grey plumage, depending on the species. They have a large, straight bills with a distinctive hook at the end which is used to skewer prey. They have beautiful songs of great subtlety.

Butcherbirds are insect eaters for the most part, but will also feed on small lizards and other meat. They get their name from their habit of hanging captured prey on a thorn, tree fork, or crevice. This "larder" is used to support the victim while it is being eaten, to store prey for later consumption, or to attract mates.

Butcherbirds are the ecological counterparts of the <u>shrikes</u>, which are unrelated but share the "larder" habit. The shrikes are also sometimes called "butcherbirds".

Female butcherbirds lay one or two eggs in a clutch. The young will remain with their mother until almost fully grown. They tend to trail behind their mother and "squeak" incessantly while she catches food for them.

Woodlands are the butcherbird's natural habitat, but like many similar species they have adapted well to urbanisation and can be found in leafy suburbs throughout Australia. They are opportunistic and intelligent, showing little fear and readily taking food offerings to the point of becoming semi-tame, although this practice should not be encouraged. They will often reward these offerings with "thank you" songs. The birds will accept most kinds of scraps, but should only be given food suitable for insectivores such as mealworms and not, for example, bread.

Species

- Black Butcherbird, Cracticus quoyi Grey Butcherbird, Cracticus torquatus
 - Silver-Backed Butcherbird *Cracticus argenteus* (alternately a subspecies of *C. torquatus*)
- Hooded Butcherbird, Cracticus cassicus
 Tagula Butcherbird, Cracticus louisiadensis
 Black-backed Butcherbird, Cracticus mentalis
 Pied Butcherbird, Cracticus nigrogularis

Gymnorhina

Australian Magpie

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Artamidae</u>

Genus: *Gymnorhina* Gray, GR, 1840 Species: *G. tibicen* Binomial name: *Gymnorhina tibicen* (Latham, 1802)

The **Australian Magpie** (*Gymnorhina tibicen*) is a medium-sized black and white bird, closely related to the <u>butcherbirds</u> and <u>currawongs</u>. Early European settlers named it for its black and white coloration, similar to the familiar European magpie, which is a more distant relative.

- 1 Description
 - o 1.1 Subspecies
- 2 Behaviour
 - o 2.1 Swooping
 - o 2.2 Tameness
- 3 Popular culture
- 4 References

Description

Adult magpies are fairly solid, well-built birds with pure black and white plumage: juveniles mix the stark blacks and whites with lighter greys and browns. Males and females are generally similar in appearance, though a few exceptions noted under individual varieties below.

Mature magpies have red eyes, in contrast to the yellow eyes of currawongs and white eyes of Australian ravens and crows. Immature birds have darker brownish eyes.

Butcherbirds are generally smaller and stockier, while magpie larks are delicate birds with white eyes.

Some magpies have lived up to 30 years.

Subspecies

There are currently thought to be eight subspecies of Australian magpie. The **black-backed magpie**, originally known as *Gymnorhina tibicen tibicen*, has been split into at least three black-backed races:

- *G. tibicen tibicen*, found in eastern New South Wales
- *G. tibicen terraereginae* found across Queensland, central and western New South Wales and into northern South Australia
- *G. tibicen eylandtensis,* found across the Northern Territory
- G. tibicen longirostris, found across northern Western Australia

The **White-backed Magpie**, originally *G. tibicen hypoleuca*, has similarly been split into races:

- *G. tibicen tyrannica*, a very large white backed form found across southern Victoria
- *G. tibicen telonocua*, found in southern South Australia
- The **Tasmanian Magpie** (*G. tibicen hypoleuca*), a small white-backed subspecies with a short compact bill found on King and Flinders Islands, as well as Tasmania.
- The **Western Magpie** (*G. tibicen dorsalis*) in the fertile south-west corner of Western Australia.

These three races, *tibicen*, *hypoleuca* and *dorsalis*, were for many years considered separate species; however, they were noted to hybridise readily where their territories cross, with hybrid grey or striped-backed magpies being quite common.

Behaviour

Australian magpies have a musical warbling call. Noted New Zealand poet Denis Glover wrote "quardle oodle ardle wardle doodle, the magpies say". In contrast, young magpies squawk almost continuously.

Magpies mate throughout the year, but generally in winter. Nesting takes place in winter, and chicks hatch in early spring. By late summer the babies either form their own flock or separate from their parents but remain in the same flock.

Magpies were introduced into New Zealand in the 1860s and are proving to be a pest by displacing native birds.

Swooping

Magpies tend not to be afraid of people, and they live in urban areas as often as in the bush, so magpies are a familiar sight to most Australians, and their melodic song is widely enjoyed. However, if magpies feel threatened while nesting (typically in August-September in southern Australia), even by an inadvertent intrusion into their territory, they will often swoop at the intruder and audibly "snap" their beaks in an attempt to drive them away.

Magpies generally swoop from behind, and without warning, so attacks can be somewhat terrifying, particularly to children. For this reason, local authorities sometimes post warning signs during "swooping season", particularly in urban parks. Magpie attacks sometimes cause injuries, typically minor wounds to the scalp; however, this is uncommon.

To avoid swooping attacks, the best course is to avoid the territory of nesting magpies during the relatively brief nesting season. Magpies are a protected native species in Australia, so it is illegal to kill or harm them.

If it is necessary to walk near the nest, some people prefer to wear protection. Magpies prefer to swoop at the back of the head; therefore, keeping the magpie in sight at all times can discourage the bird. Using a basic disguise to fool the magpie as to where a person is looking (such as painting eyes on a hat, or wearing sunglasses on the back of the head) can also prove effective, as can holding an object above one's head. In some cases, magpies may become extremely aggressive and attack people's faces; it may become very difficult to deter these birds from swooping. If a bird presents a serious nuisance the local authorities may arrange for that bird to be legally euthanised, or more commonly, to be caught and relocated to an unpopulated area.

Tameness

Australian Magpies are territorial, and this presents the opportunity for people to get acquainted with the local pairs and their offspring.

Popular culture

The magpie is a commonly used emblem of sporting teams in Australia, most notably the Collingwood Football Club, the Port Adelaide Magpies Football Club, the Western Suburbs Rugby League Club and the Souths-Logan Magpies Rugby League Club.

The white-backed magpie has been featured on the South Australian flag since 1904 and coats of arms since 1984 under the name Piping Shrike.

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- Kaplan, Gisela, *Australian Magpie: Biology and Behaviour of an Unusual Songbird*, CSIRO Publishing, 2004, ISBN 0-643-09068-1
 - Magpies Queensland Government

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- <u>Magpie Alert: Learning to Live with a Wild Neighbour</u> Dr Darryl Jones.

(2002) University of NSW Press

Currawong

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes Family: Artamidae *Genus:* Strepera

Species: Stepera graculina, Stepera versicolor, Stepera fuliginosa

Currawongs are medium-sized <u>passerine</u> birds of the family Artamidae native to Australasia. There are either three or four species (depending on whether the Australian Magpie is counted as a currawong or not). The common name comes from the call of the familiar **Pied Currawong** of eastern Australia and is onomatopoeic.

The true currawongs are a little larger than the <u>Australian Magpie</u>, somewhat smaller than most <u>ravens</u>, but broadly similar in appearance. They are easily distignuished by their yellow eyes, in contrast to the red eyes of a magpie and white eyes of Australian crows and ravens. They are not as terrestrial as the Magpie and have shorter legs. They are omnivorous, foraging in foliage, on tree trunks and limbs, and on the ground, taking insects and larvae (often dug out from under the bark of trees), fruit, and the nestlings of other birds.

It is sometimes said, with at least some justice, that the home gardener can have either currawongs or small birds, but not both—although part of this perception can be traced to the failure of many gardeners to provide a sufficient number of dense, thorny shrubs as refuges.

- 1 Species
- <u>2 Ecology</u>
- 3 Classification

Species

All three currawongs are from the south or east of Australia.

The **Pied Currawong** (*Stepera graculina*) is black with white in the wing, undertail covets, the base of the tail and (most visibly) the tip of the tail. Size is about 40 to 50 cm. Along with the <u>Australian Magpie</u> and the <u>butcherbirds</u>, it has one of the most hauntingly beautiful caroling calls of any Australian songbird, and is eclipsed, perhaps, only by the Grey Shrike-thrush and the <u>lyrebirds</u>. It is common in woodland, rural and semi-urban environments throughout eastern Australia, from Cape York to western Victoria. It seems to have adapted well to European presence, and has become more common in some urban areas such as Sydney.

• The **Black Currawong** (*Stepera fuliginosa*) is confined to Tasmania and is all black except for a small white patch in the wing and a white-tipped tail. Like all

- currawongs, it builds a large cup-nest out of sticks, lined with softer material, and placed in a tall tree.
- The **Grey Currawong** (*Stepera versicolor*) has 6 different races spread right across the southern part of the continent from the Sydney area south and west around the coast and hinterland as far as the fertile south-west corner of Western Australia and the semi-arid country surrounding it. Outlying populations are found on the east coast of Tasmania and, oddly, in the arid area where the Northern Territory meets South Australia and Western Australia. The races vary a great deal: the most common mid to dark grey form (race *versicolor*) and the grey-brown form of South Australia, race *intermedia*, also known as the Brown Currawong, are readily recognised; the darkest races, mostly in Tasmania (race *arguta*, known as the Clinking Currawong) and the Black winged Currawong (race *melanoptera*) from western Victoria's mallee region, can be difficult to distinguish from the Black and Pied Currawongs at any distance. Kangaroo Island has its own race, *halmaturina*. The race *plumbea* occurs from western South Australia west through southern Western Australia. All Grey Currawongs, however, have a distinctive ringing call and a more sharply pointed, finer bill.

Ecology

Unlike many birds, the Currawongs have suffered little from European occupation of the land. Settlers and successive generations have replaced much of the natural woodland and forest with vast artificial grasslands, where Currawongs are seldom seen. Scattered patches of remaining bush appear to be sufficient for their needs and the provision of irrigated waypoints along their rambling migration routes has encouraged them to take up residence in areas where they previously only overflew. The effect of this on smaller birds that are vulnerable to nest predation is controversial: several studies have suggested that Pied Currawongs have become a serious problem, but the truth of this widely held perception remains to be established. They appear to thrive on berries of some introduced species, some of which themselves are pests, such as the Camphor Laurel.

Classification

Currawongs belong to the <u>subfamily</u> **Cracticinae**, which also includes the <u>Australian Magpie</u> and the <u>Butcherbird</u>: about 20 species in all. Together with the <u>woodswallows</u> (subfamily Artaminae), they make up the <u>family Artamidae</u>, which, in turn, is allied to the <u>crows</u> and jays, <u>fantails</u>, <u>drongos</u>, and many others. They are Protected in Australia under the National Parks and Wildlife Act, 1974.

Atrichornithidae

Scrub-birds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

 $Family: \textbf{Atrichornithidae} \ \textbf{Stejneger}, 1885 Genus: \textbf{Atrichornis} \ \textbf{Stejneger}, 1885 Species: \textbf{Atrichornis} \ \textbf{Atrichornis} \ \textbf{Stejneger}, 1885 Species: \textbf{Atrichornis} \ \textbf{Atrichornis} \ \textbf{Stejneger}, 1885 Species: \textbf{Atrichornis} \ \textbf{Atricho$

rufescens, Atrichornis clamosus

Scrub-birds are shy, secretive, ground-dwelling birds of the family **Atrichornithidae**. There are just two species, one of them rare and very restricted in its range, the other so rare that until 1961 it was thought to be extinct. Both are native to Australia.

The scrub-bird family is ancient and is understood to be most closely related to the <u>lyrebirds</u>, and probably also the <u>bowerbirds</u> and <u>treecreepers</u>. All four families originated with the great corvid radiation of the Australia-New Guinea region.

Both living species are about the same size as a Common Starling (roughly 20 cm long) and cryptically coloured in drab browns and blacks. They occupy dense undergrowth—the Rufous Scrub-bird in temperate rain forests near the Queensland-New South Wales border, the Noisy Scrub-bird in heaths and scrubby gullies in semi-arid Western Australia—and are adept at scuttling mouse-like under cover to avoid notice. They run fast but their flight is feeble.

The males' calls, however, are powerful: ringing and metallic, with a ventriloquial quality, so loud as to be heard from a long distance in heavy scrub and almost painful at close range. Females build a domed nest close to the ground and take sole responsibility for raising the young.

The entire world population of the Noisy Scrub-bird was estimated at 40 to 45 birds in 1962. Conservation efforts succeeded in increasing the population to around 400 birds by the mid-1980s, and they have subsequently been reintroduced to several sites, but remain endangered.

Species of Atrichornithidae

 Rufous Scrub-bird, Atrichornis rufescens Noisy Scrub-bird, Atrichornis clamosus

Callaeidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Callaeidae Sundevall, 1836Genera: Callaeas, Philesturnus, Heteralocha

The small bird family **Callaeidae** (also named in some sources as **Callaeatidae**) is restricted to New Zealand. Only two species survive, one of them critically endangered. A third, the Huia became extinct early in the 20th century.

The Callaeidae are often known as *wattlebirds*, a term that leads to confusion, as there are other, unrelated species with this same name, notably the large Australian wattlebirds of the family <u>Meliphagidae</u>, which are honeyeaters.

These birds seem to be remnants of an early expansion of passerines to New Zealand. They have no close relatives expect the stitchbird, and their more distant relationship is likewise still unknown (Ewen *et al.*, 2006).

ORDER <u>PASSERIFORMES</u>

- (many other families)
 - o Family Callaeidae
 - Kokako, Callaeas cinerea
 Tieke, Philesturnus carunculatus (formerly Creadion carunculatus)
 Huia, Heteralocha acuitirostris (extinct)

References

Ewen, John G.; Flux, Ian & Ericson, Per G. P. (2006): Systematic affinities of two enigmatic New Zealand passerines of high conservation priority, the hihi or stitchbird Notiomystis cincta and the kokako Callaeas cinerea. Molecular Phylogenetics and Evolution 40(1): 281–284. DOI:10.1016/j.ympev.2006.01.026
 PDF fulltext

Campephagidae

Cuckoo-shrike Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Campephagidae** Vigors, 1825 Genera: *Pteropodocys, Coracina, Campochaera, Lalage*,

Lobotos, Campephaga, Pericrocotus, Hemipus

The **cuckoo-shrikes**, the **Campephagidae** <u>family</u> are small to medium-sized <u>passerine</u> <u>bird species</u> found in the subtropical and tropical Africa, Asia and Australasia. The 84 species are found in eight (or nine) <u>genera</u> which comprise five distinct groups, the 'true' cuckoo-shrikes (*Campephaga*, *Coracina*, *Lobotos*, *Pteropodocys* and *Campochaera*) the trillers (*Lalage*), the minivets (*Pericrocotus*), the flycatcher-shrikes (*Hemipus*). The wood-shrikes (*Tephrodornis*) were often considered to be in this family but are probably closer to the <u>helmetshrikes</u> or <u>bushshrikes</u>. Another genus, *Chlamydochaera*, which has one species, the Black-breasted Fruithunter was often placed in this family but has now been shown to be a <u>thrush</u> (Turdidae).

Cuckoo-shrikes are neither closely related to the cuckoos or <u>shrikes</u>, the name probably comes from the grey colour of many of the cuckoo-shrikes. Some of the species also bear a superficial resemblance to cuckoos, and have a similar undulating flight. The grey colouration has led to one of their other names, the greybird. In some parts of the world they have also been known as caterpillar-birds, a name derived from their diet. They are in fact thought by some to be closely related to the <u>Old World orioles</u> (Oriolidae), although they differ strongly in some morphological characteristics (such as skull morphology and the arrangements of feathers on the wing).

Overall the cuckoo-shrikes are medium to small arboreal birds, generally long and slender. They are predominately greyish with white and black, although the minivets are brightly coloured in red, yellow and black, and the Blue Cuckoo-shrike of central Africa is allover glossy blue. The four cuckoo-shrikes in the genus *Campephaga* exhibit sexual dimorphism, with males that have glossy black <u>plumage</u> and bright red or yellow wattles, the females having more subdued olive-green plumage.

Of the 84 species of cuckoo-shrike, the majority are forest birds. Some species are restricted to primary forest, like the New Caledonian Cuckoo-shrike, others are able to use more disturbed forest. Around eleven species use much more open habitat, one Australian species, the Ground Cuckoo-shrike being found in open plains and scrubland with few trees.

The 'true' cuckoo-shrikes are usually found singly, in pairs, and in small family groups, whereas the minivets, flycatcher-shrikes and wood-shrikes more frequently form small flocks. There is a considerable amount of variation within the family as a whole with regards to calls, some call very infrequently and some, principally the minivets, are extremely vocal.

These are mainly insectivorous, and will take large hairy caterpillars. They have also been recorded eating small vertebrates, and some fruit, seeds and other plant matter. About four blotchy white, green or blue eggs are laid in a cup nest in a tree. Incubation is about two weeks.

Species of Campephagidae

Ground Cuckoo-shrike, Pteropodocys maxima Large Cuckoo-shrike, Coracina macei Sunda Cuckoo-shrike, Coracina larvata Javan Cuckoo-shrike, Coracina javensis Slaty Cuckoo-shrike, Coracina schistacea Wallacean Cuckoo-shrike, Coracina personata Melanesian Cuckoo-shrike, Coracina caledonica Black-faced Cuckoo-shrike, Coracina novaehollandiae Stout-billed Cuckoo-shrike, Coracina caeruleogrisea Bar-bellied Cuckoo-shrike, Coracina striata Pied Cuckoo-shrike. Coracina bicolor Moluccan Cuckoo-shrike, Coracina atriceps Buru Cuckoo-shrike, Coracina fortis Cerulean Cuckoo-shrike, Coracina temminckii Yellow-eyed Cuckoo-shrike, Coracina lineata Boyer's Cuckoo-shrike, Coracina boyeri White-rumped Cuckoo-shrike, Coracina leucopygia White-bellied Cuckoo-shrike, Coracina papuensis Hooded Cuckoo-shrike, Coracina longicauda Halmahera Cuckoo-shrike, Coracina parvula Pygmy Cuckoo-shrike, Coracina abbotti New Caledonian Cuckoo-shrike, Coracina analis White-breasted Cuckoo-shrike, Coracina pectoralis Blue Cuckoo-shrike, Coracina azurea Gray Cuckoo-shrike, Coracina caesia Grauer's Cuckoo-shrike, Coracina graueri Ashy Cuckoo-shrike, Coracina cinerea Mauritius Cuckoo-shrike, Coracina typica Reunion Cuckoo-shrike, Coracina newtoni Cicadabird, Coracina tenuirostris Blackish Cuckoo-shrike, Coracina coerulescens Sumba Cuckoo-shrike, Coracina dohertyi Sula Cuckoo-shrike, Coracina sula Kai Cuckoo-shrike, Coracina dispar Black-bibbed Cuckoo-shrike. Coracina mindanensis Sulawesi Cuckoo-shrike. Coracina morio Pale-grey Cuckoo-shrike, Coracina ceramensis Papuan Cuckoo-shrike, Coracina incerta Gray-headed Cuckoo-shrike, Coracina schisticeps New Guinea Cuckoo-shrike. Coracina melas Black-bellied Cuckoo-shrike, Coracina montana Solomon Islands Cuckoo-shrike, oracina holopolia

McGregor's Cuckoo-shrike, Coracina mcgregori Indochinese Cuckoo-shrike, Coracina polioptera White-winged Cuckoo-shrike, Coracina ostenta Black-winged Cuckoo-shrike, Coracina melaschistos Lesser Cuckoo-shrike, Coracina fimbriata Black-headed Cuckoo-shrike, Coracina melanoptera Golden Cuckoo-shrike, Campochaera sloetii Black-and-white Triller, Lalage melanoleuca Pied Triller, Lalage nigra White-rumped Triller, Lalage leucopygialis White-shouldered Triller, Lalage sueurii White-winged Triller, Lalage tricolor Rufous-bellied Triller, Lalage aurea White-browed Triller, Lalage moesta Varied Triller, Lalage leucomela Black-browed Triller, Lalage atrovirens Samoan Triller, Lalage sharpei Polynesian Triller, Lalage maculosa Long-tailed Triller, Lalage leucopyga Petit's Cuckoo-shrike, Campephaga petiti Black Cuckoo-shrike, Campephaga flava Red-shouldered Cuckoo-shrike, Campephaga phoenicea Purple-throated Cuckoo-shrike, Campephaga quiscalina Western Wattled Cuckoo-shrike, Lobotos lobata Eastern Wattled Cuckoo-shrike, Lobotos oriolina Rosy Minivet, Pericrocotus roseus Brown-rumped Minivet, Pericrocotus cantonensis Ashy Minivet, Pericrocotus divaricatus Small Minivet, Pericrocotus cinnamomeus Ryukyu Minivet, Pericrocotus tegimae Fiery Minivet, Pericrocotus igneus Flores Minivet, Pericrocotus lansbergei White-bellied Minivet, Pericrocotus erythropygius Long-tailed Minivet, Pericrocotus ethologus Short-billed Minivet, Pericrocotus brevirostris Sunda Minivet, Pericrocotus miniatus Scarlet Minivet, Pericrocotus flammeus Gray-chinned Minivet, Pericrocotus solaris Bar-winged Flycatcher-shrike, Hemipus picatus Black-winged Flycatcher-shrike, Hemipus hirundinaceus

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Cinclosomatidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Cinclosomatidae**

Genera: Androphobus, Psophodes, Cinclosoma, Ptilorrhoa, Eupetes, Ifrita

The family **Cinclosomatidae** contains 9 <u>species</u> of <u>passerine</u> bird, including the 3 whipbirds, 2 wedgebills, and the quail-thrushes. All are native to Australia or nearby areas.

Species of Cinclosomatidae

- Papuan Whipbird, Androphobus viridis
- Eastern Whipbird, Psophodes olivaceus
- Western Whipbird, *Psophodes nigrogularis*
- Chiming Wedgebill, *Psophodes occidentalis*
- Chirruping Wedgebill, Psophodes cristatus
- Spotted Quail-thrush, Cinclosoma punctatum
- Chestnut Quail-thrush, Cinclosoma castanotus
- Chestnut-breasted Quail-thrush, Cinclosoma castaneothorax
- Cinnamon Quail-thrush, Cinclosoma cinnamomeum
- Painted Quail-thrush, Cinclosoma ajax
- Spotted Jewel-babbler, Ptilorrhoa leucosticta
- Blue Jewel-babbler, *Ptilorrhoa caerulescens*
- Chestnut-backed Jewel-babbler, Ptilorrhoa castanonota
- Malaysian Rail-babbler, Eupetes macrocerus
- Blue-capped Ifrita, *Ifrita kowaldi*

Psophodes

Eastern Whipbird

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Cinclosomatidae</u>

Genus: *Psophodes*Species: *P. olivaceus*

Binomial name: **Psophodes olivaceus** Latham, 1802

The Eastern Whipbird (Psophodes olivaceus) inhabits the east coast of Australia. It is

olive green with a black head and a white patch on its face.

References

 BirdLife International (2004). <u>Psophodes olivaceus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Climacteridae

Australasian Treecreepers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Climacteridae de Sélys Longchamps, 1839 Genera: Cormobates, Climacteris

There are 7 <u>species</u> of **Australasian treecreeper** in the <u>passerine</u> bird <u>family</u> **Climacteridae**. They are medium-small, mostly brown-coloured birds with patterning on their underparts and all are endemic to Australia-New Guinea.

As their name implies, treecreepers forage for insects and other small creatures living on and under the bark of trees, mostly eucalypts, though several species also hunt on the ground, through leaf-litter, and on fallen timber.

Species of Climacteridae

Papuan Treecreeper, Cormobates placens
 White-throated Treecreeper, Cormobates leucophaeus
 White-browed Treecreeper, Climacteris affinis
 Red-browed Treecreeper, Climacteris erythrops
 Brown Treecreeper, Climacteris picumnus
 Black-tailed Treecreeper, Climacteris melanura
 Rufous Treecreeper, Climacteris rufa

Corcorachidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Corcoracidae**

Species: Corcorax melanorhamphos, Struthidea cinerea

The very small and rather unusual <u>passerine</u> family **Corcoracidae** now contains just two superficially dissimilar <u>species</u>: the White-winged Chough and the Apostlebird. Both are endemic to Australia. There is no well-accepted common name for the family, but sometimes the terms **Australian mud-nesters** or **mud nest builders** are used.

In the field, the relationship between Choughs and Apostlebirds is immediately apparent: both species are highly social, spend much of their time foraging through leaf litter with a very distinctive gait, calling to one another almost constantly, and both species respond to a human interloper by flying heavily to a nearby tree, where they wait for the disturbance to pass, often perching close together in twos and threes and allopreening.

Apostlebirds are so named because (it is said) "there are always 12 of them"! In fact, group size typically varies from about 6 to as many as 20.

Species of Corcoracidae

• White-winged Chough, Corcorax melanorhamphos Apostlebird, Struthidea cinerea

Corvidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Corvidae** Vigors, 1825Genera: *many, see article text*

Corvidae is a <u>family</u> of oscine <u>passerine birds</u> that contains the <u>crows</u>, <u>ravens</u>, rooks, jackdaws, jays, magpies, <u>treepies</u> and <u>nutcrackers</u> (Clayton and Emery 2005, [1]). Collectively its members are called corvids and there are over 120 species.

They are medium to large birds with strong feet and bills, rictal bristles and a single moult each year (most passerines moult twice).

Corvids are found worldwide except for the tip of South America and the polar ice caps (Clayton and Emery 2005). Recently the Corvus genus has re-entered Australia, resulting in five new species and one new subspecies (see crows). The majority of the species are found in tropical South and Central America, southern Asia and Eurasia, with fewer than 10 species each in Africa, Australasia and North America

- 1 Systematics, taxonomy and evolution
- <u>2 Typical size and appearance</u>
- 3 Social interaction
- 4 Food and foraging habits
- 5 Migration
- <u>6 Reproduction</u>
- 7 Nest predation
- 8 Myths
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Systematics, taxonomy and evolution

The earliest corvid fossils date to the mid-Miocene (about 17 MYA) [2]. The genus Corvus, including the crows and ravens, makes up over a third of the entire family. The name Corvus was given to these birds is onomatopoetic, from their raucous "croaking" calls [3]. Corvids are derived from Australasian ancestors and from there, spread throughout the world. Other lineages derived from these ancestors evolved into ecologically diverse, but often Australasian groups. Over the years there has been much disagreement on the exact evolutionary relationships of the corvid family and their relatives. Sibley and Ahlquist have united the corvids with other taxa in the Corvida, but current research favors the theory that this grouping is partly artificial.

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Clarification of the interrelationships of the corvids has been researched by Ericson *et al.* (2005), based on comparison of several DNA sequences. The Crested Jay (Platylophus galericulatus) is traditionally included in the Corvidae, but seems not to be a member of this family. Likewise, the Hume's Ground "Jay" (Pseudopodoces humilis) is in fact a member of the family (Paridae) (titmice). The jays and magpies do not constitute monophyletic lineages, but rather seem to split up in a American and Old World, and a Holarctic and a Oriental lineage, respectively, which are not closely related *inter se*. The position of the <u>Azure-winged Magpie</u>, which has always been a major enigma, is even more unclear than it was before.

Choughs

o Pyrrhocorax

Treepies

Dendrocitta

Crypsirina

Temnurus

Platysmurus

- Oriental Magpies
- Urocissa

Cissa

- Old World and Ground Jays
- Garrulus

Podoces

Ptilostomus

- Stresemann's Bush Crow, Zavattariornis stresemanni
 - Nutcrackers
 - Nucifraga
 - Holarctic Magpies
 - o Pica
 - Crows and Ravens
 - o Corvus
- Azure-winged Magpie, Cyanopica cyana
 - Grey Jays
 - o Perisoreus
 - New World Jays
 - Aphelocoma

Calocitta

Cyanocitta

Cyanocorax

Cyanolyca

Gymnorhinus

 Prehistoric corvid genera (probably mainly New World and Old World Jays and Holarctic Magpies)

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- Miocitta
- o Miocorvus
- o Henocitta (Arredondo Early Pleistocene of Williston, USA)
- o Protocitta (Early Pleistocene of Reddick, USA)
- o Corvidae gen. et sp. indet. (Sicily) probably belongs into extant genus.

In addition, there are numerous fossil species of extant genera (mainly European *Corvus*). See the genus accounts for more.

Typical size and appearance

Corvids have feathered rounded nostrils, strong tails and wings and similar sexes. Many corvids of temperate zones are mainly black or blue; however, some are pied black and white, some have a blue-purple iridescence and many tropical species are highly coloured. Corvids have strong, stout bills, large wingspans and are between 23 and 71 cm long. [4]

Members of the genus *Corvus* are the largest members of the passerine order reaching 50-71 cm (20-27 inches). Species can be identified based on size, shape and geography; however, some, especially the Australian crows, are best identified by their raucous calls. [5]

Social interaction

Some corvids have strong organization and community groups. Jackdaws, for example, have a strong social hierarchy, and are facultatively colonial during breeding (Verhulst and Salomons 2004). Providing mutual aid has also been recorded within many of the corvid species. [6]

Young corvids have been known to play and take part in elaborate social games. The games resemble "king of the mountain" and "follow the leader" along with games that manipulate, pass and balance sticks. Corvids also take part in other activities, such as sliding down smooth surfaces, and these games are understood to play a large role in the adaptive and survival value of the birds (Gill 2003).

Some corvids can be aggressive birds. <u>Blue Jays</u>, for example, are well known to attack anything that threatens their nest. Crows have been known to attack dogs, cats, ravens, and birds of prey. Most of the time these assaults take place as a distraction long enough to allow the crow to steal food.[7]

Food and foraging habits

The natural diet of many corvid species is omnivorous, consisting of invertebrates, nestlings, small mammals, berries, fruits, seeds, and carrion. However, some corvids, especially the crows, have adapted well to human conditions and have come to rely on anthropogenic foods. In a US study of American Crows, Common Ravens and Steller's Jays around campgrounds and human settlements, the crows appeared to have the most diverse diet of all, taking anthropogenic foods such as bread, spaghetti, fried potatoes, dog food,

sandwiches, and livestock feed. The increase in available anthropogenic food sources is contributing to population increase in some corvid species. (Marzluff and Neatherlin 2006).

Some corvids are predators of other birds. During the wintering months, corvids typically form foraging flocks [8]. However, some crows also eat many agricultural pests including cutworms, wireworms, grasshoppers and harmful weeds [9]. Some corvid will eat carrion, and since they lack a specialized beak for tearing into flesh, they must wait until animals are opened by other predators or as roadkill.

Migration

Corvids occur in most climatic zones. Most are sedentary and do not <u>migrate</u> significantly. However, during a shortage of food, eruptive migration can occur [10]. When species are migratory, they will form large flocks in the fall (around August) and travel south [11].

Reproduction

Some corvids are well known communal roosters. Some groups of roosting corvids have been as large as 2,000 birds (Everding and Jones 2006). The partner bond in corvids is extremely strong and even lifelong in some species. This monogamous lifestyle, however, can still contain extra pair copulations. Males and females build large nests together in trees or on ledges. The male will also feed the female during incubation [12]. The nests are constructed of a mass of bulky twigs lined with grass and bark. Corvids can lay between 3 and 10 eggs, typically ranging between 4 and 7. The eggs are usually greenish in colour with brown blotches. Once hatched, the young remain in the nests for up to 6–10 weeks depending on the species. As expected, corvids provide biparental care.

Sexual selection is also quite complex in the Corvidae family. Young corvid members undergo a series of tests, including aerobatic feats, before being accepted as a mate by the opposite sex [13].

Unlike most other species, corvid fitness and reproduction, especially with the crows, has increased due to human development. The survival and reproductive success of crows and ravens, according to Marzluff and Neatherlin's 2006 study, was positively associated with their intimacy of human populations.

Human development provides additional resources by clearing land, creating shrublands rich in berries and insects. When the cleared land naturally replenishes, the young dense trees are used by jays and crows for nesting sites. Ravens typically use larger trees in denser forests (Marzluff and Neatherlin 2006).

One reason for the success of crows, compared to ravens, is their ability to overlap breeding territory. During breeding season, crows were shown to overlap breeding territory six times the overlap of ravens. This invasion of breeding ranges allowed a related increase in local density (Marzluff and Neatherlin 2006). In the US the American Crow population has definitely grown over the years. It is possible, that the American Crow, due to humans increasing suitable habitat, will drive out the Northwestern and Fish Crows (Marzluff and Angell 2005).

Jackdaws can breed in buildings or in rabbit warrens (Verhulst and Salomons 2004). White-throated Magpie-jays are cooperatively breeding corvids where the helpers are mostly female. Cooperative breeding takes place when additional adults help raise the nestlings. These adults are often called "helpers" and in most cooperatively breeding birds the males take on the "helper" role while females join other groups (Berg 2005).

Nest predation

Since crows do not seem to mind human development, it was suggested that the crow population increase would cause increased rates of nest predation. However, the Steller's Jays, which were successful independent of human development, were the more frequent nest predator. Therefore, the human relationship with crows and ravens did not increase nest predation since jays accounted for the most nest predation by corvids (Marzluff and Neatherlin 2006).

Myths

Since some corvids, especially in the temperate Northern Hemisphere have black feathers and eat carrion, humans have long associated members of Corvidae with death and extreme injustice (Marzluff and Angell 2005). Throughout history, corvids have been perceived as dark messengers, bearing ill will and other demonic associations. This dark connection is reflected by the literary terms coined to describe groups of crows (a murder), ravens (unkindness, constable or conspiracy), and jays (scold). [14].

Despite the well-known demonic association, folklore also represents corvids as wise animals. Native Americans believed that a raven created the earth, the Norse god Odin constantly sought the advice of ravens, and even Aesop featured corvids as smart heroes in many fables (Clayton and Emery 2005). According to native cultures, despite being a trickster spirit, ravens were popular on totems, were credited with creating man and were responsible for placing the Sun in the sky. In western literature, popularized by E.A. Poe, the Common Raven was a symbol of darkness, depression and death. However, in mediaeval times the raven stood for virility. Legends report that a raven's favourite food is dead animals, and that they sometimes hunt with wolves [15]. For more myths and legends see crow and raven pages.

Corvid intelligence

Corvids contain the largest brain, relative to their body size, of any bird. Based on a brain-to-body ratio, the corvid brain equals the size of a chimpanzee, is almost the same as a dolphin, and is only slightly lower than a human [16]. Their intelligence is evident due to the long developmental period of the young. By remaining with the parents, the young have more opportunities to learn necessary skills. Since most corvids are cooperative breeders, their young can learn from different members of the group (Clayton and Emery 2005). Some

naturalists argue that the Corvidae family contains intelligence superior to that of all other bird species [17]. When compared to other carnivorous mammals (specifically dogs and cats) in one laboratory test, corvid birds outshone their components, demonstrating operational abilities almost as excellent as monkeys (Krushinskii et al 1979). Dr. Louis Lefebvre's avian IQ test declared Corvidae the most intelligent bird based on the scale [18].

The corvid ingenuity is represented through their feeding skills, memorization abilities, use of tools, and group behaviour. Living in large social groups has long been connected with high cognitive ability. To live in a large group, a member must be able to recognize individuals and track the social position and foraging of other members over time. Members must also be able to distinguish between sex, age, reproductive status, dominance and be able to update the information constantly. Therefore, social complexity directly corresponds to high cognition (Bond et al 2003).

There are also specific examples of corvid cleverness. One crow was documented to crack nuts by placing them on a crosswalk, letting the passing cars crack the shell, waiting for the light to turn red, and then safely retrieving the contents. A group of crows in England took turns lifting garbage bin lids while their companions collected food. Members of the corvid family have been known to watch other birds, remember where they hide their food, then return once the owner leaves. Corvids also move their food around between hiding places to avoid thievery, but only if they have previously been thieves themselves. The ability to hide food requires highly accurate spatial memories. Corvids have been recorded to recall their food's hiding place up to nine months later. It is suggested that vertical landmarks (like trees) are used to remember locations. There has also been evidence that western scrub-jays, who store perishable foods, not only remember where they stored their food, but for how long. This is compared to human episodic memory, which was previously thought unique to humans (Clayton and Emery 2005).

Looking at the act of thievery in the corvid family, it has been suggested that birds will take their experience as a thief and use it to predict other bird actions of thievery. This explains why, if a corvid has committed thievery, they will take extra precautions (such as moving hiding places) to avoid being a future victim. Being able to predict others behaviour based on your own experiences is another trait previously thought unique to humans. Laboratory experiments have confirmed that specifically crows, can sometimes use a past experience to approach a new obstacle (Clayton and Emery 2005).

Caledonian Crows have been observed to make tools of twigs trimmed into hooks. They then use to hooks to pull insect larvae from tree holes. Caledonian crows are not the only corvids to use tools, and diversity in tool design among corvids suggest cultural variation. Again, apes are the only other animals known to use tools in such a fashion (Clayton and Emery 2005). Nutcrackers and jackdaws were compared in a 2002 study based on geometric rule learning. The corvids, along with a pigeon, had to locate a target between two landmarks, during which distances and landmarks were altered. The nutcrackers resulted in searching more accurately than the jackdaw and pigeon (Jones et al 2002).

A very popular crow scare tactic in the agricultural business is the scarecrow. However, due to the corvid's quick wit, scarecrows are soon ignored and used as perches. Despite farmers efforts to rid themselves of corvid pests, their attempts have only expanded corvid territories and strengthened their numbers [19]. Recent taxonomy places corvids, based on

their evolutionary progress, in the middle of the passerines, despite efforts to promote them to the most advanced of the birds [20].

Threatened species

Despite the fact that most corvids are not threatened (but are most likely secured by human interaction) a few species are in danger. For example, the destruction of the Southeast Asian rainforests is endangering mixed-species feeding flocks with members from the family Corvidae (Lee et al 2005). Also, since scrub is an endangered ecosystem, the Florida Scrubjays are threatened with extinction (Breiniger, et al 2006).

Songs/calls:

For all corvid calls.[21]

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Aphelocoma

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Aphelocoma* Cabanis, 1851 Species: *Aphelocoma californica, Aphelocoma coerulescens, Aphelocoma insularis, Aphelocoma ultramarina, Aphelocoma unicolor*

The <u>passerine birds</u> of the genus *Aphelocoma*^[1] include the three scrub jays and two other jays. They are New World jays found in Mexico, western Central America and the western United States, with an outlying population in Florida. This genus belongs to the group of New World (or "blue") jays - possibly a distinct subfamily - which are not closely related to other jays, magpies or treepies (Ericson *et al*, 2005).

- 1 Species
- <u>2 Appearance</u>
- <u>3 Behavior</u>
- 4 References
 - o <u>4.1 Footnotes</u>

Species

Five species of *Aphelocoma* are now recognized, since two taxa formerly treated as races of *A. coerulescens* were recently split off as separate species (*A. californica* and *A. insularis*); the 3 now separate species differ in color and bill size. They are believed to have evolved in the Pleistocene, and the Floridan species is known to have been recognizably distinct and present in its current range for at least 2 million years (Emslie, 1996).

Western Scrub Jay A. californica – western United States from Washington to
west Texas and south to Baja California and central Mexico
Florida Scrub Jay A. coerulescens – Florida
Island Scrub Jay A. insularis – Santa Cruz Island off southern California
Mexican Jay or Gray-breasted Jay Aphelocoma ultramarina – Sierra Madre
Oriental and Sierra Madre Occidental mountains of Mexico, north to southeast
Arizona, southwest New Mexico and westernmost Texas, US.

Unicolored Jay Aphelocoma unicolor – southern Mexico east to Honduras They live in open pine-oak forests and chaparral scrub habitats.

Appearance

Aphelocoma jays are slightly larger than the <u>Blue Jay</u> and differ in having a longer tail, slightly shorter, more rounded wings, and no crest on the head. The top of the head, nape,

and sides of the head are a rich deep blue. In some species have a white stripe above the eye and dark ear coverts. The breast is also white or grey-white and the back is a grey-brown contrasting with the bright blue tail and wings in most species. One species, Unicolored Jay, is blue all over, superficially similar to the Pinyon Jay from much further north. The bill, legs, and feet are black.

Behavior

Food is taken both on the ground and in trees. Acorns and pine nuts are the most important foods, making up the great bulk of the diet, with grain, berries and other fruits making up the rest of the vegetable diet. Many insects and other invertebrates are also taken, and eggs and nestlings, small frogs, mice and reptiles.

Wild *Aphelocoma* jays are frequent visitors at campsites and picnics and have frequently learned to eat from the hands of people where they have become accustomed to being fed.

The nest is in a tree or a bush, sometimes quite low down. The nests are compact and lined with hair and fine roots with an outer diameter of about 30cm to 60cm. Usually 2 to 4 eggs are laid and incubated over 14 to 16 days. There are two main variations of egg shell color: green with olive markings or a paler background of grayish-white to green with redbrown markings. The Florida Scrub Jay and the Mexican Jay both have cooperative breeding systems involving several 'helpers' at each nest, usually siblings of the main pair.

Aphelocoma jays are quite vocal and have a huge range of sounds and calls; common calls include a *cheek*, *cheek* and a guttural churring *krr'r'r'r*. *Aphelocoma* jays are also, like all other jays, oftentimes quite aggressive at feeding areas, and sometimes regarded as a nuisance.

References

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Footnotes

1. <u>^</u> Aphelocoma, from Ancient Greek aphelo-, "smooth" and Latin coma "hair", in reference to the smooth plumage of birds of this genus compared to other corvids.

Cissa

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: Cissa Boie, 1826 Species: Cissa chinensis, Cissa hypoleuca, Cissa thalassina

Cissa is a <u>genus</u> of short-tailed magpies that reside in the forests of tropical and subtropical Asia. The following species are recognized:

• Green Magpie (Cissa chinensis) Yellow-breasted Magpie (Cissa hypoleuca) Short-tailed Magpie (Cissa thalassina)

Corvus

Crow

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Corvus* Linnaeus, 1758Species: See text.

The true **crows** are in the <u>genus</u> Corvus. They are large <u>passerine</u> <u>birds</u>. All temperate continents (except South America) and several offshore and oceanic islands (including Hawai'i) have representatives of the 40 or so members of this genus.

Crows in the genus Corvus appear to have evolved in central Asia and radiated out into North America, Africa, Europe, and Australia.

The latest evidence appears to point towards an Australasian origin for the early family (Corvidae) though the branch that would produce the modern groups such as jays, magpies and large predominantly black Corvus Crows had left Australasia and were now developing in Asia. *Corvus* has since re-entered Australia (relatively recently) and produced five species with one recognized sub-species.

They range in size from the relatively small <u>pigeon</u>-sized jackdaws (Eurasian and Daurian) to the Common Raven of the Holarctic region and Thick-billed Raven of the highlands of Ethiopia.

In literary and fanciful usage, the collective noun for a group of crows is a *murder*. However, in practice most people, and especially scientists, use the more generic term *flock*.

- 1 Systematics
 - o 1.1 Species
 - 2 Behavior
 - o <u>2.1 Calls</u>
 - o 2.2 Intelligence
 - o 2.3 Color and society
 - 3 Mythology and folklore
 - o 3.1 Gods and goddesses associated or identified with crows and ravens
 - 4 Interesting Crow Facts
 - <u>5 See also</u>
 - <u>6 References</u>

Systematics

There is no good systematic approach to the genus at present. Generally, it is assumed that the species from a geographical area are more closely related to each other than to other lineages, but this is not necessarily correct. For example, while the Carrion/Collared/House

Crow complex is certainly closely related to each other, the situation is not at all clear regarding the Australian/Melanesian species.

The Neogene fossil record of crows is rather dense in Europe, but the relationships among most prehistoric species is not clear. Jackdaw-, crow- and raven-sized forms seem to have existed since long ago and crows were regularly hunted by humans up to the Iron Age, documenting the evolution of the modern taxa. American crows are not as well-documented.

A surprisingly high number of species have gone <u>extinct</u> after human colonization; the loss of one prehistoric Caribbean crow could also have been related to the last ice age's climate changes.

Species

Australian and Melanesian species

- Australian Raven C. coronoides
- Forest Raven C. tasmanicus
 - o Relict Raven C. (t.) boreus
- Little Crow C. bennetti

Little Raven C. mellori

Torresian Crow C. orru

New Caledonian Crow C. moneduloides

Long-billed Crow C. validus

White-billed Crow C. woodfordi

Bougainville Crow C. meeki

Brown-headed Crow C. fuscicapillus

Grev Crow C. tristis

New Ireland Crow, Corvus sp. (prehistoric)

New Zealand species

• Chatham Islands Raven, C. moriorum (prehistoric) New Zealand Raven, C. antipodum (prehistoric)

Pacific island species

Mariana Crow, C. kubarvi

Hawaiian Crow or 'Alala C. hawaiiensis (extinct in the wild, formerly C.

tropicus)

High-billed Crow, C. impluviatus (prehistoric)

Robust Crow, C. viriosus (prehistoric)

Tropical Asian species

• Slender-billed Crow C. enca

Piping Crow C. typicus

Banggai Crow C. unicolor (possibly extinct)

Flores Crow C. florensis

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Collared Crow C. torquatus Daurian Jackdaw C. dauricus House Crow C. splendens

- Large-billed Crow C. macrorhynchos
 - o Jungle Crow C. (m.) levaillantii

Eurasian and North African species

• Brown-necked Raven C. ruficollis Fan-tailed Raven C. rhipidurus

Jackdaw C. monedula

Rook C. frugilegus

- Hooded Crow C. cornix
 - o Mesopotamian Crow, C. (c.) capellanus
- Carrion Crow C. corone

Corvus larteti (fossil: Late Miocene of France)

Corvus antecorax (fossil: Early - Late Pleistocene of Europe; may be subspecies

of Corvus corax

Corvus betfianus (fossil)

Corvus praecorax (fossil)

Corvus simionescui (fossil)

Corvus pliocaenus (fossil)

Corvus fossilis (fossil)

Corvus moravicus (fossil)

Corvus hungaricus (fossil)

Holarctic species

- Common Raven *C. corax*
 - o Pied Raven, *C. c. varius* morpha *leucophaeus* (an <u>extinct</u> color variant)

North and Central American species

• American Crow C. brachyrhynchos

Chihuahuan Raven C. cryptoleucus

Fish Crow C. ossifragus

Northwestern Crow C. caurinus

Tamaulipas Crow C. imparatus

Sinaloan Crow C. sinaloae

Jamaican Crow C. jamaicensis

White-necked Crow C. leucognaphalus

Hispaniolan Palm Crow C. palmarum

Cuban Palm Crow C. minutus

Cuban Crow C. nasicus

Puerto Rican Crow C. pumilis (prehistoric; possibly a subspecies of C.

nasicus/palmarum)

NICOLAE SFETCU: THE BIRDS WORLD

Corvus galushai (fossil: Big Sandy Late Miocene of Wickieup, USA) Corvus neomexicanus (fossil: Late Pleistocene of Dry Cave, USA)

Tropical African species

Cape Crow C. capensis
 Pied Crow C. albus
 Somali Crow or Dwarf Raven C. edithae
 Thick-billed Raven C. crassirostris
 White-necked Raven C. albicollis

In addition to the prehistoric forms listed above, some extinct chronosubspecies have been described. These are featured under the respective species accounts.

For more information regarding relatives of the crows, such as magpies and jays, see Corvidae.

Behavior

Calls

Crows make a wide variety of calls or vocalizations. Whether the crows' system of communication constitutes a language is a topic of debate and study. Crows have also been observed to respond to calls of other species; this behavior is presumably learned because it varies regionally. Crows' vocalizations are complex and poorly understood. Some of the many vocalizations that crows make are a "caw", usually echoed back and forth between birds, a series of "caws" in discrete units, counting out numbers, a long caw followed by a series of short caws (usually made when a bird takes off from a perch), an echo-like "eh-aw" sound, and more. These vocalizations vary by species, and within each species vary regionally. In many species, the pattern and number of the numerical vocalizations have been observed to change in response to events in the surroundings (i.e. arrival or departure of crows). Crows can hear sound frequencies lower than those that humans can hear, which complicates the study of their vocalizations.

Intelligence

As a group, the crows show remarkable examples of intelligence. They top the avian IQ scale[1]. Crows and ravens often score very highly on intelligence tests. Crows in the northwestern U.S. (a blend of Corvus brachyrhynchos and Corvus caurinus) show modest linguistic capabilities and the ability to relay information over great distances, live in complex, hierarchic societies involving hundreds of individuals with various "occupations", and have an intense rivalry with the area's less socially advanced ravens. One species, the

New Caledonian Crow, has recently been intensively studied because of its ability to manufacture and use its own tools in the day-to-day search for food. Wild hooded crows in Israel have learned to use bread crumbs for bait-fishing. Crows will engage in a kind of midair jousting, or air-"chicken" to establish pecking order.

Crows have shown to use traffic to crack nuts so they can collect their food.

Color and society

Extra-specific uses of color in crow societies Many crow species are all black. Most of their natural enemies, the <u>raptors</u> or "falconiformes", soar high above the trees, and hunt primarily on bright, sunny days when contrast between light and shadow is greatest. Crows take advantage of this by maneuvering themselves through the dappled shades of the trees, where their black color renders them effectively invisible to their enemies above, in order to set up complex ambush attacks. Thus, their black coloring is of great strategic importance to their societies. It is perhaps here where we find the greatest difference between ravens and crows; <u>ravens</u> tend to soar high in the air as raptors do, and like raptors, are usually the target of ambushes by crows. Crows do not appear to perceive ravens as their own kind, but instead treat them as raptors.

While hawks tend to be the primary daytime predators of crows, their most deadly predators, in many areas, are the owls that hunt by night, preying upon crows sleeping helplessly in their roosts. Presumably their dark color is particularly helpful in blending into nighttime shadows. Crows also will often mob owls much more fiercely when they find them in daylight than they do hawks and other raptors. Frequently crows appear to "play" with hawks, taking turns "counting coup" while escorting the raptor out of their territory. Their attacks on owls, on the other hand, possess a definite serious quality.

Intra-specific uses of color in crow societies

Even in species characterized by being all black, one will still occasionally find variations, most of which appear to result from varying degrees of albinism, such as:

- an otherwise all-black crow stunningly contrasted by a full set of brilliant, purewhite primary feathers.
- complete covering in varying shades of grey (generally tending toward the darker side)
- blue or red, rather than swarthy eyes (blue being more common than red).
- Some combination of the above

The treatment of these rare individuals may vary from group to group, even within the same species. For example, one such individual may receive special treatment, attention, or care from the others in its group, while another group of the same species might exile such individuals, forcing them to fend for themselves. The reason for such behaviors, and why these behaviors vary as they do, has yet to be studied.

Mythology and folklore

Crows, and especially <u>ravens</u>, often feature in legends or mythology as portents or harbingers of doom or death, because of their dark plumage, unnerving calls, and tendency to eat carrion. They are commonly thought to circle above scenes of death such as battles. The Child ballad The Three Ravens depicts three ravens discussing whether they can eat a dead knight, but finds that his hawk, his hound, and his true love prevent them; in the parody version The Twa Corbies, these guards have already forgotten the dead man, and the ravens can eat their full. Their depiction of evil has also led to some exaggeration of their appetite. In Pirates of the Caribbean: Dead Man's Chest, The Omen II and Exorcist: The Beginning, crows are shown tearing out people's eyes while they are still alive. This, of course, does not happen as crows can distinguish between carrion and living people.

In Native American folklore, Crow is often seen as a similar trickster to Coyote. However, Crow's tricks tend to be more out of malice and they rarely (if ever) are portrayed as a hero. One possible explanation for this is that crows are often considered a pest to crops, which the tribes who came up with the stories featuring Crow needed to survive.

In the Epic of Gilgamesh, the Chaldean myth, the character Utnapishtim releases a dove and a raven to find land, similar to what Noah does in the book of Genesis. However, in the Epic of Gilgamesh, the dove merely circles and returns. Only then does Utnapishtim send forth the raven, who does not return. Utnapishtim extrapolates from this that the raven has found land, which is why it hasn't returned. This would seem to indicate some acknowledgement of crow intelligence, which may have been apparent even in ancient times, and to some might imply that the higher intelligence of crows, when compared to other birds, is striking enough that it was known even then.

In occult circles, distinctions are sometimes made between crows and ravens. In mythology and folklore as a whole, crows tend to be symbolic more of the spiritual aspect of death, or the transition of the spirit into the afterlife, whereas ravens tend more often to be associated with the negative (physical) aspect of death. However, few if any individual mythologies or folklores make such a distinction, and there are ample exceptions. Another reason for this distinction is that while crows are typically highly social animals, ravens don't seem to congregate in large numbers anywhere but a) near carrion where they meet seemingly by chance, or b) at cemeteries, where large numbers sometimes live together, even though carrion there is no more available (and probably less attainable) than any road or field.

Amongst Neopagans, crows are often thought to be highly psychic and are associated with the element of ether or spirit, rather than the element of air as with most other birds. This may in part be due to the long-standing occult tradition of associating the color black with "the abyss" of infinite knowledge (see akasha), or perhaps also to the more modern occult belief that wearing the "color" black aids in psychic ability, as it absorbs more electromagnetic energy, since surfaces appear black by absorbing all frequencies in the visible spectrum, reflecting no color.

Gods and goddesses associated or identified with crows and ravens

A very incomplete list includes the eponymous Pacific Northwest Native figures Raven and Crow, the ravens Hugin and Munin, who accompany the Norse god Odin, the Celtic goddesses the Mórrígan and/or the Badb (sometimes considered separate from Mórrígan), and Shani, a Hindu god who travels astride a crow. In Greek mythology, it was believed that when the crows gave bad news to the goddess Athena, she flew into a rage, and cursed their feathers to be black.

Interesting Crow Facts

The American crow is very susceptible to the West Nile virus, a disease just recently introduced in North America. American crows usually die within one week of acquiring the disease with only very few surviving exposure. Crows are so affected by the disease that their deaths are now serving as an indicator of the West Nile Virus' activity in an area. The American crow can address problems using several solutions showing great problem solving skills. American crows can also count!

Read more About The Crow

See also

Corvidae

References

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- Worthy, Trevor H. & Holdaway, Richard N. (2002): *The lost world of the Moa: Prehistoric Life of New Zealand*. Indiana University Press, Bloomington. ISBN 0-253-34034-9.

Raven

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Corvidae</u>
Genus: <u>Corvus</u>
Species: See text.

Raven is the common name given to several large black <u>birds</u> of the <u>genus</u> *Corvus*. Other birds in the same genus are the smaller <u>crows</u>, jackdaws, and rooks.

In much of Europe and North America, raven is used as a synonym for the widespread Common Raven, and much of the literature and culture surrounding ravens refers to that species.

Raven species include:

• Common Raven (C. corax)

Australian Raven (C. coronoides)

Forest Raven (C. tasmanicus)

Little Raven (C. mellori)

Thick-billed Raven (C. crassirostris)

White-necked Raven (C. albicollis)

Brown-necked Raven (C. ruficollis)

Chihuahuan Raven (C. cryptoleucos)

Crypsirina

Treepies

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genera: Dendrocitta, Crypsirina, Temnurus, Platysmurus

The **treepies** comprise four closely related genera (*Dendrocitta, Crypsirina, Temnurus* and as of recently also *Platysmurus*) of long-tailed <u>passerine</u> birds in the family <u>Corvidae</u>. They are highly arboreal and rarely come to the ground to feed.

Species

Following Ericson *et al.* (2005), the Black Magpie is placed with the treepies:

- Genus **Dendrocitta**
 - Grey Treepie, Dendrocitta formosae
 Rufous Treepie, Dendrocitta vagabunda

Black-faced Treepie, or Collared Treepie, Dendrocitta frontalis

Sumatran Treepie, Dendrocitta occipitalis

Bornean Treepie, Dendrocitta cinerascens

White-bellied Treepie, Dendrocitta leucogastra

Andaman Treepie, Dendrocitta bayleyi

- Genus *Crypsirina*
 - o Black Racket-tailed Treepie, Crypsirina temia (formerly Dendrocitta) Hooded Treepie, Crypsirina cucullata
- Genus **Temnurus**
 - o Ratchet-tailed Treepie, *Temnurus temnurus*
- Genus *Platysmurus*
 - o Black Magpie *Platysmurus leucopterus*

References

Ericson, Per G. P.; Jansén, Anna-Lee; Johansson, Ulf S. & Ekman, Jan (2005): Intergeneric relationships of the crows, jays, magpies and allied groups (Aves: Corvidae) based on nucleotide sequence data. *Journal of Avian Biology* 36: 222-234.

Cyanocitta

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Cyanocitta* Strickland, 1845 Species: *Cyanocitta cristata, Cyanocitta stelleri*

The genus *Cyanocitta* is a New World genus of jays, <u>passerine birds</u> of the family <u>Corvidae</u>. *Cyanocitta* includes only two of the New World jays; they are blue, crested birds that differ in the colour of the head. Their ranges generally do not overlap.

• C. cristata, Blue Jay

• *C. stelleri*, Steller's Jay

Cyanocorax

Tufted jays

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Cyanocorax* Boie, 1826Species: 17 species; see text.

The **tufted jays** are a genus, *Cyanocorax*, of New World jays, <u>passerine birds</u> in the <u>crow</u>

family Corvidae.

It contains several closely related species and is dominant in Central and South America.

The genus includes seventeen species:

• Black-chested Jay, Cyanocorax affinis

Purplish-backed Jay, Cyanocorax beecheii

Azure Jay, Cyanocorax caeruleus

Cayenne Jay, Cyanocorax cayanus

Plush-crested Jay, Cyanocorax chrysops

Curl-crested Jay, Cyanocorax cristatellus

Purplish Jay, Cyanocorax cyanomelas

White-naped Jay, Cyanocorax cyanopogon

Tufted Jay, Cyanocorax dickeyi

Azure-naped Jay, Cyanocorax heilprini

Bushy-crested Jay, Cyanocorax melanocyaneus

Brown Jay, Cyanocorax morio

White-tailed Jay, Cyanocorax mystacalis

San Blas Jay, Cyanocorax sanblasianus

Violaceous Jay, Cyanocorax violaceus

Green Jay, Cyanocorax yncas

Yucatan Jay, Cyanocorax yucatanicus

Cyanolyca

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: Cyanolyca Cabanis, 1851

Cyanolyca is a **genus** of New World jays including:

Cyanolyca armillata Black-collared Jay
 Cyanolyca turcosa Turquoise Jay
 Cyanolyca viridicyana White-collared Jay
 Cyanolyca cucullata Azure-hooded Jay
 Cyanolyca pulchra Beautiful Jay
 Cyanolyca pumilo Black-throated Jay
 Cyanolyca nana Dwarf Jay
 Cyanolyca mirabilis White-throated Jay
 Cyanolyca argentigula Silvery-throated Jay

Cyanopica

Azure-winged Magpie

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Cyanopica* Bonaparte, 1850 Species: *Cyanopica cyana* Pallas, 1776, *Cyanopica (cyana) cooki*

Bonaparte, 1850

The **Azure-winged Magpie** (*Cyanopica cyana*) is a <u>bird</u> in the <u>crow family</u>. It is 31-35 cm long and similar in overall shape to the European Magpie (*Pica pica*) but is more slender with proportionately smaller legs and bill.

It has a glossy black top to the head and a white throat. The underparts and the back are a light grey-fawn in colour with the wings and the feathers of the long (16-20 cm) tail are a beautiful azure blue. It inhabits various types of coniferous (mainly pine) and broadleaf forest, including parks and gardens in the eastern populations.

It occurs in two population groups separated by a huge geographical region between. One population lives in western Europe, specifically the south western part of the Iberian Peninsula, in Spain and Portugal. The other population occurs over a much larger region of eastern Asia in most of China, Korea, Japan, and north into Mongolia. Recent genetic analysis has shown that the two populations are distinct at species level, under which the Iberian Azure-winged Magpie would take the name *Cyanopica cooki*, though this change has yet to be formally incorporated in the European bird list.

Often Azure-winged Magpies find food as a family group or several groups making flocks of up to 30 birds, and their diet consists mainly of acorns (oak seeds) and pine nuts, extensively supplemented by invertebrates and their larvae, soft fruits and berries, and also human-provided scraps in parks and towns.

This species usually nests in loose, open colonies with a single nest in each tree. There are usually between 6-8 eggs that are incubated for 15 days.

The voice is a quick fired and metallic sounding kwink-kwink usually preceded by a single "krarrah".

Garrulus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Garrulus* Brisson, 1760 Species: *Garrulus glandarius, Garrulus lanceolatus, Garrulus*

lidthi

The genus *Garrulus* contains the Old World jays, <u>passerine birds</u> of the family <u>Corvidae</u>, and numbers only three species.

 Garrulus glandarius, the Eurasian Jay Garrulus lanceolatus, the Lanceolated Jay G. lidthi Lidth's Jay

Nucifraga

Nutcrackers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: Nucifraga Brisson, 1760 Species: Nucifraga caryocatactes, Nucifraga columbiana

The **nutcrackers** (*Nucifraga*) are a genus of two species of <u>passerine bird</u>, in the family <u>Corvidae</u>, related to the jays and <u>crows</u>. One, the Spotted Nutcracker (Nucifraga caryocatactes), occurs in Europe and Asia, the other, Clark's Nutcracker (Nucifraga columbiana), in western North America.

The most important food resources for both these species are the seeds (pine nuts) of various Pines (Pinus sp.), principally the cold-climate (far northern or high altitude) species of white pine (Pinus subgenus Strobus) with large seeds: P. albicaulis, P. armandii, P. cembra, P. flexilis, P. koraiensis, P. parviflora, P. peuce, P. pumila, P. sibirica and P. wallichiana, and also the pinyon and lacebark pines in subgenus Ducampopinus. In some regions, where none of these pines occur, the seeds of Spruce (Picea sp.) and Hazel nuts (*Corylus* sp.) form an important part of the diet too. The bills of these birds are specialized tools for extracting seeds from pine cones.

Surplus seed is always stored for later use and it is this species that is responsible for the re-establishment of their favoured pines over large areas either burnt in forest fires or cleared by man.

Various insects are also taken, including bee and wasp larvae, and also birds' eggs and nestlings, and carrion if it is found.

Nesting is always early in this genus, so as to make the best use of pine nuts stored the previous autumn. The nest is usually built high in a conifer. There are normally 2-4 eggs laid and incubated for 18 days. Both sexes feed the young which are usually fledged by about 23 days and stay with their parents for many months, following them to learn food storage techniques.

Neither species is <u>migratory</u>, but they will erupt out of their ranges if a cone crop failure causes a food shortage.

Reference

Lanner, R. M. (1996). Made for each other: a symbiosis of birds and pines. OUP ISBN 0-19-508903-0

Perisoreus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: Perisoreus Bonaparte, 1831 Species: Perisoreus canadensis, Perisoreus infaustus,

Perisoreus internigrans

The genus **Perisoreus** is a very small genus of Jays from the Boreal regions of North America and Eurasia from Scandinavia to the Asian seaboard. An isolated species also occurs in north-western Szechuan province of China. They belong to the <u>Passerine</u> order of birds in the family <u>Corvidae</u>.

Species

Gray Jay (Perisoreus canadensis)
 Siberian Jay (Perisoreus infaustus)
 Sichuan Jay (Perisoreus internigrans)

Pica

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Pica* Brisson, 1760Species: *Pica pica, Pica (pica) sericea, Pica (pica) nuttalli, Pica (pica)*

hudsonia

Pica is the <u>genus</u> of three <u>species</u> of <u>birds</u> in the family <u>Corvidae</u> in both the New World and the old. They have long tails and have predominantly black and white markings. One species ranges widely from Europe through Asia, one occurs all over North America and the third is restricted to California. They are usually considered closely related to the blue and green magpies of Asia, but recent research (Ericson et al., 2005) suggests their closest relatives are instead the Eurasian crows.

Two or three species were generally recognized, the Yellow-billed and one or two black-billed ones. Recent research has cast doubt on the taxonomy of the *Pica* magpies (Lee *et al.*, 2003). *P. hudsonia* and *P. nuttalli* are each other's closest relatives, but may not be different species. If they are, however, at least the Korean race of *P. pica* would have to be considered a separate species, too.

European Magpie, Pica pica
 Korean Magpie, Pica (pica) sericea
 Yellow-billed Magpie, Pica (pica) nuttalli
 Black-billed Magpie, Pica (pica) hudsonia

A prehistoric species of magpie, *Pica mourerae*, is known from <u>fossils</u>.

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- **Ericson**, Per G. P.; Jansén, Anna-Lee; Johansson, Ulf S. & Ekman, Jan (2005): Intergeneric relationships of the crows, jays, magpies and allied groups (Aves: Corvidae) based on nucleotide sequence data. *Journal of Avian Biology* **36**: 222-234.
- **Lee**, Sang-im; Parr, Cynthia S.; Hwang, Youna; Mindell, David P. & Choea, Jae C. (2003): Phylogeny of magpies (genus *Pica*) inferred from mtDNA data. *Molecular Phylogenetics and Evolution* **29**: 250-257. DOI: 10.1016/S1055-7903(03)00096-4 PDF fulltext

Podoces

Ground jays

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: Podoces Fischer von Waldheim, 1821 Species: Podoces hendersoni, Podoces biddulphi,

Podoces pleskei Podoces panderi

The **ground jays** or **ground choughs** belong to a very distinct and interesting group of the <u>passerine</u> order of birds in the genus *Podoces* of the <u>crow</u> family <u>Corvidae</u> that inhabit high altitude semi-desert areas from central Asia to Mongolia.

They show excellent distinct adaptations to their ground living way of life such as long, strong legs adapted to fast running and they leap and bound onto boulders and rocks with great agility. Their long, curved thick bills are adapted for digging and probing.

They can all of course fly (which they do little and relatively weakly), but prefer running, and will readily perch on trees and bushes also.

Species list

Henderson's Ground Jay (Podoces hendersoni)
 Biddulph's Ground Jay (Podoces biddulphi)
 Persian Ground Jay (Podoces pleskei)
 Grey Ground Jay (Podoces panderi)

Hume's Ground Tit (Pseudopodoces humilis), previously Hume's Ground Jay, has changed its placement within the Passeriformes recently because of molecular and osteological testing. It has now been placed into the Paridae.

Pyrrhocorax

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u>

Genus: *Pyrrhocorax* Tunstall, 1771Species: See text.

Pyrrhocorax is the name of a <u>genus</u> of black European <u>birds</u> in the <u>Corvidae</u> (<u>crow</u>) <u>family</u>. They are given the name of chough because of the sound they make.

They are predominantly black in colour with brightly coloured legs, feet, and bills. They have long broad wings for soaring and are often spectacular aeronauts.

The two species are below:

- Chough or Red-billed Chough (*Pyrrhocorax pyrrhocorax*)
- Alpine Chough or Yellow-billed Chough (*Pyrrhocorax graculus*)

Urocissa

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Corvidae</u> Genus: **Urocissa**

Species: Urocissa caerulea, Urocissa erythrorhyncha, Urocissa flavirostris, Urocissa

whiteheadi, Urocissa ornata

Urocissa is a <u>genus</u> of birds in the huge <u>Passerine</u> order in the family <u>Corvidae</u>. It consists of mainly brightly coloured magpies in Asia.

Species in the genus *Urocissa*:

 Formosan Blue Magpie, Urocissa caerulea Red-billed Blue Magpie, Urocissa erythrorhyncha Gold-billed Magpie, Urocissa flavirostris White-winged Magpie, Urocissa whiteheadi Sri Lanka Blue Magpie, Urocissa ornata

Dicruridae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Dicruridae**

Subfamilies: Monarchinae, Rhipidurinae, Dicrurinae

The family **Dicruridae** is a relatively recent grouping of a number of seemingly very different birds, mostly from the southern hemisphere, which are more closely related than they at first appear.

Many of the 139 <u>species</u> making up the family were previously assigned to other groups, largely on the basis of general morphology or behaviour. The Magpie-lark, for example, was assigned to the same family as the White-winged Chough: both build unusual nests from mud rather than vegetable matter. The Australasian fantails were thought to be allied with the fantails of the northern hemisphere (both groups share a similar diet and behaviour), and so on.

With the new insights generated by the DNA-DNA hybridisation studies of Sibley and his co-workers toward the end of the 20th century, however, it became clear that these apparently unrelated birds were all descended from a common ancestor: the same crow-like ancestor that gave rise to the <u>drongos</u>.

Subfamilies of Dicruridae

 Subfamily Monarchinae: boatbills, monarch flycatchers, Magpie-lark Subfamily Rhipidurinae:fantails Subfamily Dicrurinae:drongos

Drongos

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Dicruridae</u>
Subfamily: **Dicrurinae**

Genera: Chaetorhynchus, Dicrurus

The **drongos** are a subfamily of small <u>passerine birds</u> of the Old World tropics. They were previously classed as the family Dicruridae, but that has been much enlarged to include a number of largely Australasian groups, such as the Australasian fantails, monarchs and paradise flycatchers.

These insect-eating birds are found in usually open forests or bush. Most are black or dark grey in colour, sometimes with metallic tints. They have long forked tails, and some Asian species have elaborate tail decorations. They have short legs and sit very upright whilst perched, like a shrike. They flycatch or take prey from the ground.

Two to four <u>eggs</u> are laid in a nest high in a tree. These are aggressive and fearless birds, given their small size, and drongos will attack much larger species if their nest or young are threatened.

Species of Dicruriniae

• Papuan Drongo, Chaetorhynchus papuensis, (Lower risk (lc))

Square-tailed Drongo, Dicrurus ludwigii

Shining Drongo, Dicrurus atripennis, (Lower risk (lc))

Fork-tailed Drongo, Dicrurus adsimilis

Príncipe Drongo, Dicrurus modestus (Lower risk (nt))

Aldabra Drongo, Dicrurus aldabranus, (Lower risk (nt))

Comoro Drongo, Dicrurus fuscipennis, (Endangered)

Crested Drongo, Dicrurus forficatus, (Lower risk (lc))

Mayotte Drongo, Dicrurus waldenii, (Endangered)

Black Drongo, Dicrurus macrocercus

Ashy Drongo, Dicrurus leucophaeus

White-bellied Drongo, Dicrurus caerulescens

Crow-billed Drongo, Dicrurus annectans, (Lower risk (lc))

Bronzed Drongo, Dicrurus aeneus

Lesser Racket-tailed Drongo, Dicrurus remifer, (Lower risk (lc))

Hair-crested Drongo, Dicrurus hottentottus, (Lower risk (lc))

Balicassiao, Dicrurus balicassius, (Lower risk (lc))

Sulawesi Drongo, Dicrurus montanus, (Lower risk (lc))

Sumatran Drongo, Dicrurus sumatranus, (Lower risk (nt))

Wallacean Drongo, Dicrurus densus, (Lower risk (lc))

Ribbon-tailed Drongo, Dicrurus megarhynchus, (Lower risk (lc))

Spangled Drongo, Dicrurus bracteatus, (Lower risk (lc)) Andaman Drongo, Dicrurus andamanensis, (Lower risk (lc)) Greater Racket-tailed Drongo, Dicrurus paradiseus

Trivia

In Australian slang, the word drongo is a synonym for a total loser or idiot. Like most Australian slang the meaning of the word changes with the way it's said.

In the Bush Dance sometimes called the drongo the person who misses out on a partner (musical chairs style) becomes 'the drongo' for the next time through the dance and is the butt of a gentle humorous use of the word - spill hot soup in a customer's lap and you may hear a distinctly vitriolic use!

The Drongo was a racehorse probably named after the bird. It raced in the 1920's and was deemed unlucky never to have come better than second in thirty-seven starts. The term was used in the RAAF during World War 2 to describe raw recruits.

Monarchinae

(Chasiempis sandwichensis ridgwayi)

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Dicruridae</u>

Subfamily: Monarchinae

Genera: Erythrocercus, Elminia, Trochocercus, Hypothymis, Eutrichomyias, Terpsiphone, Chasiempis, Pomarea, Mayrornis, Neolalage, Clytorhynchus, Metabolus, Monarcha, Arses, Myiagra, Lamprolia, Machaerirhynchus, Grallina

The **Monarchinae** are a subfamily of the <u>bird</u> family **Dicruridae**, which is a relatively recent grouping of a number of seemingly very different birds, mostly from the southern hemisphere, which are more closely related than they at first appear. It includes the boatbills, monarch flycatchers and Magpie-lark.

Many of the 139 <u>species</u> making up the family were previously assigned to other groups, largely on the basis of general morphology or behaviour. The Magpie-lark, for example, was assigned to the same family as the White-winged Chough, since both build unusual nests from mud rather than vegetable matter. The Australasian fantails were thought to be allied with the fantails of the northern hemisphere (both groups share a similar diet and behaviour), and so on.

With the new insights generated by the DNA-DNA hybridisation studies of Sibley and his co-workers toward the end of the 20th century, however, it became clear that these apparently unrelated birds were all descended from a common ancestor: the same crow-like ancestor that gave rise to the <u>drongos</u>.

The Monarchinae are small to medium-sized insectivorous <u>passerines</u>, many of which hunt by flycatching.

Species of Monarchinae

Chestnut-capped Flycatcher, Erythrocercus mccallii, (Lower risk (lc))
 Yellow Flycatcher, Erythrocercus holochlorus, (Lower risk (lc))
 Livingstone's Flycatcher, Erythrocercus livingstonei, (Lower risk (lc))
 African Blue-Flycatcher, Elminia longicauda, (Lower risk (lc))
 White-tailed Blue-Flycatcher, Elminia albicauda, (Lower risk (lc))
 Dusky Crested-Flycatcher, Elminia nigromitrata, (Lower risk (lc))
 White-bellied Crested-Flycatcher, Elminia albiventris, (Lower risk (lc))
 White-tailed Crested-Flycatcher, Elminia albonotata, (Lower risk (lc))
 Blue-headed Crested-Flycatcher, Trochocercus nitens, (Lower risk (lc))
 African Crested-Flycatcher, Trochocercus cyanomelas, (Lower risk (lc))
 Short-crested Monarch, Hypothymis helenae, (Lower risk (nt))
 Black-naped Monarch, Hypothymis azurea

Pale-blue Monarch, Hypothymis puella, (Lower risk (lc)) Celestial Monarch, Hypothymis coelestis, (Vulnerable) Cerulean Paradise-Flycatcher, Eutrichomyias rowleyi, (Critical) Black-headed Paradise Flycatcher, Terpsiphone rufiventer Annobón Paradise-flycatcher, Terpsiphone smithii, (Vulnerable) Bedford's Paradise Flycatcher, Terpsiphone bedfordi, (Lower risk (nt)) Rufous vented Paradise Flycatcher, Terpsiphone rufocinerea, (Lower risk (lc)) Bates' Paradise Flycatcher, Terpsiphone batesi, (Lower risk (lc)) African Paradise Flycatcher, Terpsiphone viridis, (Lower risk (lc)) Sao Tome Paradise Flycatcher, Terpsiphone atrochalybeia, (Lower risk (lc)) Madagascar Paradise Flycatcher, Terpsiphone mutata, (Lower risk (lc)) Seychelles Paradise Flycatcher, Terpsiphone corvina, (Critical) Mascarene Paradise Flycatcher, Terpsiphone bourbonnensis, (Lower risk (lc)) Japanese Paradise Flycatcher, Terpsiphone atrocaudata, (Lower risk (nt)) Blue Paradise Flycatcher, Terpsiphone cyanescens, (Lower risk (nt)) Rufous Paradise Flycatcher, Terpsiphone cinnamomea, (Lower risk (lc)) Asian Paradise Flycatcher, Terpsiphone paradisi 'Elepaio, Chasiempis sandwichensis, (Endangered) Rarotonga Monarch, Pomarea dimidiata, (Endangered) Tahiti Monarch , Pomarea nigra, (Critical) Maupiti Monarch, Pomarea pomarea, (Extinct (1823)) Iphis Monarch, Pomarea iphis, (Vulnerable) Marquesas Monarch, Pomarea mendozae, (Endangered) Fatuhiya Monarch, Pomarea whitneyi, (Critical) Ogea Monarch, Mayrornis versicolor, (Vulnerable) Slaty Monarch, Mayrornis lessoni, (Lower risk (lc)) Vanikoro Monarch, Mayrornis schistaceus, (Lower risk (nt)) Buff-bellied Monarch, Neolalage banksiana, (Lower risk (lc)) Southern Shrikebill, Clytorhynchus pachycephaloides, (Lower risk (lc)) Rennell Shrikebill, Clytorhynchus hamlini, (Lower risk (lc)) Fiji Shrikebill, Clytorhynchus vitiensis, (Lower risk (lc))

Black-throated Shrikebill, Clytorhynchus nigrogularis, (Vulnerable)

Truk Monarch, Metabolus rugensis, (Endangered)

Black Monarch, Monarcha axillaris, (Lower risk (lc))

Rufous Monarch, Monarcha rubiensis, (Lower risk (lc))

Island Monarch, Monarcha cinerascens, (Lower risk (lc))

Black-winged Monarch , Monarcha frater, (Lower risk (lc))

Black-faced Monarch , Monarcha melanopsis, (Lower risk (lc))

 $Bougain ville\ Monarch\ ,\ Monarcha\ erythrostic tus,\ (Lower\ risk\ (lc))$

Chestnut-bellied Monarch , Monarcha castaneiventris, (Lower risk (lc))

White-capped Monarch , Monarcha richardsii, (Lower risk (lc))

White-naped Monarch , Monarcha pileatus, (Lower risk (lc))

 $Loetoe\ Monarch\ ,\ Monarcha\ castus,\ (Lower\ risk\ (lc))$

White-eared Monarch , Monarcha leucotis, (Lower risk (lc))

Spot-winged Monarch , Monarcha guttulus, (Lower risk (lc))

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Black-bibbed Monarch, Monarcha mundus, (Lower risk (lc))
Spectacled Monarch, Monarcha trivirgatus, (Lower risk (lc))
Flores Monarch, Monarcha sacerdotum, (Endangered)
White-tipped Monarch, Monarcha everetti, (Endangered)
Black-tipped Monarch, Monarcha loricatus, (Lower risk (lc))
Black-chinned Monarch, Monarcha boanensis, (Critical)
White-tailed Monarch . Monarcha leucurus. (Lower risk (nt))
Black-backed Monarch , Monarcha julianae
Hooded Monarch, Monarcha manadensis, (Lower risk (lc))
Biak Monarch, Monarcha brehmii, (Endangered)
Manus Monarch, Monarcha infelix, (Lower risk (nt))
White-breasted Monarch, Monarcha menckei, (Lower risk (nt))
Black-tailed Monarch, Monarcha verticalis, (Lower risk (lc))
Kulambangra Monarch, Monarcha browni, (Lower risk (nt))
White-collared Monarch, Monarcha viduus, (Lower risk (lc))
Black-and-white Monarch, Monarcha barbatus, (Lower risk (nt))
Yap Monarch, Monarcha godeffroyi, (Lower risk (nt))
Tinian Monarch , Monarcha takatsukasae, (Vulnerable)
Golden Monarch, Monarcha chrysomela, (Lower risk (lc))
Frilled Monarch, Arses telescophthalmus, (Lower risk (lc))
Rufous-collared Monarch, Arses insularis, (Lower risk (lc))
Pied Monarch, Arses kaupi, (Lower risk (lc))
Guam Flycatcher, Myiagra freycineti, (Extinct (1983))
Palau Flycatcher, Myiagra erythrops, (Lower risk (lc))
Pohnpei Flycatcher, Myiagra pluto, (Lower risk (lc))
Oceanic Flycatcher, Myiagra oceanica, (Lower risk (lc))
Biak Flycatcher, Myiagra atra, (Lower risk (nt))
Moluccan Flycatcher, Myiagra galeata, (Lower risk (lc))
Leaden Flycatcher, Myiagra rubecula, (Lower risk (lc))
Steel-blue Flycatcher, Myiagra ferrocyanea, (Lower risk (lc))
Ochre-headed Flycatcher, Myiagra cervinicauda, (Lower risk (nt))
Melanesian Flycatcher, Myiagra caledonica, (Lower risk (lc))
Vanikoro Flycatcher, Myiagra vanikorensis, (Lower risk (lc))
Samoan Flycatcher, Myiagra albiventris, (Vulnerable)
Blue-crested Flycatcher, Myiagra azureocapilla, (Lower risk (lc))
Broad-billed Flycatcher, Myiagra ruficollis, (Lower risk (lc))
Satin Flycatcher, Myiagra cyanoleuca, (Lower risk (lc))
Restless Flycatcher, Myiagra inquieta, (Lower risk (lc))
Shining Flycatcher, Myiagra alecto, (Lower risk (lc))
Dull Flycatcher, Myiagra hebetior, (Lower risk (lc))
Silktail, Lamprolia victoriae, (Vulnerable)
Black-breasted Boatbill, Machaerirhynchus nigripectus, (Lower risk (lc))
Yellow-breasted Boatbill, Machaerirhynchus flaviventer, (Lower risk (lc))
Magpie-lark, Grallina cyanoleuca
Torrent-lark, Grallina bruijni, (Lower risk (lc))
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Lamprolia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Monarchidae</u>

Genus: Lamprolia Finsch, 1874

The monotypic genus *Lamprolia* Finsch, 1874 consist of one species flycatcher endemic

to two islands of Fiji.

Species

• Silktail, Lamprolia victoriae

Rhipidurinae

Fantails

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Dicruridae</u>

Genus: Rhipidura Horsfield and Vigors, 1827 Species: many, see text

Fantails are small insectivorous <u>birds</u> of southern Asia and Australasia all belonging to the <u>genus</u> *Rhipidura* and subfamily Rhipidurinae. Most of the species are about 15 to 18 cm long, specialist aerial feeders, and named as "fantails", but the Australian Willie Wagtail, is a little larger, and though still an expert hunter of insects on the wing, concentrates equally on terrestrial prey.

It may be noted that the true wagtails are part of the genus Motacilla and family Motacillidae and are not particularly close relatives of the fantails.

Species

• Yellow-bellied Fantail, Rhipidura hypoxantha

Blue Fantail, Rhipidura superciliaris, (Lower risk (lc))

Blue-headed Fantail, Rhipidura cyaniceps

Rufous-tailed Fantail, Rhipidura phoenicura, (Lower risk (lc))

Black-and-cinnamon Fantail, Rhipidura nigrocinnamomea, (Lower risk (lc))

White-throated Fantail, Rhipidura albicollis

Spot-breasted Fantail, Rhipidura albogularis, (Lower risk (lc))

White-bellied Fantail, Rhipidura euryura, (Lower risk (lc))

White-browed Fantail, Rhipidura aureola

Northern Fantail, Rhipidura rufiventris, (Lower risk (lc))

Pied Fantail, Rhipidura javanica, (Lower risk (lc))

Spotted Fantail, Rhipidura perlata, (Lower risk (lc))

Willie Wagtail, Rhipidura leucophrys

Brown-capped Fantail, Rhipidura diluta, (Lower risk (lc))

Cinnamon-tailed Fantail, Rhipidura fuscorufa

White-winged Fantail, Rhipidura cockerelli, (Lower risk (nt))

Friendly Fantail, Rhipidura albolimbata, (Lower risk (lc))

Chestnut-bellied Fantail, Rhipidura hyperythra, (Lower risk (lc))

Sooty Thicket-Fantail, Rhipidura threnothorax, (Lower risk (lc))

Black Thicket-Fantail, Rhipidura maculipectus, (Lower risk (lc))

White-bellied Thicket-Fantail, Rhipidura leucothorax, (Lower risk (lc))

Black Fantail, Rhipidura atra, (Lower risk (lc))

Mangrove Fantail, Rhipidura phasiana, (Lower risk (lc))

Brown Fantail, Rhipidura drownei, (Lower risk (lc))

Dusky Fantail, Rhipidura tenebrosa, (Lower risk (nt))

Rennell Fantail, Rhipidura rennelliana, (Lower risk (lc))

Grey Fantail, Rhipidura fuliginosa

Streaked Fantail, Rhipidura spilodera, (Lower risk (lc))

Kandavu Fantail, Rhipidura personata, (Lower risk (lc))

Samoan Fantail, Rhipidura nebulosa, (Lower risk (lc))

Dimorphic Fantail, Rhipidura brachyrhyncha, (Lower risk (lc))

Rusty-flanked Fantail, Rhipidura teysmanni, (Lower risk (lc))

Cinnamon-backed Fantail, Rhipidura superflua, (Lower risk (lc))

Streaky-breasted Fantail, Rhipidura dedemi, (Lower risk (lc))

Long-tailed Fantail, Rhipidura opistherythra, (Lower risk (nt))

Palau Fantail, Rhipidura lepida, (Lower risk (lc))

Rufous-backed Fantail, Rhipidura rufidorsa, (Lower risk (lc))

Matthias Fantail, Rhipidura matthiae

Bismarck Fantail, Rhipidura dahli

Malaita Fantail, Rhipidura malaitae

Manus Fantail, Rhipidura semirubra

Rufous Fantail, Rhipidura rufifrons

Pohnpei Fantail, Rhipidura kubaryi

Tersiphone

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Monarchidae</u>

Genus: *Terpsiphone* Gloger, 1827Species: See text.

Tersiphone is the genus to which many different species of Paradise Flycatchers belong. Below is a list of Paradise Flycatcher species:

Species

 Terpsiphone atrocaudata (Eyton, 1839) - Japanese Paradise-Flycatcher Terpsiphone atrochalybeia (Thomson, 1842) - Sao Tome Paradise-Flycatcher Terpsiphone batesi Chapin, 1921 - Bate's Paradise-Flycatcher Terpsiphone bedfordi (Ogilvie-Grant, 1907) - Bedford's Paradise-Flycatcher Terpsiphone bourbonnensis (Statius Müller, 1776) - Mascarene Paradise-Flycatcher

Terpsiphone cinnamomea (Sharpe, 1877) - Rufous Paradise-Flycatcher Terpsiphone corvina (Newton,E, 1867) - Seychelles Paradise-Flycatcher Terpsiphone cyanescens (Sharpe, 1877) - Blue Paradise-Flycatcher Terpsiphone mutata (Linnaeus, 1766) - Madagascar Paradise-Flycatcher Terpsiphone paradisi (Linnaeus, 1758) - Asian Paradise Flycatcher Terpsiphone rufiventer (Swainson, 1837) - Black-headed Paradise-Flycatcher Terpsiphone rufocinerea (Cabanis, 1875) - Rufous-vented Paradise-Flycatcher Terpsiphone smithii - (Fraser, 1843) - Annobón Paradise-flycatcher Terpsiphone viridis (Statius Müller, 1776) - African Paradise Flycatcher

Icteridae

Tersiphone

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Monarchidae</u>

Genus: *Terpsiphone* Gloger, 1827Species: See text.

Tersiphone is the genus to which many different species of Paradise Flycatchers belong.

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Irenidae

Fairy-bluebirdsKingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Irenidae Jerdon, 1863Genus: Irena Horsfield, 1821Species: See text.

The two **fairy-bluebirds** are small <u>passerine</u> <u>bird</u> <u>species</u> found in forests and plantations in tropical southern Asia and the Philippines. They are the sole members of the family Irenidae, but are related to the <u>ioras</u> and leafbirds.

These are <u>bulbul</u>-like birds of open forest or thorn scrub, but whereas that group tends to be drab in coloration, fairy-bluebirds are sexually dimorphic, with the males being dark blue in plumage, and the females duller green.

These species eat fruit, especially figs, and maybe some insects. They lay 2-3 eggs in a tree nest.

The call of the Asian Fairy-bluebird is a liquid two note *Glue-It*.

As one would expect, the Asian Fairy-bluebird occurs across southern Asia, and the Philippine Fairy-bluebird in that archipelago.

- Family: Irenidae
- Asian Fairy-bluebird, Irena puella
 Philippine Fairy-bluebird, Irena cyanogaster

Laniidae

Shrikes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Laniidae**

Genera: Lanius, Eurocephalus, Corvinella

A **shrike** is a <u>passerine bird</u> of the family Laniidae which is known for its habit of catching insects, small birds or mammals and impaling their bodies on thorns. This helps them to tear the flesh into smaller, more conveniently-sized fragments, and serves as a "larder" so that the shrike can return to the uneaten portions at a later time.

A typical shrike's beak is hooked, like a bird of prey, reflecting its predatory nature.

Most shrike species occur in Eurasia and Africa, but two breed in North America. There are no members of this family in South America or Australia.

Some shrikes are also known as "butcher birds" because of their habit of keeping corpses. Australasian <u>butcherbirds</u> are not shrikes, although they occupy a similar ecological niche.

Species of Laniidae

Tiger Shrike, Lanius tigrinus

Bull-headed Shrike, Lanius bucephalus

Red-backed Shrike Lanius collurio

Isabelline Shrike Lanius isabellinus

Brown Shrike, Lanius cristatus

Burmese Shrike, Lanius collurioides

Emin's Shrike, Lanius gubernator

Souza's Shrike, Lanius souzae

Bay-backed Shrike, Lanius vittatus

Long-tailed Shrike Lanius schach

Grey-backed Shrike Lanius tephronotus

Mountain Shrike or Grey-capped Shrike, Lanius validirostris

Lesser Grey Shrike Lanius minor

Loggerhead Shrike, Lanius ludovicianus

Great Grey Shrike or Northern Shrike Lanius excubitor

Southern Grey Shrike Lanius meridionalis

Chinese Grey Shrike, Lanius sphenocercus

Grey-backed Fiscal, Lanius excubitoroides

Long-tailed Fiscal, Lanius cabanisi

Taita Fiscal, Lanius dorsalis

Somali Fiscal, Lanius somalicus

Mackinnon's Shrike, Lanius mackinnoni

Common Fiscal, Lanius collaris
Newton's Fiscal, Lanius newtoni
Uhehe Shrike, Lanius marwitzi
Woodchat Shrike, Lanius senator
Masked Shrike, Lanius nubicus
Yellow-billed Shrike, Corvinella corvina
Magpie Shrike, Corvinella melanoleuca
White-rumped Shrike, Eurocephalus rueppelli
White-crowned Shrike, Eurocephalus anguitimens

Other species, popularly called "shrikes," are in the families:

• Prionopidae, helmetshrikes.

Malaconotidae, puffback shrikes, bush shrikes, tchagras and boubous. Campephagidae, cuckoo-shrikes.

The Prionopidae and Malaconotidae are quite closely related to the Laniidae, and were formerly included in the shrike family. The cuckoo-shrikes are not closely related to the true shrikes.

Malaconotidae

Bushshrikes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Malaconotidae**

Genera: Nilaus, Dryoscopus, Tchagra, Laniarius, Rhodophoneus, Telophorus, Malaconotus

The **bushshrikes** are smallish <u>passerine bird species</u>. They were formerly classed with the true <u>Shrikes</u> in the family Laniidae, but are now considered sufficiently distinctive to be separated from that group as the family Malaconotidae.

This is an African group of species which are found in scrub or open woodland. They are similar in habits to shrikes, hunting insects and other small prey from a perch on a bush. Although similar in build to the shrikes, these tend to be either colourful species or largely black; some species are quite secretive.

Some bushshrikes have flamboyant displays. The male puffbacks puff out the loose feathers on their rump and lower back, to look almost ball-like.

These are mainly insectivorous forest or scrub birds. Up to four eggs are laid in a cup nest in a tree.

List of species in taxonomic order

Brubru, Nilaus afer

Northern Puffback, Dryoscopus gambensis Pringle's Puffback, Dryoscopus pringlii Black-backed Puffback, Dryoscopus cubla Red-eved Puffback, Dryoscopus senegalensis Pink-footed Puffback, Dryoscopus angolensis Large-billed Puffback, Dryoscopus sabini Marsh Tchagra, Tchagra minuta Black-crowned Tchagra, Tchagra senegala Brown-crowned Tchagra, Tchagra australis Three-streaked Tchagra, Tchagra jamesi Southern Tchagra, Tchagra tchagra Red-naped Bushshrike, Laniarius ruficeps Luehder's Bushshrike, Laniarius luehderi Bulo Burti Boubou. Laniarius liberatus Turati's Boubou. Laniarius turatii Tropical Boubou, Laniarius aethiopicus Gabon Boubou, Laniarius bicolor Southern Boubou, Laniarius ferrugineus Yellow-crowned Gonolek, Laniarius barbarus Black-headed Gonolek, Laniarius erythrogaster

Crimson-breasted Gonolek, Laniarius atrococcineus Papyrus Gonolek, Laniarius mufumbiri Yellow-breasted Boubou, Laniarius atroflavus Slate-colored Boubou, Laniarius funebris Sooty Boubou, Laniarius leucorhynchus Fuelleborn's Boubou, Laniarius fuelleborni Rosy-patched Bushshrike, Rhodophoneus cruentus Bokmakierie, Telophorus zeylonus Grey-green Bushshrike, Telophorus bocagei Sulphur-breasted Bushshrike, Telophorus sulfureopectus Olive Bushshrike, Telophorus olivaceus Many-colored Bushshrike, Telophorus multicolor Black-fronted Bushshrike, Telophorus nigrifrons Mt. Kupe Bushshrike, Telophorus kupeensis Four-colored Bushshrike, Telophorus viridis Doherty's Bushshrike, Telophorus dohertvi Fiery-breasted Bushshrike, Malaconotus cruentus Lagden's Bushshrike, Malaconotus lagdeni Green-breasted Bushshrike, Malaconotus gladiator Grev-headed Bushshrike, Malaconotus blanchoti Monteiro's Bushshrike, Malaconotus monteiri Uluguru Bushshrike, Malaconotus alius

Tchagra

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Malaconotidae

Genus: *Tchagra* Lesson, 1830species: *T. minuta, T. senegala, T. australis, T. jamesi, T. tchagra*

The **Tchagras** are <u>passerine birds</u> in the <u>bushshrike</u> family, which are closely related to the true <u>shrikes</u> in the family Laniidae, and were once included in that group. These five species form the genus *Tchagra* within the bushshrike family:

Marsh Tchagra, Tchagra minuta
Black-crowned Tchagra, Tchagra senegala
Brown-crowned Tchagra or Brown-headed Tchagra, Tchagra australis
Three-streaked Tchagra, Tchagra jamesi
Southern Tchagra, Tchagra tchagra

The Marsh Tchagra is sometimes placed in the monotypic genus *Antichromus*, and then named as Blackcap Bushshrike. The dark Angolan subspecies of Marsh Tchagra was formerly sometimes split as Anchieta's Tchagra, Tchagra anchietae, named after Portuguese explorer José Alberto de Oliveira Anchieta by his zoologist compatriot José Vicente Barbosa du Bocage in 1869.

These are long-tailed birds, typically with a grey or grey-brown back, brown wings and grey and whitish underparts. The head pattern is distinctive, with a dark cap and black eyestripe separated by a white supercilium. The bill is strong and hooked.

The male and female are similar in plumage in all tchagra species, but distinguishable from immature birds.

These are solitary birds which tend to skulk low down or on the ground. They have distinctive whistled calls and can be readily tempted into sight by imitating the call, presumably because the tchagra is concerned that there is an intruder in its territory.

These are species typically of scrub, open woodland, semi-desert and cultivation in sub-Saharan Africa. They hunt large insects from a low perch in a bush, and the larger species like Black-crowned Tchagra will also take vertebrate prey such as frogs and snakes.

References

- Barlow, Wacher and Disley, Birds of The Gambia ISBN 1-873403-32-1
- Tony Harris and Kim Franklin, *Shrikes and Bush-Shrikes* ISBN 0-7136-3861-3

Maluridae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Maluridae**

Genera: Malurus, Sipodotus, Clytomyias, Stipiturus, Amytornis

The **Maluridae** are a <u>family</u> of small, insectivouous <u>passerine birds</u> endemic to Australia and New Guinea. Commonly known as **wrens**, they are unrelated to the <u>true wrens</u> of the Northern Hemisphere. The family includes 14 <u>species</u> of **fairy-wren**, 3 **emu-wrens**, and 10 **grasswrens**.

As with many other Australian creatures, and perhaps more than most, the species making up this family were comprehensively misunderstood by early researchers. They were variously classified as Old World flycatchers, Old World warblers, and Old World babblers. In the late 1960s morphological studies began to suggest that the Australo-Papuan fairy-wrens, the grasswrens, emu-wrens and two monotypic wren-like genera from New Guinea were related and, following Charles Sibley's pioneering work on egg-white proteins in the mid-1970s, Australian researchers introduced the family name Maluridae in 1975. With further morphological work and the great strides made in DNA analysis towards the end of the 20th century, their position became clear: the Maluridae are one of the many families to have emerged from the great corvid radiation in Australasia. Their closest relatives are the Meliphagidae (honeyeaters), the Pardalotidae, and the Petroicidae (Australian robins). Their obvious similarity to the wrens of Europe and America is not genetic, but simply the consequence of convergent evolution between more-or-less unrelated species that share the same ecological niche.

Fairy-wrens are notable for several peculiar behavioral characteristics. They are socially monogamous and sexually promiscuous, meaning that although they form pairs between one male and one female, each partner will mate with other individuals and even assist in raising the young from such pairings. Males of several species pluck petals of conspicuous colors and display them to females for reasons unknown. The song of fairy-wrens is pleasant and complex, and at least two species (Superb and Splendid) possess, in addition to the alarm calls common to - and universally understood by - most small birds, another vocalization used when confronted by predators. This, termed "Type II Vocalization", is song-like and used when confronted by calling butcherbirds and sometimes other predatory birds, but its purpose is unknown; it is certainly not a warning call.

Species of Maluridae (part of the super-family Meliphagoidea)

- Subfamily Malurinae, tribe Malurini
 - Purple-crowned Fairy-wren, Malurus coronatus Superb Fairy-wren, Malurus cyaneus Splendid Fairy-wren, Malurus splendens Variegated Fairy-wren, Malurus lamberti

Lovely Fairy-wren, Malurus amabilis Blue-breasted Fairy-wren, Malurus pulcherrimus Red-winged Fairy-wren, Malurus elegans White-winged Fairy-wren, Malurus leucopterus Red-backed Fairy-wren, Malurus melanocephalus

- Subfamily Malurinae, tribe Stipiturini
 - Southern Emu-wren, Stipiturus malachurus
 Mallee Emu-wren, Stipiturus mallee
 Rufous-crowned Emu-wren, Stipiturus ruficeps
- Subfamily Amytornithinae
 - Grey Grasswren, Amytornis barbatus
 Black Grasswren, Amytornis housei
 White-throated Grasswren, Amytornis woodwardi
 Carpentarian Grasswren, Amytornis dorotheae
 Striated Grasswren, Amytornis striatus
 Short-tailed Grasswren, Amytornis merrotsyi
 Eyrean Grasswren, Amytornis goyderi
 Thick-billed Grasswren, Amytornis textilis
 Dusky Grasswren, Amytornis purnelli
 Kalkadoon Grasswren, Amytornis ballarae

Meliphagoidea

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Superfamily: Meliphagoidea

Families: Petroicidae, Pardalotidae, Meliphagidae, Maluridae

Meliphagoidea is a superfamily of passerine birds.

Families

Superfamily Meliphagoidea

o Family Petroicidae: the Australasian robins

Family Pardalotidae: pardalotes, thornbills, and allies

Family Meliphagidae: honeyeaters and chats

Family Maluridae: fairy-wrens, emu-wrens and grasswrens

Meliphagidae

Honeyeaters

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>

Family: **Meliphagidae** Vigors, 1825Genera: Anthochaera, Acanthagenys, Plectorhyncha, Philemon, Xanthomyzma, Entomyzon, Manorina, Xanthotis, Meliphaga, Lichenostomus, Melithreptus, Notiomystis, Glycichaera, Lichmera, Trichodere, Grantiella, Phylidonyris, Ramsayornis, Conopophila, Acanthorhynchus, Certhionyx, Myzomela, Anthornis, Prosthemadera, Epthianura, Ashbyia, Moho

The **honeyeaters** are a large and diverse family of small to medium sized birds most common in Australia and New Guinea, but also found in New Zealand, the Pacific islands as far east as Hawaii, and the islands to the north and west of New Guinea known as Wallacea. Bali, on the other side of the Wallace Line, has a single species.

Honeyeaters and the closely related Australian **chats** make up the <u>family</u> **Meliphagidae**. In total there are 182 <u>species</u> in 42 <u>genera</u>, roughly half of them native to Australia, many of the remainder occupying New Guinea. Like their closest relatives, the <u>Maluridae</u> (Australian wrens), <u>Pardalotidae</u> (<u>pardalotes</u> and thornbills), and Petroicidae (Australian robins), they originated as part of the great corvid radiation in Australia-New Guinea (which were joined in a single landmass until quite recent geological times).

Although honeyeaters look and behave very much like other nectar-feeding <u>passerines</u> around the world (such as the <u>sunbirds</u> and <u>flowerpeckers</u>), they are unrelated, and the similarities are the consequence of convergent evolution.

Unlike the hummingbirds of America, honeyeaters do not have extensive adaptations for hovering flight, though smaller members of the family do hover hummingbird-style to collect nectar from time to time. In general, honeyeaters prefer to flit quickly from perch to perch in the outer foliage, stretching up or sideways or hanging upside down at need. All genera have a highly developed brush-tipped tongue, longer in some species than others, frayed and fringed with bristles which soak up liquids readily. The tongue is flicked rapidly and repeatedly into a flower, the upper mandible then compressing any liquid out when the bill is closed.

The extent of the evolutionary partnership between honeyeaters and Australasian flowering plants is unknown, but probably substantial. A great many Australian plants are fertilised by honeyeaters, particularly the Proteacae, Myrtaceae, and Epacridacae. It is known that the honeyeaters are important in New Zealand as well, and assumed that the same applies in other areas.

In addition to nectar, all or nearly all honeyeaters take insects and other small creatures, usually by hawking, sometimes by gleaning. A few of the larger species, notably the White-eared Honeyeater, and the Strong-billed Honeyeater of Tasmania, probe under bark for insects and other morsels. Many species supplement their diets with a little fruit, and a small number eat considerable amounts of fruit, particularly in tropical rainforests and, oddly, in semi-arid scrubland. The Painted Honeyeater is a mistletoe specialist. Most, however, exist

on a diet of nectar supplemented by varing quantities of insects. In general, the honeyeaters with long, fine bills are more nectarivous, the shorter-billed species less so, but even specialised nectar eaters like the <u>spinebills</u> take extra insects to add protein to their diet when they are breeding.

The movements of honeyeaters are poorly understood. Most are at least partially mobile but many movements seem to be local, possibly between favourite haunts as the conditions change. Fluctuations in local abundance are common, but the small number of definitely migratory honeyeater species aside, the reasons are yet to be discovered. Many follow the flowering of favourite food plants. Arid zone species appear to travel further and less predictably than those of the more fertile areas. It seems probable that no single explanation will emerge: the general rule for honeyeater movements is that there is no general rule.

The genus Apalopteron (Bonin Honeyeater), formerly treated in the Meliphagidae, has recently been transferred to the Zosteropidae on genetic evidence.

A new species of honeyeater, not yet described but previously called "Smoky Honeyeater", has been discovered in December 2005 in the Foja Mountains of Papua, Indonesia.

Species of Meliphagidae (Part of the Meliphagoidea superfamily)

Red Wattlebird, Anthochaera carunculata Yellow Wattlebird, Anthochaera paradoxa Little Wattlebird, Anthochaera chrysoptera Western Wattlebird, Anthochaera lunulata Spiny-cheeked Honeveater, Acanthagenys rufogularis Striped Honeyeater, Plectorhyncha lanceolata Helmeted Friarbird, Philemon buceroides Silver-crowned Friarbird, Philemon argenticeps Noisy Friarbird, Philemon corniculatus Little Friarbird, Philemon citreogularis Regent Honeveater, Xanthomyza phrygia Blue-faced Honeyeater, Entomyzon cyanotis Bell Miner, Manorina melanophrys Noisy Miner, Manorina melanocephala Yellow-throated Miner, Manorina flavigula Black-eared Miner, Manorina melanotis Macleay's Honeyeater, Xanthotis macleayana Tawny-breasted Honeyeater, Xanthotis flaviventer Lewin's Honeyeater, Meliphaga lewinii Yellow-spotted Honeyeater, Meliphaga notata Graceful Honeveater, Meliphaga gracilis White-lined Honeyeater, Meliphaga albilineata Bridled Honeyeater, Lichenostomus frenatus Eungella Honeyeater, Lichenostomus hindwoodi

Yellow-faced Honeyeater, Lichenostomus chrysops Singing Honeyeater, Lichenostomus virescens Varied Honeyeater, Lichenostomus versicolor Mangrove Honeveater, Lichenostomus fasciogularis White-gaped Honeyeater, Lichenostomus unicolor Yellow Honeyeater, Lichenostomus flavus White-eared Honeveater. Lichenostomus leucotis Yellow-throated Honeyeater, Lichenostomus flavicollis Yellow-tufted Honeyeater, Lichenostomus melanops Purple-gaped Honeyeater, Lichenostomus cratitius Grey-headed Honeyeater, Lichenostomus keartlandi Yellow-plumed Honeyeater, Lichenostomus ornatus Grey-fronted Honeyeater, Lichenostomus plumulus Fuscous Honeveater, Lichenostomus fuscus Yellow-tinted Honeveater, Lichenostomus flavescens White-plumed Honeyeater, Lichenostomus penicillatus Smoky Honeyeater, Melipotes fumigatus [1] Black-chinned Honeyeater, Melithreptus gularis Strong-billed Honeyeater, Melithreptus validirostris Brown-headed Honeyeater, Melithreptus brevirostris White-throated Honeyeater, Melithreptus albogularis White-naped Honeyeater, Melithreptus lunatus Black-headed Honeyeater, Melithreptus affinis Stitchbird, Notiomystis cincta Green-backed Honeyeater, Glycichaera fallax Brown Honeyeater, Lichmera indistincta White-streaked Honeyeater, Trichodere cockerelli Painted Honeyeater, Grantiella picta Giant Honeyeater, Gymnomyza viridis Mao, Gymnomyza samoensis Crow Honeyeater, Gymnomyza aubryana Crescent Honeyeater, Phylidonyris pyrrhoptera New Holland Honeyeater, Phylidonyris novaehollandiae White-cheeked Honeyeater, Phylidonyris nigra White-fronted Honeyeater, Phylidonyris albifrons Tawny-crowned Honeyeater, Phylidonyris melanops Brown-backed Honeyeater, Ramsayornis modestus Bar-breasted Honeyeater, Ramsayornis fasciatus Rufous-banded Honeyeater, Conopophila albogularis Rufous-throated Honeyeater, Conopophila rufogularis Grey Honeyeater, Conopophila whitei Eastern Spinebill, Acanthorhynchus tenuirostris Western Spinebill, Acanthorhynchus superciliosus Banded Honeveater, Certhionyx pectoralis Black Honeyeater, Certhionyx niger

Pied Honeyeater, Certhionyx variegatus
Dusky Honeyeater, Myzomela obscura
Red-headed Honeyeater, Myzomela erythrocephala
Cardinal Honeyeater, Myzomela cardinalis
Scarlet Honeyeater, Myzomela sanguinolenta
New Zealand Bellbird, Anthornis melanura
Tui, Prosthemadera novaeseelandiae
Crimson Chat, Epthianura tricolor
Orange Chat, Epthianura aurifrons
Yellow Chat, Epthianura crocea
White-fronted Chat, Epthianura albifrons
Gibberbird, Ashbyia lovensis

Acanthorhynchus

Spinebill

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: *Acanthorhynchus* Gould, 1837 Species: *Acanthorhynchus tenuirostris, Eastern Spinebill, Acanthorhynchus superciliosus -Western Spinebill*

The **Spinebill** is a member of the <u>Honeyeater</u> family. It is around 15 centimetres in length, is coloured black, white and chestnut, and has a long, downcurved bill. It is native to Australia.

Anthochaera

Wattlebird

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: *Anthochaera* Vigors & Horsfield, 1827 Species: *Anthochaera carunculata*, *Anthochaera*

chrysoptera , Anthochaera paradoxa , Anthochaera lunulata

Wattlebirds are members of the <u>Honeyeater</u> family, and native to Australia. Species of wattlebird include the Little Wattlebird, the Red Wattlebird, the Western Wattlebird, and the Yellow Wattlebird.

Wattlebirds are characterized by their wattles. These are bare fleshy appendages, usually wrinkled and often brightly coloured, hanging from the cheeks, neck or throat, and presumably serving for display. The exception is the Little Wattlebird, which lacks wattles.

Some other birds also have wattles, although they are not known by the term "wattlebird". Examples include the entire <u>Callaeidae</u> family of New Zealand, comprised of the Tieke, the Kokako and the extinct Huia; the Turkey; some <u>vultures</u>; and several species of <u>lapwing</u>.

See also

List of Australian birds

Manorina

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: *Manorina* Vieillot, 1818Species: *M. flavigula*, *M. melanocephala*, *M. melanophrys*, *M.*

melanotis

Manorina is a genus of Australian endemic <u>honeyeaters</u>, containing four species: The Black-eared Miner, M. melanotis, the Yellow-throated Miner, M. flavigula, the Noisy Miner, M. melanocephala, and the Bell Miner, *M. melanophrys*. The genus is notable for the complex social organisation of its species, which live in colonies that can be further subdivided into coteries and nest contingents.

Species

 Yellow-throated Miner, M. flavigula Noisy Miner, M. melanocephala Bell Miner, M. melanophrys Black-eared Miner, M. melanotis

Moho

'0'os

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: Moho (Lesson, 1830)Species: see text.

The 'O'os (Moho) are a genus of now extinct birds originated from a group of Australian honeyeaters (Meliphagidade) which were probably drifted by tropical storms across thousands of kilometres to the Hawaiian Islands. Their plumage was general striking glossy black, some species had yellowish axillary tufts and other black outer feathers. Most of these species became extinct by habitat loss and by extensive hunting because their plumage were used for the creation of precious robes and capes for nobilities. The Kauai 'O'o was the last species of that genus which became extinct and it was probably a victim of the avian malaria.

Taxonomy

The following species belong to that genus

Oahu 'O'o (Moho apicalis) - Extinct ca. 1837
 Molokai 'O'o or Bishop's 'O'o (Moho bishopi) - Extinct ca. 1904
 Hawaii 'O'o (Moho nobilis) - Extinct ca. 1934
 Kauai 'O'o (Moho braccatus) - Extinct ca. 1987

References

- 1. ^ a b Flannery, Tim & Schouten, Peter (2001): A Gap in Nature
- 2. <u>^</u> Fuller, Errol (2000): *Extinct Birds*
- Day, David (1981): The Doomsday Book of Animals
- Greenway, James C. (1967): Extinct and Vanishing Birds of the World

Philemon

Friarbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: *Philemon* Vieillot, 1816Species: *Philemon buceroides, Philemon argenticeps, Philemon*

corniculatus, Philemon citreogularis

The **friarbirds** are four species of <u>honeyeaters</u> in the genus **Philemon**:

 Helmeted Friarbird, Philemon buceroides Silver-crowned Friarbird, Philemon argenticeps Noisy Friarbird, Philemon corniculatus Little Friarbird, Philemon citreogularis

They are found in eastern Australia and southern New Guinea. They eat nectar, insects and other invertebrates, flowers, fruit and seeds.

Phylidonyris

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Meliphagidae</u>

Genus: *Phylidonyris* Lesson, 1830 Species: *Phylidonyris albifrons*, *Phylidonyris melanops*,

Phylidonyris novaehollandiae , Phylidonyris nigra , Phylidonyris pyrrhoptera

The genus **Phylidonyris** is a member of the <u>Honeyeater</u> family.

Menuridae

Lyrebirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Menuridae**

Genus: Menura Latham, 1802 Species: Menura novaehollandiae, Menura alberti

A **Lyrebird** is either of two <u>species</u> of ground-dwelling Australian <u>birds</u>, most notable for their extraordinary ability to mimic natural and artificial sounds from their environment. They are the:

- **Superb Lyrebird** or **Weringerong** (*Menura novaehollandiae*) is found in areas of wet forest in Victoria and New South Wales, and in Tasmania where it was introduced in the 19th Century. Females are 74-84cm long, and the males are a larger 80-98cm long making them the third-largest passerine bird after the Thick-billed Raven and the Common Raven. Many Superb Lyrebirds live in the Dandenong Ranges National Park and Kinglake National Park around Melbourne, and in several other parks along the east coast of Australia.
- **Albert's Lyrebird** (*Menura alberti*) is slightly smaller at a maximum of 90 cm (male) and 84 cm (female) (around 30-35 inches) and is only found in a very small area of Southern Queensland rainforest. They have smaller, less spectacular lyrate feathers than the Superb Lyrebird, but are otherwise similar. Albert's Lyrebird was named in honour of Prince Albert, the husband of Oueen Victoria.

Lyrebirds are among Australia's best-known native birds, even though they are rarely seen in their natural habitat. As well as their extraordinary mimicking ability, lyrebirds are notable because of the striking beauty of the male bird's huge tail when it is fanned out in display; and also because of their courtship display.

The lyrebird is an ancient Australian animal. The Australian Museum has fossils of lyrebirds dating back to about 15 million years ago. μ

- 1 Mimicry
 - o 1.1 An anecdotal example
- 2 Lifestyle and classification
- <u>3 Lyrebirds as emblems</u>
- 4 Painting by John Gould
- 5 References

Mimicry

A lyrebird's call is a rich mixture of its own song and any number of other sounds it has heard. The lyrebird's syrinx is the most complexly-muscled of the <u>Passerines</u> (songbirds),

giving the lyrebird extraordinary ability, unmatched in vocal repertoire and mimicry. Lyrebirds render with great fidelity the individual songs of other birds and the chatter of flocks of birds, and also mimic other animals, human noises, machinery of all kinds, explosions and musical instruments. The lyrebird is capable of imitating almost any sound — from a mill whistle to a cross-cut saw, and, not uncommonly, sounds as diverse as chainsaws [2], car engines and alarms, rifle-shots, camera shutters, dogs barking and crying babies. Lyrebirds are shy birds and a constant stream of bird calls coming from one place is often the only way of identifying them and their presence. The female lyrebird is also an excellent mimic, but she is not heard as often as the male lyrebird [3][4] [5]

One researcher, Sydney Curtis, has recorded flute-like lyrebird calls in the vicinity of the New England National Park. Similarly, in 1969, a park ranger, Neville Fenton, recorded a lyrebird song, which resembled flute sounds, in the New England National Park, near Dorrigo in northern coastal New South Wales. After much detective work by Fenton, it was discovered that in the 1930's, a flute player living on a farm adjoining the park used to play tunes near his pet lyrebird. The lyrebird adopted the tunes into his repertoire, and retained them after release into the park. Neville Fenton forwarded a tape of his recording to Norman Robinson. Because a lyrebird is able to carry two tunes at the same time, Robinson filtered out one of the tunes and put it on the phonograph for the purposes of analysis. The song represents a modified version of two popular tunes in the 1930's: "The Keel Row" and "Mosquito's Dance". Musicologist David Rothenberg has endorsed this information. [61/2] [8]

An anecdotal example

A Lyrebird's tale

During the early 1930s, a male lyrebird, called "James", formed a close bond of friendship with a human being, Mrs. Wilkinson, after she had been offering food to him over a period of time. James would perform his courtship dance for her on one of his mounds which he had constructed in her backyard — and he would also put on his display for a wider audience, but only when Mrs. Wilkinson was one of those present. On one such occasion, James' performance lasted for forty-three minutes, and included steps to a courtship dance accompanied by his own tune — and also included imitating perfectly the calls of a Magpie, and a young magpie being fed by a parent-bird, a Whipbird, a Bellbird, a complete laughingsong of a Kookaburra, two Kookaburras laughing in unison, a Black Cockatoo, a Gang-gang Cockatoo, an Eastern Rosella, a Pied Butcherbird, a Wattle-bird, a Grey Shrike-thrush, a Thornbill, a Scrubwren, a Striated Pardalote, a Starling, a Yellow Robin, a Golden Whistler, a flock of parrots whistling in flight, the Crimson Rosella, several other birds whose notes his audience were not able to identify, and the song of honey-eaters (tiny birds with tiny voices), that gather in numbers and "cheep" and twitter in a multitudinous sweet whispering. In order to mimic the honeyeaters' singing faithfully, James was obliged to subdue his powerful voice to the faintest pianissimo, but he contrived, nevertheless, to make each individual note of the soft chorus audibly distinct. Also included in James' performance was his perfect mimicry of the sounds made by a rock-crusher at work, a hydraulic ram, and the tooting of motor-horns. [9]

Lifestyle and classification

Male lyrebirds call mostly during winter, when they construct and maintain an open arena-mound in dense bush, on which they sing and dance in courtship, to display to potential mates, of which the male lyrebird has several. Females build an untidy nest usually low to the ground in a moist gully where she lays a single egg, and she is the sole parent who incubates the egg over 50 days until it hatches, and she is also the sole carer of the lyrebird chick.

Lyrebirds feed on insects, spiders, earthworms and, occasionally, seeds. They find food by scratching with their feet through the leaf-litter. When in danger, lyrebirds run, rather than fly, being awkward in flight, and have also been seen to take refuge in wombat burrows. Another instance was when firefighters, sheltering in a mine shaft during a bushfire, were joined by several lyrebirds. [10]

The classification of lyrebirds has been much debated. They were briefly thought to be Galliformes like the broadly similar looking <u>partridge</u>, junglefowl, and <u>pheasants</u> that Europeans were familiar with, but since then have usually been classified in a family of their own, **Menuridae**, which contains a single genus, **Menura**.

It is generally accepted that the lyrebird family is most closely related to the scrub-birds (Atrichornithidae) and some authorities combine both in a single family, but evidence that they are also related to the <u>bowerbirds</u> remains controversial.

Lyrebirds are not endangered in the short to medium term. Albert's Lyrebird has a very restricted habitat but appears to be secure within it so long as the habitat remains intact, while the Superb Lyrebird, once seriously threatened by habitat destruction, is now classified as common. Even so, lyrebirds are vulnerable to <u>cats</u> and foxes, and it remains to be seen if habitat protection schemes will stand up to increased human population pressure.

Lyrebirds as emblems

The lyrebird has been featured as a symbol and emblem many times, especially in New South Wales and Victoria (where the Superb Lyrebird has its natural habitat) – and in Queensland (where Albert's Lyrebird has its natural habitat).

- A male Superb Lyrebird is featured on the reverse of the Australian 10 cent coin.
- A silhouette of a male Superb Lyrebird is the logo of the Australian Film Commission
- An illustration of a male Superb Lyrebird, in courtship display, is the emblem of the New South Wales National Parks and Wildlife Service
- The pattern on the curtains of the Victorian State Theatre is the image of a male Superb Lyrebird, in courtship display, as viewed from the front.

- A stylized illustration of a male Albert's Lyrebird is the logo of the Queensland Conservatorium of Music, now part of Griffith University. In the logo, the top part of the lyrebird's tail becomes a music stave.
- A stylized illustration of part of a male Superb Lyrebird's tail is the logo for the Lyrebird Arts Council of Victoria.
- There are many other companies with the name of *Lyrebird*, and these also have lyrebird logos.

Painting by John Gould

The lyrebird is so called because the male bird has a spectacular tail (consisting of 16 highly modified <u>feathers</u> (two long slender *lyrates* at the centre of the plume, two broader *medians* on the outside edges and twelve *filamentaries* arrayed between them), which was originally thought to resemble a lyre. This happened when a lyrebird specimen (which had been taken from Australia to England during the early 1800's) was prepared for display at the British Museum by a taxidermist who had never seen a live lyrebird. The taxidermist mistakenly thought that the tail would resemble a lyre, and that the tail would be held in a similar way to that of a peacock during courtship display, and so he arranged the feathers in this way. Later, John Gould (who had also never seen a live lyrebird), painted the lyrebird from the British Museum specimen.

Although very beautiful, the male lyrebird's tail is not as in John Gould's painting, nor is the tail held in such a manner. Instead, the male lyrebird's tail is fanned over the lyrebird during courtship display, with the tail completely covering his head and back — as can be seen on an Australian 10 cent coin (above), where the Lyrebird's tail (in courtship display) is portrayed accurately.

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 - 2. * The nation's favourite David Attenborough moment Daily Mail article
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- 4. △ Reader's Digest Complete Book of Australian Birds, 1976.
- 5. ^-Favourite Australian Birds, Bay Books, 1998.
- 6. <u>^ Lyrebird Recordings by Sydney Curtis</u> includes reference to the flute lyrebird story, and a link to a recording.
- 7. <u>^ In conversation with David Rothenberg</u> *NewMusicBox* interview including flute lyrebird story.
- 8. <u>^</u> *The Lyrebird A Natural History*, by Pauline Reilly, New South Wales University Press, 1988.
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10. <u>^</u> - *Amazing Facts about Australian Birds*, by Steve Parish, Steve Parish Publishing, 1997.

Neosittidae

Sitellas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Neosittidae**

Genus: Neositta Hellmayr, 1901 Species: N. miranda, N. chrysoptera

The **sitellas** are a family of small <u>passerine</u> <u>birds</u> found only in Australasia. They resemble <u>treecreepers</u>, but have soft tails. They do not <u>migrate</u> other than for local movements.

The sitellas are small woodland birds with thin pointed down-curved bills, which they use to extricate insects from bark. Nests are open cups in forked branches.

Species

- Black Sitella, Neositta miranda
- Varied Sitella, Neositta chrysoptera

Oriolidae

Orioles

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Oriolidae Vigors, 1825Genera: Oriolus, Sphecotheres

Orioles are colourful Old World <u>passerine birds</u> in the family **Oriolidae**. They are not related to the New World orioles, which are <u>Icterids</u>, family Icteridae.

The orioles are a mainly tropical Old World group, although one species breeds in more temperate regions.

Species

• Golden Oriole, Oriolus oriolus

Brown Oriole, Oriolus szalayi

Halmahera Oriole, Oriolus phaeochromus

Ceram Oriole, Oriolus forsteni

Buru Oriole, Oriolus bouroensis

Timor Oriole, Oriolus viridifuscus

Olive-backed Oriole or White-bellied Oriole, Oriolus sagittattus

Yellow Oriole or Green Oriole. Oriolus flavocinctus

Dark-throated Oriole, Oriolus xanthonotus

White-lored Oriole. Oriolus albiloris

Isabela Oriole, Oriolus isabellae

African Golden Oriole, Oriolus auratus

Black-naped Oriole, Oriolus chinensis

Green-headed Oriole, Oriolus chlorocephalus

Great-billed Oriole, Oriolus crassirostris

Western Black-headed Oriole, Oriolus brachvrhynchus

Forest Oriole, Oriolus monacha

Black-headed Oriole, Oriolus larvatus

Black-winged Oriole, Oriolus nigripennis

Black-hooded Oriole, Oriolus xanthornus

Black Oriole, Oriolus hosii

Black and Crimson Oriole, Oriolus cruentus

Maroon Oriole, Oriolus trailili

Silver Oriole, Oriolus mellianus

Figbird Sphecotheres viridis

Orthonychidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Orthonychidae**

Genus: *Orthonyx* Temminck, 1820Species: *Orthonyx temminckii* , *Orthonyx spaldingii*

The **Orthonychidae** is a <u>family</u> of <u>birds</u> with a single <u>genus</u>, *Orthonyx*, which comprises of two species of <u>passerine</u> birds endemic to Australia and New Guinea, the Logrunner and the Chowchilla. Some authorities consider the Australian family <u>Cinclosomatidae</u> to be part of the Orthonychidae. Both species use stiffened tails to brace themselves when feeding.

The Logrunner, *Orthonyx temminckii*, is from south-eastern Australia, where it is very local in its distribution, and strictly terrestrial in its habits. The wings are, however, barred with white, and the chin, throat and breast are in the male pure white, but of a bright reddishorange in the female. The remiges are very short, rounded and much incurved, showing a bird of weak flight. The rectrices are very broad, the shafts stiff, and towards the tip divested of barbs. The northern subspecies, found locally in New Guinea, was formerly considered its own species, *Orthonyx novaeguineae*.

The Chowchilla, *Orthonyx spaldingii* from Queensland is of much greater size than the Logrunner, and with a jet-black plumage, the throat being white in the male and orange-rufous in the female.

Both are semi-terrestrial birds of weak flight, and build a domed nest on or near the ground. Insects and larvae are their chief food, and the males are described as performing dancing antics like those of the lvrebird.

The fossil record does not much help to determine the affiliations of the Orthonychidae. Three prehistoric species are known to science. The very large *Orthonyx hypsilophus* from Green Waterhole Cave and an undescribed species found in Pyramids Cave which was a bit smaller than the logrunner are probably of Late Pleistocene age. Orthonyx kaldowinyeri[1] is known from Middle or Late Miocene deposits of Riversleigh; it is the oldest and smallest species known to date (Boles, 1993).

References

- This article incorporates text from the Encyclopædia Britannica Eleventh Edition, a publication now in the public domain.
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Footnotes

1. ^ Etymology: *kaldowinyeri* is the Yaralde (Ngarrindjeri) word for "a very long time ago"; this species is the oldest record of the family found to date. Like the bird, the language is nowadays extinct.

Pachycephalidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Pachycephalidae Swainson, 1831Subfamilies: Falcunculinae, Pachycephalinae

The family **Pachycephalidae** includes the whistlers, shrike-thrushes, shrike-tits, pitohuis and Crested Bellbird, and is part of the Australo-Papuan corvid lineage. Its members range from small to medium in size, and occupy most of Australasia: Australia in particular, but also New Guinea, New Zealand, and in the case of the whistlers, the South Pacific islands and parts of Indonesia.

Several species belonging to this family are outstanding songsters: the whistlers produce an astonishing volume for their size, and the <u>lyrebirds</u> aside, the Grey Shrike-thrush is often regarded as the finest, most inventive songbird of them all.

Some authorities list **thickhead** as an alternative common name to whistler.

Species of Pachycephalidae

- Subfamily Falcunculinae
 - Whitehead, Mohoua albicilla
 Yellowhead, Mohoua ochrocephala
 Pipipi, Mohoua novaeseelandiae
 Crested Shrike-tit, Falcunculus frontatus
 Crested Bellbird, Oreoica gutturalis
 Mottled Whistler, Rhagologus leucostigma
- Subfamily Pachycephalinae
 - Dwarf Whistler, Pachycare flavogrisea Olive-flanked Whistler, Hylocitrea bonensis Maroon-backed Whistler, Coracornis raveni Rufous-naped Whistler, Aleadryas rufinucha Olive Whistler, Pachycephala olivacea Red-lored Whistler, Pachycephala rufogularis Gilbert's Whistler, Pachycephala inornata Mangrove Whistler, Pachycephala grisola Green-backed Whistler, Pachycephala albiventris White-vented Whistler, Pachycephala homeyeri Island Whistler, Pachycephala phaionotus Rusty Whistler, Pachycephala hyperythra Brown-backed Whistler, Pachycephala modesta Bornean Whistler, Pachycephala hypoxantha Sulphur-bellied Whistler, Pachycephala sulfuriventer Vogelkop Whistler, Pachycephala meyeri Yellow-bellied Whistler, Pachycephala philippinensis

Gray-headed Whistler, Pachycephala griseiceps Fawn-breasted Whistler, Pachycephala orpheus Gray Whistler, Pachycephala simplex Golden Whistler, Pachycephala pectoralis Sclater's Whistler, Pachycephala soror Lorentz's Whistler, Pachycephala lorentzi Black-tailed Whistler, Pachycephala melanura New Caledonian Whistler, Pachycephala caledonica Samoan Whistler, Pachycephala flavifrons Tongan Whistler, Pachycephala jacquinoti Regent Whistler, Pachycephala schlegelii Bare-throated Whistler, Pachycephala nudigula Hooded Whistler, Pachycephala implicata Golden-backed Whistler, Pachycephala aurea Drab Whistler, Pachycephala griseonota Wallacean Whistler, Pachycephala arctitorquis Black-headed Whistler, Pachycephala monacha White-bellied Whistler, Pachycephala leucogastra Rufous Whistler, Pachycephala rufiventris White-breasted Whistler, Pachycephala lanioides Sooty Shrike-thrush, Colluricincla umbrina Rufous Shrike-thrush, Colluricincla megarhyncha Sangihe Shrike-thrush, Colluricincla sanghirensis Bower's Shrike-thrush, Colluricincla boweri Sandstone Shrike-thrush, Colluricincla woodwardi Grey Shrike-thrush, Colluricincla harmonica Morningbird, Colluricincla tenebrosa Hooded Pitohui. Pitohui dichrous White-bellied Pitohui, Pitohui incertus Rusty Pitohui, Pitohui ferrugineus Crested Pitohui, Pitohui cristatus Variable Pitohui, Pitohui kirhocephalus Black Pitohui, Pitohui nigrescens Wattled Ploughbill, Eulacestoma nigropectus

Pitohui

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Pachycephalidae</u>

Genus: Pitohui Lesson, 1830 Species: See text.

Pitohui is a genus of birds endemic to New Guinea, belonging to the family Pachycephalidae.

Currently six <u>species</u> are classified in the genus, though current molecular genetics research suggests that significant reclassification of the Pachycephalidae may be needed.

Species

 Variable Pitohui, Pitohui kirhocephalus Hooded Pitohui, Pitohui dichrous White-bellied Pitohui, Pitohui incertus Rusty Pitohui, Pitohui ferrugineus Crested Pitohui, Pitohui cristatus Black Pitohui, Pitohui nigrescens

Pitohuis are brightly coloured, omnivorous birds. The skin and feathers of some pitohuis, especially the Variable and Hooded Pitohuis, contain powerful neurotoxic alkaloids of the batrachotoxin group (also secreted by the Colombian poison dart frogs, genus Phyllobates). It is believed that these serve the birds as a chemical defence, either against ectoparasites or against visually guided predators such as snakes, raptors or humans. (Dumbacher, et al., 1992) The birds probably do not produce batrachotoxin themselves. It is most likely that the toxins come from the Choresine genus of beetles, part of the bird's diet. [1] (Dumbacher, et al., 2004)

The Hooded Pitohui is brightly coloured, with a brick red belly and a jet black head. The Variable Pitohui, as its name implies, exists in many different forms, and twenty subspecies with different plumage patterns have been named. Two of them, however, closely resemble the Hooded Pitohui.

It has been suggested that the birds' bright colours are an example of aposematism (warning colouration), and the similarity of the Hooded Pitohui and some forms of the Variable Pitohui might then be an example of Müllerian mimicry, in which dangerous species gain a mutual advantage by sharing colouration, so that an encounter with either species trains a predator to avoid both. (Dumbacher & Fleischer, 2001)

References

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Paradisaeidae

Bird of Paradise

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Paradisaeidae**Genera:13, see list below

The **birds of paradise** are members of the family Paradisaeidae of the order <u>Passeriformes</u>. They are found in Australasia regions of eastern Indonesia, New Guinea and northeastern Australia. The member of this family are perhaps best known for the striking <u>plumage</u> possessed by the male of most species, which are used in courtship displays in order to attract females. Many species also have highly elongated and elaborate feathers extending from the tail, wings or head. Despite this extravagant plumage, they are anatomically among the most primitive songbirds.

The best known for their <u>plumage</u> are the species of the genus Paradisaea, including the type species the Greater Bird of Paradise, Paradisaea apoda. This species was described from specimens brought back to Europe from trading expeditions. These specimens had been prepared by native traders by removing their wings and feet, which led to the belief that the birds never landed but were kept permanently aloft by their plumes. This gave both the name "birds of paradise" and the specific name *apoda* - without feet.

Most species have elaborate mating rituals, with the *Paradisaea* species having a Lektype mating system. Others, such as the Cicinnurus and Parotia species, have highly ritualized mating dances, with Parotia species presenting ballet tutu-like display plumage in a dance that is among the most astounding behaviors of all birds due to its completely accidental, but nonetheless uncanny resemblance to hula and limbo dances.

Due to the peculiarities of their mating system, birds of paradise are among the birds where hybrids most frequently occur, together with <u>ducks</u> and <u>hummingbirds</u>, which both also have highly ornamental plumage in males and often form groups for mating purposes. Some scholars merge this family together with the <u>Corvidae</u>.

- 1 Use by humans
- 2 Species of Paradisaeidae
- 3 Trivia
- 4 References

Use by humans

The native societies of New Guinea often use bird of paradise plumes in their dress and rituals, and the plumes were very important in Europe in ladies' millinery in past centuries. Hunting for plumes and habitat destruction has reduced some species to endangered status. Habitat destruction due to deforestation is the predominant reason today. Hunting for their

plumes for millinery was a significant factor in the late 19th and early 20th century, but as of today, they enjoy legal protection and hunting is only permitted at a sustainable level to fulfil the ceremonial needs of the local tribal population. As for Pteridophora plumes, scavenging from old bowerbird bowerbird bowers is encouraged. When King Mahendra of Nepal was crowned in 1955, it was found that the bird of paradise plumes of the Nepali royal crown were in need of replacement. Due to the hunting ban, replacements were eventually procured from a confiscated shipment seized by United States Customs.

Hunting of birds of paradise has occurred for a long time, possibly since the beginning of human settlement. It is a peculiarity that among the most frequently-hunted species, males start mating opportunistically even before they grow their ornamental plumage. This may be an adaptation maintaining population levels in the face of hunting pressures, which have in all probability been present since 30 millennia.

Bird of paradise could also be found in Malaysia. They are highly sought after by traditional healers for medical purposes. In Malaysia these endangered birds are called Cendrawasih.

Species of Paradisaeidae

Genus Lycocorax

• Paradise Crow, *Lycocorax pyrrhopterus*

Genus Manucodia

 Glossy-mantled Manucode, Manucodia atra Jobi Manucode, Manucodia jobiensis Crinkle-collared Manucode, Manucodia chalybata Curl-crested Manucode, Manucodia comrii Trumpet Manucode, Manucodia keraudrenii

Genus Paradigalla

 Long-tailed Paradigalla, Paradigalla carunculata Short-tailed Paradigalla, Paradigalla brevicauda

Genus Astrapia

 Arfak Astrapia, Astrapia nigra Splendid Astrapia, Astrapia splendidissima Ribbon-tailed Astrapia, Astrapia mayeri Stephanie's Astrapia, Astrapia stephaniae Huon Astrapia, Astrapia rothschildi

Genus Parotia

 Western Parotia, Parotia sefilata Carola's Parotia, Parotia carolae Berlepsch's Parotia, Parotia berlepschi Lawes's Parotia, Parotia lawesii Eastern Parotia, Parotia helenae Wahnes's Parotia, Parotia wahnesi

Genus Pteridophora

• King of Saxony Bird of Paradise, *Pteridophora alberti*

Genus Lophorina

• Superb Bird of Paradise, Lophorina superba

Genus Ptiloris

 Magnificent Riflebird, Ptiloris magnificus Eastern Riflebird, Ptiloris intercedens Paradise Riflebird, Ptiloris paradiseus Victoria's Riflebird, Ptiloris victoriae

Genus Epimachus

Black Sicklebill, Epimachus fastuosus
 Brown Sicklebill, Epimachus meyeri
 Black-billed Sicklebill, Epimachus albertisi
 Pale-billed Sicklebill, Epimachus bruijnii
 Elliot's Bird of Paradise Epimachus ellioti

May be extinct, or just a hybrid of Black Sicklebill (Epimachus fastuosus) and Arfak Astrapia (*Astrapia nigra*)

Genus Cicinnurus

 Magnificent Bird of Paradise, Cicinnurus magnificus Wilson's Bird of Paradise, Cicinnurus respublica King Bird of Paradise, Cicinnurus regius

Genus Semioptera

• Wallace's Standardwing, Semioptera wallacii

Genus Seleucidis

• Twelve-wired Bird of Paradise, Seleucidis melanoleuca

Genus Paradisaea

 Lesser Bird of Paradise, Paradisaea minor Greater Bird of Paradise, Paradisaea apoda Raggiana Bird of Paradise, Paradisaea raggiana Goldie's Bird of Paradise, Paradisaea decora Red Bird of Paradise, Paradisaea rubra Emperor Bird of Paradise, Paradisaea guilielmi Blue Bird of Paradise, Paradisaea rudolphi

Others

• Loria's Bird-of-paradise, Cnemophilus loriae - may not be in this family due to recent research [1]

Crested Bird-of-paradise, Cnemophilus macgregorii - may not be in this family due to recent research [2]

Yellow-breasted Bird-of-paradise, Loboparadisea sericea - may not be in this family due to recent research [3]

Macgregor's Bird-of-paradise, Macgregoria pulchra - recently found to be a honeyeater [4]

Lesser Melampitta, Melampitta lugubris - tentatively included in this group Greater Melampitta, Melampitta gigantea - tentatively included in this group

Trivia

- A Bird of paradise is depicted on the flag of Papua New Guinea.
- Birds of Paradise is one of the most favored cards in Magic: The Gathering.

References

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Pardalotidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Pardalotidae**

Subfamilies: Pardalotinae, Dasyornithinae, Acanthizinae

The large and diverse <u>passerine</u> bird family **Pardalotidae** includes the <u>pardalotes</u>, scrubwrens, thornbills, gerygones and allies. The family originated in Australasia and now includes about 70 species in 15 or 16 genera. Nearly all are confined to Australia (48 species) or New Guinea (about 20 species, including 6 found in both Australia and New Guinea). Only the gerygones extend further afield, with representatives in South-east Asia, New Zealand, and islands of the South Pacific.

All members are small to medium in size—some are very small—the majority are drab, inconspicuous, and often difficult to identify. All are mainly insectivorous, have 10 primaries (the tenth is vestigial in the pardalotes) and 9 secondaries (most having a vestigal tenth secondary).

One species, the Lord Howe Gerygone *Gerygone insularis*, is extinct; and 25 taxa in 17 species are considered endangered, three of them critically so. The primary threats are land clearing, overgrazing, degradation and fragmentation of habitat, and changing fire regimes.

The taxonomy of the Pardalotidae is complex and its classification has changed a great deal over the years. Recent microbiological work has made it clear that it is part of the Australasian <u>corvid</u> lineage, and it is most closely related to the <u>honeyeaters</u> and the fairywrens, all three families being regarded as part of the superfamily Meliphagoidea. (The Pardalotidae form the second-largest family of birds in Australasia, after the honeyeaters.)

At various times the Pardalotidae have been classified as <u>Old World warblers</u>, <u>Old World babblers</u>, and <u>Old World flycatchers</u>. The pardalotes themselves have been placed alone in their own family and grouped with the flowerpeckers. DNA studies suggest that the pardalotes may diverge sufficienty from the others in the group to justify regarding them as a separate family, in which case the remaining genera would be placed in the family Acanthizidae.

Species of Pardalotidae (part of the super-family Meliphagoidea)

- Subfamily Pardalotinae: pardalotes
- Spotted Pardalote, Pardalotus punctatus
 Forty-spotted Pardalote, Pardalotus quadragintus
 Red-browed Pardalote, Pardalotus rubricatus
 Striated Pardalote, Pardalotus striatus
 - Subfamily Dasyornithinae

 Eastern Bristlebird, Dasyornis brachypterus Rufous Bristlebird, Dasyornis broadbenti Western Bristlebird, Dasyornis longirostris Pilotbird, Pcynoptilus floccosus

• Subfamily Acanthizinae

o Rockwarbler, Origma solitaria

Fernwren, Oreoscopus gutturalis

Yellow-throated Scrubwren, Sericornis citreogularis

White-browed Scrubwren, Sericornis frontalis

Tasmanian Scrubwren, Sericornis humilis

Atherton Scrubwren, Sericornis keri

Large-billed Scrubwren, Sericornis magnirostris

Tropical Scrubwren, Sericornis beccarii

Scrubtit, Acanthornis magnus

Chestnut-rumped Heathwren, Hylacola pyrrhopygia

Shy Heathwren or Shy Hylacola, Hylacola cauta

Striated Fieldwren, Calamanthus fuliginosus

Rufous Fieldwren, Calamanthus campestris

Redthroat, Pyrrholaemus brunneus

Speckled Warbler, Chthonicola sagittata

Weebill, Smicrornis brevirostris

Brown Gerygone, Gerygone mouki

Grey Warbler, Gerygone igata

Chatham Island Warbler, Gerygone albofrontata

Norfolk Island Gerygone, Gerygone modesta

Dusky Gerygone, Gerygone tenebrosa

Mangrove Gerygone, Gerygone levigaster

Western Gerygone, Gerygone fusca

Lord Howe Gerygone, Gerygone insularis Conservation status: Extinct (c.1930)

Large-billed Gerygone, Gerygone magnirostris

Green-backed Gerygone, Gerygone chloronotus

Fairy Gerygone, Gerygone palpebrosa

White-throated Gerygone, Gerygone olivacea

Mountain Thornbill. Acanthiza katherina

Brown Thornbill, Acanthiza pusilla

Inland Thornbill, Acanthiza apicalis

Tasmanian Thornbill, Acanthiza ewingii

Chestnut-rumped Thornbill, Acanthiza uropygialis

Slaty-backed Thornbill, Acanthiza robustirostris

Western Thornbill, Acanthiza inornata

Buff-rumped Thornbill, Acanthiza reguloides

Slender-billed Thornbill, Acanthiza iredalei

Yellow-rumped Thornbill. Acanthiza chrysorrhoa

Yellow Thornbill, Acanthiza nana Striated Thornbill, Acanthiza lineata Southern Whiteface, Aphelocephala leucopsis Chestnut-breasted Whiteface, Aphelocephala pectoralis Banded Whiteface, Aphelocephala nigricincta

Further reading

• PJ Higgins & JM Peter (Eds.), *Handbook of Australian, New Zealand & Antarctic Birds, Volume 6: Pardalotes to shrike-thrushes.* Oxford, Melbourne, 2002: ISBN 0-19-553762-9

Pardalote

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Pardalotidae</u>

Genus: *Pardalotus* Vieillot, 1816Species: *Pardalotus punctatus, Pardalotus quadragintus*,

Pardalotus rubricatus, Pardalotus striatus

Pardalotes are very small, brightly coloured birds native to Australia, with short tails, strong legs, and stubby blunt beaks. They form part of the family Pardalotidae. The name derives from a Greek word meaning "spotted".

Pardalotes spend most of their time high in the outer foliage of trees, feeding on insects, spiders, and above all lerps (a type of sap sucking insect). Their role in controlling lerp infestations in the eucalyptus forests of Australia may be significant.

They generally live in pairs or small family groups but sometimes come together into flocks after breeding.

All four species nest in deep horizontal tunnels drilled into banks of earth. Externally about the size of a mouse-hole, these can be very deep, a metre or more. (Some species also nest in tree-hollows; see below for details.)

There are four species in the genus *Pardalotus*, with several sub-species.

Species

Spotted Pardalote, Pardalotus punctatus.
 Forty-spotted Pardalote, Pardalotus quadragintus.
 Red-browed Pardalote, Pardalotus rubricatus
 Striated Pardalote, Pardalotus striatus.

Petroicidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Petroicidae**

Genera: Poecilodryas , Heteromyias , Plesiodryas , Gennaeodryas , Peneothello , Tregellasia , Eopsaltria , Melanodyas , Monachella , Microeca , Eugerygone , Petroica , Pachycephalopsis , Drymodes

The <u>bird family</u> **Petroicidae** includes roughly 45 species in about 15 genera. All are endemic to Australasia or nearby areas. For want of a more accurate common name, the family is often described as the **Australasian robins**: it extends beyond Australasia, however, and includes not just robins but the Jacky Winter, the New Zealand Tomtit, some flycatchers, and scrub-robins.

Most species have a stocky build with a large, rounded head, a short, straight bill, and rounded wingtips. They occupy a wide range of wooded habitats, from subalpine to tropical rainforest, and mangrove swamps to semi-arid scrubland. All are primarily insectivorous, although a few supplement their diet with seeds. Hunting is mostly by perch and pounce, a favoured tactic being to cling sideways onto a treetrunk and scan the ground below without moving.

Social organisation is usually centered on long term pair-bonds and small family groups. Some genera practice cooperative breeding, with all family members helping defend a territory and feed nestlings.

Nests are cup-shaped, usually constructed by the female, and often placed in a vertical fork of a tree or shrub; many species are expert at adding moss, bark or lichen to the outside of the nest as camouflague, making it very difficult to spot (even when it is in a seemingly prominent location).

The relationship of the Petroicidae to other bird families is uncertain. They are clearly part of a particularly old lineage. Sibley and Alquist's DNA-DNA hybridisation studies put them in the "Corvoidea" (a huge group that includes the shrikes, crows and jays, butcherbirds, woodswallows, drongos, cuckoo-shrike, fantails, monarch flycatchers and many others), but this superfamily has been proven to be paraphyletic.

More recent allozyme studies suggest that they be placed with the Meliphagoidea - the superfamily that includes the honeyeaters, Australian wrens, Pardalotes, and thornbills and itself derives from the great Australasian corvid radiation.

Although the details remain uncertain, the overall picture is clear: despite the striking similarity between the robins of Australasia and the true robins of Europe, their evolutionary relationship is quite distant, and the Petroicidae are more closely related to the <u>crows</u> and jays than to the group of northern hemisphere birds which resemble them in appearance, diet, habits, and even coloration.

Partial species list of Petroicidae (Part of the super-family Meliphagoidea)

- Genus Microeca
 - Jacky Winter, Microeca fascinans
 Lemon-bellied Flycatcher, Microeca flavigaster
 Yellow-legged Flycatcher, Microeca griseoceps
- Genus Petroica
 - o Scarlet Robin, Petroica multicolor

New Zealand Tomtit, Petroica macrocephala

Red-capped Robin, Petroica goodenovii

Flame Robin, Petroica phoenicea

Rose Robin, Petroica rosea

Pink Robin, Petroica rodinogaster

South Island Robin, Petroica australis

North Island Robin, Petroica australis (often included in P. australis)

Black Robin (Chatham Island Robin), Petroica traversi

- Genus *Melanodryas*
 - Hooded Robin, Melanodryas cicullata Dusky Robin, Melanodryas vittata
- Genus Tregellasia
 - Pale-yellow Robin, Tregellasia capito
 White-faced Robin, Tregellasia leucops
- Genus *Eopsaltria*
 - Eastern Yellow Robin, Eopsaltria australis
 Western Yellow Robin, Eopsaltria griseogularis
 White-breasted Robin, Eopsaltria georgiana
 Mangrove Robin, Eopsaltria pulverulenta
- Genus Poecilodryas
 - o White-browed Robin, Poecilodryas superciliosa
- Genus Heteromvias
 - o Grey-headed Robin, Heteromyias albispecularis
- Genus Drymodes
 - Northern Scrub-Robin, Drymodes superciliaris
 Southern Scrub-Robin, Drymodes brunnoepygia

References

• **Miller**, Hilary C. & **Lambert**, David M. (2006): A molecular phylogeny of New Zealand's Petroica (Aves: Petroicidae) species based on mitochondrial DNA sequences. *Molecular Phylogenetics and Evolution* **40**(3): 844-855. DOI:10.1016/j.ympev.2006.04.012 (HTML abstract)

Pityriaseidae

Bornean Bristlehead

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Pityriaseidae**

Genus: *Pityriasis* Lesson, 1839Species: *P. gymnocephala* Binomial name: *Pityriasis gymnocephala* (Temminck, 1836)

The **Bornean Bristlehead**, *Pityriasis gymnocephala*, is a <u>passerine bird</u>, the only member of the family Pityriaseidae. It is a medium-sized 25 cm (10 in) species endemic to Borneo.

This is a large black bird with a red and yellow head. Females also have some red in the wings. It has a massive heavy black hooked bill and a short tail. The crown of the head has short, coloured projections like bare <u>feather</u> shaft, hence the name 'Bristlehead'.

The Bristlehead is found in lowland swamps and forests. It feeds on insects and other small invertebrates and <u>reptiles</u>. It is a noisy species making a variety of unmusical calls.

The relationships of this species have been controversial.

- Family: Pityriaseidae
- o Bornean Bristlehead, Pityriasis gymnocephala

References

 BirdLife International (2004). <u>Pityriasis gymnocephala</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes a brief justification of why this species is near threatened

Pomatostomidae

Australo-Papuan babblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Pomatostomidae** Schodde, 1975 Genus: **Pomatostomus** Cabanis, 1850 Species: Pomatostomus isidorei, Pomatostomus temporalis, Pomatostomus superciliosus, Pomatostomus halli, Pomatostomus ruficeps

The **Pomatostomidae** (**Australo-Papuan** or **Australasian babblers**, also known as **pseudo-babblers**) are small to medium-sized birds endemic to Australia-New Guinea. All five <u>species</u> are ground-feeding omnivores and highly social. Babblers live in family groups and small flocks of up to about 20 individuals and forage communally, calling loudly to one another all day long.

For many years, the Australo-Papuan babblers were classified, rather uncertainly, with the <u>Old World babblers</u> (Timaliidae), on the grounds of similar appearance and habits. More recent research, however, indicates that they belong to the <u>Corvida</u> ("crow-like passerines") rather than the <u>Passerida</u> ("sparrow-like passerines") and they are now classed as a separate family. Both groups, however, retain the common name of babbler.

Species of Pomatostomidae

 New Guinea Babbler, Pomatostomus isidorei Gray-crowned Babbler, Pomatostomus temporalis White-browed Babbler, Pomatostomus superciliosus Hall's Babbler, Pomatostomus halli Chestnut-crowned Babbler, Pomatostomus ruficeps

Prionopidae

Helmetshrikes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Prionopidae**

Genera: Prionops, Tephrodornis, Philentoma

The **helmetshrikes** are smallish <u>passerine bird species</u>. They were formerly classed with the true <u>shrikes</u> in the family Laniidae, but are now considered sufficiently distinctive to be separated from that group as the family Prionopidae.

This is an African group of species which are found in scrub or open woodland. They are similar in feeding habits to shrikes, hunting insects and other small prey from a perch on a bush or tree.

Although similar in build to the shrikes, these tend to be colourful species with the distinctive crests or other head ornaments, such as wattles, from which they get their name.

Helmetshrikes are noisy and sociable birds, some of which breed in loose colonies. They lay 2-4 eggs in neat, well-hidden nests.

Family: Prionopidae

White Helmetshrike, Prionops plumatus
 Grey-crested Helmetshrike, Prionops poliolophus
 Yellow-crested Helmetshrike, Prionops alberti
 Chestnut-bellied Helmetshrike, Prionops caniceps
 Retz's Helmetshrike, Prionops retzii
 Angola Helmetshrike, Prionops gabela
 Chestnut-fronted Helmetshrike, Prionops scopifrons
 Large Woodshrike, Tephrodornis gularis
 Common Woodshrike, Tephrodornis pondicerianus
 Rufous-winged Philentoma, Philentoma pyrhopterum
 Maroon-breasted Philentoma Philentoma velatum

Ptilonorhynchidae

Bowerbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Ptilonorhynchidae GR Gray, 1841Genera: Many, see text

Bowerbirds and **catbirds** make up the family **Ptilonorhynchidae**. All are small to medium in size. Although their distribution is centered around the tropical northern part of Australia-New Guinea, some species extend into the central Australian desert and the cold mountainous regions of southeast Australia.

The most notable characteristic of bowerbirds is the extraordinarily complex behaviour of males, which is to build a **bower** to attract mates. Depending on the species, the bower ranges from a circle of cleared earth with a small pile of twigs in the center to a complex and highly decorated structure of sticks and leaves - usually shaped like a walkway, a small hut or a maytree -, into and around which the male places a variety of objects he has collected. These objects - always strikingly colored - may include hundreds of shells, leaves, flowers, feathers, stones, berries, and even discarded plastic items, pieces of glass or similar things. The bird will spend hours carefully sorting and arranging his collection, with each thing in a specific place. If an object is moved while the bowerbird is away he will put it back in its place. No two bowers are the same, and the collection of objects reflects the personal taste of each bird and its capability to procure unusual and rare items (going as far as stealing them from neighboring bowers). At mating time, the female will go from bower to bower, watching as the male owner conducts an often elaborate mating ritual, and inspecting the quality of the bower. Inevitably, many females will end up selecting the same male, and many underperforming males will be left without mates.

In a striking example of what is known as the "transfer effect," bowerbird species that build the most elaborate bowers are dull in color and show little variation between male and female, whereas bowerbird species with minor bowers have males with bright plumage. Presumably, evolution has "transferred" the reproductive benefits of bright male plumage (common among polygamous birds) to elaborate bowers, allowing males to display their fitness by means other than physical characteristics that would appear to attract predation.

This complex mating behaviour, with highly-valued types and colors decorations varying in attractiveness from year to year like a fashion trend in many species, has led some researchers to regard the bowerbirds as the most advanced of any species of bird. It provides also one of the most compelling evidences that the extended phenotype of a species can play a role in sexual selection and indeed act as a powerful mechanism to shape its evolution, as seems to be the case for humans.

In addition, many species of bowerbirds are superb vocal mimics. Macgregor's bowerbird, for example, has been observed imitating pigs, waterfalls, and even human chatter.

Though bowerbirds have traditionally been regarded as closely related to the <u>birds of paradise</u>, recent DNA-DNA hybridisation studies suggest that while both families are part of

the great corvid radiation that took place in or near Australia-New Guinea, the bowerbirds are more distant from the birds of paradise than was once thought. Sibley's landmark DNA studies placed them close to the <u>lyrebirds</u>; however, anatomical evidence appears to contradict this and the true relationship remains unclear.

Species of Ptilonorhynchidae in taxonomic order

Bowerbird

White-eared Catbird, Ailuroedus buccoides
Spotted Catbird, Ailuroedus melanotis
Green Catbird, Ailuroedus crassirostris
Tooth-billed Catbird, Scenopooetes dentirostris
Archbold's Bowerbird, Archboldia papuensis
Sanford's Bowerbird, Archboldia sanfordi
Vogelkop Bowerbird, Amblyornis inornatus
Macgregor's Bowerbird, Amblyornis macgregoriae
Streaked Bowerbird, Amblyornis subalaris
Golden-fronted Bowerbird, Amblyornis flavifrons
Golden Bowerbird, Prionodura newtoniana

Flame Bowerbird, Prionodura newtoniana
Flame Bowerbird, Sericulus aureus
Fire-maned Bowerbird, Sericulus bakeri
Regent Bowerbird, Sericulus chrysocephalus
Satin Bowerbird, Ptilonorhynchus violaceus
Western Bowerbird, Chlamydera guttata
Spotted Bowerbird, Chlamydera maculata
Great Bowerbird, Chlamydera nuchalis
Yellow-breasted Bowerbird, Chlamydera lauterbachi
Fawn-breasted Bowerbird, Chlamydera cerviniventris

Note that the Gray Catbird (*Dumetella carolinensis*) is an unrelated American bird that belongs to a different family.

Turnagridae

Conservation status: Extinct (early 1900s)

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Turnagridae**

Genus: *Turnagra* Lesson, 1837 Species: *Turnagra capensis, Turnagra tanagra* Synonyms:

Keropia Gray, 1840, Otagon Bonaparte, 1850

The family **Turnagridae** consisted of two species of Piopio, <u>passerine birds</u> native to New Zealand. both of which are now considered <u>extinct</u>.

Sometimes described as New Zealand Thrushes, the piopios had only a coincidental passing resemblance to the <u>Thrush</u> family. Piopios are actually believed to have more in common with the Bowerbird families of Australia.

The main reasons believed to have caused the extinction of the piopios was the destruction of their forested habitat and the introduction of new invasive alien species, mostly mammalian predators, to the island.

Species of Turnagridae

 South Island Piopio or New Zealand Thrush, Turnagra capensis North Island Piopio, Turnagra tanagra

Vangidae

Vangas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Vangidae** Swainson, 1831Genera: *Calicalicus, Schetba, Vanga, Falculea, Artamella, Leptopterus, Cyanolanius, Oriolia, Euryceros, Tylas, Hypositta, Newtonia, Mystacornis, Pseudobias, Xenopirostris*

The **vangas** are a group of little-known small to medium sized <u>passerine birds</u> restricted to Madagascar. Their relationship with other passerine groups is uncertain, but they seem most closely related to several other enigmatic African groups, such as <u>helmetshrikes</u> (Fuchs *et al.*, 2004). Several of these species (including Van Dam's, Rufous and Sickle-billed) can be found in the Madagascar dry deciduous forests.

They are usually <u>shrike-like</u>, arboreal forest birds, feeding on reptiles, frogs and insects (but see below). Vangas' stick nests are built in trees They do not <u>migrate</u>.

Species list

Traditionally believed to be a small family of generally shrike-like birds, recent research has revealed that several taxa most similar in appearance and habits (and formerly considered to be) flycatchers or babblers are in fact vangas (Cibois *et al.* 1999, 2001; Yamagishi *et al.*, 2001; Schulenberg, 2003).

Family: Vangidae

Red-tailed Vanga Calicalicus madagascariensis Red-shouldered Vanga Calicalicus rufocarpalis Rufous Vanga Schetba rufa Hook-billed Vanga Vanga curvirostris Lafresnaye's Vanga Xenopirostris xenopirostris Van Dam's Vanga Xenopirostris damii Pollen's Vanga Xenopirostris polleni Sickle-billed Vanga Falculea palliata White-headed Vanga Artamella viridis Chabert Vanga Leptopterus chabert Blue Vanga Cyanolanius madagascarinus Bernier's Vanga Oriolia bernieri Helmet Vanga Euryceros prevostii Tylas Vanga Tylas eduardi Coral-billed Nuthatch Vanga Hypositta corallirostris Short-toed Nuthatch Vanga Hypositta perdita Dark Newtonia, Newtonia amphichroa

Common Newtonia, Newtonia brunneicauda Archbold's Newtonia, Newtonia archboldi Red-tailed Newtonia, Newtonia fanovanae Crossley's Babbler Vanga, Mystacornis crossleyi Ward's Flycatcher Vanga, Pseudobias wardi

References

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Vireonidae

Vireos

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Vireonidae Swainson, 1837Genera: Vireo, Hylophilus, Vireolanius, Cyclarhis

The **vireos** are a group of small to medium sized <u>passerine</u> <u>birds</u> restricted to the New World. They are typically greenish in colour and resemble <u>wood warblers</u> apart from their heavier bills.

The four genera of these insectivorous birds make up the family Vireonidae, and are believed to be related to the New World warblers in the family Parulidae.

The four genera can be conveniently categorised as the true vireos, the greenlets, the shrike-vireos and the peppershrikes.

Species

• Genus *Vireo*, the true vireos

 Slaty Vireo, Vireo brevipennis White-eyed Vireo, Vireo griseus Thick-billed Vireo, Vireo crassirostris Mangrove Vireo, Vireo pallens Cozumel Vireo, Vireo bairdi St. Andrew Vireo. Vireo caribaeus Iamaican Vireo, Vireo modestus Cuban Vireo, Vireo gundlachii Puerto Rican Vireo. Vireo latimeri Flat-billed Vireo, Vireo nanus Bell's Vireo, Vireo bellii Black-capped Vireo, Vireo atricapillus Dwarf Vireo, Vireo nelsoni Gray Vireo, Vireo vicinior Blue Mountain Vireo, Vireo osburni Yellow-throated Vireo, Vireo flavifrons Plumbeous Vireo, Vireo plumbeus Cassin's Vireo, Vireo cassinii Blue-headed Vireo, Vireo solitarius Yellow-winged Vireo, Vireo carmioli Hutton's Vireo, Vireo huttoni Warbling Vireo, Vireo gilvus Brown-capped Vireo, Vireo leucophrys Philadelphia Vireo, Vireo philadelphicus Red-eyed Vireo, Vireo olivaceus

Choco Vireo, Vireo masteri Golden Vireo, Vireo hypochryseus Yellow-green Vireo, Vireo flavoviridis Noronha Vireo, Vireo gracilirostris Black-whiskered Vireo, Vireo altiloquus Yucatan Vireo, Vireo magister

- Genus *Hylophilus*, the greenlets
 - Rufous-crowned Greenlet, Hylophilus poicilotis Gray-eyed Greenlet, Hylophilus amaurocephalus Lemon-chested Greenlet, Hylophilus thoracicus Gray-chested Greenlet, Hylophilus semicinereus Ashy-headed Greenlet, Hylophilus pectoralis Tepui Greenlet, Hylophilus sclateri Buff-cheeked Greenlet, Hylophilus muscicapinus Brown-headed Greenlet, Hylophilus brunneiceps Dusky-capped Greenlet, Hylophilus hypoxanthus Rufous-naped Greenlet, Hylophilus semibrunneus Olivaceous Greenlet, Hylophilus olivaceus Scrub Greenlet, Hylophilus flavipes Tawny-crowned Greenlet, Hylophilus aurantiifrons Lesser Greenlet, Hylophilus decurtatus
- Genus *Vireolanius*, the shrike-vireos
 - Chestnut-sided Shrike-vireo, Vireolanius melitophrys Green Shrike-vireo, Vireolanius pulchellus Yellow-browed Shrike-vireo, Vireolanius eximius Slaty-capped Shrike-vireo, Vireolanius leucotis
- Genus *Cyclarhis*, the peppershrikes
 - Rufous-browed Peppershrike, Cyclarhis gujanensis
 Black-billed Peppershrike Cyclarhis nigrirostris

Passeri

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Suborder: <u>Passeri</u> Families Many, see text

A **songbird** or **oscine** is a <u>bird</u> belonging to the suborder *Passeri* of <u>Passeriformes</u> (ca. 4000 species), in which the vocal organ is developed in such a way as to produce various sound notes, commonly known as bird song. Songbirds evolved about 50 million years ago in the western part of Gondwana that later became Australia, New Zealand and Antarctica and later spread around the world.

This 'bird song' is essentially territorial in that it communicates the identity and whereabouts of an individual to other birds and also signals sexual intentions. It is not to be confused with bird calls which are used for alarms and contact, and are especially important in birds that feed or migrate in flocks.

Other birds have songs to attract mates or hold territory, but these are usually simple and repetitive, lacking the variety of many passerine songs. The monotonous repetition of the Common Cuckoo or Little Crake can be contrasted with the variety of a Nightingale or Marsh Warbler.

Although many songbirds have songs which are pleasant to the human ear, this is not invariably the case. Many members of the <u>crow</u> family make croaks or screeches which sound harsh to humans.

Under the Sibley-Ahlquist taxonomy this suborder is divided into two parvorders, <u>Corvida</u> and <u>Passerida</u>. However, more recent research is casting doubt on the existence of Corvida as single parvorder, but given the present lack of any generally accepted redivision of Corvida into two or more groupings at the parvorder level, the families of suborder Passeri are listed below as being in either Corvida or Passerida.

- 1 Families
 - o 1.1 Corvida
 - o 1.2 Passerida
- 2 See also

Families

Corvida

Menuridae: lyrebirds

Atrichornithidae: scrub birds

Climacteridae: Australian treecreepers

Maluridae: fairy-wrens, emu-wrens and grasswrens

Meliphagidae: honeyeaters and chats

Pardalotidae: pardalotes, scrubwrens, thornbills, and gerygones

Petroicidae: Australian robins Orthonychidae: logrunners

Pomatostomidae: Australasian babblers Cinclosomatidae: whipbirds and allies

Neosittidae: sittellas

Pachycephalidae: whistlers, shrike-thrushes, pitohuis and allies

Dicruridae: monarch flycatchers and allies Campephagidae: cuckoo shrikes and trillers

Oriolidae: orioles and Figbird

Icteridae: American blackbirds, New World orioles, grackles and cowbirds. Artamidae: wood swallows, butcherbirds, currawongs and Australian Magpie

Paradisaeidae: birds of paradise Corvidae: crows, ravens, and jays

Corcoracidae: White-winged Chough and Apostlebird

Irenidae: fairy-bluebirds

Laniidae: shrikes Vireonidae: vireos

Ptilonorhynchidae: bowerbirds

Turnagridae: Piopio

Passerida

Alaudidae: larks

Chloropseidae: leafbirds Aegithinidae: ioras Picathartidae: rockfowl

Bombycillidae: waxwings and allies Ptilogonatidae: silky flycatchers

Cinclidae: dippers

Motacillidae: wagtails and pipits

Prunellidae: accentor

Melanocharitidae: berrypeckers and longbills

Paramythiidae: tit berrypecker and crested berrypeckers

Passeridae: true sparrows

Estrildidae: estrildid finches (waxbills, munias, etc)

Parulidae: New World warblers Thraupidae: tanagers and allies Peucedramidae: Olive Warbler

Fringillidae: true finches Cardinalidae: cardinals

Drepanididae: Hawaiian honeycreepers

Emberizidae: buntings and American sparrows

Nectariniidae: sunbirds Dicaeidae: flowerpeckers

Mimidae: mockingbirds and thrashers

Sittidae: nuthatches Certhiidae: treecreepers Troglodytidae: wrens Polioptilidae: gnatcatchers

Paridae: tits, chickadees and titmice

Aegithalidae: long-tailed tits

Hirundinidae: swallows and martins

Regulidae: kinglets Pycnonotidae: bulbuls

Sylviidae: Old World warblers Hypocoliidae: Hypocolius Cisticolidae: cisticolas and allies Zosteropidae: White-eyes

Timaliidae: babblers

Muscicapidae: Old World flycatchers and chats

Turdidae: thrushes and allies

Sturnidae: starlings

See also

list of birds

Passerida

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Suborder: <u>Passerida</u> Parvorder: <u>Passerida</u> Families Many, see text

Passerida is under the Sibley-Ahlquist taxonomy, one of two parvorders contained within the suborder Passeri. While more recent research suggests that its sister parvorder, Corvida is not a singular grouping, the existence of Passerida as a distince clade is well accepted.

Families

Alaudidae: larks

Chloropseidae: leafbirds

Aegithinidae: ioras

Picathartidae: rockfowl

Bombycillidae: waxwings and allies Ptilogonatidae: silky flycatchers

Cinclidae: dippers

Motacillidae: wagtails and pipits

Prunellidae: accentor

Melanocharitidae: berrypeckers and longbills

Paramythiidae: tit berrypecker and crested berrypeckers

Passeridae: true sparrows

Estrildidae: estrildid finches (waxbills, munias, etc)

Parulidae: New World warblers Thraupidae: tanagers and allies Peucedramidae: Olive Warbler

Fringillidae: true finches

Drepanididae: Hawaiian honeycreepers

Emberizidae: buntings and American sparrows

Nectariniidae: sunbirds Dicaeidae: flowerpeckers

Mimidae: mockingbirds and thrashers

Sittidae: nuthatches Certhiidae: treecreepers Troglodytidae: wrens Polioptilidae: gnatcatchers

Paridae: tits. chickadees and titmice

Aegithalidae: long-tailed tits

Hirundinidae: swallows and martins

Regulidae: kinglets Pycnonotidae: bulbuls

Sylviidae: Old World warblers Hypocoliidae: Hypocolius Cisticolidae: cisticolas and allies

Zosteropidae: White-eyes Timaliidae: babblers

Muscicapidae: Old World flycatchers and chats

Turdidae: thrushes and allies

Sturnidae: starlings

See also

• <u>list of birds</u>

Aegithalidae

Long-tailed Tits Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Aegithalidae Reichenbach, 1850 Genera: Aegithalos, Hermann 1804, Psaltriparus,

Townsend, 1837, Psaltria, Temminck 1836

Long-tailed tits are a group of small <u>passerine</u> <u>birds</u> with medium to long tails. They make woven bag nests in trees. Most eat a mixed diet that includes insects.

There are 8 species in 3 genera.

Aegithalos

Long-tailed Tit, Aegithalos caudatus
 White-cheeked Tit, Aegithalos leucogenys
 Black-throated Tit, Aegithalos concinnus
 White-throated Tit, Aegithalos niveogularis
 Black-browed Tit, Aegithalos iouschistos
 Sooty Tit, Aegithalos fuliginosus

Psaltriparus

• Bushtit, *Psaltriparus minimus*

Psaltria

• Pygmy Tit, Psaltria exilis

Aegithinidae

Ioras

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Aegithinidae**

Genus: Aegithina Vieillot, 1816Species: See text.

The **ioras** are a family of small <u>passerine bird species</u> found in India and southeast Asia. They one of only two bird families that are entirely endemic to the Indomalayan ecozone. They were formerly grouped with the leafbirds in the family Irenidae.

These are <u>bulbul</u>-like birds of open forest or thorn scrub, but whereas that group tends to be drab in coloration, ioras are sexually dimorphic, with the males being brightly plumaged in yellows and greens.

Ioras eat insects and spiders. They lay 2-3 eggs in a tree nest.

Species of Aegithinidae

Common Iora, Aegithina tiphia
 White-tailed Iora, Aegithina nigrolutea
 Green Iora, Aegithina viridissima
 Great Iora, Aegithina lafresnayei

Alaudidae

Larks

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Alaudidae**

Genera: Mirafra, Pinarocorys, Heteromirafra, Certhilauda, Chersomanes, Eremopterix, Ammomanes, Alaemon, Ramphocoris, Melanocorypha, Calandrella, Spizocorys, Eremalauda, Chersophilus, Galerida, Pseudalaemon, Lullula, Alauda, Eremophila

Larks are <u>passerine</u> <u>birds</u> of the predominantly Old World family Alaudidae. Only one species, the Shore Lark, has spread to North America, where it is called the Horned Lark.

Larks are small terrestrial birds with often extravagant songs and display flights. This fact, combined with a willingness to expand into anthropogenic habitats — as long as these are not too intensively managed — has ensured larks a prominent place in literature and music (the skylark being eulogised in "The Lark Ascending" (1914) by Ralph Vaughan Williams, for example).

Larks nest on the ground, laying 2–6 speckled <u>eggs</u>. Like many ground birds, most lark species have long hind claws, which are thought to provide stability while standing.

Most larks are fairly dull in appearance. They feed on insects and seeds.

- <u>1 Species list</u>
- 2 See also
- 3 Reference

Species list

- Monotonous Lark, Mirafra passerina
- Singing Bushlark, *Mirafra cantillans*
- Australasian Bushlark, Mirafra javanica
- Latakoo Lark, Mirafra cheniana
- White-tailed Lark, Mirafra albicauda
- Madagascar Lark, Mirafra hova
- Kordofan Lark, Mirafra cordofanica
- Williams' Lark, Mirafra williamsi
- Friedmann's Lark, Mirafra pulpa
- Red-winged Lark, Mirafra hypermetra
- Somali Long-billed Lark, Mirafra somalica
- Ash's Lark, Mirafra ashi
- Angola Lark, Mirafra angolensis
- Rufous-naped Lark, Mirafra africana

- Flappet Lark, Mirafra rufocinnamomea
- Clapper Lark, Mirafra apiata
- Collared Lark, Mirafra collaris
- Indian Bushlark or Red-winged Bushlark, Mirafra erythroptera
- Gillett's Lark, Mirafra gilletti
- Fawn-colored Lark, Mirafra africanoides
- Rufous-winged Bushlark, Mirafra assamica
- Jerdon's Bushlark Mirafra affinis
- Rusty Lark, Mirafra rufa
- Pink-breasted Lark, Mirafra poecilosterna
- Degodi Lark, Mirafra degodiensis
- Sabota Lark, Mirafra sabota
- Rufous-rumped Lark, *Pinarocorys erythropygia*
- Dusky Lark, Pinarocorys nigricans
- Archer's Lark, Heteromirafra archeri
- Sidamo Lark, Heteromirafra sidamoensis
- Rudd's Lark, Heteromirafra ruddi
- Cape Lark, Certhilauda curvirostris
- Algulhas Long-billed Lark, Certhilauda brevirostris
- Eastern Long-billed Lark, Certhilauda semitorquata
- Karoo Long-billed Lark, Certhilauda subcoronata
- Benguela Lark, Certhilauda benguelensis
- Short-clawed Lark, Certhilauda chuana
- Dune Lark, Certhilauda erythrochlamys
- Karoo Lark, Certhilauda albescens
- Barlow's Lark, Certhilauda barlowi
- Ferruginous Lark, Certhilauda burra
- Spike-heeled Lark, Chersomanes albofasciata
- Black-eared Sparrow-lark, Eremopterix australis
- Chestnut-backed Sparrow-lark, Eremopterix leucotis
- Black-crowned Sparrow-lark, Eremopterix nigriceps
- Gray-backed Sparrow-lark, Eremopterix verticalis
- Chestnut-headed Sparrow-lark, Eremopterix signata
- Fischer's Sparrow-lark, Eremopterix leucopareia
- Ashy-crowned Sparrow-lark, Eremopterix grisea
- Bar-tailed Lark, Ammomanes cincturus
- Rufous-tailed Lark, Ammomanes phoenicurus
- Desert Lark, Ammomanes deserti
- Gray's Lark, Ammomanes grayi
- Greater Hoopoe-lark, Alaemon alaudipes
- Lesser Hoopoe-lark, Alaemon hamertoni
- Thick-billed Lark, Ramphocoris clotbey
- Calandra Lark, Melanocorypha calandra

- Bimaculated Lark, Melanocorypha bimaculata
- Tibetan Lark, Melanocorypha maxima
- Mongolian Lark, Melanocorypha mongolica
- White-winged Lark, Melanocorypha leucoptera
- Black Lark, Melanocorypha yeltoniensis
- Greater Short-toed Lark, Calandrella brachydactyla
- Blanford's Lark, Calandrella blanfordi
- Hume's Lark, Calandrella acutirostris
- Lesser Short-toed Lark, Calandrella rufescens
- Red-capped Lark, Calandrella cinerea
- Asian Short-toed Lark, Calandrella cheleensis
- Sand Lark, Calandrella raytal
- Somali Short-toed Lark, Calandrella somalica
- Pink-billed Lark, Spizocorys conirostris
- Botha's Lark, Spizocorys fringillaris
- Sclater's Lark, Spizocorys sclateri
- Obbia Lark, Spizocorys obbiensis
- Masked Lark, Spizocorys personata
- Dunn's Lark, Eremalauda dunni
- Stark's Lark, Eremalauda starki
- Dupont's Lark, Chersophilus duponti
- Crested Lark, Galerida cristata
- Thekla Lark. Galerida theklae
- Malabar Lark, Galerida malabarica
- Sun Lark, Galerida modesta
- Tawny Lark or Sykes' Crested Lark, Galerida deva
- Long-billed Lark, *Galerida magnirostris*
- Short-tailed Lark, Pseudalaemon fremantlii
- Wood Lark, Lullula arborea
- Skylark, *Alauda arvensis*
- Japanese Skylark, Alauda japonica
- Oriental Skylark, Alauda gulgula
- Raso Skylark, *Alauda razae*
- Horned Lark or Shore Lark, Eremophila alpestris
- Temminck's Lark, Eremophila bilopha

See also

- <u>Lark Bunting</u>
- Lark Sparrow

Reference

• Perrins, Christopher (ed.) (2003). Firefly Encyclopedia of Birds. Firefly Books. ISBN 1-5529-7777-3.

Alauda

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Alaudidae</u>

Genus: Alauda Linnaeus, 1758 Species: A. arvensis, A. japonica, A. gulgula, A. razae

Alauda is a genus of <u>larks</u> with three widespread species found across much of Europe, Asia and in the mountains of north Africa, and one endemic to the island of Razo in the Cape Verde Islands.

These are 14-18 cm long <u>birds</u> of cultivation, heath, natural steppe and other open habitats. Their often characteristic songs are delivered in flight.

These are undistinguished looking birds on the ground, mainly streaked brown above and pale below, and with a short blunt erectile crest. In flight, they show a short tail and short broad wings. The tail and the rear edge of the wings are edged with white.

The nest is on the ground in tufts of grass, with 3-6 eggs being laid. They eat seeds supplemented with insects in the breeding season, and form flocks when hot breeding.

Species

Skylark, Alauda arvensis
 Japanese Skylark, Alauda japonica
 Oriental Skylark, Alauda gulgula
 Raso Skylark, Alauda razae

Chersophilus

Dupont's Lark

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Alaudidae</u>
Genus: *Chersophilus*Species: *C. duponti*

Binomial name: *Chersophilus duponti* (Vieillot, 1820)

The **Dupont's Lark** (*Chersophilus duponti*), is the only <u>lark</u> in the genus *Chersophilus* (Sharpe, 1890). It breeds across much of north Africa, from Algeria to Egypt, and in Spain and France. It is a <u>non-migratory</u> resident.

This is a bird of open sandy semi-desert or steppe with some grass. Its nest is on the ground, with 3-4 eggs being laid. Its food is seeds and insects.

Like most other larks, Dupont's Lark is an undistinguished looking species on the ground. It is 17-18 cm long, slim, with a long neck, long legs and a fine slightly curved bill. It has a thin pale crown stripe and a dark-streaked breast.

There are two races. *C. d. duponti* of Europe and northwest Africa is mainly brown-grey above and pale below. *C. d. margaritae*, which occupies most of the rest of the African range, has rufous upperparts.

This is a very shy species, which runs for cover when disturbed. Its song is a nasal whistle, given mainly at dawn and dusk or at night.

This bird was named after the French naturalist Leonard Puech Dupont, who was the first to collect a specimen.

References

 BirdLife International (2005). <u>Chersophilus duponti</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes a lengthy justification of why this species is near threatened

Eremophila

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Alaudidae</u>

Genus: *Eremophila* Boie, 1828Species: *E. bilopha, E. alpestris*

The <u>bird</u> genus *Eremophila* comprises the two **horned larks**:

- the Shore Lark, *Eremophila alpestris*, known in North America as the **Horned** Lark,
- and Temminck's Lark, or **Temminck's Horned Lark**, *Eremophila bilopha*.

These are <u>larks</u> of open country which nest is on the ground. The <u>migratory</u> Shore Lark breeds across much of the northern regions of North America, Europe and Asia and in the mountains of Europe. Temminck's Lark is mainly a resident breeding species across much of north Africa, through northern Arabia to western Iraq.

Unlike most other <u>larks</u>, these are distinctive looking species with striking head and face patterns, black and white in Temminck's Lark and black and yellow in most Shore Larks. The summer males of both species have black "horns", which give these larks their alternative names.

Lullula

Woodlark

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Alaudidae</u>
Genus: *Lullula*Species: *L. arborea*

Binomial name: Lullula arborea (Linnaeus, 1758)

The **Woodlark** (*Lullula arborea*) is the only <u>lark</u> in the genus *Lullula* (Kaup, 1829). It breeds across most of Europe, the Middle East Asia and the mountains of north Africa. It is mainly resident in the west of its range, but eastern populations of this passerine bird are more migratory, moving further south in winter. Even in the milder west of its range, many birds move south in winter.

This is a 13.5-15 cm long bird of open heath with some trees, and other open woodlands, especially those with pines and light soil. Its generic name derives from its sweet plaintive song, delivered in flight from heights of 100 m or more.

Like most other <u>larks</u>, this is an undistinguished-looking species on the ground, mainly brown above and pale below, but with distinctive white superciliar meeting on the nape. In flight it shows a short tail and short broad wings. The tail is tipped with white, but unlike the Skylark, the tail sides and the rear edge of the wings are not edged with white.

The nest is on the ground, with up to 6 <u>eggs</u> being laid. Food is seeds supplemented with insects in the breeding season.

References

 BirdLife International (2004). <u>Lullula arborea</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Melanocorypha

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Alaudidae</u>

Genus: *Melanocorypha* Boie, 1828Species: *M. calandra, M. bimaculata, M. maxima, M.*

mongolica, M. leucoptera, M. yeltoniensis

Melanocorypha is a small genus of <u>birds</u> in the <u>lark</u> family. Its members mainly occur in temperate Asia from Turkey through Central Asia to China, but the Calandra Lark also has an extensive European distribution around the Mediterranean

These larks are mostly partially <u>migratory</u>, moving relatively short distances from the coldest parts of their ranges. Several species are very rare vagrants to western Europe.

These are birds of open cultivation, steppe or semi-desert. They nest on the ground and the young are precocial. The food is seeds supplemented with insects especially in the breeding season. They are gregarious outside the breeding season.

Melanocorypha larks are large, robust birds, 16.5-20 cm long with strong thick bills. Some have the typically undistinguished lark plumage, mainly streaked greyish-brown above and white below, but the, Black and White-winged Larks have distinctive male plumages. Several species have large black patches on the breast sides.

In flight they show broad wings and a shortish tail. The songs of most species are like that of the Skylark.

Species

Calandra Lark, Melanocorypha calandra
 Bimaculated Lark, Melanocorypha bimaculata
 Tibetan Lark, Melanocorypha maxima
 Mongolian Lark, Melanocorypha mongolica
 White-winged Lark, Melanocorypha leucoptera
 Black Lark, Melanocorypha yeltoniensis

Buphagidae

Oxpeckers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes
Family: Sturnidae

Subfamily: *Buphaginae*

Genus: Buphagus Brisson, 1760 Species: See text.

The **oxpeckers** are two species of <u>bird</u> which comprise the <u>subfamily</u> **Buphaginae** within the <u>starling</u> family Sturnidae (some ornithologists regard them as a separate family **Buphagidae**). Oxpeckers are endemic to sub-Saharan African savannah.

Oxpeckers are medium-sized starlings with strong feet. Their flight is strong and direct, and they are fairly gregarious. Their preferred habitat is open country, and they eat insects. Both the English and scientific names arise from their habit of perching on large mammals (both wild and domesticated) such as cattle or rhinoceroses, and eating ticks, botfly larvae, and other parasites which lodge in mammalian skin and must be dug out. This symbiotic relationship is sometimes mutualistic, but can also be parasitic in nature.

Their <u>plumage</u> is light brown, and the species can be distinguished by bill-colour. They nest in holes, often in walls, lined with hair plucked from livestock and lay 2-3 <u>eggs</u>.

The species are:

• Red-billed Oxpecker, Buphagus erythrorhynchus of east Africa Yellow-billed Oxpecker, Buphagus africanus of most of sub-saharan Africa.

Cardinalidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Cardinalidae**

Genera: Periporphyrus, Saltator, Caryothraustes, Parkerthraustes, Rhodothraupis, Cardinalis,

Pheucticus, Cyanocompsa, Guiraca, Passerina, Spiza

The **Cardinals** or **Cardinalidae** are a <u>family</u> of <u>passerine</u> <u>birds</u> living in North and South America.

These are robust, seed-eating birds, with strong bills. They are typically associated with open woodland. The sexes usually have distinct <u>plumages</u>; the family is named for the red colour (like that of a Catholic cardinal's vestments) of males of the type species, the Northern Cardinal.

The "buntings" in this family are sometimes generically known as "tropical buntings" (though not all live in the tropics) or "North American buntings" (though there are other buntings in North America) to distinguish them from the true buntings. Likewise the grosbeaks in this family are sometimes called "cardinal-grosbeaks" to distinguish them from other grosbeaks. The name "cardinal-grosbeak" can also apply to this family as a whole.

Species list

Family: Cardinalidae

- Genus *Periporphyrus*
 - o Red-and-black Grosbeak, Periporphyrus erythromelas
- Genus *Saltator*, the saltators
 - Lesser Antillean Saltator, Saltator albicollis Streaked Saltator, Saltator striatipectus Grayish Saltator, Saltator coerulescens Buff-throated Saltator, Saltator maximus Black-headed Saltator, Saltator atriceps Slate-colored Grosbeak, Saltator grossus Black-throated Grosbeak, Saltator fuliginosus

Black-uuu, Saltator similis

Orinocan Saltator, Saltator orenocensis

Black-cowled Saltator, Saltator nigriceps

Golden-billed Saltator, Saltator aurantiirostris

Thick-billed Saltator, Saltator maxillosus

Masked Saltator, Saltator cinctus

Black-throated Saltator, Saltator atricollis

Rufous-bellied Saltator, Saltator rufiventris

Genus Caryothraustes

- Black-faced Grosbeak, Caryothraustes poliogaster
 Yellow-green Grosbeak, Caryothraustes canadensis
- Genus *Parkerthraustes*
 - o Yellow-shouldered Grosbeak, Parkerthraustes humeralis
- Genus Rhodothraupis
 - o Crimson-collared Grosbeak, Rhodothraupis celaeno
- Genus Cardinalis
 - Vermilion Cardinal, Cardinalis phoeniceus Northern Cardinal, Cardinalis cardinalis Pyrrhuloxia, Cardinalis sinuatus
- Genus Pheucticus
 - Yellow Grosbeak, Pheucticus chrysopeplus Golden-bellied Grosbeak, Pheucticus chrysogaster Black-thighed Grosbeak, Pheucticus tibialis Black-backed Grosbeak, Pheucticus aureoventris Rose-breasted Grosbeak, Pheucticus ludovicianus Black-headed Grosbeak, Pheucticus melanocephalus
- Genus Cyanocompsa
 - Ultramarine Grosbeak, Cyanocompsa brissonii
 Blue Bunting, Cyanocompsa parellina
 Blue-black Grosbeak, Cyanocompsa cyanoides
- Genus *Cyanoloxia*
 - o Glaucous-blue Grosbeak, Cyanoloxia glaucocaerulea
- Genus *Passerina*, North American buntings
 - Blue Grosbeak, Passerina caerulea
 Lazuli Bunting, Passerina amoena
 Indigo Bunting, Passerina cyanea
 Varied Bunting, Passerina versicolor
 Painted Bunting, Passerina ciris
 Rose-bellied Bunting, Passerina rositae
 Orange-breasted Bunting, Passerina leclancherii
- Genus *Porphyrospiza*
 - o Yellow-billed Blue Finch, *Porphyrospiza caerulescens*
- Genus Spiza
 - o Dickcissel, Spiza americana

Grosbeak

Grosbeak is the name given to several species of seed-eating <u>passerine</u> bird with large bills, in the finch and cardinal families.

The following is a list of grosbeak species - note that the groups of species are not each other's closest relatives - they share the name grosbeak purely because of morphological similarity.

The <u>finch family</u>, Fringillidae contains the following 11 extant species (plus two species of Grosbeak Canary):

 The São Tomé Grosbeak, Neospiza concolor, a critically endangered restrictedrange endemic found only in forests on the island of São Tomé off the West African coast, believed extinct until rediscovered in 1996 The Golden-winged Grosbeak, Rynchostruthus socotranus, a localised species found in northern Somalia, mountains of south-west Arabia and on the island of Socotra

The Pine Grosbeak, Pinicola enucleator, a pan-Holarctic pine forest species The two Nearctic species in the genus Coccothraustes (which also contains a Palearctic species, the Hawfinch C. coccothraustes):

- Evening Grosbeak C. vespertinus Hooded Grosbeak C. abeillei
- The two species in the East Asian genus Eophona:
 - Japanese Grosbeak E. personata
 Chinese (Yellow-Billed) Grosbeak E. migratoria
- The four species in the South Asian genus Mycerobas:
 - Black-and-yellow Grosbeak M. icterioides Collared Grosbeak M. affinis Spot-winged Grosbeak M. melanozanthos White-winged Grosbeak M. carnipes

The <u>cardinal</u> <u>family</u>, Cardinalidae, of the Americas contains the following 17 extant species:

- The Red-and-black Grosbeak, Periporphyrus erythromelas of northern South America
- Two species in the Neotropical genus Saltator (all other species in this genus are referred to as saltators):
 - Slate-coloured Grosbeak, S. groseus
 Black-throated Grosbeak, S. fuliginosus
- The two species in the Neotropical genus Caryothraustes:
 - Black-faced Grosbeak C. poliogaster
 Yellow-green Grosbeak C. canadensis
- The Yellow-shouldered Grosbeak Parkerthraustes humeralis of South America The Crimson-collared Grosbeak, Rhodothraupis celaeno, a restricted-range endemic found only in eastern Mexico

- The six species in the genus Pheucticus
 - o Yellow Grosbeak P. chrysopeplus

Golden-bellied Grosbeak P. chrysogaster

Black-thighed Grosbeak P. tibialis, a restricted-range endemic found only in the highlands of Costa Rica and Panama

Black-backed Grosbeak P. aureoventris

Rose-breasted Grosbeak P. ludovicianus

Black-headed Grosbeak P. melanocephalus

- Two species in the Neotropical genus Cyanocampsa (this genus also contains the Blue Bunting C. *parellina*):
 - Ultramarine Grosbeak C. brissonii
 Blue-black Grosbeak C. cyanoides
- The Glaucous-blue Grosbeak Cyanoloxia glaucocaerulea of eastern South America

The Blue Grosbeak Guiraca caerulea

In addition, there are two extinct species with the name grosbeak: the Bonin Grosbeak Chaunoproctus ferreorostris (a finch), found only on the Ogasawara Islands, which was last recorded in c. 1832, and the Kona Grosbeak or Grosbeak Finch, a Hawaiian honeycreeper, last recorded in c. 1896.

Finally, the weaver family (Ploceidae) contains a species called the Grosbeak Weaver.

Certhiidae

Treecreepers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Certhidae**

Genus: Certhia and Salpornis

Species: Certhia familiaris, C. hodgsoni, C. americana, C. brachydactyla, C. himalayana, C.

tianquanensis, C. nipalensis, C. discolor, C. manipuensis, Salpornis spilonotus

The treecreepers (Certhiidae) are a <u>family</u> of small <u>passerine birds</u>, consisting of two subfamilies:

- The **typical treecreepers** (Certhiinae) are a group of seven species found in Europe and Asia, with one representative, the Brown Creeper in North America.
- The **Spotted Creeper** *Salpornis spilonotus* (Salpornithinae), which is found in India and Africa.
 - <u>1 Typical treecreepers</u>
 - 3 Other birds with creeper or treecreeper in their name
 - 4 References

Typical treecreepers

The typical treecreepers are all very similar in appearance, and can present serious identification problems where two species occur together. They do not <u>migrate</u> other than for local movements.

The treecreepers are small woodland birds, brown above and white below. They have thin pointed down-curved bills, which they use to extricate insects from bark. They have stiff tail feathers, like woodpeckers, which they use to support themselves on vertical trees.

Nests are in tree crevices or behind bark.

Following recent studies of cytochrome b mtDNA sequence and song structure (Tietze *et al.*, 2006), the following species are recognized:

Common Treecreeper or Eurasian Treecreeper, Certhia familiaris
 Hodgson's Treecreeper, Certhia hodgsoni
 Brown Creeper, Certhia americana
 Short-toed Treecreeper, Certhia brachydactyla
 Himalayan Treecreeper or Bar-tailed Treecreeper, Certhia himalayana
 Sichuan Treecreeper, Certhia tianquanensis
 Nepal Treecreeper or Rusty-flanked Treecreeper, Certhia nipalensis
 Sikkim Treecreeper or Brown-throated Treecreeper, Certhia discolor
 Manipur Treecreeper, Certhia manipurensis

They form two evolutionary lineages: the former four species represent a Holarctic radiation, whereas the remaining five are distributed in the area south and east of the Himalaya. Hodgson's Treecreeper, recently realized to be a distinct species, is an offshoot of the Common Treecreeper's ancestor which has speciated south of the Himalaya. The former group has a more warbling song, always (except in C. familiaris from China) starting or ending with a shrill *sreeh*. The Himalayan group, in contrast, has a faster-paced trill without the *sreeh* sound.

Other birds with creeper or treecreeper in their name

There are two other small bird families with *treecreeper* or *creeper* in their name:

• the Australian treecreepers (Climacteridae) the Philippine creepers (Rhabdornithidae)

References

• Tietze, Dieter Thomas; Martens, Jochen & Sun, Yue-Hua (2006): Molecular phylogeny of treecreepers (*Certhia*) detects hidden diversity. *Ibis* **148**(3): 477-488 DOI:doi:10.1111/j.1474-919X.2006.00547.x (HTML abstract)

Chaetopidae

Rock-jumpers Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Chaetopidae**Genera: *Chaetops*

The **Rock-jumpers** are medium-sized insectivorous or omnivorous <u>birds</u> in the genus *Chaetops* that constitute the entire family *Chaetopidae*. Originally, these birds were placed in the <u>Turdidae</u>, but recent DNA-studies indicate these birds are something entirely different; they are primitive passeridans most closely related to the rockfowl (*Picatharthidae*). These two endemic African families point to an African origin for <u>Passerida</u> as a whole.

These are small birds coloured mostly in brown and red. Their wings are very small and they clearly do not fly very often. They spend most of their lives running and jumping among rocks and grasses while hunting insects.

The two species, **Rufous Rock-jumper**, *Chaetops frenatus*, and **Orange-breasted Rock-jumper** *Chaetops aurantius*, are endemic residents of southern Africa.

Cinclidae

Dippers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Cinclidae**

Genus: Cinclus Borkhausen, 1797 Species: Cinclus cinclus, Cinclus leucocephalus, Cinclus

mexicanus, Cinclus pallasii, Cinclus schulzi

Dippers are members of the genus *Cinclus* in the <u>bird</u> family Cinclidae. They are a group of <u>perching birds</u> whose habitat includes aquatic environments in the Americas, Europe, and Asia. They are named for their bobbing or dipping movements.

Usually they inhabit the banks of fast-moving hillside rivers, though some nest near shallow lakes. They have dense <u>feathers</u> with a down undercoat, an advanced nictitating eye membrane and a larger preen gland for waterproofing their plumage. Their blood can store more oxygen than other <u>passerine</u> birds which allows them to remain underwater for up to 10 seconds.

These adaptations let them submerge and walk on the bottom to feed on insect larvae. They are about 8 inches in size with a short tail and wings and resemble the <u>wrens</u>, though there is no clear relationship.

Cinclus is the only genus in the family Cinclidae. The White-throated Dipper was also known historically in Britain as **ouzel**, or **water ouzel** (sometimes being spelt ousel).

Species

 White-throated Dipper or European Dipper, Cinclus cinclus White-capped Dipper Cinclus leucocephalus American Dipper Cinclus mexicanus Brown Dipper Cinclus pallasii Rufous-throated Dipper Cinclus schulzi

Cisticolidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Cisticolidae**Genera *Many: see text*

The **Cisticolidae** family of small <u>passerine birds</u> is a group of about 110 warblers found mainly in warmer southern regions of the Old World. They are often included within the <u>Old World warbler</u> family Sylviidae.

This family probably originated in Africa, which has the majority of species, but there are representatives of the family across tropical Asia into Australasia, and one species, the Zitting Cisticola, even breeds in Europe.

These are generally very small birds of drab brown or grey appearance found in open country such as grassland or scrub. They are often difficult to see and many species are similar in appearance, so the song is often the best identification guide.

These are insectivorous birds which nest low in vegetation.

Species list in taxonomic order

- Genus *Cisticola*, the cisticolas
 - Red-faced Cisticola, Cisticola erythrops Singing Cisticola, Cisticola cantans Whistling Cisticola, Cisticola lateralis Chattering Cisticola, Cisticola anonymus Trilling Cisticola, Cisticola woosnami Bubbling Cisticola, Cisticola bulliens Chubb's Cisticola, Cisticola chubbi Hunter's Cisticola, Cisticola hunteri Black-lored Cisticola, Cisticola nigriloris Rock-loving Cisticola, Cisticola aberrans Boran Cisticola, Cisticola bodessa Rattling Cisticola, Cisticola chiniana Ashy Cisticola, Cisticola cinereolus Red-pate Cisticola, Cisticola ruficeps Dorst's Cisticola, Cisticola dorsti Grey Cisticola, Cisticola rufilatus Red-headed Cisticola, Cisticola subruficapillus Wailing Cisticola, Cisticola lais Tana River Cisticola, Cisticola restrictus Churring Cisticola, Cisticola niombe Winding Cisticola, Cisticola galactotes Chirping Cisticola, Cisticola pipiens

Carruthers' Cisticola, Cisticola carruthersi Tinkling Cisticola, Cisticola tinniens Stout Cisticola, Cisticola robustus Croaking Cisticola, Cisticola natalensis Piping Cisticola, Cisticola fulvicapillus Aberdare Cisticola, Cisticola aberdare Tabora Cisticola, Cisticola angusticaudus Slender-tailed Cisticola, Cisticola melanurus Siffling Cisticola, Cisticola brachypterus Rufous Cisticola, Cisticola rufus Foxy Cisticola, Cisticola troglodytes Tiny Cisticola, Cisticola nanus Zitting Cisticola, Cisticola juncidis Socotra Cisticola, Cisticola haesitatus Madagascar Cisticola, Cisticola cherinus Desert Cisticola, Cisticola aridulus Cloud Cisticola, Cisticola textrix Black-necked Cisticola, Cisticola eximius Cloud-scraping Cisticola, Cisticola dambo Pectoral-patch Cisticola, Cisticola brunnescens Pale-crowned Cisticola, Cisticola cinnamomeus Wing-snapping Cisticola, Cisticola ayresii Golden-headed Cisticola, Cisticola exilis

- Genus Rhopophilus
 - o White-browed Chinese Warbler, Rhopophilus pekinensis
- Genus Incana
 - o Socotra Warbler, *Incana incanus*
- Genus Scotocerca
 - o Scrub Warbler or Streaked Scrub Warbler, Scotocerca inquieta
- Genus *Prinia*, the prinias
 - Rufous-vented Prinia, Prinia burnesii
 Swamp Prinia, Prinia cinerascens
 Striated Prinia, Prinia criniger
 Brown Prinia, Prinia polychroa
 Hill Prinia, Prinia atrogularis
 Grey-crowned Prinia, Prinia cinereocapilla
 Rufous-fronted Prinia, Prinia buchanani
 Rufescent Prinia, Prinia rufescens
 Grey-breasted Prinia, Prinia hodgsonii
 Bar-winged Prinia, Prinia familiaris
 Graceful Prinia, Prinia gracilis
 Jungle Prinia, Prinia sylvatica
 Yellow-bellied Prinia, Prinia flaviventris
 Ashy Prinia, Prinia socialis

Tawny-flanked Prinia, Prinia subflava

Plain Prinia, Prinia inornata

Pale Prinia, Prinia somalica

River Prinia, Prinia fluviatilis

Black-chested Prinia, Prinia flavicans

Karoo Prinia, Prinia maculosa

Drakensberg Prinia, Prinia hypoxantha

Namagua Prinia, Prinia substriata

Sao Tome Prinia, Prinia molleri

Roberts' Prinia, Prinia robertsi

Sierra Leone Prinia, Prinia leontica

White-chinned Prinia, Prinia leucopogon

Banded Prinia, Prinia bairdii

Red-winged Prinia, Prinia erythroptera

- Genus Malcorus
 - o Rufous-eared Warbler, Malcorus pectoralis
- Genus *Drymocichla*
 - o Red-winged Grey Warbler, Drymocichla incana
- Genus Urolais
 - o Green Longtail, Urolais epichlora
- Genus Spiloptila
 - o Cricket Longtail, Spiloptila clamans
- Genus *Apalis*, the apalises
 - Black-collared Apalis, Apalis pulchra

Ruwenzori Apalis or Collared Apalis, Apalis ruwenzorii

Bar-throated Apalis, Apalis thoracica

Taita Apalis, Apalis fuscigularis

Namuli Apalis, Apalis lynesi

Yellow-throated Apalis, Apalis flavigularis

Black-capped Apalis, Apalis nigriceps

Black-throated Apalis, Apalis jacksoni

White-winged Apalis, Apalis chariessa

Masked Apalis, Apalis binotata

Black-faced Apalis, Apalis personata

Yellow-breasted Apalis, Apalis flavida

Rudd's Apalis, Apalis ruddi

Sharpe's Apalis, Apalis sharpii

Buff-throated Apalis, Apalis rufogularis

Bamenda Apalis, Apalis bamendae

Gosling's Apalis, Apalis goslingi

Chestnut-throated Apalis, Apalis porphyrolaema

Kabobo Apalis, Apalis kaboboensis

Chapin's Apalis, Apalis chapini

Black-headed Apalis, Apalis melanocephala

Chirinda Apalis, Apalis chirindensis Grey Apalis, Apalis cinerea Brown-headed Apalis, Apalis alticola Karamoja Apalis, Apalis karamojae Kungwe Apalis, Apalis argentea

- Genus *Urorhipis*
 - o Red-fronted Warbler, Urorhipis rufifrons
- Genus *Hypergerus*
 - o Oriole Warbler, *Hypergerus atriceps*
- Genus Eminia
 - o Grey-capped Warbler, Eminia lepida
- Genus Camaroptera
 - Grey-backed Camaroptera, Camaroptera brachyura
 Yellow-browed Camaroptera, Camaroptera superciliaris
 Olive-green Camaroptera, Camaroptera chloronota
- Genus *Calamonastes*
 - Miombo Camaroptera, Calamonastes undosus Grey Wren-Warbler, Calamonastes simplex Barred Camaroptera, Calamonastes fasciolatus
- Genus *Euryptila*
 - o Kopje Warbler *Euryptila subcinnamomea*

Coerebidae

Bananaquit

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Coerebidae d'Orbigny & Lafresnaye, 1838Genus: Coereba Vieillot, 1809Species: C.

*flaveola*Binomial name: *Coereba flaveola* (Linnaeus, 1758)

The **Bananaquit**, *Coereba flaveola*, is a <u>passerine</u> <u>bird</u>, the only member of the genus *Coereba* and is normally placed within the family Coerebidae, although there is uncertainty whether that placement is correct (hence the assignment Genus *Coereba Incertae sedis*). It is resident in tropical South America north to southern Mexico and the Caribbean. It is a rare visitor to Florida, USA.

The Bananaquit is a very small bird attaining an average length of 11 cm. It has a slender, curved bill, adapted to taking nectar from flowers. It sometimes pierces flowers from the side, taking the nectar without pollinating the plant. It cannot hover like a hummingbird, and must always perch while feeding. It will also eat fruit and insects. It often visits gardens and may become very tame.

Upperparts are dark grey with a black crown to the head and yellow underparts and rump. The Bananaquit has a prominent white eyestripe. Sexes are alike.

On Grenada and Saint Vincent, most Bananaquits have black plumage, suggesting divergence from other West Indian populations.

Bananaquits build spherical lined nests with a side entrance hole, laying up to three eggs.

References

 BirdLife International (2004). <u>Coereba flaveola</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Dicaeidae

Flowerpeckers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Dicaeidae Bonaparte, 1853Genera: Prionochilus, Dicaeum

The **flowerpeckers** are a family of <u>passerine</u> <u>birds</u> found in tropical southern Asia and Australasia from India east to the Philippines and south to Australia.

These are very small, stout, often brightly coloured birds, 10 to 18 cm in length, with short tails, short thick curved bills and tubular tongues. The latter features reflect the importance of nectar in the diet of many species, although berries, spiders and insects are also taken.

2-4 eggs are laid, typically in a purse-like nest suspended from a tree.

Species

Family: Dicaeidae

Olive-backed Flowerpecker, Prionochilus olivaceus Yellow-breasted Flowerpecker, Prionochilus maculatus Crimson-breasted Flowerpecker, Prionochilus percussus Palawan Flowerpecker, Prionochilus plateni Yellow-rumped Flowerpecker, Prionochilus xanthopygius Scarlet-breasted Flowerpecker, Prionochilus thoracicus Golden-rumped Flowerpecker, Dicaeum annae Thick-billed Flowerpecker, Dicaeum agile Brown-backed Flowerpecker, Dicaeum everetti Whiskered Flowerpecker, Dicaeum proprium Yellow-vented Flowerpecker, Dicaeum chrysorrheum Yellow-bellied Flowerpecker, Dicaeum melanoxanthum White-throated Flowerpecker, Dicaeum vincens Yellow-sided Flowerpecker, Dicaeum aureolimbatum Olive-capped Flowerpecker, Dicaeum nigrilore Flame-crowned Flowerpecker, Dicaeum anthonyi Bicolored Flowerpecker, Dicaeum bicolor Cebu Flowerpecker, Dicaeum quadricolor Red-striped Flowerpecker, Dicaeum australe Red-keeled Flowerpecker, Dicaeum haematostictum Scarlet-collared Flowerpecker, Dicaeum retrocinctum Orange-bellied Flowerpecker, Dicaeum trigonostigma Pale-billed Flowerpecker, Dicaeum erythrorhynchos Plain Flowerpecker, Dicaeum concolor Flame-breasted Flowerpecker, Dicaeum erythrothorax

White-bellied Flowerpecker, Dicaeum hypoleucum Pygmy Flowerpecker, Dicaeum pygmaeum Crimson-crowned Flowerpecker, Dicaeum nehrkorni Ashy Flowerpecker, Dicaeum vulneratum Olive-crowned Flowerpecker, Dicaeum pectorale Red-capped Flowerpecker, Dicaeum geelvinkianum Louisiade Flowerpecker, Dicaeum nitidum Red-banded Flowerpecker, Dicaeum eximium Midget Flowerpecker, Dicaeum aeneum Mottled Flowerpecker, Dicaeum tristrami Black-fronted Flowerpecker, Dicaeum igniferum Red-chested Flowerpecker, Dicaeum maugei Fire-breasted Flowerpecker, Dicaeum ignipectus Black-sided Flowerpecker, Dicaeum monticolum Grev-sided Flowerpecker, Dicaeum celebicum Blood-breasted Flowerpecker, Dicaeum sanguinolentum Mistletoebird, Dicaeum hirundinaceum Scarlet-backed Flowerpecker, Dicaeum cruentatum Scarlet-headed Flowerpecker, Dicaeum trochileum

Drepanididae

Hawaiian Honeycreeper

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Drepanididae** Cabanis, 1847Genera: *Telespiza, Psittirostra (extinct?)*, Dysmorodrepanis (extinct), Loxioides, Rhodacanthis (extinct), Chloridops (extinct), Orthiospiza (extinct), Xestospiza (extinct), Pseudonestor, Hemignathus, Magumma (disputed), Akialoa (disputed; extinct), Heterorhynchus (disputed), Oreomystis, Paroreomyza, Vangulifer (extinct), Aidemedia (extinct), Loxops, Ciridops (extinct), Vestiaria, Drepanis (extinct), Palmeria, Himatione, Melamprosops (extinct?)

Hawaiian honeycreepers are small <u>passerine</u> <u>birds</u> endemic to Hawai»i. Some authorities categorize this group as the <u>subfamily</u> **Drepanidinae** of the <u>finch</u> family Fringillidae, to which they are closely related, but they are usually given full family status as the **Drepanididae**.

The family is divided into three tribes

- Psittirostrini (Hawaiian finches), seedeaters with thick finch-like bills and songs like those of cardueline finches.
- Hemignathini (Hawaiian creepers and allies, including nukupu»us). These are generally green-plumaged birds with thin bills which feed on nectar and insects
- Drepanidini (Mamos, 'I'iwi and allies). These are birds often with red <u>plumage</u>. They are nectar-feeders and their songs contain nasal squeaks and whistles.

Some unusual forms extinct in earlier times, like *Xestospiza* or *Vangulifer*, cannot easily be placed into these tribes.

The male Hawaiian Honeycreepers are often more brightly coloured than the females, but in the Hemignathini, they often look very similar. The flowers of the native plant Metrosideros polymorpha ('ohi'a lehua) are favoured by a number of nectar-eating honeycreepers.

The wide range of bills in this group, from thick finch-like bills to slender downcurved bills for probing flowers have arisen through adaptive radiation, where an ancestral finch has evolved to fill a large number of ecological niches. Some 15 forms of Hawaiian Honeycreeper have become extinct in the recent past, many more since the arrival of the Polynesians who introduced the first rats. The recent extinctions are due to the introduction of other rodent species and the mongoose, habitat destruction and avian malaria and fowlpox.

Species

- Family: Drepanididae (or: Drepaniidae)
- o **Genus: Telespiza** finch-like, granivores, opportunistic scavengers
 - Nihoa Finch, Telespiza ultima Laysan Finch, Telespiza cantans

Kaua'i Finch, Telespiza persecutrix Conservation status: Prehistoric Maui Nui Finch, Telespiza ypsilon Conservation status: Prehistoric

- o **Genus: Psittirostra** slightly hooked bill, 'Ie'ie fruit specialist
 - <u>'O'u</u>, *Psittirostra psittacea* Conservation status: Critical, probably extinct late 1990s
- o Genus: Dysmorodrepanis pincer-like bill, possibly snail specialist
 - Lana'i Hookbill, Dysmorodrepanis munroi Conservation status: Extinct (1918)
- o Genus: Loxioides finch-like, Mamane seed specialist (L. bailleui)
 - Palila, Loxioides bailleui
 - Kaua»i Palila, *Loxioides kikuichi* Conservation status: Prehistoric
- o **Genus: Rhodacanthis** finch-like, Koa seed specialists
 - Lesser Koa Finch, *Rhodacanthis flaviceps* Conservation status: Extinct (1891)
 - Greater Koa Finch, *Rhodacanthis palmeri* Conservation status: Extinct (1896)
 - Scissor-billed Koa Finch, Rhodacanthis forfex Conservation status: Prehistoric
 - Primitive Koa Finch, *Rhodacanthis litotes* Conservation status: Prehistoric
- Genus: Chloridops thick-billed, Naio and other hard seed specialist
 - Kona Grosbeak Finch, Chloridops kona Conservation status: Extinct (1894)
 - Oʻahu Grosbeak Finch, Chloridops wahi Conservation status: Prehistoric
 - Giant ("King Kong") Grosbeak Finch, Chloridops regiskongi Conservation status: Prehistoric
- Genus: Orthiospiza large weak bill, possibly soft seed or fruit specialist?
 - Highland Finch, Orthiospiza howarthi Conservation status: Prehistoric
- o **Genus: Xestospiza** cone-shaped bills, possibly insectivores
 - Cone-billed Finch, *Xestospiza conica* Conservation status: Prehistoric
 - Ridge-billed Finch, *Xestospiza fastigialis* Conservation status: Prehistoric
- Genus: Peseudonestor parrot-like bill, probes rotting wood for insect larvae
 - Maui Parrotbill, Pseudonestor xanthophrys
- Genus: Hemignathus pointed or long and decurved bills, insectivores or nectarivores
 - Hawai'i 'Amakihi, Hemignathus virens
 - Oʻahu 'Amakihi, *Hemignathus flavus*
 - Kaua'i 'Amakihi, *Hemignathus kauaiensis*
 - Nukupu'u, Hemignathus lucidus
 - 'Anianiau, Hemignathus parvus or Magumma parva
 - Greater 'Amakihi, Hemignathus sagittirostris Conservation status: Extinct (1901)
 - Giant 'Amakihi, Hemignathus vorpalis Conservation status: Prehistoric
 - Hawai'i 'Akialoa, Hemignathus obscurus or Akialoa obscura Conservation status: Extinct (1940)
 - Maui Nui 'Akialoa, Hemignathus lanaiensis or Akialoa lanaiensis Conservation status: Extinct (1892)
 - Oʻahu ʻAkialoa, Hemignathus ellisianus or Akialoa ellisiana <u>Conservation</u> <u>status:</u> Extinct (1940)

- Kaua'i 'Akialoa, Hemignathus stejnegeri or Akialoa stejnegeri Conservation status: Extinct (1969)
- Hoopoe-billed 'Akialoa, Hemignathus upupirostris or Akialoa upupirostris
 Conservation status: Prehistoric
- 'Akiapola'au, Hemignathus munroi or Heterorhynchus wilsoni
- o **Genus: Oreomystis** short pointed bills, browsers
 - 'Akikiki, *Oreomystis bairdi*
 - Hawai'i "Creeper", Oreomystis mana
- o **Genus: Paroreomyza** similar to Oreomystis
 - Maui 'Alauahio, Paroreomyza montana (more properly called Maui Nui 'Alauahio, but today occurs on Maui only)
 - Kakawahie, Paroreomyza flammea Conservation status: Extinct (1963)
 - Oʻahu ʻAlauahio, *Paroreomyza maculata*
- o **Genus: Vangulifer** flat rounded bills, possibly caught flying insects
 - Strange-billed Finch, *Vangulifer mirandus* Conservation status: Prehistoric
 - Thin-billed Finch, Vangulifer neophasis Conservation status: Prehistoric
- o **Genus: Aidemedia** straight thin bills, insectivores
 - O'ahu Icterid-like Gaper, *Aidemedia chascax* Conservation status: Prehistoric
 - Sickle-billed Gaper, Aidemedia zanclops Conservation status: Prehistoric
 - Maui Nui Icterid-like Gaper, Aidemedia lutetiae Conservation status: Prehistoric
- Genus: Loxops small pointed bills with the tips offset a little horizontally, insectivores
 - 'Akeke'e, *Loxops caeruleirostris*
 - Akepa, Loxops coccineus
- o **Genus: Ciridops** finch-like, fed on Loulu fruits etc.
 - 'Ula-'ai-Hawane, *Ciridops anna* <u>Conservation status:</u> Extinct (1892 or 1937)
 - Stout-legged Finch, *Ciridops tenax* Conservation status: Prehistoric
- Genus: Vestiaria decurved bill, nectarivore
 - 'I'iwi, Vestiaria coccinea
- Genus: Drepanis decurved bills, nectarivores
 - Hawai'i Mamo, Drepanis pacifica Conservation status: Extinct (1898)
 - Black Mamo, Drepanis funerea Conservation status: Extinct (1907)
- Genus: Palmeria thin bill, nectarivore, especially »Ohi»a
 - 'Akohekohe, *Palmeria dolei*
- o **Genus: Himatione** thin bill, nectarivore
 - 'Apapane, Himatione sanguinea
- o **Genus: Melamprosops** short pointed bill, browser and snail specialist
 - Po'o-uli, Melamprosops phaeosoma <u>Conservation status</u>: Critical, probably extinct November 28, 2004

Several other known species are undescribed, as they are known only from very fragmentary fossil remains insufficient to deterine taxonomic affiliation. The term "prehistoric" above indicates birds that went extinct between first human settlement of Hawaiʻi around 400 AD and European contact in 1778.

Melamprosops

Conservation status: Critical Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Drepanididae</u>
Genus: *Melamprosops*Species: *M. phaeosoma*

Binomial name: *Melamprosops phaeosoma* Casey & Jacobi, 1974

The **Powo-uli** or **Black-faced Honeycreeper** (*Melamprosops phaeosoma*) is an endangered bird that is endemic to Hawai»i. It is considered to be a member of the Drepanididae (<u>Hawaiian honeycreeper</u>) family, and is the only member of its genus. The vernacular name (often erroneously spelled "powouli", "poouli", "powowuli", "pouli" or "poouli") means 'dark head' and refers to the bird's characteristic feature, a black 'bandit' mask (This is no original Hawaiian term; in fact, whether there was a native name as for many endemic birds of these islands is not known. The vernacular name should technically be *alouli* or *alo uli*, "dark face", since *powo* refers to the top, not the front side, of the head).

The *po»o-uli* wasn't discovered until 1973 by students from the University of Hawai»i, who found the bird on the north-eastern slopes of Haleakala on the island of Maui. It feeds mostly on snails, insects, and spiders and nests in native »ohi»a forests.

It is believed that there are now at most two remaining individuals of this species, down from an estimated 200 when the species was first discovered. The dramatic population decline has been attributed to a number of factors, including habitat loss; mosquito-borne diseases; predation by pigs, rats, cats, and mongooses; and a decline in the native tree snails that the *po»o-uli* relies on for food.

Both of the two remaining birds are at least seven years of age, and nearing the end of their reproductive lifespan. It is uncertain whether they are a male and female pair or both of the same sex, or even if they are still alive. They have been deemed extinct now. Last one sighted was on December 27, 2006 in Maui.

In 2002, a female was captured and taken to a male's home range in an attempt to get them to breed. The female, however, had flown back to her own nest, which has a mile and a half away, by the next day. There was also a ten-day expedition which was scheduled to begin on April 27, 2004. The goal of this was to capture all three birds, and bring them to a bird conservation center on the island in the hope they would produce offspring.

On September 9, 2004, a male po»o-uli was captured and taken to the Maui Bird Conservation Center in Olinda, in an attempt to captively breed the bird. However, biologists could not find a mate for the male before it died of avian malaria on November 28, 2004. Biologists are now searching for the two remaining birds, which have not been seen for over a year and are probably dead too. Tissue samples have been taken from the male for possible future cloning, but as neither birds of the opposite sex are now available nor natural behavior can be imprinted on possible cloned individuals (assuming that cloning of birds will actually be established as a working technique, which currently is not the case), this does not seem

probable. As such efforts would likely compete with conservation funding of extant bird species, it may not even be desirable as a cloning attempt would both be highly likely to fail and at the same time jeopardize the survival of other highly threatened species. The paper by VanderWerf *et al.* (2006) wraps up the conservation issues regarding the po»o-uli.

References

- BirdLife International (2004). <u>Melamprosops phaeosoma</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes justification for why this species is critically endangered

Psittirostra

Conservation status: Critical (Possibly Extinct)

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Drepanididae</u>
Genus: *Psittirostra*Species: *P. psittacea*

Binomial name: *Psittirostra psittacea* (Gmelin, 1789)

The **Ou**, (or **»O»u** - the name is pronounced like "oh-uh"m) (*Psittirostra psittacea*), is a highly endangered, if not extinct, <u>bird</u> endemic to the Hawai»ian islands. Though formerly widespread on the six largest islands of that group, this Hawai»ian honeycreeper declined precipitously from the turn of the 20th century. The last confirmed sighting was in 1989 on Kaua»i. It is almost certainly extinct there, but unconfirmed reports occasionally are received from the areas of Big Island above Kilauea volcano. The largest and most secure population above Waikea was driven from its habitat in 1984 when the area was devastated by a lava flow from Mauna Loa.

The »O»u was one of the most mobile honeycreeper species. Although it was not very active and usually slow-moving, it had remarkable stamina and when flying, would cover great distances. It is one of the few Hawai»ian endemics that did occur on all the major islands at one time and did not differentiate into subspecies, suggesting that birds crossed between islands on a regular basis. Also, there was considerable seasonal movement between different altitudes according to the availability of the species' favorite food, the bracts and fruit of the »ie»ie. This probably was the species' undoing, as it thus came in contact with mosquitoes transmitting avian malaria and fowlpox, which are exceptionally lethal to most honeycreepers.

References

• BirdLife International (2004). <u>Psittirostra psittacea</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006.

Footnotes

1. <u>^ Pronunciation</u>: Care should be taken in pronouncing the name. *»O»o* ("oh-oh") refers to another, unrelated kind of bird, while »U»u ("uh-uh") may mean "to masturbate". The Hawai»ian "u" is pronounced IPA: [u], not [Y] as in most American English dialects.

Vestiaria

Iiwi

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Drepanididae</u>

Genus: *Vestiaria* Jarocki, 1821 Species: *V. coccinea* Binomial name: *Vestiaria coccinea* (Forster, 1780)

The 'I'wi (Vestiaria coccinea) or Scarlet Hawaiian Honeycreeper is a Hawaiian bird of the family Drepanididae, and the only member of the genus Vestiaria. One of the most plentiful species of this family, which includes many endangered or extinct species, the 'I'wi is one of the most recognized animals and symbols of Hawai'i. It is found on all the main islands of Hawai'i, however since the 1800s its range has become far more restricted due to introduced species and diseases. Now the 'I'iwi can be found at higher elevations where native forest ecosystems still exist more or less intact and temperatures are generally too cool for mosquitoes and the diseases they carry. They are rare or absent at lower elevations, even where native forests are in good condition. The species has a very high mortality rate from avian malaria (*Plasmodium relictum*): in a series of challenge experiments, more than half the birds died from a single infected mosquito-bite.

It is mainly red in color, with a long curved red bill, which it uses to drink nectar. The wings and tail are black. The feathers were highly prized by Hawaiian ali'i (nobles) for use in decorating 'ahu'ula (capes) and mahiole (helmets).

Although the long bill of the 'I'iwi apparently evolved for feeding on nectar in long curved flowers, they now depend on nectar from 'ohi'a trees (*Metrosideros polymorpha*), which have tiny flowers. 'I'iwi bill size has apparently shrunk in the past 100 years due to this change in food supply.

References

 BirdLife International (2004). <u>Vestiaria coccinea</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes a brief justification of why this species is near threatened

Emberizidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Emberizidae Vigors, 1831

The **Emberizidae** are a large family of <u>passerine birds</u>.

They are seed-eating <u>birds</u> with a distinctively shaped bill. In Europe, most species are named as <u>buntings</u>.

The Emberizidae family probably originated in South America and spread first into North America before crossing into eastern Asia and continuing to move west. This explains the paucity of emberizid species in Europe and Africa when compared to the Americas.

In North America, most of the species in this family are known as **Sparrows**, but these birds are not closely related to the Old World <u>sparrows</u> which are in the family <u>Passeridae</u>. The family also includes the North American birds known as <u>juncos</u> and towhees.

Their habits are similar to those of <u>finches</u>, with which they sometimes used to be grouped. Older sources may place some emberizids in the <u>Fringillidae</u>, and the common names of some emberizids still refer to them as finches. Many emberizid species have distinctive head patterns.

- 1 Species in taxonomic order
 - o 1.1 The buntings
 - 1.2 The sierra finches
 - 1.3 The Inca finches
 - 1.4 The warbling finches
 - o 1.5 The seedeaters
 - o 1.6 The Flowerpiercers
 - 1.7 The vellow finches
 - o 1.8 The brush finches
 - o 1.9 The American sparrows, including juncos and towhees
 - o 1.10 Longspurs
- o 1.11 The ground finches
 - 1.12 The tree finches

Species in taxonomic order

The buntings

Crested Bunting, Melophus lathami
 Slaty Bunting, Latoucheornis siemsseni
 Yellowhammer, Emberiza citrinella

Pine Bunting, Emberiza leucocephalos Cirl Bunting Emberiza cirlus Tibetan Bunting, Emberiza koslowi Rock Bunting, Emberiza cia Godlewski's Bunting, Emberiza godlewskii Meadow Bunting, Emberiza cioides Rufous-backed Bunting, Emberiza jankowskii Grey-hooded Bunting, Emberiza buchanani Cinereous Bunting, Emberiza cineracea Ortolan Bunting, Emberiza hortulana Chestnut-breasted Bunting, Emberiza stewarti Cretzschmar's Bunting, Emberiza caesia House Bunting, Emberiza striolata Lark-like Bunting, Emberiza impetuani Cinnamon-breasted Bunting, Emberiza tahapisi Socotra Bunting, Emberiza socotrana Cape Bunting, Emberiza capensis Ochre-rumped Bunting, Emberiza yessoensis Tristram's Bunting, Emberiza tristrami Chestnut-eared Bunting, Emberiza fucata Little Bunting, Emberiza pusilla Yellow-browed Bunting, Emberiza chrysophrys Rustic Bunting, Emberiza rustica Yellow-throated Bunting, Emberiza elegans Yellow-breasted Bunting, Emberiza aureola Golden-breasted Bunting, Emberiza flaviventris Somali Bunting, Emberiza poliopleura Brown-rumped Bunting, Emberiza affinis Cabanis' Bunting, Emberiza cabanisi Chestnut Bunting, Emberiza rutila Black-headed Bunting, Emberiza melanocephala Red-headed Bunting, Emberiza bruniceps Yellow Bunting, Emberiza sulphurata Black-faced Bunting, Emberiza spodocephala Grey Bunting, Emberiza variabilis Pallas' Reed Bunting, Emberiza pallasi Reed Bunting, Emberiza schoeniclus Corn Bunting, Emberiza calandra Snow Bunting, Plectrophenax nivalis McKay's Bunting, Plectrophenax hyperboreus Przevalski's Rosefinch, Urocynchramus pylzowi Coal-crested Finch, Charitospiza eucosma Black-masked Finch, Coryphaspiza melanotis Many-colored Chaco Finch, Saltatricula multicolor Pileated Finch, Coryphospingus pileatus

Red-crested Finch, Coryphospingus cucullatus Crimson-breasted Finch, Rhodospingus cruentus

The sierra finches

Black-hooded Sierra Finch, Phrygilus atriceps Peruvian Sierra Finch, Phrygilus punensis Gray-hooded Sierra Finch, Phrygilus gayi Patagonian Sierra Finch, Phrygilus patagonicus Mourning Sierra Finch, Phrygilus fruticeti Plumbeous Sierra Finch, Phrygilus unicolor Red-backed Sierra Finch, Phrygilus dorsalis White-throated Sierra Finch, Phrygilus erythronotus Carbonated Sierra Finch, Phrygilus carbonarius Band-tailed Sierra Finch, Phrygilus alaudinus Ash-breasted Sierra Finch, Phrygilus plebejus Canary-winged Finch, Melanodera melanodera Yellow-bridled Finch, Melanodera xanthogramma Black-crested Finch, Lophospingus pusillus Gray-crested Finch, Lophospingus griseocristatus Long-tailed Reed Finch, Donacospiza albifrons Gough Island Finch, Rowettia goughensis Nightingale Finch, Nesospiza acunhae Wilkins' Finch, Nesospiza wilkinsi White-winged Diuca Finch, Diuca speculifera Common Diuca Finch, Diuca diuca Short-tailed Finch, Idiopsar brachyurus Cinereous Finch, Piezorhina cinerea Slender-billed Finch, Xenospingus concolor

The Inca finches

 Great Inca Finch, Incaspiza pulchra Rufous-backed Inca Finch, Incaspiza personata Gray-winged Inca Finch, Incaspiza ortizi Buff-bridled Inca Finch, Incaspiza laeta Little Inca Finch, Incaspiza watkinsi

The warbling finches

Bay-chested Warbling Finch, Poospiza thoracica Bolivian Warbling Finch, Poospiza boliviana Plain-tailed Warbling Finch, Poospiza alticola Rufous-sided Warbling Finch, Poospiza hypochondria Cinnamon Warbling Finch, Poospiza ornata Rusty-browed Warbling Finch, Poospiza erythrophrys Black-and-rufous Warbling Finch, Poospiza nigrorufa Black-and-chestnut Warbling Finch, Poospiza whitii Red-rumped Warbling Finch, Poospiza lateralis Rufous-breasted Warbling Finch, Poospiza rubecula Cochabamba Mountain Finch, Poospiza garleppi Tucuman Mountain Finch, Poospiza baeri Chestnut-breasted Mountain Finch, Poospiza caesar Collared Warbling Finch, Poospiza hispaniolensis Ringed Warbling Finch, Poospiza torquata Black-capped Warbling Finch, Poospiza melanoleuca Cinereous Warbling Finch, Poospiza cinerea Blue-black Grassquit, Volatinia jacarina

The seedeaters

Buffy-fronted Seedeater, Sporophila frontalis Temminck's Seedeater, Sporophila falcirostris Slate-colored Seedeater, Sporophila schistacea Plumbeous Seedeater, Sporophila plumbea Caqueta Seedeater, Sporophila murallae Gray Seedeater, Sporophila intermedia Wing-barred Seedeater, Sporophila americana Variable Seedeater, Sporophila corvina White-collared Seedeater, Sporophila torqueola Rusty-collared Seedeater, Sporophila collaris Lesson's Seedeater, Sporophila bouvronides Lined Seedeater, Sporophila lineola Black-and-white Seedeater, Sporophila luctuosa Yellow-bellied Seedeater, Sporophila nigricollis Dubois' Seedeater, Sporophila ardesiaca Hooded Seedeater, Sporophila melanops Double-collared Seedeater, Sporophila caerulescens White-throated Seedeater, Sporophila albogularis Drab Seedeater, Sporophila simplex White-bellied Seedeater, Sporophila leucoptera

Parrot-billed Seedeater, Sporophila peruviana Black-and-tawny Seedeater, Sporophila nigrorufa Capped Seedeater, Sporophila bouvreuil Ruddy-breasted Seedeater, Sporophila minuta Tawny-bellied Seedeater, Sporophila hypoxantha Dark-throated Seedeater, Sporophila ruficollis Marsh Seedeater, Sporophila palustris Chestnut-bellied Seedeater, Sporophila castaneiventris Gray-and-chestnut Seedeater, Sporophila hypochroma Chestnut Seedeater, Sporophila cinnamomea Narosky's Seedeater, Sporophila zelichi Black-bellied Seedeater, Sporophila melanogaster Chestnut-throated Seedeater, Sporophila telasco Tumaco Seedeater, Sporophila insulata Band-tailed Seedeater, Catamenia analis Plain-colored Seedeater, Catamenia inornata Paramo Seedeater, Catamenia homochroa Blackish-blue Seedeater, Amaurospiza moesta Blue Seedeater, Amaurospiza concolor Slate-blue Seedeater, Amaurospiza relicta Carrizal Seedeater, Amaurospiza carrizalensis Nicaraguan Seed Finch, Oryzoborus nuttingi Large-billed Seed Finch, Oryzoborus crassirostris Black-billed Seed Finch, Oryzoborus atrirostris Great-billed Seed Finch, Oryzoborus maximiliani Chestnut-bellied Seed Finch, Oryzoborus angolensis Thick-billed Seed Finch, Oryzoborus funereus White-naped Seedeater, Dolospingus fringilloides Cuban Bullfinch, Melopyrrha nigra Dull-colored Grassquit, Tiaris obscura Cuban Grassquit, Tiaris canora Yellow-faced Grassquit, Tiaris olivacea Black-faced Grassquit, Tiaris bicolor Sooty Grassquit, Tiaris fuliginosa Yellow-shouldered Grassquit, Loxipasser anoxanthus Orangequit, Euneornis campestris St. Lucia Black Finch, Melanospiza richardsoni Puerto Rican Bullfinch, Loxigilla portoricensis Greater Antillean Bullfinch, Loxigilla violacea Lesser Antillean Bullfinch, Loxigilla noctis Cocos Island Finch, Pinaroloxias inornata Slaty Finch, Haplospiza rustica Uniform Finch, Haplospiza unicolor Peg-billed Finch, Acanthidops bairdii

The Flowerpiercers

Cinnamon-bellied Flowerpiercer, Diglossa baritula Slaty Flowerpiercer, Diglossa plumbea Rusty Flowerpiercer, Diglossa sittoides Venezuelan Flowerpiercer, Diglossa venezuelensis Chestnut-bellied Flowerpiercer, Diglossa gloriosissima White-sided Flowerpiercer, Diglossa albilatera Glossy Flowerpiercer, Diglossa lafresnayii Moustached Flowerpiercer, Diglossa mystacalis Merida Flowerpiercer, Diglossa gloriosa Black Flowerpiercer, Diglossa humeralis Black-throated Flowerpiercer, Diglossa brunneiventris Gray-bellied Flowerpiercer, Diglossa carbonaria Scaled Flowerpiercer, Diglossa duidae Greater Flowerpiercer, Diglossa major Indigo Flowerpiercer, Diglossopis indigotica Deep-blue Flowerpiercer, Diglossopis glauca Bluish Flowerpiercer, Diglossopis caerulescens Masked Flowerpiercer, Diglossopis cyanea

The yellow finches

Puna Yellow Finch, Sicalis lutea Saffron Finch, Sicalis flaveola Grassland Yellow Finch. Sicalis luteola Stripe-tailed Yellow Finch, Sicalis citrina Bright-rumped Yellow Finch, Sicalis uropygialis Citron-headed Yellow Finch, Sicalis luteocephala Greater Yellow Finch, Sicalis auriventris Greenish Yellow Finch, Sicalis olivascens Patagonian Yellow Finch, Sicalis lebruni Orange-fronted Yellow Finch, Sicalis columbiana Raimondi's Yellow Finch, Sicalis raimondii Sulphur-throated Finch, Sicalis taczanowskii Wedge-tailed Grass Finch, Emberizoides herbicola Duida Grass Finch, Emberizoides duidae Lesser Grass Finch, Emberizoides ypiranganus Pale-throated Serra Finch, Embernagra longicauda Great Pampa Finch, Embernagra platensis Yellow Cardinal, Gubernatrix cristata Red-crested Cardinal, Paroaria coronata Red-cowled Cardinal, Paroaria dominicana

Red-capped Cardinal, Paroaria gularis Crimson-fronted Cardinal, Paroaria baeri Yellow-billed Cardinal, Paroaria capitata Sooty-faced Finch, Lysurus crassirostris Olive Finch, Lysurus castaneiceps Yellow-thighed Finch, Pselliophorus tibialis Yellow-green Finch, Pselliophorus luteoviridis Large-footed Finch, Pezopetes capitalis

The brush finches

White-naped Brush Finch, Atlapetes albinucha Pale-naped Brush Finch, Atlapetes pallidinucha Rufous-naped Brush Finch, Atlapetes rufinucha Yellow-breasted Brush Finch, Atlapetes latinuchus Yariguies Brush Finch, Atlapetes latinuchus yariguierum White-rimmed Brush Finch, Atlapetes leucopis Rufous-capped Brush Finch, Atlapetes pileatus Santa Marta Brush Finch, Atlapetes melanocephalus Olive-headed Brush Finch, Atlapetes flaviceps Dusky-headed Brush Finch, Atlapetes fuscoolivaceus Tricolored Brush Finch, Atlapetes tricolor Moustached Brush Finch, Atlapetes albofrenatus Slaty Brush Finch, Atlapetes schistaceus Bay-crowned Brush Finch, Atlapetes seebohmi Rusty-bellied Brush Finch, Atlapetes nationi White-winged Brush Finch, Atlapetes leucopterus White-headed Brush Finch, Atlapetes albiceps Pale-headed Brush Finch, Atlapetes pallidiceps Rufous-eared Brush Finch, Atlapetes rufigenis Black-spectacled Brush Finch, Atlapetes melanops Ochre-breasted Brush Finch, Atlapetes semirufus Fulvous-headed Brush Finch, Atlapetes fulviceps Tepui Brush Finch, Atlapetes personatus Yellow-striped Brush Finch, Atlapetes citrinellus Chestnut-capped Brush Finch, Buarremon brunneinucha Green-striped Brush Finch, Buarremon virenticeps Stripe-headed Brush Finch, Buarremon torquatus

The American sparrows, including juncos and towhees

Orange-billed Sparrow, Arremon aurantiirostris Pectoral Sparrow, Arremon taciturnus Half-collared Sparrow, Arremon semitorquatus Golden-winged Sparrow, Arremon schlegeli Black-capped Sparrow, Arremon abeillei Saffron-billed Sparrow, Arremon flavirostris Olive Sparrow, Arremonops rufivirgatus Tocuyo Sparrow, Arremonops tocuyensis Green-backed Sparrow, Arremonops chloronotus Black-striped Sparrow, Arremonops conirostris Rusty-crowned Ground-Sparrow, Melozone kieneri Prevost's Ground-Sparrow, Melozone biarcuatum White-eared Ground-Sparrow, Melozone leucotis Green-tailed Towhee, Pipilo chlorurus Collared Towhee, Pipilo ocai Socorro Towhee, Pipilo socorroensis Eastern Towhee, Pipilo erythrophthalmus Spotted Towhee, Pipilo maculatus California Towhee, Pipilo crissalis Canyon Towhee, Pipilo fuscus Abert's Towhee, Pipilo aberti White-throated Towhee, Pipilo albicollis Bridled Sparrow, Aimophila mystacalis Black-chested Sparrow, Aimophila humeralis Stripe-headed Sparrow, Aimophila ruficauda Cinnamon-tailed Sparrow, Aimophila sumichrasti Stripe-capped Sparrow, Aimophila strigiceps Tumbes Sparrow, Aimophila stolzmanni Bachman's Sparrow, Aimophila aestivalis Botteri's Sparrow, Aimophila botterii Cassin's Sparrow, Aimophila cassinii Rufous-crowned Sparrow, Aimophila ruficeps Rufous-winged Sparrow, Aimophila carpalis Five-striped Sparrow, Aimophila quinquestriata Oaxaca Sparrow, Aimophila notosticta Rusty Sparrow, Aimophila rufescens Striped Sparrow, Oriturus superciliosus Zapata Sparrow, Torreornis inexpectata American Tree Sparrow, Spizella arborea Chipping Sparrow, Spizella passerina Clay-colored Sparrow, Spizella pallida Brewer's Sparrow, Spizella breweri

Field Sparrow, Spizella pusilla Worthen's Sparrow, Spizella wortheni Black-chinned Sparrow, Spizella atrogularis Vesper Sparrow, Pooecetes gramineus Lark Sparrow, Chondestes grammacus Black-throated Sparrow, Amphispiza bilineata Sage Sparrow, Amphispiza belli Lark Bunting, Calamospiza melanocorys Savannah Sparrow, Passerculus sandwichensis Seaside Sparrow, Ammodramus maritimus Nelson's Sharp-tailed Sparrow, Ammodramus nelsoni Saltmarsh Sharp-tailed Sparrow, Ammodramus caudacutus Le Conte's Sparrow, Ammodramus leconteii Henslow's Sparrow, Ammodramus henslowii Baird's Sparrow, Ammodramus bairdii Grasshopper Sparrow, Ammodramus savannarum Grassland Sparrow, Ammodramus humeralis Yellow-browed Sparrow, Ammodramus aurifrons Fox Sparrow, Passerella iliaca Sierra Madre Sparrow, Xenospiza bailevi Song Sparrow, Melospiza melodia Lincoln's Sparrow, Melospiza lincolnii Swamp Sparrow, Melospiza georgiana White-crowned Sparrow, Zonotrichia leucophrys White-throated Sparrow, Zonotrichia albicollis Golden-crowned Sparrow, Zonotrichia atricapilla Rufous-collared Sparrow, Zonotrichia capensis Harris's Sparrow, Zonotrichia querula Dark-eyed Junco, Junco hyemalis Yellow-eyed Junco, Junco phaeonotus Guadalupe Junco, Junco insularis Volcano Junco, Junco vulcani

Longspurs

McCown's Longspur, Calcarius mccownii
 Lapland Longspur, or Lapland Bunting, Calcarius lapponicus
 Smith's Longspur, Calcarius pictus
 Chestnut-collared Longspur, Calcarius ornatus

The ground finches

Large Ground Finch, Geospiza magnirostris
 Medium Ground Finch, Geospiza fortis
 Small Ground Finch, Geospiza fuliginosa
 Sharp-beaked Ground Finch, Geospiza difficilis
 Common Cactus Finch, Geospiza scandens
 Large Cactus Finch, Geospiza conirostris

The tree finches

 Vegetarian Finch, Camarhynchus crassirostris Mangrove Finch, Camarhynchus heliobates Large Tree Finch, Camarhynchus psittacula Small Tree Finch, Camarhynchus parvulus Medium Tree Finch, Camarhynchus pauper Woodpecker Finch, Camarhynchus pallidus Warbler Finch, Certhidea olivacea

Ammodramus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genus: Ammodramus Swainson, 1827 Species: See text.

Synonyms: Passerherbulus Maynard, 1895

The genus *Ammodramus* is a group of American sparrows in the family *Emberizidae*.

These birds are relatively small, with large bills, flat heads and short tails. They are usually found in grasslands or marshes and are often fairly inconspicuous. Most of their songs are insect-like.

Many of these bird species have declined in numbers due to habitat loss.

The full list of species is:

- Seaside Sparrow, Ammodramus maritimus
 - Dusky Seaside Sparrow, Ammodramus maritimus nigrescens (extinct, 1987)
 Cape Sable Seaside Sparrow, Ammodramus maritimus mirabilis
- Nelson's Sharp-tailed Sparrow, Ammodramus nelsoni Saltmarsh Sharp-tailed Sparrow, Ammodramus caudacutus Le Conte's Sparrow, Ammodramus leconteii Henslow's Sparrow, Ammodramus henslowii

Deiedle Commerce Americal deservables

Baird's Sparrow, Ammodramus bairdii

Grasshopper Sparrow, Ammodramus savannarum

Grassland Sparrow, Ammodramus humeralis

Yellow-browed Sparrow, Ammodramus aurifrons

Calamospiza

Lark Bunting

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: Emberizidae
Genus: *Calamospiza*Species: *C. melanocorys*

Binomial name: Calamospiza melanocorys Stejneger, 1885

The **Lark Bunting**, *Calamospiza melanocorys*, is a medium-sized sparrow. It is the only member of the genus Calamospiza (Bonaparte, 1838).

These birds have a large pale bill and a pale wing patch. Adult males in breeding plumage are black except for their white wing patch. Other birds are more sparrow-like in appearance; they have dark brown upperparts and white underparts, with streaking on the back, breast and flanks. The wings are dark with brown edges.

Their breeding habitat is prairie regions in central Canada and the mid-western United States. The nest is an open cup on the ground in a grassy area.

These birds migrate in flocks to southern Texas and Mexico.

They forage on the ground, mainly eating insects in summer and seeds in winter; they sometimes take short flights in pursuit of insects. Outside of the nesting season, they often feed in flocks.

These birds nest in dispersed colonies. Males fly up over their territory and sing while descending to declare ownership of a nesting territory. The song consists of a mix of whistles and trills. The call is a soft *hoo*.

This bird's numbers have decreased with the loss of natural prairie habitat.

This is the state bird of Colorado.

References

 BirdLife International (2004). <u>Calamospiza melanocorys</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Calcarius

Longspurs

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genus: Calcarius Bechstein, 1802 Species: See text.

The **Longspurs**, genus *Calcarius*, are a group of <u>birds</u> in the family <u>Emberizidae</u>. The name refers to the long claw on the hind toe of each foot.

These are chunky ground-feeding birds with long wings which are usually seen in open areas. Males declare ownership of a territory by singing during short flights over it. The male's breeding <u>plumage</u> is much brighter than his winter plumage. These birds gather in large flocks in winter. The longspurs are all found in North America; the Lapland Longspur, or **Lapland Bunting**, is also found in Europe and Asia.

The full list of species is:

McCown's Longspur, Calcarius mccownii
 Lapland Longspur, or Lapland Bunting, Calcarius lapponicus
 Smith's Longspur, Calcarius pictus
 Chestnut-collared Longspur, Calcarius ornatus

Chondestes

Lark Sparrow

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Emberizidae

Genus: *Chondestes* Swainson, 1827 Species: *C. grammacus* Binomial name: *Chondestes grammacus* (Say, 1823)

The **Lark Sparrow**, *Chondestes grammacus*, is a fairly large sparrow. It is the only member of the genus *Chondestes*.

This <u>passerine bird</u> breeds in southern Canada, much of the USA, and northern Mexico. It is much less common in the east, where its range is contracting. The populations in Mexico and adjacent USA states are resident, but other birds are <u>migratory</u>, wintering in the southern United States, Mexico and south to Guatemala.

It is a very common vagrant to western Europe, with two accepted records in Great Britain in 1981 and 1991.

Lark Sparrow is distinctive. Adults have a typically sparrow-like dark-streaked brown back, and white underparts except for a dark central spot. The cheeks and crown sides are chestnut, with white eyebrow and crown stripes. The dark tail's corners are also white.

Young Lark Sparrows are duller, and the underparts are streaked.

The breeding habitat is a variety of open habitats including grasslands and cultivation. Lark Sparrows nest on the ground, laying 3-6 eggs in a grass cup nest sheltered by a clump of grass or other vegetation. The eggs are white with black scrawling.

These birds forage on the ground or in low bushes. They mainly eat seeds, but insects, including grasshoppers are also eaten in the breeding season. They form flocks on migration or in winter.

The song is two clear notes followed by a mixture of buzzes and trills. The flight call is a thin *sit*.

References

- BirdLife International (2004). *Chondestes grammacus. 2006 IUCN Red List of Threatened Species. IUCN* 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern
- Buntings and Sparrows by Byers, Olsson and Curson, ISBN 0-7470-3202-5

Emberiza

Buntings

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genera: Melophus, Latoucheornis, Emberiza, Plectrophenax

Buntings are a group of mainly European <u>passerine birds</u> of the <u>family Emberizidae</u>.

They are seed-eating <u>birds</u> with stubby, conical bills, and are the Old World equivalents of the <u>species</u> known in North America as sparrows. (However, these birds are not closely related to the Old World <u>sparrows</u> which are in the family Passeridae.)

Their habits are similar to those of <u>finches</u>, with which they sometimes used to be grouped. Some emberizids are still named "finches". Similarly, there are a few species named "buntings" which are now classed in the <u>cardinal</u> family, like the Painted Bunting and Indigo Bunting.

Bunting species are:

Family: Emberizidae

- Crested Bunting, Melophus lathami
- Slaty Bunting, Latoucheornis siemsseni
- o Yellowhammer, Emberiza citrinella

Pine Bunting, Emberiza leucocephalos

Cirl Bunting Emberiza cirlus

Tibetan Bunting, Emberiza koslowi

Rock Bunting, Emberiza cia

Godlewski's Bunting, Emberiza godlewskii

Meadow Bunting, Emberiza cioides

Rufous-backed Bunting, Emberiza jankowskii

Grey-hooded Bunting, Emberiza buchanani

Cinereous Bunting, Emberiza cineracea

Ortolan Bunting, Emberiza hortulana

Chestnut-breasted Bunting, Emberiza stewarti

Cretzschmar's Bunting, Emberiza caesia

House Bunting, Emberiza striolata

Lark-like Bunting, Emberiza impetuani

Cinnamon-breasted Bunting, Emberiza tahapisi

Socotra Bunting, Emberiza socotrana

Cape Bunting, Emberiza capensis

Ochre-rumped Bunting, Emberiza yessoensis

Tristram's Bunting, Emberiza tristrami

Chestnut-eared Bunting, Emberiza fucata

Little Bunting, Emberiza pusilla

Yellow-browed Bunting, Emberiza chrysophrys

Rustic Bunting, Emberiza rustica Yellow-throated Bunting, Emberiza elegans Yellow-breasted Bunting, Emberiza aureola Golden-breasted Bunting, Emberiza flaviventris Somali Bunting, Emberiza poliopleura Brown-rumped Bunting, Emberiza affinis Cabanis' Bunting, Emberiza cabanisi Chestnut Bunting, Emberiza rutila Black-headed Bunting, Emberiza melanocephala Red-headed Bunting, Emberiza bruniceps Yellow Bunting, Emberiza sulphurata Black-faced Bunting, Emberiza spodocephala Grey Bunting, Emberiza variabilis Pallas' Reed Bunting, Emberiza pallasi Reed Bunting, Emberiza schoeniclus Corn Bunting, Emberiza calandra

Snow Bunting, Plectrophenax nivalis
 McKay's Bunting, Plectrophenax hyperboreus

The Lark Bunting, Calamospiza melanocorys is an American sparrow.

The **Lapland Bunting**, *Calcarius lapponicus*, is also known as Lapland Longspur, and is considered under <u>longspurs</u>.

Geospizini

Darwin's Finches Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genera: Geospiza, Camarhynchus, Certhidea, Pinaroloxias

Darwin's finches (also known as the **Galápagos Finches**) are 13 or 14 different but closely related <u>species</u> of <u>finches</u> Charles Darwin collected on the Galápagos Islands during the Voyage of the Beagle. 13 reside on the Galápagos Islands and one on the Cocos Islands.

The birds are all about the same size (10–20 cm). The most important differences between species are in the size and shape of their beaks, and the beaks are highly adapted to different food sources. The birds are all brownish or black. Their behaviour differs, and they have different song melodies.

- 1 The finches and Darwin's theory
- 2 The finch species
- 3 Text from the Voyage of the Beagle
- 4 Reference

The finches and Darwin's theory

Although these birds were to play an important part in the inception of Darwin's theory of evolution by natural selection, at the time of the survey voyage of HMS Beagle Darwin had no idea of their significance. It is often assumed that when he saw the finches on the islands this inspired the theory, but this is *not* true: Darwin believed that they were not closely related when he encountered them; indeed he thought that most of these birds were not finches at all (Sulloway 1982).

Following his return from the voyage, Darwin presented the finches to the Geological Society of London at their meeting on 4 January 1837, along with other mammal and bird specimens he had collected. The bird specimens, including the finches, were given to John Gould, the famous English ornithologist, for identification. Gould set aside his paying work and at the next meeting on 10 January reported that birds from the Galápagos Islands which Darwin had thought were blackbirds, "gross-bills" and finches were in fact "a series of ground Finches which are so peculiar" as to form "an entirely new group, containing 12 species." This story made the newspapers. In March Darwin met Gould again, learning that his Galápagos "wren" was another species of finch and the mockingbirds he had labelled by island were separate species rather than just varieties, with relatives on the South American mainland. Darwin had not bothered to label his finches by island, but others on the expedition had taken more care. He now sought specimens collected by Captain Robert FitzRoy and crewmen. From them he was able to establish that the species were uniquely

related to individual islands, giving him the idea that somehow in this geographical isolation these different species could have been formed from a small number of common ancestors so that each was modified to suit "different ends".

The term *Darwin's Finches* was first applied in 1936, and popularized in 1947 by David Lack. Later, Peter and Rosemary Grant conducted extensive research in documenting evolutionary change among the finches. Beginning in 1973, the pair spent many years tracking thousands of individual finches across several generations, showing how individual species changed in response to environmental changes. The Beak of the Finch by Jonathan Weiner is a book about the finches, highlighting the Grants' research.

The finch species

- Genus Geospiza
 - o Large Cactus-Finch (Geospiza conirostris)

Sharp-beaked Ground-Finch (Geospiza difficilis)

Medium Ground-Finch (Geospiza fortis)

Small Ground-Finch (Geospiza fuliginosa)

Large Ground-Finch (Geospiza magnirostris)

Common Cactus-Finch (Geospiza scandens)

- Genus Camarhynchus
 - Vegetarian Finch (Camarhynchus crassirostris syn. Platyspiza crassirostris)

Large Tree-Finch (Camarhynchus psittacula)

Medium Tree-Finch (Camarhynchus pauper)

Small Tree-Finch (Camarhynchus parvulus)

Woodpecker Finch (Camarhynchus pallidus)

Mangrove Finch (Camarhynchus heliobates)

- Genus Certhidea
 - o Warbler Finch (Certhidea olivacea)
- Genus Pinaroloxias
 - o Cocos Island Finch (*Pinaroloxias inornata*)

Text from the Voyage of the Beagle

The passage in chapter 17 in *The Voyage of the Beagle* in which Darwin describes the finches and surmises that they may have shared a common ancestor is shown below. This was written in the months after Gould had revealed that the birds which Darwin had thought to be unrelated were different species of finches.

The remaining land-birds form a most singular group of finches, related to each other in the structure of their beaks, short tails, form of body and plumage: there are thirteen species, which Mr. Gould has divided into four subgroups. All these species are peculiar to this archipelago; and so is the whole group, with the exception of one species of the sub-group Cactornis, lately brought from Bow Island, in the Low Archipelago. Of Cactornis, the two

species may be often seen climbing about the flowers of the great cactus- trees; but all the other species of this group of finches, mingled together in flocks, feed on the dry and sterile ground of the lower districts. The males of all, or certainly of the greater number, are jet black; and the females (with perhaps one or two exceptions) are brown. The most curious fact is the perfect gradation in the size of the beaks in the different species of Geospiza, from one as large as that of a hawfinch to that of a chaffinch, and (if Mr. Gould is right in including his sub-group, Certhidea, in the main group) even to that of a warbler. The largest beak in the genus Geospiza is shown in Fig. 1, and the smallest in Fig. 3; but instead of there being only one intermediate species, with a beak of the size shown in Fig. 2, there are no less than six species with insensibly graduated beaks. The beak of the sub-group Certhidea, is shown in Fig. 4. The beak of Cactornis is somewhat like that of a starling, and that of the fourth subgroup, Camarhynchus, is slightly parrot-shaped. Seeing this gradation and diversity of structure in one small, intimately related group of birds, one might really fancy that from an original paucity of birds in this archipelago, one species had been taken and modified for different ends. In a like manner it might be fancied that a bird originally a buzzard, had been induced here to undertake the office of the carrion-feeding Polybori of the American continent.

"Mr. Gould" (above) refers to John Gould, the famous English ornithologist.

Reference

• Adrian Desmond and James Moore, *Darwin* (London: Michael Joseph, the Penguin Group, 1991). ISBN 0-7181-3430-3

Juncos

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genus: Junco

The **Juncos**, genus *Junco*, comprise three to eight species of small American sparrow.

- **Dark-eyed Junco** (*Junco hyemalis*). North America, in Canada and much of the United States. Five major races or groups of races, sometimes treated as species:
 - Slate-colored Junco (J. h. hyemalis). North America in taiga forests from Alaska to Newfoundland and south to the Appalachian Mountains, wintering further south.

White-winged Junco (J. h. aikeni). In the Black Hills of South Dakota and Wyoming, United States.

Oregon Junco (J. h. oreganus). The Pacific coast mountains from southeastern Alaska to California.

Pink-sided Junco (J. h. mearnsi). Northern Rocky Mountains from southern Alberta to Idaho and Wyoming.

Gray-headed Junco (J. h. caniceps). Southern Rocky Mountains from Colorado to central Arizona.

- **Guadalupe Junco** (*Junco insularis*, often treated as a race of *J. hyemalis*). Guadalupe Island off the west coast of Baja California, Mexico; now rare and endangered.
- **Yellow-eyed Junco** (*Junco phaeonotus*). High mountains of Mexico, Guatemala, southeastern Arizona and southwestern New Mexico. Three major races or groups of races:
 - Yellow-eyed Junco (Junco phaeonotus phaeonotus). High mountains of Mexico, southeastern Arizona and southwestern New Mexico.
 Guatemala Junco (Junco phaeonotus alticola). High mountains of Chiapas (southeast Mexico) and Guatemala.

Baird's Junco (Junco p. bairdi). High mountains of Baja California Sur

• Volcano Junco (Junco vulcani). High mountains of Costa Rica and Panama.

Their breeding habitat is coniferous or mixed forest areas throughout North America, ranging from subarctic taiga to high altitude mountain forests in Mexico and Central America. They usually nest in a well-hidden location on the ground or low in a shrub or tree. Northern birds migrate farther south; southern populations are permanent residents or altitudinal migrants, moving only a short distance downslope to avoid severe winter weather in the mountains.

These birds forage on the ground. In winter, they often forage in flocks. They mainly eat insects and seeds.

"Junco" is the Spanish word for rush (the plant), though these birds are seldom found in rushes.

Passerculus

Savannah Sparrow

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u> Genus: *Passerculus*

Species: *P. sandwichensis*

Binomial name: Passerculus sandwichensis (Gmelin, 1789) Subspecies: see article text

The **Savannah Sparrow**, *Passerculus sandwichensis*, is a small sparrow. It is the only member of the genus Passerculus (Bonaparte, 1838).

This <u>passerine bird</u> breeds in Alaska, Canada, northern, central and Pacific coastal USA, Mexico and Guatemala. The Pacific and Mexican breeders are resident, but other populations are migratory, wintering from the southern United States to northern South America. It is a very rare vagrant to western Europe.

Savannah Sparrow is a very variable species, with numerous races, several of which have been split as separate species at various times. The different forms vary principally in the darkness of the plumage, with Alaskan and interior races the palest, and southern Pacific coastal forms the darkest.

This species has a typically sparrow-like dark-streaked brown back, and whitish underparts with brown or blackish breast and flank streaking. It has yellowish or whitish crown and eyebrow stripes. The cheeks are brown and the throat white.

The breeding habitat is a wide variety of open habitats including grasslands and cultivation. Savannah Sparrows nest on the ground, laying 3-6 eggs in a cup nest sheltered by a clump of grass or other vegetation. They form flocks in the winter to migrate.

These birds forage on the ground or in low bushes. They mainly eat seeds, but insects are also eaten in the breeding season. The song is mixture of *chips* and trills. The flight call is a thin *seep*.

This bird was named after Savannah, Georgia where one of the first specimens of this bird was collected.

Although this bird is generally abundant across its range, some coastal populations depending on salt marsh habitat are declining.

Subspecies

Seventeen subspecies are currently recognized. One was formerly considered a distinct species. Four additional subspecies are not generally accepted. The subspecies are usually divided into several groups:

- The Savannah Sparrows proper (migratory):
 - o P. s. labradorius, breeds in Newfoundland, Labrador, and N Quebec
 - o P. s. oblitus, breeds in N Ontario and Manitoba

- o *P. s. savanna* (**Eastern Savannah Sparrow**), breeds in the NE USA and adjacent Canada (includes *P. s. mediogriseus*)
- o *P. s. sandwichensis* (**Aleutian Savannah Sparrow**), breeds on the Aleutian Islands and W Alaskan Peninsula
- P. s. anthinus, breeds in the remainder of Alaska, south and east to central British Columbia and north of the Great Plains to Manitoba
- o *P. s. brooksi* (**Dwarf Savannah Sparrow**), breeds in southernmost British Columbia to northernmost California
- o P. s. alaudinus, breeds in coastal northern and central California
- o P. s. nevadensis, breeds in the N Great Plains and the Great Basin
- P. s. brunnescens, breeds from central Mexico south to Guatemala (includes P. s. rufofuscus)

P. s. wetmorei is a doubtful subspecies which may breed in the mountains of Guatemala. It is known from only 5 specimens, collected June 11-17, 1897, in Huehuetenango Department.

- The **Ipswich Sparrow** (formerly considered a distinct species, some postbreeding dispersal)
 - o P. s. princeps, breeds almost exclusively on Sable Island
- The Large-billed Savannah Sparrows:
 - P. s. rostratus, which breed on the Gulf Coast of NE Baja California and NW Sonora (some post-breeding dispersal; has distinct mtDNA genotypes)
 - P. s. atratus, resident on the coast of central Sonora to central Sinaloa (resident)
- The Belding's Savannah Sparrows (resident):
 - o *P. s. beldingi*, resident on the Pacific Coast from Morro Bay, California, to El Rosario, Baja California (includes *P. s. bryanti*)
 - o P. s. anulus, resident around Sebastián Vizcaíno Bay, Baja California
 - o P. s. guttatus, resident around San Ignacio Lagoon
 - o P. s. magdalenae, resident around Magdalena Bay
 - The **San Benito Savannah Sparrow** (resident)
 - o P. s. sanctorum, Islas San Benitos

The Savannah Sparrows proper are very similar and migrant birds can not usually be related to a breeding population with certainty. The resident or partially migratory subspecies are well distinguishable by size and, particularly between groups, coloration. The Ipswich Sparrow is somewhat larger and paler in colour than other eastern Savannah Sparrows. The breast streaks are narrower and pale brown. Some birds overwinter on the island; others migrate south along the Atlantic coast, usually departing later and returning sooner than mainland birds. Some birds interbreed with *P. s. savanna* in Nova Scotia. These birds frequently raise three broods in a year. This bird was first observed in winter on the dunes near the town of Ipswich, Massachusetts.

References

- **BirdLife International** (2004). <u>Passerculus sandwichensis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern
- **Byers**, Clive; Olsson, Urban & Curson, Jon (1995): *Sparrows and Buntings: A Guide to the Sparrows and Buntings of North America and the World*. Houghton Mifflin, Boston. ISBN 0395738733

Passerella

Fox Sparrow

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Emberizidae

Genus: *Passerella* (Swainson, 1837) Species: *P. iliaca* Binomial name: *Passerella iliaca* (Merrem, 1786)

breeding ranges of the four Fox Sparrow groups

The **Fox Sparrow** (*Passerella iliaca*) is a large American sparrow. It is the only member of the genus *Passerella*, though some authors split the genus into four species (see below).

Adults are heavily spotted and streaked underneath. Plumage varies markedly from one subspecies group to another. More specific information regarding plumage is available in the accounts for the various subspecies groups.

Fox Sparrow's breeding habitat is wooded areas across northern Canada and the west coast of North America from Alaska to California. They nest either in a sheltered location on the ground or low in trees or shrubs.

These birds migrate south on the west coast and to the eastern United States.

These birds forage by scratching the ground, which makes them vulnerable to cats and other predators. They mainly eat seeds and insects, also some berries. Birds on the coast may also eat crustaceans.

Subspecies Groups

Red Fox Sparrow (iliaca group)
 Sooty Fox Sparrow (unalaschcensis group)
 Slate-colored Fox Sparrow (schistacea group)
 Thick-billed Fox Sparrow (megarhyncha group)

References

- BirdLife International (2004). <u>Passerella iliaca</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern
- Beadle, D. & Rising, J. D. (2002). *Sparrows of the United States and Canada*. San Diego: Academic Press.
- Sibley, D. A. (2000). *The Sibley Guide to Birds*. New York: Chanticleer Press, Inc.
- Zink, R. M. (1994). The Geography of Mitochondrial DNA Variation, Population Structure, hybridization, and Species Limits in the Fox Sparrow (Passerella iliaca). *Evolution* 48: 96-111.

• Zink, R. M. & Kessen, A. E. (1999). Species Limits in the Fox Sparrow. *Birding* 31: 508-517.

Pipilo

Towhees

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

Genus: *Pipilo* Vieillot, 1816Species: See text.

A **Towhee** is any one of a number of species of birds in the <u>genus</u> *Pipilo* within the family <u>Emberizidae</u> (which also includes the <u>buntings</u>, American sparrows, and <u>juncos</u>).

Towhees typically have longer tails than other emberizids. Most species have rather skulking habits, so they are not well known, though the Eastern Towhee *P. erythrophthalamus* is bolder as well as more colorful. This species, and some others, frequent urban parks and gardens.

There has been considerable debate over the taxonomy of the towhees in recent years. Two species complexes have been identified, the rufous-sided complex (involving *Pipilo erythrophthalmus*, *P. maculatus*, *P. socorroensis*, *P. ocai* and *P. chlorurus*), and the brown towhee complex (involving *Pipilo crissalis*, *P. fuscus*, *P. aberti* and *P. albicollis*). The distinction of species within these is uncertain and opinions have differed over the years. Modern authorities distinguish all four species in the brown towhee complex, though *P. fuscus* and *P. crissalis* were formerly treated as a single species. Hybrids are frequent between some of the species, particularly between the Mexican races of *P. maculatus* ("Olive-backed Towhee", *P. maculatus macronyx*) and *P. ocai*.

Species list:

- Green-tailed Towhee, Pipilo chlorurus Collared Towhee, Pipilo ocai
- "Rufous-sided Towhee"--old name, now split into two species:
- Eastern Towhee, Pipilo erythrophthalmus
- Spotted Towhee, Pipilo maculatus
 - o Olive-backed Towhee, Pipilo maculatus macronyx
- Socorro Towhee, *Pipilo socorroensis*
- "Brown Towhee"--old name, now split into two species:
- California Towhee, Pipilo crissalis Canyon Towhee, Pipilo fuscus
- Abert's Towhee, Pipilo aberti
 White-throated Towhee, Pipilo albicollis

References

• Zink, R. M., & Dittmann, D. L. (1991). *Evolution of brown towhees - mitochondrial-DNA evidence*. Condor **93**: 98-105.

Pooecetes

Vesper Sparrow

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: Emberizidae
Genus: *Pooecetes*Species: *P. gramineus*

Binomial name: *Pooecetes gramineus* (Gmelin, 1789)

The **Vesper Sparrow**, *Pooecetes gramineus*, is a medium-sized sparrow. It is the only member of the genus Pooecetes (Baird 1858).

Adults have light brown upperparts and light underparts, both with darker streaking. They have a white eye ring and a long dark brown tail which shows white outer feathers in flight.

Their breeding habitat is open grassy areas across most of North America. The nest is an open cup on the ground under a clump of grass.

These birds migrate to the southern and central United States and Mexico.

These birds forage on the ground, mainly eating insects and seeds. Outside of the nesting season, they often feed in small flocks.

The male sings from a higher perch, such as a shrub or fencepost, to indicate his ownership of the nesting territory. The musical song begins with two pairs of repeated whistled notes and ends in a series of trills, somewhat similar to that of the Song Sparrow.

This bird's numbers are declining in the eastern parts of its range due to habitat loss.

References

 BirdLife International (2004). <u>Pooecetes gramineus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Seedeater

Emberizidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Emberizidae</u>

genera: Sporophila, Oryzoborus, Amaurospiza, Dolospingus, Catamenia

The **seedeaters** are a group of <u>passerine birds</u> in the <u>bunting</u> family Emberizidae. They are seed-eating Central and South American birds with a distinctively conical bill.

Species in taxonomic order

The **seedeaters**

Buffy-fronted Seedeater, Sporophila frontalis Temminck's Seedeater, Sporophila falcirostris Slate-colored Seedeater, Sporophila schistacea Plumbeous Seedeater, Sporophila plumbea Caqueta Seedeater, Sporophila murallae Gray Seedeater, Sporophila intermedia Wing-barred Seedeater, Sporophila americana Variable Seedeater, Sporophila corvina White-collared Seedeater, Sporophila torqueola Rusty-collared Seedeater, Sporophila collaris Lesson's Seedeater, Sporophila bouvronides Lined Seedeater, Sporophila lineola Black-and-white Seedeater, Sporophila luctuosa Yellow-bellied Seedeater, Sporophila nigricollis Dubois' Seedeater, Sporophila ardesiaca Hooded Seedeater, Sporophila melanops Double-collared Seedeater, Sporophila caerulescens White-throated Seedeater, Sporophila albogularis Drab Seedeater, Sporophila simplex White-bellied Seedeater, Sporophila leucoptera Parrot-billed Seedeater, Sporophila peruviana Black-and-tawny Seedeater, Sporophila nigrorufa Capped Seedeater, Sporophila bouvreuil Ruddy-breasted Seedeater, Sporophila minuta Tawny-bellied Seedeater, Sporophila hypoxantha Dark-throated Seedeater, Sporophila ruficollis Marsh Seedeater, Sporophila palustris Chestnut-bellied Seedeater, Sporophila castaneiventris

Gray-and-chestnut Seedeater, Sporophila hypochroma Chestnut Seedeater, Sporophila cinnamomea Narosky's Seedeater, Sporophila zelichi Black-bellied Seedeater, Sporophila melanogaster Chestnut-throated Seedeater, Sporophila telasco Tumaco Seedeater, Sporophila insulata Nicaraguan Seed Finch, Oryzoborus nuttingi Large-billed Seed Finch, Oryzoborus crassirostris Black-billed Seed Finch, Oryzoborus atrirostris Great-billed Seed Finch, Oryzoborus maximiliani Chestnut-bellied Seed Finch, Oryzoborus angolensis Thick-billed Seed Finch, Oryzoborus funereus Blackish-blue Seedeater, Amaurospiza moesta Blue Seedeater, Amaurospiza concolor Slate-blue Seedeater, Amaurospiza relicta Carrizal Seedeater, Amaurospiza carrizalensis White-naped Seedeater, Dolospingus fringilloides Band-tailed Seedeater, Catamenia analis Plain-colored Seedeater, Catamenia inornata Paramo Seedeater, Catamenia homochroa

Spizella

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Emberizidae</u>
Genus: *Spizella*Species: See text.

The genus *Spizella* (Bonaparte, 1832) is a group of American sparrows in the family *Emberizidae*.

These birds are relatively small and slim, with short bills, round heads and long wings. They are usually found in semi-open areas. Outside of the nesting season, they often forage in small mixed flocks.

The full list of species is:

American Tree Sparrow, Spizella arborea Chipping Sparrow, Spizella passerina Clay-colored Sparrow, Spizella pallida Brewer's Sparrow, Spizella breweri Field Sparrow, Spizella pusilla Worthen's Sparrow, Spizella wortheni Black-chinned Sparrow, Spizella atrogularis

Zonotrichia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Emberizidae

Genus: **Zonotrichia** Swainson, 1832species: *Z. leucophrys, Z. albicollis, Z. atricapilla, Z. capensis,*

Z. querula

Zonotrichia is a small genus of American sparrows. Four of the species are North American, but the Rufous-collared Sparrow breeds in highlands from the extreme southeast of Mexico to Tierra del Fuego, and on Hispaniola.

The species are

 White-crowned Sparrow, Zonotrichia leucophrys White-throated Sparrow, Zonotrichia albicollis Golden-crowned Sparrow, Zonotrichia atricapilla Rufous-collared Sparrow, Zonotrichia capensis Harris' Sparrow, Zonotrichia querula

These birds have brown backs streaked with black, and distinctive head markings. Their cup nests, built by the female, are of plant material lined with fine grasses and constructed on the ground, low in a tree or bush, or in a niche in a wall.

The female lays brown-blotched greenish-blue or greenish white eggs, which she incubates for 12-14 days. The male helps in feeding the chicks.

Zonotrichia sparrows feed on the ground on seeds, fallen grain, insects and spiders.

References

- Byers, Olsson and Curson, *Buntings and Sparrows* ISBN1-873403-19-4
- Stiles and Skutch, A guide to the birds of Costa Rica, ISBN 0-0814-9600-4

Estrildidae

Estrildid Finches Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Estrildidae Bonaparte, 1850Genera: Many: see text

The **estrildid finches** are small <u>passerine birds</u> of the Old World tropics and Australasia. They can be classified as the <u>family</u> **Estrildidae** (weaver-finch) or as a sub-group within the family <u>Passeridae</u>, which also includes the true sparrows.

They are gregarious and often colonial seed-eaters with short thick but pointed bills. They are all similar in structure and habits, but have a wide variation in plumage colours and pattern.

All the estrildids build large domed nests and lay 5-10 white eggs. Many species build roost nests Some of the fire-finches and pytilias are hosts to the brood parasitic <u>indigobirds</u> and <u>whydahs</u> respectively.

Most are sensitive to cold and require a warm, usually tropical, habitat, although a few have become adapted to the cooler climates of southern Australia.

Species list

- Antpeckers, genus Parmoptila
 - Jameson's Antpecker, Parmoptila rubrifrons
 Woodhouse's Antpecker, Parmoptila woodhousei
- Negrofinches, genus *Nigrita*
 - White-breasted Negrofinch, Nigrita fusconota Chestnut-breasted Negrofinch, Nigrita bicolor Pale-fronted Negrofinch, Nigrita luteifrons Grey-headed Negrofinch, Nigrita canicapilla
- Olivebacks, genus Nesocharis
 - White-collared Oliveback, Nesocharis ansorgei
 Fernando Po Oliveback, Nesocharis shelleyi
 Grey-headed Oliveback, Nesocharis capistrata
- Pytilias, genus Pytilia
 - Orange-winged Pytilia, Pytilia afra Red-winged Pytilia, Pytilia phoenicoptera Green-winged Pytilia, Pytilia melba Red-faced Pytilia, Pytilia hypogrammica
- Green-backed Twinspot, Mandingoa nitidula
- Crimson-wings, genus Cryptospiza
 - Red-faced Crimson-wing, Cryptospiza reichenovii Abyssinian Crimson-wing, Cryptospiza salvadorii

- Dusky Crimson-wing, Cryptospiza jacksoni Shelley's Crimson-wing, Cryptospiza shelleyi
- Seedcrackers, genus Pyrenestes
 - Crimson Seedcracker, Pyrenestes sanguineus Black-bellied Seedcracker, Pyrenestes ostrinus Lesser Seedcracker, Pyrenestes minor
- Bluebills, genus *Spermophaga*
 - Grant's Bluebill, Spermophaga poliogenys
 Western Bluebill, Spermophaga haematina
 Red-headed Bluebill, Spermophaga ruficapilla
- Twinspots, genera Clytospiza, Hypargos, Euschistospiza
 - Brown Twinspot, Clytospiza monteiri
 Peters' Twinspot, Hypargos niveoguttatus
 Pink-throated Twinspot, Hypargos margaritatus
 Dybowski's Twinspot, Euschistospiza dybowskii
 Dusky Twinspot, Euschistospiza cinereovinacea
- Firefinches, genus *Lagonosticta*
 - Bar-breasted Firefinch, Lagonosticta rufopicta
 Brown Firefinch, Lagonosticta nitidula
 Red-billed Firefinch, Lagonosticta senegala
 Black-bellied Firefinch, Lagonosticta rara
 African Firefinch, Lagonosticta rubricata
 Pale-billed Firefinch, Lagonosticta landanae
 Jameson's Firefinch, Lagonosticta rhodopareia
 Mali Firefinch, Lagonosticta virata
 Rock Firefinch, Lagonosticta sanguinodorsalis
 Black-faced Firefinch, Lagonosticta larvata
 Reichenow's Firefinch, Lagonosticta umbrinodorsalis
- Cordon-bleus, genus *Uraeginthus*
 - Blue-breasted Cordon-bleu, Uraeginthus angolensis Red-cheeked Cordon-bleu, Uraeginthus bengalus Blue-capped Cordon-bleu, Uraeginthus cyanocephalus Purple Grenadier, Uraeginthus ianthinogaster Violet-eared Waxbill, Uraeginthus granatina
- Waxbills, genus *Estrilda*
 - Lavender Waxbill, Estrilda caerulescens Black-tailed Waxbill, Estrilda perreini Cinderella Waxbill, Estrilda thomensis Yellow-bellied Waxbill, Estrilda quartinia Swee Waxbill, Estrilda melanotis Fawn-breasted Waxbill, Estrilda paludicola Anambra Waxbill, Estrilda poliopareia Orange-cheeked Waxbill, Estrilda melpoda Arabian Waxbill, Estrilda rufibarba

Crimson-rumped Waxbill, Estrilda rhodopyga Black-rumped Waxbill, Estrilda troglodytes Common Waxbill, Estrilda astrild Black-lored Waxbill, Estrilda nigriloris Black-crowned Waxbill, Estrilda nonnula Black-headed Waxbill, Estrilda atricapilla Black-cheeked Waxbill, Estrilda erythronotos Red-rumped Waxbill, Estrilda charmosyna

- Avadavats, genus Amandava
 - Red Avadavat, Amandava amandava Green Avadavat, Amandava formosa Zebra Waxbill, Amandava subflava
- Quailfinches, genus Ortygospiza
 - Red-billed Quailfinch, Ortygospiza gabonensis
 African Quailfinch, Ortygospiza atricollis
 Locustfinch, Ortygospiza locustella
- Firetails, genera Emblema, Stagonopleura, Oreostruthus, Neochmia
 - Painted Firetail, Emblema pictum
 Beautiful Firetail, Stagonopleura bella
 Red-eared Firetail, Stagonopleura oculata
 Diamond Firetail, Stagonopleura guttata
 Mountain Firetail, Oreostruthus fuliginosus
 Red-browed Firetail, Neochmia temporalis
 Crimson Finch, Neochmia phaeton
 Star Finch, Neochmia ruficauda
 Plum-headed Finch, Neochmia modesta
- Zebra finches, genera Taeniopygia, Poephila
 - Zebra Finch, Taeniopygia guttata
 Chestnut-eared Finch, Taeniopygia castanotis
 Double-barred Finch, Taeniopygia bichenovii
 Masked Finch, Poephila personata
 Long-tailed Finch, Poephila acuticauda
 Black-throated Finch, Poephila cincta
- Parrotfinches, genus Ervthrura
 - Tawny-breasted Parrotfinch, Erythrura hyperythra Pin-tailed Parrotfinch, Erythrura prasina Green-faced Parrotfinch, Erythrura viridifacies Tricolored Parrotfinch, Erythrura tricolor Blue-faced Parrotfinch, Erythrura trichroa Red-eared Parrotfinch, Erythrura coloria Papuan Parrotfinch, Erythrura papuana Red-throated Parrotfinch, Erythrura psittacea Fiji Parrotfinch, Erythrura pealii Red-headed Parrotfinch, Erythrura cyaneovirens

Royal Parrotfinch, Erythrura regia Pink-billed Parrotfinch, Erythrura kleinschmidti

- Gouldian Finch, Chloebia gouldiae
- Munias and Silverbills, genus Lonchura
 - Madagascar Munia, Lonchura nana African Silverbill, Lonchura cantans Indian Silverbill, Lonchura malabarica Grey-headed Silverbill, Lonchura griseicapilla Bronze Mannikin, Lonchura cucullata Black-and-white Mannikin, Lonchura bicolor Brown-backed Mannikin, Lonchura nigriceps Magpie Mannikin, Lonchura fringilloides White-rumped Munia, Lonchura striata Javan Munia, Lonchura leucogastroides Dusky Munia, Lonchura fuscans Black-faced Munia, Lonchura molucca Black-throated Munia, Lonchura kelaarti Scaly-breasted Munia, Lonchura punctulata White-bellied Munia, Lonchura leucogastra Streak-headed Munia. Lonchura tristissima Black-headed Munia, Lonchura malacca Chestnut Munia, Lonchura atricapilla White-capped Munia, Lonchura ferruginosa Cream-bellied Munia, Lonchura pallidiventer Five-colored Munia, Lonchura quinticolor White-headed Munia, Lonchura maja Pale-headed Munia, Lonchura pallida Grand Munia, Lonchura grandis Grey-banded Munia, Lonchura vana Grey-crowned Munia, Lonchura nevermanni Hooded Munia, Lonchura spectabilis Grey-headed Munia, Lonchura caniceps Mottled Munia. Lonchura hunsteini New Ireland Munia, Lonchura forbesi New Hanover Munia, Lonchura nigerrima Yellow-rumped Munia, Lonchura flaviprymna Chestnut-breasted Munia, Lonchura castaneothorax Black Munia, Lonchura stygia Black-breasted Munia, Lonchura teerinki Snow Mountain Munia, Lonchura montana Alpine Munia, Lonchura monticola Bismarck Munia, Lonchura melaena
- Pictorella Munia, Heteromunia pectoralis
- Java Sparrows, genus Padda

- Java Sparrow, Padda oryzivora
 Timor Dusky Sparrow, Padda fuscata
- Cut-throats, genus *Amadina*
 - Cut-throat finch, Amadina fasciata
 Red-headed Finch Amadina erythrocephala

Padda

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Estrildidae</u>
Genus: *Padda*Species: See text.

Padda is a genus of <u>estrildid finches</u> restricted to islands in southern Indonesia.

These are small, plump, gregarious <u>passerine</u> <u>birds</u>. They frequent open grassland and cultivation and feed mainly on grain and other seeds, including rice.

Both species have white-cheeked black heads and thick bills. The sexes are similar, but immature birds have brown upperparts and paler brown underparts and cheeks.

The call of both species is a *chip*, and the song is a raid series of call notes *chipchipchipchipchipchipchip*.

The species are

- Java Sparrow, or Java Finch Padda oryzivora
- Timor Dusky Sparrow, Padda fuscata

Java Sparrow is a popular cagebird, and has been introduced in a large number of other countries. Both *Padda* species are threatened by trapping for the cage bird trade.

Reference

Finches and Sparrows by Clement, Harris and Davis, ISBN 0-7136-8017-2

Fringillidae

True Finches

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Fringillidae Vigors, 1825Genera: Many, see text

Finches are <u>passerine birds</u>, often seed-eating, found chiefly in the northern hemisphere and Africa. One subfamily is endemic to the Neotropics. The taxonomic structure of the true finch family, **Fringillidae**, is somewhat disputed, with some including the Hawaiian honeycreepers as another subfamily (Drepanidinae) and/or uniting the cardueline and fringilline finches as tribes (Carduelini and Fringillini) in one subfamily; the euphonious finches were thought to be tanagers due to general similarity in appearance and mode of life until their real affinities were realized; the buntings and American sparrows were formerly considered another subfamily (Emberizinae). Przewalski's "Rosefinch" (Urocynchramus pylzowi) is now classified as a distinct, monotypic family with no particularly close relatives.

"Classic" or true finches are small to moderately large and have a strong, stubby beaks, which in some species can be quite large. All have 12 tail feathers and 9 primaries. They have a bouncing flight, alternating bouts of flapping with gliding on closed wings, and most sing well. Their nests are basket-shaped and built in trees.

There are many birds in other families which are often called finches. These include many species in the very similar-looking Estrildids or waxbill family, which occur in the Old World tropics and Australia. Several groups of the Emberizidae family (buntings and American sparrows) are also named as finches, including the Darwin's finches of the Galapagos islands, which provided evidence of Darwin's theory of evolution.

Systematics

The systematics of the cardueline finches are contentious. The layout presented here follows the molecular studies of Marten & Johnson (1986) and Arnaiz-Villena *et al.* (1998, 2001), and takes into account the traditional splitting of the genus *Carduelis*. The exact position of several genera in the cardueline sequence is tentative.

FAMILY FRINGILLIDAE

- Subfamily **Fringillinae Fringilline** finches; contains only three species, which feed their young on insects rather than seeds.
 - o Genus Fringilla Bramblings and chaffinches
 - Chaffinch (Fringilla coelebs)
 Blue Chaffinch (Fringilla teydea)
 Brambling (Fringilla montifringilla)
- Subfamily **Carduelinae Cardueline** finches; a much larger group that contains several genera which feed their young on seeds.

Genus Eophona - Oriental grosbeaks

Genus Mycerobas - Mycerobas Grosbeaks

Genus Pinicola - Pine grosbeak

Genus Pyrrhula - Bullfinches

Genus Leucosticte - Mountain finches

Genus N.N. - Dark-breasted Rosefinch, "Carpodacus" nipalensis (possibly belongs into Fringillinae)

Genus Carpodacus - Rosefinches (may be 2 or 3 genera; probably includes

Haematospiza and possibly also Uragus)

Genus Haematospiza - Scarlet Finch

Genus Uragus - Streaked rosefinches

Genus Serinus - Canaries, seedeaters, serins and African siskins

Genus Carduelis sensu lato

 (Sub)Genus Carduelis sensu stricto - Linnets, goldfinches, twite and cardueline siskins.

(Sub)Genus Chloris - greenfinches and desert finch

(Sub)Genus Acanthis - redpolls

(Sub)Genus Loxia - Crossbills

Genus Rhodopechys - Trumpeter Finch and relatives

Genus Coccothraustes - Hawfinch, Evening Grosbeak

Genus Pyrrhoplectes - Gold-naped Finch

Genus Chaunoproctus - Bonin Grosbeak (extinct)

Genus Callacanthis - Spectacled Finch

Genus Neospiza - Sao Tomé Grosbeak

Genus Linurgus - Oriole Finch

Genus Rhynchostruthus - Golden-winged Grosbeak

- Subfamily **Euphoniinae Euphonious** finches; endemic to the Neotropics; formerly treated in Thraupidae.
 - o Genus *Euphonia*, the <u>euphonias</u>
 - Genus *Chlorophonia*, the chlorophonias

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Carduelis

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: Carduelis Brisson, 1760Species: Many, see textSynonyms: Acanthis, Linaria, Chloris,

(but see article text)

The genus *Carduelis*¹¹ is a large group of <u>birds</u> in the <u>finch family Fringillidae</u>. It includes the greenfinches, redpolls, goldfinches, linnets, the twite and the non-African siskins. No species of this group ranges far into Africa (where they are replaced by the related genus Serinus), and the centers of evolution were probably Eurasia and North America, with a secondary radiation in the Neotropics.

The interrelationship of these species is complex and contentious. It is fairly certain that the <u>crossbills</u> are actually derived from proto-redpoll ancestors quite recently, and it was suggested that they should be placed into this genus. On the other hand, the greenfinches (which are apparently the most distinct group) and the redpolls have themselves been separated in distinct genera which might be the best way to express both the actual evolutionary relationships and the evolutionarily significant distinctiveness of the crossbills. The molecular data indicates that the major lineages split in the Late Miocene (Tortonian, roughly 9-7 mya), but it is unable to suggest any one robust arrangement either of the major groups among each other or among the lineages of Carduelis sensu stricto. As only the mitochondrial cytochrome b sequence has hitherto been studied (Arnaiz-Villena *et al.*, 1998), more data is clearly necessary.

Here, the species of *Carduelis sensu lato* are listed according to current knowledge. The genus *Carduelis sensu stricto* could conceivably be split further, and in this case only the European Goldfinch and the Citril and Corsican Finch (newly placed in his genus) would remain in *Carduelis*.

- 1 Greenfinches
- 2 Redpolls
- <u>3 Cross</u>bills
- 4 Carduelis sensu stricto
 - o 4.1 Carduelis group
 - o 4.2 Linaria group
 - 4.3 Neotropical siskins
- <u>5 References</u>
 - o 5.1 Footnotes

Greenfinches

(Sub)Genus Chloris

Black-headed Greenfinch, Carduelis ambigua
 European Greenfinch, Carduelis chloris
 Oriental Greenfinch, Carduelis sinica
 Vietnamese Greenfinch, Carduelis monguilloti
 Yellow-breasted Greenfinch, Carduelis spinoides
 The Desert Finch, Carduelis obsoletus, has recently turned out be a primitive form in this group (Zamora et al., 2006).

Redpolls

(Sub)Genus Acanthis

 Arctic Redpoll, or Hoary Redpoll, Carduelis hornemanni Common Redpoll, or Mealy Redpoll, Carduelis flammea Lesser Redpoll, Carduelis cabaret

Crossbills

(Sub)Genus Loxia

• 3 - 5+ species

Carduelis sensu stricto

Carduelis group

 European Goldfinch, Carduelis carduelis Citril Finch, Serinus citrinella Corsican Finch, Serinus corsicana

Linaria group

Linnets and Twite

 Eurasian Linnet, Carduelis cannabina Warsangli Linnet, Carduelis johannis Yemen Linnet, Carduelis yemenensis Twite, Carduelis flavirostris

American goldfinches and Eurasian siskin

American Goldfinch, Carduelis tristis
 Lesser Goldfinch, Carduelis psaltria
 Lawrence's Goldfinch, Carduelis lawrencei
 Eurasian Siskin, or Spruce Siskin, Carduelis spinus
 Pine Siskin, Carduelis pinus

Neotropical siskins

Andean Siskin, Carduelis spinescens
 Antillean Siskin, Carduelis dominicensis
 Black Siskin, Carduelis atrata
 Black-capped Siskin, Carduelis atriceps
 Black-chinned Siskin, Carduelis barbata
 Black-headed Siskin, Carduelis notata
 Hooded Siskin, Carduelis magellanica
 Olivaceous Siskin, Carduelis olivacea
 Red Siskin, Carduelis cucullata
 Saffron Siskin, Carduelis siemiradzkii
 Thick-billed Siskin, Carduelis crassirostris
 Yellow-bellied Siskin, Carduelis yarrellii
 Yellow-rumped Siskin, Carduelis uropygialis

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Footnotes

1. \triangle From Latin *carduus*, "thistle". Thistle seeds are a favorite food of many species. Home | $\underline{\text{Up}}$

Carpodacus

Rosefinches

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Subfamily: <u>Carduelinae</u>
Genera: *see article text*

The **rosefinches** are <u>birds</u> in the <u>finch</u> family <u>Fringillidae</u>. Most *Carpodacus* <u>species</u> are so named, but three common North American ones are not. As the names imply, various shades of red are the characteristic plumage colours of this group.

Rose finches are found throughout the northern hemisphere, but the greatest diversity is in Asia. Most species are traditionally placed in the large genus *Carpodacus*.

Systematics

Comparison of mtDNA cytochrome b sequences strongly indicates that the genus Carpodacus is in need of a thorough revision (Arnaiz-Villena et al., 2001). For example, the Dark-breasted Rosefinch, a species with very distinctive appearance, is also very distinct genetically and definitely belongs into another genus, which may even be placed in the chaffinch-brambling subfamily Fringillinae; all other species belong to the cardueline finch subfamily (Carduelinae).

There have been a number of rosefinch radiations. First to split off were the ancestors of the North American species, the Common Rosefinch, and the Scarlet Finch (the later is traditionally placed in its own genus, but this is almost certainly incorrect). These diverged in the Middle Miocene (about 14-12 mya) from the proto-rosefinches and should constitute the genus *Carpodacus* proper, which might even be limited to the European species and probably the Scarlet Finch, with the North American forms becoming a distinct genus.

The Long-tailed Rosefinch, traditionally also placed in a monotypic genus, is closely allied to the Streaked Rosefinch and possibly other species; they diverged around 11-10 mya and either might be placed in *Carpodacus* or united in *Uragus*. If the latter is adopted, the bulk of the Asian species would also have to be separated as yet another distinct genus.

Przewalski's "Rosefinch" (Urocynchramus pylzowi) has been determined to be not a rosefinch, and indeed not a true finch at all, but to constitute a monotypic family Urocynchramidae.

Dark-breasted Rosefinch

- o Dark-breasted Rosefinch, "Carpodacus" nipalensis
- Carpodacus proper
 - o Common Rosefinch, Carpodacus erythrinus
- **Scarlet Finch** (traditionally separated as *Haematospiza*)
 - o Scarlet Finch, Carpodacus sipahi
- American rosefinches (possibly a distinct genus)

- Cassin's Finch, Carpodacus cassinii
 Purple Finch, Carpodacus purpureus
 House Finch, Carpodacus mexicanus
 - **Streaked rosefinches** (possibly genus *Uragus*)
- Streaked Rosefinch, Carpodacus rubicilloides Long-tailed Rosefinch, Carpodacus sibiricus
- **Asian rosefinches** (possibly a distinct genus)
 - Beautiful Rosefinch, Carpodacus pulcherrimus
 White-browed Rosefinch, Carpodacus thura
 Pallas' Rosefinch, Carpodacus roseus
 Three-banded Rosefinch, Carpodacus trifasciatus
- **Unassigned** (most probably belong to Asian group)
 - Blanford's Rosefinch, Carpodacus rubescens
 Pink-rumped Rosefinch, Carpodacus eos
 Pink-browed Rosefinch, Carpodacus rhodochrous
 Vinaceous Rosefinch, Carpodacus vinaceus
 Dark-rumped Rosefinch, Carpodacus edwardsii
 Pale Rosefinch, Carpodacus synoicus
 Spot-winged Rosefinch, Carpodacus rhodopeplus
 Tibetan Rosefinch, Carpodacus roborowskii
 Red-mantled Rosefinch, Carpodacus rhodochlamys
 Great Rosefinch, Carpodacus rubicilla
 Red-fronted Rosefinch, Carpodacus puniceus

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Coccothraustes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: *Coccothraustes* Brisson, 1760Species: See text.

Coccothraustes is a genus of large <u>finches</u> containing three species:

Hawfinch Coccothraustes coccothraustes
 Evening Grosbeak Coccothraustes vespertinus
 Hooded Grosbeak Coccothraustes abeillei

These are large, bulky, short-tailed species, around 18 cm in length, with thick powerful bills for cracking the stones of fruit. They are hardy species, and even the two northern species usually only <u>migrate</u> from the coldest parts of their range.

The Evening Grosbeak of North America and the Hooded Grosbeak of Central America are closely related, and in the past were classified in the genus Hesperiphona, but are now usually placed in the same genus as the Eurasian Hawfinch.

Eophona

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: *Eophona* Gould, 1851Species: See text.

Eophona is a genus of <u>finches</u> containing two species:

• Yellow-billed Grosbeak *Eophona migratoria*

• Japanese Grosbeak Eophona personata

Euphoniinae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Subfamily: **Euphoniinae**

Genera: Euphonia, Chlorophonia

Euphoniinae is a subfamily of finches endemic to the Neotropics. It contains two genera,

Euphonia and Chlorophonia.

Species list

SUBFAMILY EUPHONIINAE

• **Genus** *Euphonia*: the <u>euphonias</u>

Iamaican Euphonia, Euphonia jamaica Plumbeous Euphonia, Euphonia plumbea Scrub Euphonia, Euphonia affinis Purple-throated Euphonia, Euphonia chlorotica Yellow-crowned Euphonia, Euphonia luteicapilla Trinidad Euphonia, Euphonia trinitatis Velvet-fronted Euphonia, Euphonia concinna Orange-crowned Euphonia, Euphonia saturata Finsch's Euphonia, Euphonia finschi Violaceous Euphonia, Euphonia violacea Thick-billed Euphonia, Euphonia laniirostris Yellow-throated Euphonia, Euphonia hirundinacea Green-chinned Euphonia, Euphonia chalybea Elegant Euphonia, Euphonia elegantissima Antillean Euphonia, Euphonia musica Golden-rumped Euphonia, Euphonia cyanocephala Spot-crowned Euphonia, Euphonia imitans Fulvous-vented Euphonia, Euphonia fulvicrissa Olive-backed Euphonia, Euphonia gouldi Bronze-green Euphonia, Euphonia mesochrysa White-lored Euphonia, Euphonia chrysopasta White-vented Euphonia, Euphonia minuta Tawny-capped Euphonia, Euphonia anneae Orange-bellied Euphonia, Euphonia xanthogaster Rufous-bellied Euphonia, Euphonia rufiventris Golden-sided Euphonia, Euphonia cayennensis Chestnut-bellied Euphonia, Euphonia pectoralis

- **Genus** *Chlorophonia*: the <u>chlorophonias</u>
- Yellow-collared Chlorophonia, Chlorophonia flavirostris
 Blue-naped Chlorophonia, Chlorophonia cyanea
 Chestnut-breasted Chlorophonia, Chlorophonia pyrrhophrys
 Blue-crowned Chlorophonia, Chlorophonia occipitalis
 Golden-browed Chlorophonia, Chlorophonia callophrys

Chlorophonia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Genus: *Chlorophonia*

Chlorophonias are members of the genus *Chlorophonia*, a group of <u>finches</u> endemic to the Neotropics. They share the subfamily <u>Euphoniinae</u> with the <u>euphonias</u>.

Chlorophonias are small, mostly bright green birds that inhabit cloudforest habitats from Mexico to South America.

Species list

- Genus *Chlorophonia*, the **chlorophonias**
 - Yellow-collared Chlorophonia, Chlorophonia flavirostris
 Blue-naped Chlorophonia, Chlorophonia cyanea
 Chestnut-breasted Chlorophonia, Chlorophonia pyrrhophrys
 Blue-crowned Chlorophonia, Chlorophonia occipitalis
 Golden-browed Chlorophonia, Chlorophonia callophrys

Euphonia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Genus: *Euphonia*Species: See text.

Euphonias are members of the genus *Euphonia*, a group of Neotropical birds in the <u>finch</u> family. They share the subfamily <u>Euphoniinae</u> with the <u>chlorophonias</u>. *Euphonia* contains close to 27 species.

Most euphonias dark mettalic blue above and bright yellow below. Many have contrasting pale foreheads and white undertails. Some have light blue patches on the head and/or orangish underparts.

Euphonias were once considered members of the tanager family, Thraupidae.

Species list

- Genus *Euphonia*, the **euphonias**
 - o Iamaican Euphonia, Euphonia jamaica Plumbeous Euphonia, Euphonia plumbea Scrub Euphonia, Euphonia affinis Purple-throated Euphonia, Euphonia chlorotica Yellow-crowned Euphonia, Euphonia luteicapilla Trinidad Euphonia, Euphonia trinitatis Velvet-fronted Euphonia, Euphonia concinna Orange-crowned Euphonia, Euphonia saturata Finsch's Euphonia, Euphonia finschi Violaceous Euphonia, Euphonia violacea Thick-billed Euphonia, Euphonia laniirostris Yellow-throated Euphonia, Euphonia hirundinacea Green-chinned Euphonia, Euphonia chalybea Elegant Euphonia, Euphonia elegantissima Antillean Euphonia, Euphonia musica Golden-rumped Euphonia, Euphonia cyanocephala Spot-crowned Euphonia, Euphonia imitans Fulvous-vented Euphonia, Euphonia fulvicrissa Olive-backed Euphonia, Euphonia gouldi Bronze-green Euphonia, Euphonia mesochrysa White-lored Euphonia, Euphonia chrysopasta White-vented Euphonia, Euphonia minuta Tawny-capped Euphonia, Euphonia anneae Orange-bellied Euphonia, Euphonia xanthogaster

Rufous-bellied Euphonia, Euphonia rufiventris Golden-sided Euphonia, Euphonia cayennensis Chestnut-bellied Euphonia, Euphonia pectoralis

Fringilla

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: Fringilla Linnaeus, 1758 Species: Three; see text

The genus *Fringilla* is a small group of <u>finches</u>, which are the only species in the subfamily *Fringillinae* The three species, which feed their young on insects rather than seeds, are:

Chaffinch Fringilla coelebs
 Blue Chaffinch Fringilla teydea
 Brambling Fringilla montifringilla

The other much larger subfamily is the Cardueline finches in the subfamily *Carduelinae* which feed their young on seeds.

The *Fringilla* finches are seed-eating <u>passerine</u> <u>birds</u> restricted to the Old World. These <u>birds</u> have a bouncing flight with alternating bouts of flapping and gliding on closed wings, but feed largely on the ground.

Leucosticte

Mountain finches

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Subfamily: <u>Carduelinae</u>

Genus: Leucosticte Swainson, 1832Species: See text.

The **mountain finches** are <u>birds</u> in the genus *Leucosticte* from the true <u>finch</u> family Fringillidae. This genus also includes the **rosy finches** named from their pinkish plumage. They are apparently closely related to the bullfinches (Marten & Johnson, 1986) and to the Pine Grosbeak (Arnaiz-Villena et al., 2001), diverging from them not quite a dozen mya, at the end of the Middle Miocene.

These birds are typically found in barren mountainous regions. Many species eat more insect material than other finches.

The full list of species is:

 Plain Mountain Finch, Leucosticte nemoricola Black-headed Mountain Finch, Leucosticte brandti Tawny-headed Mountain Finch, Leucosticte sillemi Asian Rosy Finch, Leucosticte arctoa Gray-crowned Rosy Finch, Leucosticte tephrocotis Black Rosy Finch, Leucosticte atrata Brown-capped Rosy Finch, Leucosticte australis

References

- Arnaiz-Villena, A.; Guillén, J.; Ruiz-del-Valle, V.; Lowy, E.; Zamora, J.; Varela, P.; Stefani, D. & Allende, L. M. (2001): Phylogeography of crossbills, bullfinches, grosbeaks, and rosefinches. *Cellular and Molecular Life Sciences* 58: 1159–1166. PDF fulltext
- **Marten**, Jill A. & **Johnson**, Ned K. (1986): Genetic relationships of North American cardueline finches. *Condor* **88**(4): 409-420. PDF fulltext

Loxia

Crossbills

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: *Loxia* (but see "Systematics and evolution" below) Linnaeus, 1758Species: *Loxia pytyopsittacus, Loxia scotia, Loxia curvirostra, Loxia leucoptera, Loxia megaplaga*

The **crossbills** are birds in the <u>finch</u> family <u>Fringillidae</u>. The three to five (or possibly many more) species are all currently classified in the genus *Loxia*, but see below. These birds are characterised by the mandibles crossing at their tips, which gives the group its English name.

These are specialist feeders on conifer cones, and the unusual bill shape is an adaptation to assist the extraction of the seeds from the cone. These are birds typically found in higher northern hemisphere latitudes, where their food sources grows. They will erupt out of the breeding range when the cone crop fails.

Crossbills breed very early in the year, often in winter months, to take advantage of maximum cone supplies.

Adult males tend to be red or orange in colour, and females green or yellow, but there is much variation.

- 1 Feeding behavior
- 2 Systematics and evolution
- 3 References

Feeding behavior

The different species are each adapted to specialising in feeding on different conifer species, with the bill shape optimised for opening that species of conifer. This is achieved by inserting the bill between the conifer cone scales and twisting the lower mandible towards the side to which it crosses, enabling the bird to extract the seed at the bottom of the scale with its tongue.

The mechanism by which the bill-crossing (which usually, but not always occurs in an 1:1 frequency of left-crossing or right-crossing morphs) is developed and what determines the direction has hitherto withstood all attempts to resolve it.

It is very probable that there is a genetic basis underlying the phenomenon (young birds whose bills are still straight will give a cone-opening behavior if their bills are gently pressed, and the crossing develops before the birds are fledged and feeding independently), but at least in the Red Crossbill (the only species which has been somewhat thoroughly researched regarding this question) there is no straightforward mechanism of heritability.

While the direction of crossing seems to be the result of at least 3 genetic factors working together in a case of epistasis and most probably autosomal, it is not clear whether the 1:1 frequency of both morphs in most cases is the result of genetics or environmental selection: populations that feed on cones without removing or twisting them will likely show a 1:1 morph distribution no matter what the genetic basis may be, as the fitness of each morph is inversely proportional to its frequency in the population due to the fact that such birds can only access the cone with the lower mandible tip pointing towards it to successfully extract seeds, and thus a too high number of birds of one morph will result in the food availability for each bird decreasing (Edelaar *et al*, 2005).

They can utilise other conifers to their preferred, and often need to do so when their preferred species has a crop failure, but are less efficient in their feeding (not enough to prevent survival, but probably enough to reduce breeding success).

Systematics and evolution

Analysis of mitochondrial cytochrome b sequence data (Arnaiz-Villena et al., 2001) indicates that the crossbills and redpolls share a common ancestor and only diverging during the Tortonian (c. 8 mya, Late Miocene). They suggest that the crossbills might be included in the genus Carduelis, but given that the adaptations of the crossbills represent a unique evolutionary path, it seems more appropriate to split up the genus Carduelis as it was already done during most of the 20th century.

The species of crossbills are difficult to separate, and care is needed even with Two-barred/Hispaniolan Crossbill, the easiest. The other species are identified by subtle differences in head shape and bill size, and are the subject of much taxonomic speculation, with some scientists suggesting that the previously held assumption that the Parrot and Scottish Crossbills and possibly the Hispaniolan and Two-barred Crossbill are conspecific.

The identification problem is least severe in North America, where only Red and White-winged occur, and (possibly) worst in the Scottish Highlands, where three 'species' breed, and Two-barred is also a possible vagrant.

Work on vocalisation in North America suggest that there are eight or nine discrete populations of Red Crossbill in that continent alone, which do not interbreed and are (like the named species) adapted to specialise on different conifer species. Few ornithologists yet seem inclined to give these forms species status though. Preliminary investigations in Europe and Asia suggest an equal, if not greater, complexity, with several different call types identified; these call types as different from each other as from the named species Scottish and Parrot Crossbills - suggesting either that they are valid species, or else that the Scottish and Parrot may not be.

Species and their preferred food sources are:

- Parrot Crossbill, Loxia pytyopsittacus
 - Scots pine *Pinus sylvestris*
- Scottish Crossbill, Loxia scotica (often treated as a race of Parrot Crossbill)
 - Scots pine *Pinus sylvestris* and Larch *Larix* species (particularly plantations of *L. decidua*)

- Red Crossbill or Common Crossbill, Loxia curvirostra
 - Spruce Picea species; some populations (distinct species?) on various Pine
 Pinus species and (in western North America) Douglas-fir
- Two-barred Crossbill or White-winged Crossbill, Loxia leucoptera
 - o Larch *Larix* species, particularly *L. sibirica, L. gmelinii, L. laricina* and (in North America) also Hemlock *Tsuga*
- Hispaniolan Crossbill, Loxia megaplaga (previously treated as a race of Twobarred Crossbill)
 - o Hispaniolan Pine Pinus occidentalis

References

- Arnaiz-Villena, A.; Guillén, J.; Ruiz-del-Valle, V.; Lowy, E.; Zamora, J.; Varela, P.; Stefani, D. & Allende, L. M. (2001): Phylogeography of crossbills, bullfinches, grosbeaks, and rosefinches. *Cellular and Molecular Life Sciences* 58: 1159–1166. [http://chopo.pntic.mec.es/~biolmol/publicaciones/crossbills
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Pinicola

Pine Grosbeak

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u> Subfamily: <u>Carduelinae</u>

Genus: Pinicola

Species: *P. enucleator*

Binomial name *Pinicola enucleator* (Linnaeus, 1758)

The **Pine Grosbeak**, *Pinicola enucleator*, is a large <u>finch</u>. It is the only member of its <u>genus</u> and represents an ancient divergence of the ancestors of the bullfinches (Arnaiz-Villena et al., 2001), diverging perhaps a dozen mya during the Clarendonian. Given that the radiation of the bullfinches (which are only found in Eurasia) and the mountain finches (also closely related: Marten & Johnson, 1986) started approximately at the same time in the interior of Asia, it is possible that the Pine Grosbeak evolved in North America; possibly, its ancestors were wind-blown individuals of a proto-bullfinch which arrived via the northern Pacific as at that time the Bering Land Bridge was widely inundated.

Adults have a long forked black tail, black wings with white wing bars and a large bill. Adult males have a rose red head, back and rump. Adult females are olive-yellow on the head and rump and grey on the back and underparts.

Their breeding habitat is coniferous woods across Canada, Alaska and the western mountains of the United States, and in northern Fennoscandia. They nest on a horizontal branch or in a fork of a conifer.

This bird is a permanent resident through most of its range; in the extreme north or when food sources are scarce, they may <u>migrate</u> further south.

This species is a very rare vagrant to western Europe.

These birds forage in trees and bushes. They mainly eat seeds, buds, berries and insects. Outside of the nesting season, they often feed in flocks.

The Pine Grosbeak was depicted on the 1986 series Canadian \$1000 note.

References

- Arnaiz-Villena, A.; Guillén, J.; Ruiz-del-Valle, V.; Lowy, E.; Zamora, J.; Varela, P.; Stefani, D. & Allende, L. M. (2001): Phylogeography of crossbills, bullfinches, grosbeaks, and rosefinches. *Cellular and Molecular Life Sciences* 58: 1159–1166.
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- **BirdLife International** (2004). <u>Pinicola enucleator</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

• **Marten**, Jill A. & **Johnson**, Ned K. (1986): Genetic relationships of North American cardueline finches. *Condor* **88**(4): 409-420. <u>PDF fulltext</u>

Pyrrhula

Bullfinches

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Fringillidae</u>
Subfamily: <u>Carduelinae</u>

Genus: Pyrrhula Brisson, 1760Species: See text.

Pyrrhula is a small genus of <u>passerine</u> birds, commonly called **Bullfinches**, belonging to the finch family (Fringillidae).

The genus has a palearctic distribution. All species occur in Asia with two species exclusively in the Himalayas and one species, *P. pyrrhula*, also occurring in Europe. The Azores Bullfinch (*P. murina*) is an almost extinct species (about 120 pairs remaining), occurring only in the east of the island of São Miguel.

Analysis of the mtDNA cytochrome b sequence indicates that the holarctic Pine Grosbeak (Pinicola enucleator) is the closest living relative of this genus. Arguably, it could be included in Pyrrhula, but more probably is a distinct offshoot of a common ancestor, with the Pine Grosbeak as the sister group to the ancestor of the bullfinches (Arnaiz-Villena et al., 2001). The evolution of the bullfinch species started soon after the Pine Grosbeak's ancestors diverged from them (at the end of the Middle Miocene, about a dozen mya), and it is quite possible that the latter species evolved in North America; waht is fairly certain is that the bullfinch radiation started in the general area of the Himalayas. The mountain finches also seem to be part of this clade (Marten & Johnson, 1986).

Bullfinches have glossy black wings and tail feathers. They show a white rump. The legs and feet are fleshy brown. Their short, swollen bill is adapted to eat buds, and is black except in *P. nipalensis*, which has a yellowish bill. The males can be distinguished by their orange or red breast. Some species have a black cap.

Bullfinch species are sedentary to migratory; probably most populations are partially migratory. Populations winter chiefly within the breeding range, those breeding at high levels tending to make altitudinal movements. Most migrants move short or medium distances, but some (apparently chiefly from Russia) move longer distances; in northern and central Europe, there is no evidence that northern populations move further than southern ones. North European birds move within a wider compass than central European birds. Bullfinshes are also eruptive migrants; numbers migrating show marked annual fluctuations; no link with particular food source has been established. Autumn migration begins late, and is fairly brief, mostly October-November; spring migration February-April.

The Eurasian Bullfinch population in Britain has been in serious decline since the mid-1970s, following a period of relative stability, and numbers have fallen by 62 per cent in 35 years. The decline was initially rapid, but has been shallower since the early 1980s. Nevertheless, the CES and BBS both suggest that the decline is continuing, at least in southern Britain. The demographic mechanism remains unclear (Siriwardena et al. 1999, 2000b), although agricultural intensification is suspected to have played a part. CES data indicate that

productivity has increased over the last decade, and nest failure rates at the chick stage (15 days) have fallen from 37% to 21%.

Species

Pyrrhula aurantiaca Gould, 1858: Orange Bullfinch (Range: Kashmir)
 Pyrrhula erythaca Blyth, 1862: Grey-headed Bullfinch (Range: Western China, Tibet)

Pyrrhula erythrocephala Vigors, 1832: Red-headed Bullfinch (Range: Himalayas)

Pyrrhula leucogenis Ogilvie-Grant, 1895: White-cheeked Bullfinch (Range : Philippines)

Pyrrhula murina du Cane Godman, 1866: Azores Bullfinch (Range : São Miguel Island, Azores)

Pyrrhula nipalensis Hodgson, 1836: Brown Bullfinch (Range: Himalayas, northern Myanmar and Northwest Yunnan)

Pyrrhula pyrrhula (Linnaeus, 1758): Eurasian Bullfinch (Range: very wide, from Asia to Europe)

Genus Pyrrhula should be considered to be included in Genus Carduelis.Redpolls and Crossbills are the closest extant relatives (Arnaiz-Villena et al,58:1159,2001)

References

- **Arnaiz-Villena**, A.; Guillén, J.; Ruiz-del-Valle, V.; Lowy, E.; Zamora, J.; Varela, P.; Stefani, D. & Allende, L. M. (2001): Phylogeography of crossbills, bullfinches, grosbeaks, and rosefinches. *Cellular and Molecular Life Sciences* **58**: 1159–1166. PDF fulltext
- **Marten**, Jill A. & **Johnson**, Ned K. (1986): Genetic relationships of North American cardueline finches. *Condor* **88**(4): 409-420. PDF fulltext

Rhodopechys

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: *Rhodopechys* Cabanis, 1851 Species: See text.

Rhodopechys is a genus of <u>finches</u> containing four species:

 Crimson-winged Finch, Rhodopechys sanguinea Trumpeter Finch, Rhodopechys githaginea Mongolian Finch, Rhodopechys mongolica

The Desert Finch, Carduelis obsoletus (formerly Rhodopechys obsoleta), has turned out to belong to the genus Carduelis as indicated by DNA sequences, song and eyestripe pattern; it shares a common ancestor with the greenfinches Zamora *et al.*, 2006). See the species account for details.

References

- Cabanis, Jean (1851): [Genus *Rhodopechys*] *In: Museum Heineanum. Verzeichniss der ornithologischen Sammlung des Oberamtmann Ferdinand Heine, etc.* **1**(20): 157 (note) [in German] <u>PDF fulltext available at Gallica: search for "Cabanis"</u>
- Zamora, Jorge; Lowy, Ernesto; Ruiz-del-Valle, Valentin; Moscoso, Juan; Serrano-Vela, Juan Ignacio; Rivero-de-Aguilar, Juan & Arnaiz-Villena, Antonio (2006): Rhodopechys obsoleta (desert finch): a pale ancestor of greenfinches (Carduelis spp.) according to molecular phylogeny. Journal of Ornithology 147(3): 448–456. DOI:10.1007/s10336-005-0036-2 (HTML abstract). Erratum, Journal of Ornithology 147(3): 511–512 DOI:10.1007/s10336-006-0072-6

Serinus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Fringillidae</u>

Genus: Serinus Koch, 1816Species: See text.

The genus *Serinus* is a large genus of <u>birds</u> in the <u>finch</u> family Fringillidae. It includes the <u>canaries</u>, <u>seedeaters</u> and the African siskins.

The full list of species is:

• Red-fronted Serin, Serinus pusillus

European Serin, Serinus serinus

Syrian Serin, Serinus syriacus

Canary, Serinus canaria

Tibetan Serin, Serinus thibetanus

Cape Canary, Serinus canicollis

Abyssinian Siskin, Serinus nigriceps

African Citril, Serinus citrinelloides

Black-faced Canary, Serinus capistratus

Papyrus Canary, Serinus koliensis

Forest Canary, Serinus scotops

White-rumped Seedeater, Serinus leucopygius

Olive-rumped Serin. Serinus rothschildi

Yellow-throated Serin, Serinus flavigula

Salvadori's Serin, Serinus xantholaemus

Black-throated Canary, Serinus atrogularis

Yellow-rumped Serin, Serinus xanthopygius

Lemon-breasted Seedeater. Serinus citrinipectus

Yellow-fronted Canary, Serinus mozambicus

Northern Grosbeak-canary, Serinus donaldsoni

Southern Grosbeak-canary, Serinus buchanani

White-bellied Canary, Serinus dorsostriatus

Yellow Canary, Serinus flaviventris

Brimstone Canary, Serinus sulphuratus

Reichard's Seedeater, Serinus reichardi

White-throated Canary, Serinus albogularis

Streaky-headed Seedeater, Serinus gularis

Black-eared Seedeater, Serinus mennelli

Brown-rumped Seedeater, Serinus tristriatus

Yemen Serin, Serinus menachensis

Ankober Serin, Serinus ankoberensis

Streaky Seedeater, Serinus striolatus

Thick-billed Seedeater, Serinus burtoni

Principe Seedeater, Serinus rufobrunneus Protea Canary, Serinus leucopterus Cape Siskin, Serinus totta Drakensberg Siskin, Serinus symonsi Black-headed Canary, Serinus alario Mountain Serin, Serinus estherae

The Citril Finch, and the Corsican Finch are now placed in the genus Carduelis as *Carduelis citrinella* and *Carduelis corsicana* (Arnaiz-Villena *et al.*, 1998).

References

Arnaiz-Villena, A.; Álvarez-Tejado, M.; Ruiz-del-Valle, V.; García-de-la-Torre, C.; Varela, P.; Recio, M. J.; Ferre. S. & Martínez-Laso, J. (1998): Phylogeny and rapid Northern and Southern Hemisphere speciation of goldfinches during the Miocene and Pliocene Epochs. *Cellular and Molecular Life Sciences* 54: 1031–1041. DOI:
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Hirundinidae

Swallows and Martins

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Hirundinidae Vigors, 1825Genera: Many, see text.

The **swallows** and **martins** are a group of <u>passerine</u> <u>birds</u> in the family **Hirundinidae** which are characterised by their adaptation to aerial feeding. Swallow is also used in Europe as a synonym for the Barn Swallow.

This family comprises two subfamilies: **Pseudochelidoninae** (the river martins of the genus *Pseudochelidon*) and **Hirundininae** (all other swallows and martins). Within the Hirundiniae, the name martin tends to be used for the squarer-tailed species, and the name swallow for the more fork-tailed species; however, there is no scientific distinction between these two groups.

They have adapted to hunting insects on the wing by developing a slender streamlined body, and long pointed wings. Like the unrelated <u>swifts</u> and <u>nightjars</u>, which hunt in a similar way, they have short bills, but a wide gape.

Their feet are designed for perching rather than walking, and the front toes are partially joined at the base. Many species have long tails.

Swallows typically build mud nests close to overhead shelter in locations that are protected from both the weather and predators.

Many cave and cliff dwelling species of swallow nest in large colonies. In historical times, the introduction of man-made stone structures such as barns and bridges, together with forest clearance, has led to an abundance of colony sites around the globe, significantly increasing the breeding ranges of some species. Birds living in large colonies typically have to contend with both ectoparasites and conspecific nest parasitism. Old males benefit most from coloniality, since they are able to maintain their own nests and benefit from frequent extra-pair copulations.

Subfamily Pseudochelidoninae (river martins)

- Pseudochelidon
 - African River Martin Pseudochelidon eurystomina
 White-eyed River Martin Pseudochelidon sirintarae

Subfamily Hirundininae (all other swallows & martins)

- Psalidoprocne
 - Square-tailed Rough-winged Swallow Psalidoprocne nitens
 Cameroon Mountain Rough-winged Swallow Psalidoprocne fuliginosa
 White-headed Rough-winged Swallow Psalidoprocne albiceps
 Black Rough-winged Swallow Psalidoprocne pristoptera
 Fanti Rough-winged Swallow Psalidoprocne obscura
 Eastern Saw-Wing (Swallow) Psalidoprocne orientalis
 Black Saw-Wing (Swallow) Psalidoprocne holomelaena

- Pseudhirundo
 - o Grey-rumped Swallow Pseudhirundo griseopyga
- Cheramoeca
 - White-backed Swallow Cheramoeca leucosternus
- Phedina
 - Mascarene Martin Phedina borbonica Congo Martin Phedina brazzae
- Riparia
 - Brown-throated Sand Martin Riparia paludicola Congo Sand Martin Riparia congica Sand Martin Riparia riparia Pale Martin Riparia diluta Banded Martin Riparia cincta
- Tachycineta
 - Tree Swallow Tachycineta bicolor
 Violet-green Swallow Tachycineta thalassina
 Golden Swallow Tachycineta euchrysea
 Bahama Swallow Tachycineta cyaneoviridis
 Tumbes Swallow Tachycineta stolzmanni
 Mangrove Swallow Tachycineta albilinea
 White-winged Swallow Tachycineta albiventer
 White-rumped Swallow Tachycineta leucorrhoa
 Chilean Swallow Tachycineta meyeni
- Progne
 - Purple Martin Progne subis
 Cuban Martin Progne cryptoleuca
 Caribbean Martin Progne dominicensis
 Sinaloa Martin Progne sinaloae
 Grey-breasted Martin Progne chalybea
 Galapagos Martin Progne modesta
 Peruvian Martin Progne murphyi
 Southern Martin Progne elegans
 Brown-chested Martin Progne tapera
- Notiochelidon
 - Brown-bellied Swallow Notiochelidon murina
 Blue-and-white Swallow Notiochelidon cyanoleuca
 Pale-footed Swallow Notiochelidon flavipes
 Black-capped Swallow Notiochelidon pileata
- Haplochelidon
 - o Andean Swallow Neochelidon andecola
- Atticora
 - White-banded Swallow Atticora fasciata
 Black-collared Swallow Atticora melanoleuca
- Neochelidon

- o White-thighed Swallow Neochelidon tibialis
- Stelgidopteryx
 - Northern Rough-winged Swallow Stelgidopteryx serripennis Southern Rough-winged Swallow Stelgidopteryx ruficollis
- Alopochelidon
 - o Tawny-headed Swallow Alopochelidon fucata
- Hirundo
 - Barn Swallow Hirundo rustica
 Red-chested Swallow Hirundo lucida
 Angolan Swallow Hirundo angolensis
 Pacific Swallow Hirundo tahitica
 Welcome Swallow Hirundo neoxena
 White-throated Swallow Hirundo albigularis
 Ethiopian Swallow Hirundo aethiopica
 Wire-tailed Swallow Hirundo smithii
 White-throated Blue Swallow Hirundo nigrita
 Pied-winged Swallow Hirundo leucosoma
 White-tailed Swallow Hirundo megaensis
 Pearl-breasted Swallow Hirundo dimidiata
 Montane Blue Swallow Hirundo nigrorufa
- Ptyonoprogne
 - Crag Martin Ptyonoprogne rupestris Rock Martin Ptyonoprogne fuligula Dusky Crag Martin Ptyonoprogne concolor
- Delichon
 - House Martin Delichon urbicum
 Asian House Martin Delichon dasypus
 Nepal House Martin Delichon nipalense
- Cecropis
 - Greater Striped Swallow Cecropis cucullata Lesser Striped Swallow Cecropis abyssinica Rufous-chested Swallow Cecropis semirufa Mosque Swallow Cecropis senegalensis Red-rumped Swallow Cecropis daurica Striated Swallow Cecropis striolata Rufous-bellied Swallow Cecropis badia
- Petrochelidon
 - Red-throated Swallow Petrochelidon rufigula Preuss's Swallow Petrochelidon preussi Red Sea Swallow Petrochelidon perdita South African Swallow Petrochelidon spilodera Forest Swallow Petrochelidon fuliginosa Streak-throated Swallow Petrochelidon fluvicola

Fairy Martin Petrochelidon ariel Tree Martin Petrochelidon nigricans Cliff Swallow Petrochelidon pyrrhonota Cave Swallow Petrochelidon fulva Chestnut-collared Swallow Petrochelidon rufocollaris

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Pseudochelidoninae

River martins

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Hirundinidae</u>

Subfamily: **Pseudochelidoninae** Shelley, 1896Genus: **Pseudochelidon** Hartlaub, 1861Species:

See text.

The **river martins** are a distinct subfamily *Pseudochelidoninae* within the swallow and martin <u>bird</u> family <u>Hirundinidae</u>. They possess a number of distinct features which mark them out from other swallows and martins, namely their robust legs and feet, and stout bill.

There are two species:

- African River Martin Pseudochelidon eurystomina, found around the River Congo in Congo and Gabon
- White-eyed River Martin *Pseudochelidon sirintarae*, of Thailand in South-east Asia.

When the African River Martin was first discovered in the 19th Century, it was not thought to be a member of the swallow and martin family; Hartlaub placed it with the Rollers, and later authors either placed it in its own family, or with the Woodswallows. Study of the anatomy of the species by Lowe (1938) revealed that the species was closest to the swallows and martins, but sufficiently distinct to be placed in a separate subfamily.

The White-eyed River Martin was discovered as recently as 1968 and is only known from specimens and anecdotal evidence - no modern ornithologists have seen the species in the wild, and its breeding grounds are unknown; it may be <u>extinct</u>.

The two species are usually considered to belong to a single genus, *Pseudochelidon* due to their having a number of structural similarities; Brooke (1972) proposed that White-eyed River Martin be placed in a separate monotypic genus *Eurochelidon*, but this has not been adopted by other authors.

Hypocoliidae

Hypocolius

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Hypocoliidae**

Genus: *Hypocolius* Bonaparte, 1850 Species: *H. ampelinus* Binomial name: *Hypocolius ampelinus* Bonaparte, 1850

The **Grey Hypocolius** (*Hypocolius ampelinus*; alternative name **Hypocolius**) is a small passerine bird species. It is the sole member of the genus *Hypocolius* and family **Hypocoliidae**. It ranges through the Middle East, breeding in the Iraq, Iran, Pakistan, Turkmenistan area, and wintering mostly near the Red Sea and Persian Gulf coasts of Arabia. It is found in bushes and scrub, also in palm groves and gardens.

The Hypocolius's shape and soft <u>plumage</u> resemble the <u>waxwings</u>'. Birds are mainly a uniform grey color, with males having a black triangular mask around the eyes. They have white-tipped black primary wing feathers and a black tip to the tail.

These birds eat berries with some insects. They lay 3-4 eggs in a nest in a bush.

Their relationships are unclear. They may be related to the waxwings, and some authorities place them in the same family, but others believe their closest relatives are the bulbuls.

The bird is not especially rare, but the political difficulties in getting into and around any of the countries in its range are formidable.

References

 BirdLife International (2004). <u>Hypocolius ampelinus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 10 May 2006. Database entry includes justification for why this species is of least concern

Leafbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Chloropseidae**

Genus: *Chloropsis* Jardine & Selby, 1827 Species: See text.

The **Leafbirds** are a family of small <u>passerine</u> <u>bird</u> species found in India and southeast Asia. They are one of only two bird families that are entirely endemic to the Indomalayan ecozone. They were formerly grouped with the <u>ioras</u> in the family Irenidae.

These are <u>bulbul</u>-like forest birds, but whereas that group tends to be drab in coloration, leafbirds are sexually dimorphic, with the males being brightly <u>plumaged</u>, usually in greens and yellows.

Leafbirds eat fruit and nectar with some insects. They have a spiked tongue, adapted to nectar feeding. They lay 2-3 eggs in a tree nest.

Family: Chloropseidae

Philippine Leafbird, Chloropsis flavipennis
 Yellow-throated Leafbird, Chloropsis palawanensis
 Greater Green Leafbird, Chloropsis sonnerati
 Lesser Green Leafbird, Chloropsis cyanopogon
 Blue-winged Leafbird, Chloropsis cochinchinensis
 Golden-fronted Leafbird, Chloropsis aurifrons
 Orange-bellied Leafbird, Chloropsis hardwickii
 Blue-masked Leafbird, Chloropsis venusta

Melanocharitidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Melanocharitidae Sibley & Ahlquist, 1985Genera: Melanocharis, Sclater, 1858,,

Toxorhamphus, Stresemann, 1914

The **Melanocharitidae**, the **berrypeckers and longbills**, is a small <u>bird family</u> restricted to the forests of New Guinea. The family was once placed inside the <u>Flowerpecker</u> family Dicaeidae. It comprises ten species in two genera:

- Melanocharis
 - Obscure Berrypecker, Melanocharis arfakiana
 Black Berrypecker, Melanocharis nigra
 Lemon-breasted Berrypecker, Melanocharis longicauda
 Fan-tailed Berrypecker, Melanocharis versteri
 Streaked Berrypecker, Melanocharis striativentris
 Spotted Berrypecker, Melanocharis crassirostris
- Toxorhamphus
 - Yellow-bellied Longbill, Toxorhamphus novaeguineae Slaty-chinned Longbill, Toxorhamphus poliopterus Dwarf Honeyeater, Toxorhamphus iliolophus Pygmy Honeyeater, Toxorhamphus pygmaeum

These are medium-sized birds which feed on fruit and some insects and other invertebrates. They have drab coloured <u>plumage</u> in greys, browns or black and white. The berrypeckers resemble stout short-billed <u>honeyeaters</u>, and the longbills are like drab <u>sunbirds</u>.

Melanocharitidae species are usually seen alone or in pairs; they build a cup nest and lay one or two eggs.

Mimidae

Mimids

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Mimidae** Bonaparte, 1853Genera: Cinclocerthia, Dumetella, Allenia, Margarops, Melanoptila, Melanotis, Mimodes, Mimus, Nesomimus, Oreoscoptes, Ramphocinclus,

Toxostoma

The **Mimids** are a New World family of <u>passerine</u> <u>birds</u> that includes thrashers, mockingbirds, tremblers, and the New World catbirds. As their name (Latin for "mimic") suggests, these birds are notable for their vocalization, especially their remarkable ability to mimic a wide variety of birds and other sounds heard outdoors.

The species tend towards dull grays and browns in their appearance.

There are at least 34 species in 10 genera.

It was a member of this family, the Galapagos Mockingbird, which inspired Darwin's work on his theory of evolution.

Species list

• Gray Catbird, Dumetella carolinensis Black Catbird, Melanoptila glabrirostris Bahama Mockingbird, Mimus gundlachii Northern Mockingbird, Mimus polyglottos Tropical Mockingbird, Mimus gilvus Chalk-browed Mockingbird, Mimus saturninus Patagonian Mockingbird, Mimus patagonicus Brown-backed Mockingbird, Mimus dorsalis White-banded Mockingbird, Mimus triurus Long-tailed Mockingbird, Mimus longicaudatus Chilean Mockingbird, Mimus thenca Galapagos Mockingbird, Nesomimus parvulus Charles Mockingbird, Nesomimus trifasciatus Hood Mockingbird, Nesomimus macdonaldi San Cristobal Mockingbird, Nesomimus melanotis Sage Thrasher, Oreoscoptes montanus Socorro Mockingbird, Mimodes graysoni Brown Thrasher, Toxostoma rufum Long-billed Thrasher, Toxostoma longirostre Cozumel Thrasher, Toxostoma guttatum Grav Thrasher, Toxostoma cinereum Bendire's Thrasher, Toxostoma bendirei Ocellated Thrasher, Toxostoma ocellatum

Curve-billed Thrasher, Toxostoma curvirostre
California Thrasher, Toxostoma redivivum
Crissal Thrasher, Toxostoma crissale
Le Conte's Thrasher, Toxostoma lecontei
Vizcaino Thrasher, Toxostoma arenicola
White-breasted Thrasher, Ramphocinclus brachyurus
Blue Mockingbird, Melanotis caerulescens
Blue-and-white Mockingbird, Melanotis hypoleucus
Gray Trembler, Cinclocerthia gutturalis
Brown Trembler, Cinclocerthia ruficauda
Scaly-breasted Thrasher, Allenia fusca
Pearly-eyed Thrasher, Margarops fuscatus

Motacillidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Motacillidae Horsfield, 1821 Genera: Anthus, Tmetothylacus, Motacilla,

Dendronanthus, Macronyx

The **Motacillidae** are a family of small <u>passerine</u> <u>birds</u> with medium to long tails. They include the wagtails, longclaws and pipits.

They are slender, ground feeding insectivores of open country. They are ground nesters, laying up to six speckled eggs.

There are 54 species in five genera.

Species and Genera of Motacillidae

- **Genus Anthus**: typical pipits
 - o (34 species, listed at **pipit**)
- Genus Tmetothylacus
 - o Golden Pipit, Tmetothylacus tenellus
- Genus Motacilla: typical wagtails
 - o Yellow Wagtail, Motacilla flava

Citrine Wagtail, Motacilla citreola

Japanese Wagtail, Motacilla grandis

White-browed Wagtail, Motacilla madaraspratensis

African Pied Wagtail, Motacilla aguimp

Mountain Wagtail, Motacilla clara

Cape Wagtail, Motacilla capensis

Madagascar Wagtail, Motacilla flaviventris

Grey Wagtail, Motacilla cinerea

- o White Wagtail, Motacilla alba
 - White Wagtail, Motacilla alba alba
 - Pied Wagtail: *Motacilla alba yarrellii*
- o Black-backed Wagtail, Motacilla lugens
- Genus Dendronanthus
 - o Forest Wagtail, *Dendronanthus indicus*
 - Genus Macronyx: longclaws
 - Cape Longclaw, Macronyx capensis

Yellow-throated Longclaw, Macronyx croceus

Fulleborne's Longclaw, Macronyx fuellebornii

Sharpe's Longclaw, Macronyx sharpei

Abyssinian Longclaw, Macronyx flavicollis

Pangani Longclaw, Macronyx aurantiigula

Rosy-breasted Longclaw, Macronyx ameliae Grimwood's Longclaw, Macronyx grimwoodi.

Muscicapidae

Old World flycatchers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Muscicapidae Vigors, 1825Genera: See text.

The **Old World flycatcher** family **Muscicapidae** is a large family of small <u>passerine</u> <u>birds</u> restricted to the Old World. These are mainly small arboreal insectivores, many of which, as the name implies, take their prey on the wing.

This article follows *Handbook of Birds of the World* in including the small <u>chat-like</u> ground feeders previously classed with the Turdidae <u>thrushes</u> in this group.

The appearance of these birds is very varied, but they mostly have weak songs and harsh calls. The nest of most is a well-constructed cup in a tree or hedge.

• Family: Muscicapidae

- o Genus Empidornis
 - Silverbird, *Empidornis semipartitus*
- o Genus Bradornis
 - Pale Flycatcher, Bradornis pallidus
 Chat Flycatcher, Bradornis infuscatus
 Mariqua Flycatcher, Bradornis mariquensis
 African Grey Flycatcher, Bradornis microrhynchus
- o Genus Melaenornis
 - Angola Slaty Flycatcher, Melaenornis brunneus White-eyed Slaty Flycatcher, Melaenornis fischeri Abyssinian Slaty Flycatcher, Melaenornis chocolatinus Northern Black Flycatcher, Melaenornis edolioides Southern Black Flycatcher, Melaenornis pammelaina Yellow-eyed Black Flycatcher, Melaenornis ardesiacus Nimba Flycatcher, Melaenornis annamarulae
- o Genus Fraseria
 - African Forest Flycatcher, Fraseria ocreata
 White-browed Forest Flycatcher, Fraseria cinerascens
- o Genus Sigelus
 - Fiscal Flycatcher, Sigelus silens
- o Genus Rhinomyias
 - Buru Jungle Flycatcher, Rhinomyias addita Flores Jungle Flycatcher, Rhinomyias oscillans Brown-chested Jungle Flycatcher, Rhinomyias brunneata Grey-chested Jungle Flycatcher, Rhinomyias umbratilis Fulvous-chested Jungle Flycatcher, Rhinomyias olivacea Chestnut-tailed Jungle Flycatcher, Rhinomyias ruficauda Henna-tailed Jungle Flycatcher, Rhinomyias colonus

Eyebrowed Jungle Flycatcher, Rhinomyias gularis Rusty-flanked Jungle Flycatcher, Rhinomyias insignis Negros Jungle Flycatcher, Rhinomyias albigularis Mindanao Jungle Flycatcher, Rhinomyias goodfellowi

o Genus Muscicapa

- Spotted Flycatcher, Muscicapa striata Gambaga Flycatcher, Muscicapa gambagae Grey-spotted Flycatcher, Muscicapa griseisticta Siberian Flycatcher, Muscicapa sibirica Asian Brown Flycatcher, Muscicapa dauurica Brown-streaked Flycatcher, Muscicapa williamsoni Ash-breasted Flycatcher, Muscicapa randi Sumba Brown Flycatcher, Muscicapa segregata Rusty-tailed Flycatcher, Muscicapa ruficauda Brown-breasted Flycatcher, Muscicapa muttui Ferruginous Flycatcher, Muscicapa ferruginea Ussher's Flycatcher, Muscicapa ussheri Sooty Flycatcher, Muscicapa infuscata Boehm's Flycatcher, Muscicapa boehmi Swamp Flycatcher, Muscicapa aquatica Olivaceous Flycatcher, Muscicapa olivascens Chapins' Flycatcher, Muscicapa lendu African Dusky Flycatcher, Muscicapa adusta Little Grev Flycatcher, Muscicapa epulata Yellow-footed Flycatcher, Muscicapa sethsmithi Dusky-blue Flycatcher, Muscicapa comitata Tessmann's Flycatcher, Muscicapa tessmanni Cassin's Flycatcher, Muscicapa cassini Ashy Flycatcher, Muscicapa caerulescens
- o Genus *Myioparus*
 - Grey-throated Tit-flycatcher, Myioparus griseigularis Grey Tit-flycatcher, Myioparus plumbeus
- Genus Humblotia
 - Grand Comoro Flycatcher, Humblotia flavirostris
- o Genus Ficedula
 - European Pied Flycatcher, Ficedula hypoleuca
 Atlas Flycatcher, Ficedula speculigera
 Collared Flycatcher, Ficedula albicollis
 Semi-collared Flycatcher, Ficedula semitorquata
 Korean Flycatcher, Ficedula zanthopygia
 Narcissus Flycatcher, Ficedula narcissina
 Beijing Flycatcher, Ficedula beijingnica
 Mugimaki Flycatcher, Ficedula mugimaki
 Slaty-backed Flycatcher, Ficedula hodgsonii
 Rufous-gorgeted Flycatcher, Ficedula strophiata

Red-breasted Flycatcher, Ficedula parva Red-throated Flycatcher, Ficedula albicilla Kashmir Flycatcher, Ficedula subrubra Snowy-browed Flycatcher, Ficedula hyperythra White-gorgeted Flycatcher, Ficedula monileger Rufous-browed Flycatcher, Ficedula solitaris Rufous-chested Flycatcher, Ficedula dumetoria Rufous-throated Flycatcher, Ficedula rufigula Cinnamon-chested Flycatcher, Ficedula buruensis Little Slaty Flycatcher, Ficedula basilanica Sumba Flycatcher, Ficedula harterti Palawan Flycatcher, Ficedula platenae Russet-tailed Flycatcher, Ficedula crypta Furtive Flycatcher, Ficedula disposita Lompobattang Flycatcher, Ficedula bonthaina Little Pied Flycatcher, Ficedula westermanni Ultramarine Flycatcher, Ficedula superciliaris Slaty-blue Flycatcher, Ficedula tricolor Black-and-rufous Flycatcher, Ficedula nigrorufa Sapphire Flycatcher, Ficedula sapphira Black-banded Flycatcher, Ficedula timorensis

- Genus Cyanoptila
 - Blue-and-white Flycatcher, Cyanoptila cyanomelana
- Genus Eumyias
 - Verditer Flycatcher, Eumyias thalassina Dull-blue Flycatcher, Eumyias sordida Island Flycatcher, Eumyias panayensis Nilgiri Flycatcher, Eumyias albicaudata Indigo Flycatcher, Eumyias indigo
- o Genus Niltava
 - Large Niltava, Niltava grandis
 Small Niltava, Niltava macgrigoriae
 Fujian Niltava, Niltava davidi
 Rufous-bellied Niltava, Niltava sundara
 Rufous-vented Niltava, Niltava sumatrana
 Vivid Niltava, Niltava vivida
- Genus Cyornis
 - Matinan Flycatcher, Cyornis sanfordi Blue-fronted Flycatcher, Cyornis hoevelli Timor Blue Flycatcher, Cyornis hyacinthinus White-tailed Flycatcher, Cyornis concretus Rueck's Blue Flycatcher, Cyornis ruckii Blue-breasted Flycatcher, Cyornis herioti Hainan Blue Flycatcher, Cyornis hainanus White-bellied Blue Flycatcher, Cyornis pallipes

Pale-chinned Blue Flycatcher, Cyornis poliogenys
Pale Blue Flycatcher, Cyornis unicolor
Blue-throated Flycatcher, Cyornis rubeculoides
Hill Blue Flycatcher, Cyornis banyumas
Long-billed Blue Flycatcher, Cyornis caerulatus
Malaysian Blue Flycatcher, Cyornis turcosus
Palawan Blue Flycatcher, Cyornis lemprieri
Bornean Blue Flycatcher, Cyornis superbus
Tickell's Blue Flycatcher, Cyornis tickelliae
Mangrove Blue Flycatcher, Cyornis rufigastra
Sulawesi Blue Flycatcher, Cyornis omissus

- o Genus Muscicapella
 - Pygmy Blue Flycatcher, Muscicapella hodgsoni
- o Genus Culicicapa
 - Grey-headed Canary-flycatcher, Culicicapa ceylonensis Citrine Canary-flycatcher, Culicicapa helianthea
- o Genus Horizorhinus
 - Dohrn's Flycatcher, *Horizorhinus dohrni*
- o Genus Tarsiger
 - Red-flanked Bluetail, Tarsiger cyanurus Golden Bush Robin, Tarsiger chrysaeus White-browed Bush Robin, Tarsiger indicus Rufous-breasted Bush Robin, Tarsiger hyperythrus Collared Bush Robin, Tarsiger johnstoniae
- o Genus <u>Luscinia</u>
 - Bluethroat, Luscinia svecica
 Siberian Rubythroat, Luscinia calliope
 Rufous-tailed Robin or Swinhoe's Nightingale, Luscinia sibilans
 Thrush Nightingale, Luscinia luscinia
 Nightingale, Luscinia megarhynchos
 Indian Blue Robin or Indian Blue Chat, Luscinia brunneus
 White-tailed Rubythroat, Luscinia pectoralis
 Rufous-headed Robin, Luscinia ruficeps
 Black-throated Blue Robin, Luscinia obscura
 Firethroat, Luscinia pectardens
 Siberian Blue Robin, Luscinia cyane
- Genus <u>Erithacus</u>
 - European Robin, Erithacus rubecula Japanese Robin, Erithacus akahige Ryukyu Robin, Erithacus komadori
- Genus Irania
 - White-throated Robin, Irania gutturalis
- o Genus Saxicola
 - Whinchat, Saxicola rubetra Stoliczka's Bushchat or White-browed Bushchat, Saxicola macrorhyncha

Hodgson's Bushchat or White-throated Bushchat, Saxicola insignis Fuerteventura Chat or Canary Island Stonechat, Saxicola dacotiae European Stonechat, Saxicola rubicola (previously S. torquata rubicola) Siberian Stonechat or Asian Stonechat, Saxicola maura (previously S. torquata maura)

African Stonechat, Saxicola torquata

Réunion Stonechat, Saxicola tectes

White-tailed Stonechat, Saxicola leucura

Pied Bushchat, Saxicola caprata

Jerdon's Bushchat, Saxicola jerdoni

Grev Bushchat, Saxicola ferrea

White-bellied Bushchat or Timor Bushchat, Saxicola gutturalis

Buff-streaked Bushchat, Saxicola bifasciata

- o Genus Pogonocichla
 - White-starred Robin, Pogonocichla stellata
- Genus Swynnertonia
 - Swynnerton's Robin, Swynnertonia swynnertoni
- Genus Stiphrornis
 - Forest Robin, *Stiphrornis erythrothorax*
- o Genus Xenocopsychus
 - Angola Cave Chat, Xenocopsychus ansorgei
- o Genus Saxicoloides
 - Indian Robin, Saxicoloides fulicata
- Genus Cinclidium
 - White-tailed Robin, Cinclidium leucurum Sunda Robin, Cinclidium diana Blue-fronted Robin, Cinclidium frontale
- o Genus *Grandala*
 - Grandala, Grandala coelicolor
- Genus Namibornis
 - Herero Chat. *Namibornis herero*
- Genus Cercomela
 - Sicklewing Chat, Cercomela sinuata

Karoo Chat, Cercomela schlegelii

Tractrac Chat, Cercomela tractrac

Familiar Chat, Cercomela familiaris

Brown-tailed Chat, Cercomela scotocerca

Indian Chat. Cercomela fusca

Sombre Chat, Cercomela dubia

Blackstart, Cercomela melanura

Moorland Chat, Cercomela sordida

- Genus Myrmecocichla
 - Congo Moorchat, Myrmecocichla tholloni
 Northern Anteater Chat, Myrmecocichla aethiops
 Southern Anteater Chat, Myrmecocichla formicivora

Sooty Chat, Myrmecocichla nigra Rueppell's Chat, Myrmecocichla melaena White-fronted Black Chat, Myrmecocichla albifrons White-headed Black Chat, Myrmecocichla arnotti

- o Genus Thamnolaea
 - Mocking Cliff Chat, Thamnolaea cinnamomeiventris
 White-winged Cliff Chat, Thamnolaea semirufa
- o Genus Pinarornis
 - Boulder Chat Pinarornis plumosus
- Genus Sheppardia, <u>akalats</u>
 - Bocage's Akalat, Sheppardia bocagei
 Lowland Akalat, Sheppardia cyornithopsis
 Equatorial Akalat, Sheppardia aequatorialis
 Sharpe's Akalat, Sheppardia sharpei
 East Coast Akalat, Sheppardia gunningi
 Gabela Akalat, Sheppardia gabela
 Usambara Akalat, Sheppardia montana
 Iringa Akalat, Sheppardia lowei
- o Genus *Cossyphicula*, robin-chats
 - White-bellied Robin Chat, Cossyphicula roberti
 Mountain Robin Chat, Cossypha isabellae
 Archer's Robin Chat, Cossypha archeri
 Olive-flanked Robin Chat, Cossypha anomala
 Cape Robin Chat, Cossypha caffra
 White-throated Robin Chat, Cossypha humeralis
 Blue-shouldered Robin Chat, Cossypha cyanocampter
 Grey-winged Robin Chat, Cossypha polioptera
 Rueppell's Robin Chat, Cossypha semirufa
 White-browed Robin Chat, Cossypha heuglini
 Red-capped Robin Chat, Cossypha natalensis
 Chorister Robin Chat, Cossypha dichroa
 White-headed Robin Chat, Cossypha heinrichi
 Snowy-crowned Robin Chat, Cossypha niveicapilla
 White-crowned Robin Chat, Cossypha albicapilla
- o Genus Cichladusa, palm-thrushes
 - Collared Palm Thrush, Cichladusa arquata
 Rufous-tailed Palm Thrush, Cichladusa ruficauda
 Spotted Morning Thrush, Cichladusa guttata
- o Genus *Cercotrichas*, the scrub-robins or **bush-chats**
 - Forest Scrub Robin, Cercotrichas leucosticta
 Bearded Scrub Robin, Cercotrichas quadrivirgata
 Miombo Scrub Robin, Cercotrichas barbata
 Brown Scrub Robin, Cercotrichas signata
 Brown-backed Scrub Robin, Cercotrichas hartlaubi
 Red-backed Scrub Robin, Cercotrichas leucophrys

Rufous-tailed Scrub Robin or Rufous Bush Chat, Cercotrichas galactotes Kalahari Scrub Robin, Cercotrichas paena African Scrub Robin, Cercotrichas minor Karoo Scrub Robin, Cercotrichas coryphaeus Black Scrub Robin, Cercotrichas podobe

- o Genus *Copsychus*, <u>magpie-robins</u> or **shamas**
 - Madagascar Magpie-robin, Copsychus albospecularis Oriental Magpie-robin, Copsychus saularis White-rumped Shama, Copsychus malabaricus Seychelles Magpie-robin, Copsychus sechellarum White-browed Shama, Copsychus luzoniensis White-vented Shama, Copsychus niger Black Shama, Copsychus cebuensis
- o Genus Trichixos, shamas
 - Rufous-tailed Shama, Trichixos pyrropyga
- o Genus *Phoenicurus*, redstarts
 - Ala Shan Redstart, Phoenicurus alaschanicus Rufous-backed Redstart, Phoenicurus erythronota Blue-capped Redstart, Phoenicurus caeruleocephalus Black Redstart, Phoenicurus ochruros Common Redstart, Phoenicurus phoenicurus Hodgson's Redstart, Phoenicurus hodgsoni White-throated Redstart, Phoenicurus schisticeps Daurian Redstart, Phoenicurus auroreus Moussier's Redstart, Phoenicurus moussieri White-winged Redstart, Phoenicurus erythrogaster Blue-fronted Redstart, Phoenicurus frontalis
- Genus Chaimarrornis, redstarts
 - White-capped Redstart, Chaimarrornis leucocephalus
- o Genus *Rhyacornis*, redstarts
 - Plumbeous Redstart, Rhyacornis fuliginosus Luzon Redstart, Rhyacornis bicolor
- o Genus *Hodgsonius*, redstarts
 - White-bellied Redstart, Hodgsonius phaenicuroides
- Genus Enicurus, forktails
 - Little Forktail, Enicurus scouleri Sunda Forktail, Enicurus velatus Chestnut-naped Forktail, Enicurus ruficapillus Black-backed Forktail, Enicurus immaculatus Slaty-backed Forktail, Enicurus schistaceus White-crowned Forktail, Enicurus leschenaulti Spotted Forktail, Enicurus maculatus
- o Genus *Cochoa*, cochoas
 - Purple Cochoa, Cochoa purpurea Green Cochoa, Cochoa viridis

Sumatran Cochoa, Cochoa beccarii Javan Cochoa, Cochoa azurea

o Genus *Oenanthe*, wheatears

Northern Wheatear, Oenanthe oenanthe Isabelline Wheatear, Oenanthe isabellina Desert Wheatear, Oenanthe deserti Black-eared Wheatear, Oenanthe hispanica Pied Wheatear, Oenanthe pleschanka Cyprus Wheatear, Oenanthe cypriaca Finsch's Wheatear, Oenanthe finschii Mourning Wheatear, Oenanthe lugens Hooded Wheatear, Oenanthe monacha White-crowned Wheatear, Oenanthe leucopyga Black Wheatear, Oenanthe leucura Persian Wheatear, Oenanthe xanthoprymna Red-rumped Wheatear, Oenanthe moesta Hume's Wheatear, Oenanthe alboniger Mountain Wheatear, Oenanthe monticola Somali Wheatear, Oenanthe phillipsi Variable Wheatear, Oenanthe picata Red-tailed Wheatear, Oenanthe xanthoprymna Capped Wheatear, Oenanthe pileata Red-breasted Wheatear, Oenanthe bottae Heuglin's Wheatear, Oenanthe heuglini

Ficedula

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Muscicapidae</u>
Genus: *Ficedula*Species: See text.

The *Ficedula* flycatchers are a genus of <u>Old World flycatchers</u>. There are 31 species.

• European Pied Flycatcher, Ficedula hypoleuca

Atlas Flycatcher, Ficedula speculigera Collared Flycatcher, Ficedula albicollis

Semi-collared Flycatcher, Ficedula semitorquata

Korean Flycatcher, Ficedula zanthopygia Narcissus Flycatcher, Ficedula narcissina

includes Beijing Flycatcher, "Ficedula beijingnica"

Mugimaki Flycatcher, Ficedula mugimaki Slaty-backed Flycatcher, Ficedula hodgsonii

Rufous-gorgeted Flycatcher, Ficedula strophiata

Red-breasted Flycatcher, Ficedula parva

Taiga Flycatcher, Ficedula albicilla

Kashmir Flycatcher, Ficedula subrubra

Snowy-browed Flycatcher, Ficedula hyperythra

White-gorgeted Flycatcher, Ficedula monileger

Rufous-browed Flycatcher, Ficedula solitaris

Rufous-chested Flycatcher, Ficedula dumetoria

Rufous-throated Flycatcher, Ficedula rufigula Cinnamon-chested Flycatcher, Ficedula buruensis

Little Slaty Flycatcher, Ficedula basilanica

Sumba Flycatcher, Ficedula harterti

Palawan Flycatcher, Ficedula platenae

Russet-tailed Flycatcher, Ficedula crypta

Furtive Flycatcher, Ficedula disposita

Lompobattang Flycatcher, Ficedula bonthaina

Little Pied Flycatcher, Ficedula westermanni

Ultramarine Flycatcher, Ficedula superciliaris

Slaty-blue Flycatcher, Ficedula tricolor

Black-and-rufous Flycatcher, Ficedula nigrorufa

Sapphire Flycatcher, Ficedula sapphira

Black-banded Flycatcher, Ficedula timorensis

Saxicolinae

Chats

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Muscicapidae</u>
Subfamily: **Saxicolinae**

Genera: See text.

Chats (formerly sometimes known as Chat-thrushes) are a group of small Old World insectivorous <u>birds</u> formerly classed as members of the <u>thrush</u> family Turdidae, but now considered <u>Old World flycatchers</u>.

This name is normally applied to the robust ground feeding species found in Europe and Asia in the subfamily Saxicolinae.

They come from a large number of genera. Most northern species are strong <u>migrants</u>. Species are:

- Family: MuscicapidaeSubfamily: Saxicolinae
- Subfamily: Saxicolinae
 Bluethroat. Luscinia svecica

Siberian Rubythroat, Luscinia calliope

Rufous-tailed Robin, Luscinia sibilans

Thrush Nightingale, Luscinia luscinia

Nightingale, Luscinia megarhynchos

Indian Blue Robin, Luscinia brunneus

White-tailed Rubythroat, Luscinia pectoralis

Rufous-headed Robin, Luscinia ruficeps

Black-throated Blue Robin, Luscinia obscura

Firethroat, Luscinia pectardens

Siberian Blue Robin, Luscinia cyane

Red-flanked Bluetail, Tarsiger cyanurus

Golden Bush-Robin, Tarsiger chrysaeus

White-browed Bush-Robin, Tarsiger indicus

Rufous-breasted Bush-Robin, Tarsiger hyperythrus

Collared Bush-Robin, Tarsiger johnstoniae

European Robin, Erithacus rubecula

Japanese Robin, Erithacus akahige

Ryukyu Robin, Erithacus komadori

White-throated Robin, Irania gutturalis

Whinchat, Saxicola rubetra

Stoliczka's Bushchat or White-browed Bushchat, Saxicola macrorhyncha

Hodgson's Bushchat or White-throated Bushchat, Saxicola insignis Fuerteventura Chat or Canary Island Stonechat, Saxicola dacotiae

European Stonechat, Saxicola rubicola (previously S. torquata rubicola) Siberian Stonechat or Asian Stonechat, Saxicola maura (previously S. torquata maura)

African Stonechat, Saxicola torquata

Réunion Stonechat, Saxicola tectes

White-tailed Stonechat, Saxicola leucura

Pied Bushchat, Saxicola caprata

Jerdon's Bushchat, Saxicola jerdoni

Grey Bushchat, Saxicola ferrea

White-bellied Bushchat or Timor Bushchat, Saxicola gutturalis

Buff-streaked Bushchat, Saxicola bifasciata

White-starred Robin, Pogonocichla stellata

Swynnerton's Robin, Swynnertonia swynnertoni

Forest Robin, Stiphrornis erythrothorax

Angola Cave-Chat, Xenocopsychus ansorgei

Indian Robin, Saxicoloides fulicata

White-tailed Robin, Cinclidium leucurum

Sunda Robin, Cinclidium diana

Blue-fronted Robin, Cinclidium frontale

Grandala, Grandala coelicolor

Herero Chat, Namibornis herero

Sicklewing Chat, Cercomela sinuata

Karoo Chat, Cercomela schlegelii

Tractrac Chat, Cercomela tractrac

Familiar Chat, Cercomela familiaris

Brown-tailed Chat, Cercomela scotocerca

Indian Chat, Cercomela fusca

Sombre Chat, Cercomela dubia

Blackstart, Cercomela melanura

Moorland Chat, Cercomela sordida

Congo Moorchat, Myrmecocichla tholloni

Northern Anteater-Chat, Myrmecocichla aethiops

Southern Anteater-Chat, Myrmecocichla formicivora

Sooty Chat, Myrmecocichla nigra

Rueppell's Chat, Myrmecocichla melaena

White-fronted Black-Chat, Myrmecocichla albifrons

White-headed Black-Chat, Myrmecocichla arnotti

Mocking Cliff-Chat, Thamnolaea cinnamomeiventris

White-winged Cliff-Chat, Thamnolaea semirufa

Boulder Chat Pinarornis plumosus

Other Saxicolini species are dealt with under the following articles:

- Genus Oenanthe, wheatears
- Genus *Phoenicurus* redstarts.
- Genus Sheppardia, akalats

- Genus *Cossypha*, <u>robin-chats</u>
- Genus *Cichladusa*, palm-thrushes
- Genus Cercotrichas, scrub-robins, including Rufous Bush Robin
- Genera *Copsychus* and *Trichixos*, <u>magpie-robins</u> and sharmas
 - Genus *Enicurus*, <u>forktails</u>
- Genus *Cochoa*, <u>cochoas</u>

Cercotrichas

Scrub robins

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: Cercotrichas Boie, 1831 Species: See text.

The **scrub robins** or **bush chats** are medium-sized insectivorous <u>birds</u> in the <u>genus</u> *Cercotrichas*. They were formerly in the <u>thrush</u> family (<u>Turdidae</u>), but are more often now treated as part of the <u>Old World flycatcher</u> family (<u>Muscicapidae</u>).

These are mainly African species of open woodland or scrub, which nest in bushes or on the ground, but the Rufous Bush Chat also breeds in southern Europe and east to Pakistan.

Species are:

Forest Scrub Robin, Cercotrichas leucosticta

Bearded Scrub Robin, Cercotrichas quadrivirgata

Miombo Scrub Robin, Cercotrichas barbata

Brown Scrub Robin, Cercotrichas signata

Brown-backed Scrub Robin, Cercotrichas hartlaubi

Red-backed Scrub Robin, Cercotrichas leucophrys

Rufous-tailed Scrub Robin or Rufous Bush Chat, Cercotrichas galactotes

Kalahari Scrub Robin, Cercotrichas paena

African Scrub Robin, Cercotrichas minor

Karoo Scrub Robin, Cercotrichas coryphaeus

Black Scrub Robin, Cercotrichas podobe

Cochoa

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: *Cochoa* Hodgson, 1836 Species: *Cochoa purpurea, Cochoa viridis, Cochoa beccarii,*

Cochoa azurea

The **cochoas** are medium-sized insectivorous and molluscivorous <u>birds</u> in the genus *Cochoa*. They were formerly in the <u>thrush</u> family Turdidae, but are more often now treated as part of the <u>Old World flycatcher</u> family Muscicapidae.

These are southeast Asian forest-dwelling species, often found near water.

 Purple Cochoa, Cochoa purpurea Green Cochoa, Cochoa viridis Sumatran Cochoa, Cochoa beccarii Javan Cochoa, Cochoa azurea

Copsychus

Magpie-Robins Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genera: Copsychus, Trichixos

The **magpie-robins** or **shamas** are medium-sized insectivorous <u>birds</u> (some also eat berries and other fruit) in the genera *Copsychus* and *Trichixos*. They were formerly in the <u>thrush</u> family Turdidae, but are more often now treated as part of the <u>Old World flycatcher</u> Muscicapidae.

These are African and Asian garden and forest dwelling species. Species list:

Madagascar Magpie Robin, Copsychus albospecularis Oriental Magpie Robin, Copsychus saularis White-rumped Shama, Copsychus malabaricus Seychelles Magpie Robin, Copsychus sechellarum White-browed Shama, Copsychus luzoniensis White-vented Shama, Copsychus niger Black Shama, Copsychus cebuensis Rufous-tailed Shama, Trichixos pyrropyga

Cossypha

Robin-Chats

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: Cossypha Vigors, 1825 Species: See text.

The **robin-chats** are small insectivorous <u>birds</u> in the genus *Cossypha*. They were formerly in the <u>thrush</u> family Turdidae, but are more often now treated as part of the <u>Old</u> World flycatcher Muscicapidae.

These are African woodland dwelling species, but some have become adapted to sites around human habitation.

Species are

White-bellied Robin-Chat, Cossypha roberti
Mountain Robin-Chat, Cossypha isabellae
Archer's Robin-Chat, Cossypha archeri
Olive-flanked Robin-Chat, Cossypha anomala
Cape Robin-Chat, Cossypha caffra
White-throated Robin-Chat, Cossypha humeralis
Blue-shouldered Robin-Chat, Cossypha cyanocampter
Gray-winged Robin-Chat, Cossypha polioptera
Rueppell's Robin-Chat, Cossypha semirufa
White-browed Robin-Chat, Cossypha heuglini
Red-capped Robin-Chat, Cossypha natalensis
Chorister Robin-Chat, Cossypha dichroa
White-headed Robin-Chat, Cossypha heinrichi
Snowy-crowned Robin-Chat, Cossypha niveicapilla
White-crowned Robin-Chat, Cossypha albicapilla

Enicurus

Forktails

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: *Enicurus* Temminck, 1822Species: See text.

The **forktails** are small insectivorous <u>birds</u> in the <u>genus</u> *Enicurus*. They were formerly in the <u>thrush</u> family <u>Turdidae</u>, but are more often now treated as part of the <u>Old World flycatcher</u> family Muscicapidae. Their name derives from their long forked tail.

These are southeast Asian forest species principally associated with mountain forests and streams. Most nest in rock crevices, laying 2-4 eggs.

Species

 Little Forktail, Enicurus scouleri Sunda Forktail, Enicurus velatus Chestnut-naped Forktail, Enicurus ruficapillus Black-backed Forktail, Enicurus immaculatus Slaty-backed Forktail, Enicurus schistaceus White-crowned Forktail, Enicurus leschenaulti Spotted Forktail, Enicurus maculatus

Forktail is also the name of the journal of the Oriental Bird Club

Erithacus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: *Erithacus* Cuvier, 1800Species: *E. rubecula, E. akahige, E. komadori*

Erithacus is a genus of small <u>passerine birds</u> formerly classed as members of the <u>thrush</u> family, but now considered to be <u>Old World flycatchers</u>.

The three species are:

- European Robin, Erithacus rubecula
- Japanese Robin, Erithacus akahige
- Ryukyu Robin, *Erithacus komadori*

The two Asian species were formerly considered to be members of the genus Luscinia; apparently, both genera need to be split and rearranged. The European species would then be the only remaining Erithacus, whereas the East Asian species are closely related to some species from the region now classed as Luscinia, for example the Siberian Blue Robin and would form a new genus (Seki, 2006).

The three species are stocky small birds with an upright stance and short frequently cocked tail. They have a plain brown back, and a red or black face and breast contrasting with whitish or grey underparts. The females of the Asian species are much duller than the males, but in the European Robin differences between the sexes are minimal and restricted to the shape of the boundary between the red and brown plumage on the forehead.

Erithacus robins are territorial woodland birds which build a neat cup nest in a hole or on the ground. They watch for insects, worms and other invertebrates from a low perch, and feed mostly on the ground, hopping on strong legs with frequent stops.

References

- **Seki**, Shin-Ichi (2006): The origin of the East Asian *Erithacus* robin, *Erithacus komadori*, inferred from cytochrome *b* sequence data. *Molecular Phylogenetics and Evolution* **39**(3): 899–905. DOI:10.1016/j.ympev.2006.01.028
- **Svensson**, Lars; Zetterström, Dan; Mullarney, Killian & Grant, P. J. (1999): *Collins bird guide*. Harper & Collins, London. ISBN 0-00-219728-6

Luscinia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: Luscinia Forster, 1817 Species: See text.

Luscinia is a genus of small <u>passerine</u> <u>birds</u> formerly classed as members of the <u>thrush</u> family, but now considered to be <u>Old World flycatchers</u>.

The species are:

Bluethroat, Luscinia svecica

Siberian Rubythroat, Luscinia calliope

Rufous-tailed Robin or Swinhoe's Nightingale, Luscinia sibilans

Thrush Nightingale, Luscinia luscinia

Nightingale, Luscinia megarhynchos

Indian Bluechat, Luscinia brunneus

White-tailed Rubythroat, Luscinia pectoralis

Rufous-headed Robin, Luscinia ruficeps

Black-throated Blue Robin, Luscinia obscura

Firethroat, Luscinia pectardens

Siberian Blue Robin, Luscinia cyane

Formerly, some or all of the *Luscinia* species have been placed in the genus Erithacus and vice versa. Recent research (Seki, 2006) suggests that the genus should be split, with most species being retained in Luscinia and a new genus uniting East Asian forms like the Siberian Blue Robin with the East Asian *Erithacus* species.

These are species of the temperate regions of Europe and Asia, including the Himalayas. All the birds in this genus are strongly <u>migratory</u>, wintering in tropical Africa, India or Southeast Asia.

The breeding habitat is typically scrub or forest, and the cup nest is usually constructed low in a bush. The birds can be difficult to see in dense undergrowth, especially if not singing, but they may frequent somewhat more open habitats in their winter quarters.

The *Luscinia* species are stocky small birds, 13-16 cm long with an upright stance and short frequently cocked tail. They are territorial birds which watch for insects, worms and other invertebrates from a low perch, and feed mostly on the ground, hopping on strong legs with frequent stops.

In the three species named as nightingales, the sexes are similar. These birds are plain brown above, whitish below with light streaking, and have a rufous tail.

In the other *Luscinia* species, the male is much brighter than the usually brown or grey female. Males of most of these species have a dark blue or black back, and red, orange or blue at least on the throat and upper breast. Several have white or rufous patches on the sides of the tail, giving a pattern recalling that of a <u>wheatear</u> or Red-breasted Flycatcher.

The songs of this genus are often complex and musical, especially in the nightingales.

References

- **Grimmett**, Richard; Inskipp, Carol & Inskipp, Tim (1999): *Birds of India, Pakistan, Nepal, Bangladesh, Bhutan, Sri Lanka, and the Maldives*. Princeton University Press, Princeton, N.J.. ISBN 0-691-04910-6
- **Seki**, Shin-Ichi (2006): The origin of the East Asian *Erithacus* robin, *Erithacus komadori*, inferred from cytochrome *b* sequence data. *Molecular Phylogenetics and Evolution* **39**(3): 899–905. DOI:10.1016/j.vmpev.2006.01.028
- **Svensson**, Lars; Zetterström, Dan; Mullarney, Killian & Grant, P. J. (1999): *Collins bird guide*. Harper & Collins, London. ISBN 0-00-219728-6

Oenanthe

Wheatears

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: *Oenanthe* Vieillot, 1816Species: See text.

The **wheatears**, **genus** *Oenanthe*, were formerly considered to be members of the **thrush** family Turdidae. They are more commonly now placed in the **flycatcher** family Muscicapidae. This is an Old World group, but the Northern Wheatear has established a foothold in eastern Canada and Greenland.

They are terrestrial insectivorous <u>passerine</u> <u>birds</u> of open, often dry, country . They often nest in rock crevices or disused burrows.

Northern species are long-distance migrants, wintering in Africa.

Wheatears are typically larger than the European Robin. Most species have characteristic black and white or red and white markings on their rumps or their long tails.

Most species are strongly sexually dimorphic; only the male has the striking plumage patterns characteristic of the genus, though the females share the white or red rump patches.

The wheatear species are:

• Northern Wheatear, Oenanthe oenanthe

Isabelline Wheatear, Oenanthe isabellina

Desert Wheatear, Oenanthe deserti

Black-eared Wheatear, Oenanthe hispanica

Pied Wheatear, Oenanthe pleschanka

Cyprus Wheatear, Oenanthe cypriaca

Finsch's Wheatear, Oenanthe finscii

Mourning Wheatear, Oenanthe lugens

Hooded Wheatear, Oenanthe monacha

White-crowned Wheatear, Oenanthe leucopyga

Black Wheatear, Oenanthe leucura

Persian Wheatear or Red-tailed Wheatear, Oenanthe xanthoprymna

Red-rumped Wheatear, Oenanthe moesta

Hume's Wheatear, Oenanthe alboniger

Mountain Wheatear, Oenanthe monticola

Somali Wheatear, Oenanthe phillipsi

Variable Wheatear, Oenanthe picata

Capped Wheatear, Oenanthe pileata

Red-breasted Wheatear, Oenanthe bottae

Heuglin's Wheatear, Oenanthe heuglini

Phoenicurus

Redstarts

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Muscicapidae</u>
Species: See text.

Redstarts are a group of small Old World birds. They were formerly classified in the thrush family (<u>Turdidae</u>), but are more often now treated as part of the <u>Old World flycatcher</u> family (<u>Muscicapidae</u>).

These are insectivorous ground feeding <u>birds</u>, many of which have the red tail ("start" in old English, which gives the group its name). Most northern species are strong <u>migrants</u>.

New World redstarts of the genera Setophaga and Myioborus are not closely related; they are <u>New World warblers</u> of the family Parulidae. The latter are often called "whitestarts".

Species include:

- Family Muscicapidae
 - o Genus Phoenicurus
 - Ala Shan Redstart (Phoenicurus alaschanicus)
 Rufous-backed Redstart (Phoenicurus erythronota)
 Blue-capped Redstart (Phoenicurus caeruleocephalus)
 Black Redstart (Phoenicurus ochruros)
 Common Redstart (Phoenicurus phoenicurus)

Hodgson's Redstart (Phoenicurus hodgsoni)

White-throated Redstart (Phoenicurus schisticeps)

Daurian Redstart (Phoenicurus auroreus)

Moussier's Redstart (Phoenicurus moussieri)

White-winged Redstart (Phoenicurus erythrogaster)

Blue-fronted Redstart (Phoenicurus frontalis)

- o Genus Chaimarrornis
 - White-capped Redstart (Chaimarrornis leucocephalus)
- o Genus Rhyacornis
 - Plumbeous Redstart (Rhyacornis fuliginosus)
 - Luzon Redstart (Rhyacornis bicolor)
- o Genus Hodgsonius
 - White-bellied Redstart (Hodgsonius phaenicuroides)

Saxicola

Stonechats

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: *Saxicola* Bechstein, 1802 Species: See text.

The genus *Saxicola*, the **stonechats** or **chats**, is a genus of 14 species of small <u>passerine</u> <u>birds</u> restricted to the Old World. They are insectivores of open scrubland and grassland with scattered small shrubs.

Genetic evidence presented in the recent monograph by Urquhart & Bowley 2002 strongly supports the splitting of the **Common Stonechat** (*Saxicola torquata* sensu lato) into three species, **African Stonechat** (*S. torquata*), **European Stonechat** (*S. rubicola*) and **Asian Stonechat** (*S. maura*). This treatment is likely to become standard in the future.

Species list, following Urquhart & Bowley 2002:

• Whinchat, Saxicola rubetra

Stoliczka's Bushchat or White-browed Bushchat, Saxicola macrorhyncha Hodgson's Bushchat or White-throated Bushchat, Saxicola insignis Fuerteventura Chat or Canary Island Stonechat, Saxicola dacotiae European Stonechat, Saxicola rubicola (previously S. torquata rubicola) Siberian Stonechat or Asian Stonechat, Saxicola maura (previously S. torquata maura)

African Stonechat, Saxicola torquata
Reunion Stonechat, Saxicola tectes
White-tailed Stonechat, Saxicola leucura
Pied Bushchat, Saxicola caprata
Jerdon's Bushchat, Saxicola jerdoni
Grey Bushchat, Saxicola ferrea

White-bellied Bushchat or Timor Bushchat, Saxicola gutturalis

Buff-streaked Bushchat, Saxicola bifasciata

Reference

• Urquhart, E. & Bowley, A. 2002. *Stonechats. A Guide to the Genus Saxicola*. Helm. ISBN 0-7136-6024-4

Sheppardia

Akalats

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Muscicapidae</u>

Genus: Sheppardia Haagner, 1909 Species: See text.

The **akalats** are medium-sized insectivorous <u>birds</u> in the genus *Sheppardia*. They were formerly placed in the <u>thrush</u> family, Turdidae, but are more often now treated as part of the <u>Old World flycatcher</u> Muscicapidae.

These are African forest-dwelling species. Species are:

Bocage's Akalat, Sheppardia bocagei
 Lowland Akalat, Sheppardia cyornithopsis
 Equatorial Akalat, Sheppardia aequatorialis
 Sharpe's Akalat, Sheppardia sharpei
 East Coast Akalat, Sheppardia gunningi
 Gabela Akalat, Sheppardia gabela
 Usambara Akalat, Sheppardia montana
 Iringa Akalat, Sheppardia lowei
 Rubeho Akalat, Sheppardia aurantiithorax

Nectariniidae

Sunbirds and Spiderhunters

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Nectariniidae Vigors, 1825Genera: Many: see text

The **sunbirds** and **spiderhunters** are very small <u>passerine</u> <u>birds</u> which feed largely on nectar, although they will also take insects, especially when feeding young. Flight is fast and direct on their short wings. Most species can take nectar by hovering like a hummingbird, but usually perch to feed.

Although they are completely unrelated, the sunbirds find counterparts in the hummingbirds of the Americas and the honeyeaters of Australia. The resemblances are due to convergent evolution due to the similar nectar-feeding lifestyle.

The sunbirds are tropical species, with representatives from Africa to Australasia; however, the greatest variety of species is in Africa where the group probably arose. Most species are sedentary or short-distance <u>seasonal migrants</u>.

Like the hummingbirds, they are strongly sexually dimorphic, with the males usually brilliantly plumaged in metallic colours. Sunbirds have long thin down-curved bills and brush tipped tubular tongues, both adaptations to their nectar feeding. Up to three eggs are laid in a purse-shaped suspended nest.

• Family: Nectariniidae

- o Genus Chalcoparia (sometimes included in Anthreptes)
 - Ruby-cheeked Sunbird, Chalcoparia singalensis Conservation status: Lower risk
- o Genus *Deleornis* (sometimes included in *Anthreptes*)
 - Scarlet-tufted Sunbird, Deleornis fraseri Conservation status: Lower risk
 (lc)

Grey-headed Sunbird, Deleornis axillaris (sometimes considered subspecies of D. fraseri) Conservation status: Lower risk (lc)

- o Genus Anthreptes
 - Plain-backed Sunbird, Anthreptes reichenowi Conservation status:
 Lower risk (nt)

Anchieta's Sunbird, Anthreptes anchietae Conservation status: Lower risk (lc)

Plain Sunbird, Anthreptes simplex Conservation status: Lower risk (lc) Plain-throated Sunbird, Anthreptes malacensis Conservation status: Lower risk (lc)

Red-throated Sunbird, Anthreptes rhodolaemus Conservation status: Lower risk (nt)

Mouse-brown Sunbird, Anthreptes gabonicus Conservation status: Lower risk (lc)

Western Violet-backed Sunbird, Anthreptes longuemarei Conservation

status: Lower risk (lc)

Kenya Violet-backed Sunbird, Anthreptes orientalis Conservation status: Lower risk (lc)

Uluguru Violet-backed Sunbird, Anthreptes neglectus Conservation status: Lower risk (lc)

Violet-tailed Sunbird, Anthreptes aurantium Conservation status: Lower risk (lc)

Little Green Sunbird, Anthreptes seimundi (sometimes included in Nectarinia) Conservation status: Lower risk (lc)

Green Sunbird, Anthreptes rectirostris Conservation status: Lower risk (lc)

Banded Sunbird, Anthreptes rubritorques Conservation status: Vulnerable

- o Genus *Hedydipna* (sometimes included in *Anthreptes*)
 - Collared Sunbird, Hedydipna collaris Conservation status: Lower risk (lc)
 Pygmy Sunbird, Hedydipna platura Conservation status: Lower risk (lc)
 Nile Valley Sunbird, Hedydipna metallica Conservation status: Lower risk (lc)

Amani Sunbird, Hedydipna pallidigaster Conservation status: Endangered

- o Genus *Hypogramma*
 - Purple-naped Sunbird, Hypogramma hypogrammicum Conservation status:
 Lower risk (lc)
- Genus Anabathmis (sometimes included in Nectarinia)
 - Reichenbach's Sunbird, Anabathmis reichenbachii Conservation status: Lower risk (lc)

Principe Sunbird, Anabathmis hartlaubii Conservation status: Lower risk (lc)

Newton's Sunbird, Anabathmis newtonii Conservation status: Lower risk (lc)

- o Genus *Dreptes* (sometimes included in *Nectarinia*)
 - Sao Tome Sunbird, *Dreptes thomensis* Conservation status: Vulnerable
- Genus Anthobaphes (sometimes included in Nectarinia)
 - Orange-breasted Sunbird, Anthobaphes violacea Conservation status: Lower risk (lc)
- o Genus *Cyanomitra* (sometimes included in *Nectarinia*)
 - Green-headed Sunbird, Cyanomitra verticalis Conservation status: Lower risk (lc)

Blue-throated Brown Sunbird, Cyanomitra cyanolaema Conservation status: Lower risk (lc)

Blue-headed Sunbird, Cyanomitra alinae Conservation status: Lower risk (lc)

Cameroon Sunbird, Cyanomitra oritis Conservation status: Lower risk

(lc)

Bannerman's Sunbird, Cyanomitra bannermani Conservation status: Lower risk (lc)

Eastern Olive Sunbird, Cyanomitra olivacea Conservation status: Lower risk (lc)

Western Olive Sunbird, Cyanomitra obscura Conservation status: Lower risk (lc)

Mouse-colored Sunbird, Cyanomitra veroxii Conservation status: Lower risk (lc)

- o Genus *Chalcomitra* (sometimes included in *Nectarinia*)
 - Buff-throated Sunbird, Chalcomitra adelberti Conservation status: Lower risk (lc)

Carmelite Sunbird, Chalcomitra fuliginosa Conservation status: Lower risk (lc)

Green-throated Sunbird, Chalcomitra rubescens Conservation status: Lower risk (lc)

Amethyst Sunbird, Chalcomitra amethystina Conservation status: Lower risk (lc)

Scarlet-chested Sunbird, Chalcomitra senegalensis Conservation status: Lower risk (lc)

Hunter's Sunbird, Chalcomitra hunteri Conservation status: Lower risk (lc)

Socotra Sunbird, Chalcomitra balfouri Conservation status: Lower risk (lc)

- o Genus *Leptocoma* (sometimes included in *Nectarinia*)
 - Purple-rumped Sunbird, Leptocoma zeylonica Conservation status:
 Lower risk (lc)

Crimson-backed Sunbird, Leptocoma minima Conservation status: Lower risk (lc)

Copper-throated Sunbird, Leptocoma calcostetha Conservation status: Lower risk (lc)

Purple-throated Sunbird, Leptocoma sperata Conservation status: Lower risk (lc)

Black Sunbird, Leptocoma sericea (formerly Nectarinia aspasia) Conservation status: Lower risk (lc)

- o Genus *Nectarinia*
 - Bocage's Sunbird, Nectarinia bocagii Conservation status: Lower risk (lc)
 Purple-breasted Sunbird, Nectarinia purpureiventris Conservation status: Lower risk (lc)

Tacazze Sunbird, Nectarinia tacazze Conservation status: Lower risk (lc) Bronze Sunbird, Nectarinia kilimensis Conservation status: Lower risk (lc)

Golden-winged Sunbird, Nectarinia reichenowi Conservation status: Lower risk (lc)

Red-tufted Sunbird, Nectarinia johnstoni Conservation status: Lower

risk (lc)

Malachite Sunbird, Nectarinia famosa Conservation status: Lower risk (lc)

- o Genus *Cinnyris* (sometimes included in *Nectarinia*)
 - Olive-bellied Sunbird, Cinnyris chloropygius Conservation status: Lower risk (lc)

Tiny Sunbird, Cinnyris minullus Conservation status: Lower risk (lc) Miombo Sunbird, Cinnyris manoensis Conservation status: Lower risk (lc)

Southern Double-collared Sunbird, Cinnyris chalybeus Conservation status: Lower risk (lc)

Neergaard's Sunbird, Cinnyris neergaardi Conservation status: Lower risk (nt)

Stuhlmann's Sunbird, Cinnyris stuhlmanni (sometimes considered subspecies of C. afer) Conservation status: Lower risk (nt)

Prigogine's Sunbird, Cinnyris prigoginei (sometimes considered subspecies of C. afer) Conservation status: Lower risk (nt)

Montane Double-collared Sunbird, Cinnyris ludovicensis Conservation status: Lower risk (lc)

Northern Double-collared Sunbird, Cinnyris preussi Conservation status: Lower risk (lc)

Greater Double-collared Sunbird, Cinnyris afer Conservation status: Lower risk (lc)

Regal Sunbird, Cinnyris regius Conservation status: Lower risk (lc) Rockefeller's Sunbird, Cinnyris rockefelleri Conservation status: Vulnerable

Eastern Double-collared Sunbird, Cinnyris mediocris Conservation status: Lower risk (lc)

Moreau's Sunbird, Cinnyris moreaui Conservation status: Lower risk (nt)

Beautiful Sunbird, Cinnyris pulchellus Conservation status: Lower risk (lc)

Loveridge's Sunbird, Cinnyris loveridgei Conservation status: Lower risk (lc)

Mariqua Sunbird, Cinnyris mariquensis Conservation status: Lower risk (lc)

Shelley's Sunbird, Cinnyris shelleyi Conservation status: Lower risk (lc) Congo Sunbird, Cinnyris congensis Conservation status: Lower risk (lc) Red-chested Sunbird, Cinnyris erythrocerca Conservation status: Lower risk (lc)

Black-bellied Sunbird, Cinnyris nectarinioides Conservation status: Lower risk (lc)

Purple-banded Sunbird, Cinnyris bifasciatus Conservation status: Lower risk (lc)

Tsavo Sunbird, Cinnyris tsavoensis (sometimes considered subspecies

of C. bifasciatus) Conservation status: Lower risk (lc)

Violet-breasted Sunbird, Cinnyris chalcomelas Conservation status: Lower risk (lc)

Pemba Sunbird, Cinnyris pembae Conservation status: Lower risk (lc) Orange-tufted Sunbird, Cinnyris bouvieri Conservation status: Lower risk (lc)

Palestine Sunbird, Cinnyris oseus Conservation status: Lower risk (lc) Shining Sunbird, Cinnyris habessinicus Conservation status: Lower risk (lc)

Splendid Sunbird, Cinnyris coccinigaster Conservation status: Lower risk (lc)

Johanna's Sunbird, Cinnyris johannae Conservation status: Lower risk (lc)

Superb Sunbird, Cinnyris superbus Conservation status: Lower risk (lc) Rufous-winged Sunbird, Cinnyris rufipennis Conservation status: Vulnerable

Oustalet's Sunbird, Cinnyris oustaleti Conservation status: Lower risk (lc)

White-breasted Sunbird, Cinnyris talatala Conservation status: Lower risk (lc)

Variable Sunbird, Cinnyris venustus Conservation status: Lower risk (lc) Dusky Sunbird, Cinnyris fuscus Conservation status: Lower risk (lc) Ursula's Sunbird, Cinnyris ursulae Conservation status: Lower risk (nt) Bates' Sunbird, Cinnyris batesi Conservation status: Lower risk (lc) Copper Sunbird, Cinnyris cupreus Conservation status: Lower risk (lc) Purple Sunbird, Cinnyris asiaticus Conservation status: Lower risk (lc) Olive-backed Sunbird, Cinnyris jugularis Conservation status: Lower risk (lc)

Apricot-breasted Sunbird, Cinnyris buettikoferi Conservation status: Lower risk (lc)

Flame-breasted Sunbird, Cinnyris solaris Conservation status: Lower risk (lc)

Souimanga Sunbird, Cinnyris sovimanga Conservation status: Lower risk (lc)

Seychelles Sunbird, Cinnyris dussumieri Conservation status: Lower risk (lc)

Madagascar Sunbird, Cinnyris notatus Conservation status: Lower risk (lc)

Humblot's Sunbird, Cinnyris humbloti Conservation status: Lower risk (lc)

Anjouan Sunbird, Cinnyris comorensis Conservation status: Lower risk (lc)

Mayotte Sunbird, Cinnyris coquerellii Conservation status: Lower risk (lc)

Long-billed Sunbird, Cinnyris lotenius Conservation status: Lower risk (lc)

o Genus Aethopyga

Gray-hooded Sunbird, Aethopyga primigenia Conservation status: Lower risk (nt)

Mount Apo Sunbird, Aethopyga boltoni Conservation status: Lower risk (nt)

Lina's Sunbird, Aethopyga linaraborae Conservation status: Lower risk (nt)

Flaming Sunbird, Aethopyga flagrans Conservation status: Lower risk (lc)

Metallic-winged Sunbird, Aethopyga pulcherrima Conservation status: Lower risk (lc)

Elegant Sunbird, Aethopyga duyvenbodei Conservation status: Endangered

Lovely Sunbird, Aethopyga shelleyi Conservation status: Lower risk (lc) Handsome Sunbird, Aethopyga belli Conservation status: Lower risk (lc) Gould's Sunbird, Aethopyga gouldiae Conservation status: Lower risk (lc)

White-flanked Sunbird, Aethopyga eximia Conservation status: Lower risk (lc)

Green-tailed Sunbird, Aethopyga nipalensis Conservation status: Lower risk (lc)

Fork-tailed Sunbird, Aethopyga christinae Conservation status: Lower risk (lc)

Black-throated Sunbird, Aethopyga saturata Conservation status: Lower risk (lc)

Western Crimson Sunbird, Aethopyga vigorsii (sometimes considered subspecies of A. siparaja) Conservation status: Lower risk (lc)

Crimson Sunbird, Aethopyga siparaja Conservation status: Lower risk (lc)

Scarlet Sunbird, Aethopyga mystacalis Conservation status: Lower risk (lc)

Temminck's Sunbird, Aethopyga temminckii (sometimes considered subspecies of A. mystacalis) Conservation status: Lower risk (lc) Fire-tailed Sunbird, Aethopyga ignicauda Conservation status: Lower

o Genus *Arachnothera* - spiderhunters

risk (lc)

 Thick-billed Spiderhunter, Arachnothera crassirostris Conservation status: Lower risk (lc)

Spectacled Spiderhunter, Arachnothera flavigaster Conservation status: Lower risk (lc)

Long-billed Spiderhunter, Arachnothera robusta Conservation status: Lower risk (lc)

Little Spiderhunter, Arachnothera longirostra Conservation status:

Lower risk (lc)

Yellow-eared Spiderhunter, Arachnothera chrysogenys Conservation status: Lower risk (lc)

Naked-faced Spiderhunter, Arachnothera clarae Conservation status: Lower risk (lc)

Gray-breasted Spiderhunter, Arachnothera modesta (sometimes considered subspecies of A. affinis) Conservation status: Lower risk (lc) Streaky-breasted Spiderhunter, Arachnothera affinis Conservation status: Lower risk (lc)

Bornean Spiderhunter, Arachnothera everetti Conservation status: Lower risk (lc)

Streaked Spiderhunter, Arachnothera magna Conservation status: Lower risk (lc)

Whitehead's Spiderhunter, Arachnothera juliae Conservation status: Lower risk (lc)

Nuthatches

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Sittidae Lesson, 1828Genus: Sitta Linnaeus, 1758Species: 22 species, see text

The **nuthatches** are a family, **Sittidae**, of generally very similar small <u>passerine</u> <u>birds</u> found throughout the Northern hemisphere.

The nuthatch family, Sittidae, traditionally contained 23 species. The subfamily Sittinae held the 22 species of "true" nuthatches, and the subfamily Tichodromadinae held a single species, the unique Wallcreeper, Tichodroma muraria, which is now separated in its own family, Tichodromadidae.

Most nuthatches are woodland birds, although a few species have adapted to rocky habitats. They have the unusual ability to climb down trees head first, unlike species such as woodpeckers which can only go upwards.

Nuthatches have big heads, short tails and powerful bills and feet. Their shape is distinctive, and all species are recognizable as nuthatches if one has been seen.

They are generally omnivorous, taking insects, nuts and seeds. Most are resident, but the Red-breasted Nuthatch <u>migrates</u> from the north of its range.

Nests are in holes or crevices. In some species the size of the hole is reduced by the building of a mud wall.

This group gets its name from the habit of the Eurasian Nuthatch of wedging a nut in a crevice in a tree, and then hacking at it with its strong bill.

The list of species below, all in the genus *Sitta* (Linnaeus, 1758), is probably the maximum. Some taxonomists consider that some of the indicated species are in fact conspecific.

Family: Sittidae

Eurasian Nuthatch, Sitta europaea
 Chestnut-vented Nuthatch, Sitta nagaensis
 Kashmir Nuthatch, Sitta cashmirensis
 Chestnut-bellied Nuthatch, Sitta castanea
 White-tailed Nuthatch, Sitta himalayensis
 White-browed Nuthatch, Sitta victoriae
 Pygmy Nuthatch, Sitta pygmaea
 Brown-headed Nuthatch, Sitta pusilla
 Corsican Nuthatch, Sitta whiteheadi
 Algerian Nuthatch, Sitta ledanti
 Krüper's Nuthatch, Sitta krueperi
 Chinese Nuthatch, Sitta villosa
 Yunnan Nuthatch, Sitta yunnanensis
 Red-breasted Nuthatch, Sitta canadensis

White-cheeked Nuthatch, Sitta leucopsis
White-breasted Nuthatch, Sitta carolinensis
Western Rock Nuthatch, Sitta neumayer
Eastern Rock Nuthatch, Sitta tephronota
Velvet-fronted Nuthatch, Sitta frontalis
Yellow-billed Nuthatch, Sitta solangiae
Sulphur-billed Nuthatch, Sitta oenochlamys
Blue Nuthatch, Sitta azurea
Giant Nuthatch, Sitta magna
Beautiful Nuthatch, Sitta formosa

References

- Tits, Nuthatches and Treecreepers, Harrap and Quinn, ISBN 0-7136-3964-4
- *The Nuthatches*, Erik Matthysen, Academic Press 1998, ISBN 0-85661-101-8

Old World babblers

Babblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Timaliidae**

Genera: almost 50: see text

The **Old World babblers** are a large family of mostly Old World <u>passerine birds</u>. They are rather diverse in size and coloration, but are characterised by soft fluffy plumage. These are birds of tropical areas, with the greatest variety in southeast Asia. There is also a single New World species, the Wrentit, Chamaea fasciata. The timaliids are one of two unrelated groups of birds known as babblers, the other being the Australasian Babblers of the family Pomatostomidae (also known as pseudo-babblers).

These birds have strong legs, and many are quite terrestrial. This group is not strongly migratory, and most species have short rounded wings, and a weak flight.

The species are:

Family: Timaliidae

- Genus Malia
 - o Malia, Malia grata
- Genus *Garrulax*, the laughingthrushes
 - o Ashy-headed Laughingthrush, Garrulax cinereifrons Sunda Laughingthrush, Garrulax palliatus Rufous-fronted Laughingthrush, Garrulax rufifrons Masked Laughingthrush, Garrulax perspicillatus White-throated Laughingthrush, Garrulax albogularis White-crested Laughingthrush, Garrulax leucolophus Lesser Necklaced Laughingthrush, Garrulax monileger Greater Necklaced Laughingthrush, Garrulax pectoralis Black Laughingthrush, Garrulax lugubris Striated Laughingthrush, Garrulax striatus White-necked Laughingthrush, Garrulax strepitans Black-hooded Laughingthrush, Garrulax milleti Grey Laughingthrush, Garrulax maesi Rufous-necked Laughingthrush, Garrulax ruficollis Chestnut-backed Laughingthrush, Garrulax nuchalis Black-throated Laughingthrush, Garrulax chinensis White-cheeked Laughingthrush, Garrulax vassali Yellow-throated Laughingthrush, Garrulax galbanus Wynaad Laughingthrush, Garrulax delesserti Rufous-vented Laughingthrush, Garrulax gularis

Pere David's Laughingthrush, Garrulax davidi Sukatschev's Laughingthrush, Garrulax sukatschewi Moustached Laughingthrush, Garrulax cineraceus Rufous-chinned Laughingthrush, Garrulax rufogularis Spotted Laughingthrush, Garrulax ocellatus Barred Laughingthrush, Garrulax lunulatus Biet's Laughingthrush, Garrulax bieti Giant Laughingthrush, Garrulax maximus Grey-sided Laughingthrush, Garrulax caerulatus Rusty Laughingthrush, Garrulax poecilorhynchus Chestnut-capped Laughingthrush, Garrulax mitratus Spot-breasted Laughingthrush, Garrulax merulinus Hwamei, Garrulax canorus White-browed Laughingthrush, Garrulax sannio Rufous-breasted Laughingthrush, Garrulax cachinnans Grey-breasted Laughingthrush, Garrulax jerdoni Streaked Laughingthrush, Garrulax lineatus Striped Laughingthrush, Garrulax virgatus Scaly Laughingthrush, Garrulax subunicolor Brown-capped Laughingthrush, Garrulax austeni Blue-winged Laughingthrush, Garrulax squamatus Elliot's Laughingthrush, Garrulax elliotii Variegated Laughingthrush, Garrulax variegatus Prince Henry's Laughingthrush, Garrulax henrici Black-faced Laughingthrush, Garrulax affinis White-whiskered Laughingthrush, Garrulax morrisonianus Chestnut-crowned Laughingthrush, Garrulax erythrocephalus Golden-winged Laughingthrush, Garrulax ngoclinhensis Collared Laughingthrush, Garrulax yersini Red-winged Laughingthrush, Garrulax formosus Red-tailed Laughingthrush, Garrulax milnei

• Genus *Liocichla*, the liocichlas

- Grey-faced Liocichla, Liocichla omeiensis Steere's Liocichla, Liocichla steerii Red-faced Liocichla, Liocichla phoenicea Bugun Liocichla, Liocichla bugunorum
- Genus *Modulatrix*
 - o Spot-throat, *Modulatrix stictigula*
- Genus Arcanator
 - o Dapple-throat, *Arcanator orostruthus*
- Genus Trichastoma
 - White-chested Babbler, Trichastoma rostratum Sulawesi Babbler, Trichastoma celebense

Ferruginous Babbler, Trichastoma bicolor Bagobo Babbler, Trichastoma woodi

• Genus Malacocincla

Abbott's Babbler, Malacocincla abbotti
 Horsfield's Babbler, Malacocincla sepiarium
 Black-browed Babbler, Malacocincla perspicillata
 Short-tailed Babbler, Malacocincla malaccensis
 Ashy-headed Babbler, Malacocincla cinereiceps

• Genus Pellorneum

O Brown-capped Babbler, Pellorneum fuscocapillum
Marsh Babbler, Pellorneum palustre
Buff-breasted Babbler, Pellorneum tickelli
Temminck's Babbler, Pellorneum pyrrogenys
Spot-throated Babbler, Pellorneum albiventre
Puff-throated Babbler, Pellorneum ruficeps
Black-capped Babbler, Pellorneum capistratum

• Genus Malacopteron

- Palawan Babbler, Malacopteron palawanense Moustached Babbler, Malacopteron magnirostre Sooty-capped Babbler, Malacopteron affine Scaly-crowned Babbler, Malacopteron cinereum Rufous-crowned Babbler, Malacopteron magnum Grey-breasted Babbler, Malacopteron albogulare
- Genus *Illadopsis*, the illadopsises
 - Blackcap Illadopsis, Illadopsis cleaveri
 Scaly-breasted Illadopsis, Illadopsis albipectus
 Rufous-winged Illadopsis, Illadopsis rufescens
 Puvel's Illadopsis, Illadopsis puveli
 Pale-breasted Illadopsis, Illadopsis rufipennis
 Brown Illadopsis, Illadopsis fulvescens
 Mountain Illadopsis, Illadopsis pyrrhoptera
 African Hill Babbler, Illadopsis abyssinica
- Genus Kakamega
 - o Grey-chested Illadopsis, Kakamega poliothorax
- Genus Ptyrticus
 - o Thrush Babbler, *Ptyrticus turdinus*
- Genus *Pomatorhinus*, scimitar babblers
 - Large Scimitar Babbler, Pomatorhinus hypoleucos Spot-breasted Scimitar Babbler, Pomatorhinus erythrocnemis Rusty-cheeked Scimitar Babbler, Pomatorhinus erythrogenys Indian Scimitar Babbler, Pomatorhinus horsfieldii White-browed Scimitar Babbler, Pomatorhinus schisticeps Chestnut-backed Scimitar Babbler, Pomatorhinus montanus Streak-breasted Scimitar Babbler, Pomatorhinus ruficollis

Red-billed Scimitar Babbler, Pomatorhinus ochraceiceps Coral-billed Scimitar Babbler, Pomatorhinus ferruginosus

- Genus Xiphirhynchus, scimitar-babblers
 - o Slender-billed Scimitar Babbler, Xiphirhynchus superciliaris
- Genus Jabouilleia, scimitar-babblers
 - o Short-tailed Scimitar Babbler, *Jabouilleia danjoui*
- Genus *Rimator*, wren-babblers
 - o Long-billed Wren-babbler, Rimator malacoptilus
- Genus *Ptilocichla*, wren-babblers
 - Bornean Wren-babbler, Ptilocichla leucogrammica Striated Wren-babbler, Ptilocichla mindanensis Falcated Wren-babbler, Ptilocichla falcata
- Genus *Kenopia*, wren-babblers
 - o Striped Wren-babbler, Kenopia striata
- Genus Napothera, wren-babblers
 - Large Wren-babbler, Napothera macrodactyla
 Rusty-breasted Wren-babbler, Napothera rufipectus
 Black-throated Wren-babbler, Napothera atrigularis
 Marbled Wren-babbler, Napothera marmorata
 Limestone Wren-babbler, Napothera crispifrons
 Streaked Wren-babbler, Napothera brevicaudata
 Mountain Wren-babbler, Napothera crassa
 Luzon Wren-babbler, Napothera rabori
 Eyebrowed Wren-babbler, Napothera epilepidota
- Genus *Pnoepyga*, wren-babblers
 - Scaly-breasted Wren-babbler, Pnoepyga albiventer Immaculate Wren-babbler, Pnoepyga immaculata Pygmy Wren-babbler, Pnoepyga pusilla
- Genus Spelaeornis, wren-babblers
 - Rufous-throated Wren-babbler, Spelaeornis caudatus
 Mishmi Wren-babbler, Spelaeornis badeigularis
 Bar-winged Wren-babbler, Spelaeornis troglodytoides
 Spotted Wren-babbler, Spelaeornis formosus
 Long-tailed Wren-babbler, Spelaeornis chocolatinus
 Tawny-breasted Wren-babbler, Spelaeornis longicaudatus
 Wedge-billed Wren-babbler, Sphenocichla humei
- Genus Neomixis, jerys
 - Common Jery, Neomixis tenella
 Green Jery, Neomixis viridis
 Stripe-throated Jery, Neomixis striatigula
- Genus Hartertula
 - o Wedge-tailed Jery, Hartertula flavoviridis
- Genus Stachyris

- Deignan's Babbler, Stachyris rodolphei Buff-chested Babbler. Stachvris ambigua Rufous-fronted Babbler, Stachyris rufifrons Rufous-capped Babbler, Stachyris ruficeps Black-chinned Babbler, Stachyris pyrrhops Golden Babbler, Stachyris chrysaea Pygmy Babbler, Stachyris plateni Golden-crowned Babbler, Stachyris dennistouni Black-crowned Babbler, Stachyris nigrocapitata Rusty-crowned Babbler, Stachyris capitalis Flame-templed Babbler, Stachyris speciosa Chestnut-faced Babbler, Stachyris whiteheadi Luzon Striped Babbler, Stachyris striata Panay Striped Babbler, Stachyris latistriata Negros Striped Babbler, Stachyris nigrorum Palawan Striped Babbler, Stachyris hypogrammica White-breasted Babbler, Stachyris grammiceps Sooty Babbler, Stachyris herberti Grey-throated Babbler, Stachyris nigriceps Grev-headed Babbler, Stachyris poliocephala Snowy-throated Babbler, Stachyris oglei Spot-necked Babbler, Stachyris striolata White-necked Babbler, Stachyris leucotis Black-throated Babbler, Stachyris nigricollis White-bibbed Babbler, Stachyris thoracica Chestnut-rumped Babbler, Stachyris maculata Chestnut-winged Babbler, Stachyris erythroptera Crescent-chested Babbler, Stachyris melanothorax
- Genus Dumetia
 - o Tawny-bellied Babbler, Dumetia hyperythra
- Genus Rhopocichla
 - o Dark-fronted Babbler, Rhopocichla atriceps
- Genus Macronous, tit-babblers
 - Striped Tit-babbler, Macronous gularis
 Grey-cheeked Tit-babbler, Macronous flavicollis
 Grey-faced Tit-babbler, Macronous kelleyi
 Brown Tit-babbler, Macronous striaticeps
 Fluffy-backed Tit-babbler, Macronous ptilosus
 Miniature Tit-babbler, Micromacronus leytensis
- Genus Timalia
 - o Chestnut-capped Babbler, Timalia pileata
- Genus Chrvsomma

- Yellow-eyed Babbler, Chrysomma sinense Jerdon's Babbler, Chrysomma altirostre Rufous-tailed Babbler, Chrysomma poecilotis
- Genus Turdoides
 - Spiny Babbler, Turdoides nipalensis Iraq Babbler, Turdoides altirostris Common Babbler, Turdoides caudatus Striated Babbler, Turdoides earlei White-throated Babbler, Turdoides gularis Slender-billed Babbler, Turdoides longirostris Large Grey Babbler, Turdoides malcolmi Arabian Babbler, Turdoides squamiceps Fulvous Chatterer, Turdoides fulvus Scaly Chatterer, Turdoides aylmeri Rufous Chatterer, Turdoides rubiginosus Rufous Babbler, Turdoides subrufus Jungle Babbler, Turdoides striatus Orange-billed Babbler, Turdoides rufescens Yellow-billed Babbler, Turdoides affinis Blackcap Babbler, Turdoides reinwardtii Dusky Babbler, Turdoides tenebrosus Black-lored Babbler, Turdoides melanops Scaly Babbler, Turdoides squamulatus White-rumped Babbler, Turdoides leucopygius Southern Pied Babbler, Turdoides bicolor Northern Pied Babbler, Turdoides hypoleucus Hinde's Pied Babbler, Turdoides hindei Cretzschmar's Babbler, Turdoides leucocephalus Brown Babbler, Turdoides plebejus Arrow-marked Babbler, Turdoides jardineii Bare-cheeked Babbler, Turdoides gymnogenys
- Genus *Babax*, the babaxes
 - Chinese Babax, Babax lanceolatus Giant Babax, Babax waddelli Tibetan Babax, Babax koslowi
- Genus Leiothrix
 - Silver-eared Mesia, Leiothrix argentauris Red-billed Leiothrix, Leiothrix lutea
- Genus Cutia
 - o Cutia, Cutia nipalensis
- Genus Pteruthius, shrike-babblers
 - Black-headed Shrike-babbler, Pteruthius rufiventer
 White-browed Shrike-babbler, Pteruthius flaviscapis
 Green Shrike-babbler, Pteruthius xanthochlorus

Black-eared Shrike-babbler, Pteruthius melanotis Chestnut-fronted Shrike-babbler, Pteruthius aenobarbus

- Genus *Gampsorhynchus*
 - o White-hooded Babbler, Gampsorhynchus rufulus
- Genus *Actinodura*, the barwings
 - Rusty-fronted Barwing, Actinodura egertoni Spectacled Barwing, Actinodura ramsayi Black-crowned Barwing, Actinodura sodangorum Hoary-throated Barwing, Actinodura nipalensis Streak-throated Barwing, Actinodura waldeni Streaked Barwing, Actinodura souliei Taiwan Barwing, Actinodura morrisoniana
- Genus *Minla*, the minlas
 - Blue-winged Minla, Minla cyanouroptera
 Chestnut-tailed Minla, Minla strigula
 Red-tailed Minla, Minla ignotincta
- Genus *Alcippe*, the fulvettas
 - o Golden-breasted Fulvetta, Alcippe chrysotis Gold-fronted Fulvetta, Alcippe variegaticeps Yellow-throated Fulvetta, Alcippe cinerea Rufous-winged Fulvetta, Alcippe castaneceps White-browed Fulvetta, Alcippe vinipectus Chinese Fulvetta, Alcippe striaticollis Spectacled Fulvetta, Alcippe ruficapilla Streak-throated Fulvetta, Alcippe cinereiceps Ludlow's Fulvetta, Alcippe ludlowi Rufous-throated Fulvetta, Alcippe rufogularis Dusky Fulvetta, Alcippe brunnea Rusty-capped Fulvetta, Alcippe dubia Brown Fulvetta, Alcippe brunneicauda Brown-cheeked Fulvetta, Alcippe poioicephala Grey-cheeked Fulvetta, Alcippe morrisonia Javan Fulvetta, Alcippe pyrrhoptera Mountain Fulvetta, Alcippe peracensis Nepal Fulvetta, Alcippe nipalensis
- Genus Lioptilus
 - o Bush Blackcap, Lioptilus nigricapillus
- Genus Kupeornis, the mountain-babblers
 - White-throated Mountain Babbler, Kupeornis gilberti Red-collared Mountain Babbler, Kupeornis rufocinctus Chapin's Mountain Babbler, Kupeornis chapini
- Genus Parophasma
 - o Abyssinian Catbird, Parophasma galinieri
- Genus Phyllanthus

- o Capuchin Babbler, *Phyllanthus atripennis*
- Genus *Crocias*, the crociass
 - Grey-crowned Crocias, Crocias langbianis
 Spotted Crocias, Crocias albonotatus
- Genus *Heterophasia*, the sibias
 - Rufous-backed Sibia, Heterophasia annectens Rufous Sibia, Heterophasia capistrata Grey Sibia, Heterophasia gracilis Black-backed Sibia, Heterophasia melanoleuca Black-headed Sibia, Heterophasia desgodinsi White-eared Sibia, Heterophasia auricularis Beautiful Sibia, Heterophasia pulchella Long-tailed Sibia, Heterophasia picaoides
- Genus *Yuhina*, the yuhinas
 - Striated Yuhina, Yuhina castaniceps
 Chestnut-crested Yuhina, Yuhina everetti
 White-naped Yuhina, Yuhina bakeri
 Whiskered Yuhina, Yuhina flavicollis
 Burmese Yuhina, Yuhina humilis
 Stripe-throated Yuhina, Yuhina gularis
 White-collared Yuhina, Yuhina diademata
 Rufous-vented Yuhina, Yuhina occipitalis
 Taiwan Yuhina, Yuhina brunneiceps
 Black-chinned Yuhina, Yuhina nigrimenta
 White-bellied Yuhina, Yuhina zantholeuca
- Genus Myzornis
 - o Fire-tailed Myzornis, Myzornis pyrrhoura
- Genus Oxylabes
 - o White-throated Oxylabes, Oxylabes madagascariensis
- Genus Crossleyia
 - o Yellow-browed Oxylabes, Crossleyia xanthophrys
- Genus Chamaea
 - o Wrentit, Chamaea fasciata

The genus *Mystacornis* is now classified as a vanga.

Paradoxornithidae

Parrotbills

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Paradoxornithidae

Genera: Panurus, Conostoma, Paradoxornis

The **parrotbills** are a small family of Old World <u>passerine birds</u>, **Paradoxornithidae** (or **Panuridae** in some systems). They are related to the <u>Old World babblers</u>, but in general appearance and behaviour are more like the <u>tits</u>. The bills of these birds are short, heavy and laterally compressed, like a parrot's, hence the English name.

These are mostly birds of tropical southeast Asia, although the Bearded Tit is a bird of reedbeds in temperate Eurasia.

These are birds of open habitats, reedbeds and bamboo stands. This group is not strongly migratory, although the Bearded Tit can be eruptive.

The species are:

Family: Paradoxornithidae

- Genus Panurus
 - o Bearded Tit, or **Bearded Reedling**, *Panurus biarmicus*
- Genus Conostoma
 - o Great Parrotbill, Conostoma oemodium
- Genus Paradoxornis
 - Brown Parrotbill, Paradoxornis unicolor Grey-headed Parrotbill, Paradoxornis gularis Three-toed Parrotbill, Paradoxornis paradoxus Black-breasted Parrotbill, Paradoxornis flavirostris Spot-breasted Parrotbill, Paradoxornis guttaticollis Spectacled Parrotbill, Paradoxornis conspicillatus Vinous-throated Parrotbill, Paradoxornis webbianus Brown-winged Parrotbill, Paradoxornis brunneus Ashy-throated Parrotbill, Paradoxornis alphonsianus Grey-hooded Parrotbill, Paradoxornis zappeyi Rusty-throated Parrotbill, Paradoxornis przewalskii Fulvous Parrotbill. Paradoxornis fulvifrons Black-throated Parrotbill, Paradoxornis nipalensis Golden Parrotbill. Paradoxornis verreauxi Short-tailed Parrotbill, Paradoxornis davidianus Black-browed Parrotbill, Paradoxornis atrosuperciliaris Rufous-headed Parrotbill, Paradoxornis ruficeps Reed Parrotbill, Paradoxornis heudei

Paramythiidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Paramythiidae**

Genus: *Oreocharis* Salvadori, 1876, *Paramythia* De Vis, 1892

The **Paramythiidae** is a very small <u>bird</u> family restricted to the mountain forests of New Guinea. It comprises two species:

- Tit Berrypecker Oreocharis arfaki
- Crested Berrypecker Paramythia montium

These are colourful medium-sized birds which feed on fruit and some insects.

These species were formerly included in the Dicaeidae, but DNA-DNA hybridization studies showed these species were related to each other but distinct from the flowerpeckers.

Paridae

Tits and Chickadees

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Paridae Vigors, 1825 Genera: See text.

The **tits**, **chickadees**, and **titmice**, family **Paridae**, are a large family of small <u>passerine birds</u> which occur in the northern hemisphere and Africa. Most were formerly in the genus Parus; some recent authors have split this large group into several genera (as indicated below), which has been followed by North American ornithological authorities but not elsewhere.

On current evidence, only *Pseudopodoces, Baeolophus, Melanochlora* and *Sylviparus* are well supported as distinct genera from *Parus* (Harrap & Quinn, *Tits, Nuthatches* & *Treecreepers*, ISBN 0-7136-3964-4). The order in the list below follows Harrap & Quinn, with the incorporation of the recent split of Plain Titmouse into Oak and Juniper Titmice, and the addition of Hume's Ground Tit.

These birds are called "chickadees" (derived from their distinctive "chick-a dee dee dee" alarm call) or "titmice" in North America, and just "tits" in the rest of the English speaking world. The name titmouse is attested from the 14th century, composed of the Old English name for the bird, mase (Proto-Germanic *maison) and tit, denoting something small. The spelling was influenced by mouse in the 16th century. "Chickadee" is onomatopoeic, i.e., sounds like the call of many North American species.

These are mainly small stocky woodland species with short stout bills. Some have crests. They are adaptable birds, with a mixed diet including seeds and insects. Many species will live around human habitation and come readily to bird feeders for nuts or seed, and learn to take other foods. In England, Great Tits and Blue Tits learned to break open the foil caps sealing bottles of milk that had been delivered to homes to get at the cream floating on top.

These are hole-nesting birds laying speckled white eggs.

In the Sibley-Ahlquist taxonomy, the Paridae family is much enlarged to include related groups such as the Penduline tits and <u>Long-tailed tits</u>.

Species

Marsh Tit, Parus palustris (Poecile palustris)
 Black-bibbed Tit, Parus hypermelaena (Poecile hypermelaena)
 Sombre Tit, Parus lugubris (Poecile lugubris)

Caspian Tit, Parus hyrcana (Poecile hyrcanus)

Willow Tit, Parus montanus (Poecile montana)

Songar Tit, Parus songarus (Poecile songara)

Carolina Chickadee, Parus carolinensis (Poecile carolinensis)

Black-capped Chickadee, Parus atricapilla (Poecile atricapillus)

Mountain Chickadee, Parus gambeli (Poecile gambeli)

Mexican Chickadee, Parus sclateri (Poecile sclateri)

White-browed Tit, Parus superciliosus (Poecile superciliosa)

Père David's Tit, Parus davidi (Poecile davidi)

Boreal Chickadee, Parus hudsonicus (Poecile hudsonica)

Siberian Tit or Gray-headed Chickadee, Parus cinctus (Poecile cincta)

Chestnut-backed Chickadee, Parus rufescens (Poecile rufescens)

Rufous-naped Tit or Black-breasted Tit, Parus rufonuchalis (Periparus rufonuchalis)

Rufous-vented Tit, Parus rubidiventris (Periparus rubidiventris)

Spot-winged Tit or Black-crested Tit, Parus melanolophus (Periparus melanolophus)

Coal Tit, Parus ater (Periparus ater)

Yellow-bellied Tit, Parus venustulus (Pardaliparus venustulus)

Elegant Tit, Parus elegans (Pardaliparus elegans)

Palawan Tit, Parus amabilis (Pardaliparus amabilis)

Crested Tit, Parus cristatus (Lophophanes cristatus)

Grey-crested Tit, Parus dichrous (Lophophanes dichrous)

White-shouldered Tit, Parus guineensis (Melaniparus guineensis)

White-winged Black Tit, Parus leucomelas (Melaniparus leucomelas)

Southern Black Tit, Parus niger (Melaniparus niger)

Carp's Tit, Parus carpi (Melaniparus carpi)

White-bellied Tit, Parus albiventris (Melaniparus albiventris)

White-backed Tit, Parus leuconotus (Melaniparus leuconotus)

Dusky Tit, Parus funereus (Melaniparus funereus)

Rufous-bellied Tit, Parus rufiventris (Melaniparus rufiventris)

Cinnamon-breasted Tit, Parus pallidiventris (Melaniparus pallidiventris)

Red-throated Tit, Parus fringillinus (Melaniparus fringillinus)

Stripe-breasted Tit, Parus fasciiventer (Melaniparus fasciiventer)

Acacia Tit or Somali Tit, Parus thruppi (Melaniparus thruppi)

Miombo Tit, Parus griseiventris (Melaniparus griseiventris)

Ashy Tit, Parus cinerascens (Melaniparus cinerascens)

Southern Grey Tit, Parus afer (Melaniparus afer)

Great Tit, Parus major

Japanese Tit, Parus minor

Turkestan Tit, Parus bokharensis

Green-backed Tit. Parus monticolus

White-winged Tit, Parus nuchalis

Black-lored Tit, Parus xanthogenys

Yellow-cheeked Tit, Parus spilonotus

Yellow Tit, Parus holsti (Macholophus holsti)

Blue Tit, Parus caeruleus (Cyanistes caeruleus)

Azure Tit, Parus cyanus (Cyanistes cyanus)

Yellow-breasted Tit, Parus flavipectus (Cyanistes flavipectus)

Varied Tit, Parus varius (Sittiparus varius)

White-fronted Tit, Parus semilarvatus (Sittiparus semilarvatus)

Bridled Titmouse, Baeolophus wollweberi
Oak Titmouse, Baeolophus inornatus
Juniper Titmouse, Baeolophus ridgwayi
Tufted Titmouse, Baeolophus bicolor
Black-crested Titmouse, Baeolophus atricristatus
Yellow-browed Tit, Sylviparus modestus
Sultan Tit, Melanochlora sultanea
Hume's Ground Tit, previously Hume's Ground Jay, Pseudopodoces humilis
(This species has only recently been removed from the Crow family Corvidae and placed into the Tit family.)

Pseudopodoces

Hume's Ground Tit

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Paridae</u>

Genus: Pseudopodoces Zarudny & Loudon, 1902 Species: P. humilis

Binomial name: **Pseudopodoces humilis** (Hume, 1871)

Hume's Ground Tit (*Pseudopodoces humilis*), previously known as **Hume's Ground Jay**, is a <u>lark</u>-like bird. It is similar in shape to the (unrelated) <u>genus</u> Podoces but is much smaller, about the size of a House Sparrow. It is a greyish-fawn in colour with a tawny flush and has soft, lax feathers on the body. The upper parts tend to be a darker fawn-brown with the central tail feathers and wing primaries a little darker still. The bill, legs and feet are black. The flight of this bird is not strong and it flies low over the ground preferring to run or jump out of the way if approached which it does very quickly.

This species has only recently been removed, on the basis of DNA analysis, from the Crow family (Corvidae) and placed into the Tit family (Paridae). It is the only species in genus *Pseudopodoces*.

It occurs from north western Szechuan province in China westwards to Tibet in open, grass steppe type country or sometimes arid regions with small scattered shrubs. It avoids anywhere that has dense vegetation, especially trees.

Food is obtained on the ground and includes a wide range of insect prey often obtained by probing wild Yak dung and turning it over to flush them out. It peers into rock crevices and into holes in the ground also in its search for food. If chased, it will bolt straight down the nearest hole (very un-birdlike behaviour) until the danger has passed, usually caused by a bird of prey.

The nest is also unusual in being in a tunnel which the bird(s) excavate themselves. It is usually dug horizontally into a bank or wall of earth and can reach a depth of up to 1.8 metres. The nest is placed at the end of this in a small chamber and consists usually of just wool placed onto a grass base. The 4-6 eggs are pure white and the young stay with their parents for some time after fledging.

The voice is described as a plaintive whistling, *cheep-cheep-cheep-cheep* and it also has a two syllable <u>Finch</u>-like call.

References

• BirdLife International (2004). <u>Pseudopodoces humilis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Parulidae

New World warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Parulidae** Wetmore et al, 1947 Genera: Vermivora, Parula, Dendroica, Catharopeza, Mniotilta, Setophaga, Protonotaria, Helmitheros, Limnothlypis, Seiurus, Oporornis, Geothlypis, Microligea, Teretistris, Leucopeza, Wilsonia, Cardellina, Ergaticus, Myioborus, Euthlypis, Basileuterus, Zeledonia, Icteria, Granatellus, Xenoligea

The **New World warblers** or **wood-warblers** are a group of small often colourful passerine birds restricted to the New World. They are not related to the Old World warblers (Sylviidae) or the Australian warblers.

Most are arboreal, but some, like the <u>Ovenbird</u> and the two waterthrushes, are more terrestrial. Most members of this family are insectivores.

It is likely that this group originated in northern Central America, which remains with the greatest diversity and numbers of species. From thence they spread north during the interglacial periods, mainly as <u>migrants</u>, returning to the ancestral region in winter. Two genera, Myioborus and Basileuterus seem to have colonised South America early, perhaps before the two continents were linked, and provide most of the resident warbler species of that region.

Many migratory species, particularly those breeding further north, have distinctive male plumage at least in the breeding seaon, since males need to reclaim territory and advertise for mates each year. This tendency is particularly marked in the large genus Dendroica. In contrast, resident tropical species, which pair for life, show little if any sexual dimorphism.

There are of course exceptions. The *Seiurus* waterthrushes and <u>Ovenbird</u> are strongly migratory, but have identical male and female plumage, whereas the mainly tropical and sedentary vellowthroats are dimorphic.

The *Granatellus* chats also show sexual dimorphism, but due to recent genetic work may soon be moved into the family Cardinalidae (New World buntings and cardinals).

The migratory species tend to lay larger clutches of eggs, typically up to six, since the hazards of their journeys mean that many individuals will have only one chance to breed. In contrast, two eggs is typical for many tropical species, since the chicks can be provided with better care, and the adults are likely to have further opportunities for reproduction.

The scientific name for the family, Parulidae, originates from the fact that Linnaeus in 1758 named the Northern Parula as a <u>tit</u>, *Parus americanus*, and, as taxonomy developed, the genus name was modified first to *Parulus* and then the current *Parula*. The family name, of course, derives from that genus.

- 1 Taxonomic issues
- 2 Species list in taxonomic order
 - 3 References

Taxonomic issues

There are a number of issues in the taxonomy of the Parulidae.

- Sibley and Ahlquist have suggested that the family be merged with the Emberizidae as a subfamily Parulinae. The Olive Warbler, however would be removed from the group as the only member of the separate subfamily Peucedramimae.
- The New World warblers are closely related to the <u>tanagers</u>, and some species like the conebills *Conirostrum* and the <u>Bananaquit</u> have been placed into either group by different authorities. Currently, the conebills are normally placed in <u>Thraupidae</u> and the Bananaquit in its own family.
- Green-tailed Warbler, Yellow-breasted Chat, the Granatellus chats and Whitewinged Warbler, are other species where there have been questions as to whether they should be considered as warblers of tanagers.
- The Pardusco, Nephelornis oneilli is also of uncertain affinities

Species list in taxonomic order

Family: Parulidae

Bachman's Warbler, Vermivora bachmanii Blue-winged Warbler, Vermivora pinus Golden-winged Warbler, Vermivora chrysoptera Tennessee Warbler, Vermivora peregrina Orange-crowned Warbler, Vermivora celata Nashville Warbler, Vermivora ruficapilla Virginia's Warbler, Vermivora virginiae Colima Warbler, Vermivora crissalis Lucy's Warbler, Vermiyora luciae Flame-throated Warbler, Parula gutturalis Crescent-chested Warbler, Parula superciliosa Northern Parula, Parula americana Tropical Parula, Parula pitiayumi Yellow Warbler, Dendroica petechia Chestnut-sided Warbler, Dendroica pensylvanica Magnolia Warbler, Dendroica magnolia Cape May Warbler, Dendroica tigrina Black-throated Blue Warbler, Dendroica caerulescens Yellow-rumped Warbler, Dendroica coronata Black-throated Gray Warbler, Dendroica nigrescens Golden-cheeked Warbler, Dendroica chrysoparia Black-throated Green Warbler. Dendroica virens Townsend's Warbler. Dendroica townsendi Hermit Warbler, Dendroica occidentalis Blackburnian Warbler, Dendroica fusca

Yellow-throated Warbler, Dendroica dominica Olive-capped Warbler, Dendroica pityophila Grace's Warbler, Dendroica graciae Adelaide's Warbler, Dendroica adelaidae Barbuda Warbler, Dendroica subita St. Lucia Warbler, Dendroica delicata Pine Warbler, Dendroica pinus Kirtland's Warbler, Dendroica kirtlandii Prairie Warbler, Dendroica discolor Vitelline Warbler, Dendroica vitellina Palm Warbler, Dendroica palmarum Bay-breasted Warbler, Dendroica castanea Blackpoll Warbler, Dendroica striata Cerulean Warbler, Dendroica cerulea Plumbeous Warbler, Dendroica plumbea Arrow-headed Warbler, Dendroica pharetra Elfin-woods Warbler, Dendroica angelae Whistling Warbler, Catharopeza bishopi Black-and-white Warbler, Mniotilta varia American Redstart, Setophaga ruticilla Prothonotary Warbler, Protonotaria citrea Worm-eating Warbler, Helmitheros vermivorus Swainson's Warbler, Limnothlypis swainsonii Ovenbird, Seiurus aurocapillus Northern Waterthrush, Seiurus noveboracensis Louisiana Waterthrush, Seiurus motacilla Kentucky Warbler, Oporornis formosus Connecticut Warbler, Oporornis agilis Mourning Warbler, Oporornis philadelphia MacGillivray's Warbler, Oporornis tolmiei Common Yellowthroat, Geothlypis trichas Belding's Yellowthroat, Geothlypis beldingi Altamira Yellowthroat, Geothlypis flavovelata Bahama Yellowthroat, Geothlypis rostrata Olive-crowned Yellowthroat, Geothlypis semiflava Black-polled Yellowthroat, Geothlypis speciosa Masked Yellowthroat, Geothlypis aequinoctialis Gray-crowned Yellowthroat, Geothlypis poliocephala Hooded Yellowthroat, Geothlypis nelsoni Green-tailed Warbler, Microligea palustris Yellow-headed Warbler. Teretistris fernandinae Oriente Warbler, Teretistris fornsi Semper's Warbler, Leucopeza semperi Hooded Warbler, Wilsonia citrina Wilson's Warbler, Wilsonia pusilla

Canada Warbler, Wilsonia canadensis Red-faced Warbler, Cardellina rubrifrons Red Warbler, Ergaticus ruber Pink-headed Warbler, Ergaticus versicolor Painted Redstart, Myioborus pictus Slate-throated Redstart, Myioborus miniatus Tepui Redstart, Myioborus castaneocapillus Brown-capped Redstart, Myioborus brunniceps Yellow-faced Redstart, Myioborus pariae White-faced Redstart, Myioborus albifacies Saffron-breasted Redstart, Myioborus cardonai Collared Redstart, Myioborus torquatus Spectacled Redstart, Myioborus melanocephalus Golden-fronted Redstart, Myioborus ornatus White-fronted Redstart, Myioborus albifrons Yellow-crowned Redstart, Myioborus flavivertex

The members of *Myioborus* are also often, more accurately, named as **whitestarts**, as they have conspicuous white, not red, feathers on the tail sides.

Fan-tailed Warbler, Euthlypis lachrymosa Grav-and-gold Warbler, Basileuterus fraseri Two-banded Warbler, Basileuterus bivittatus Golden-bellied Warbler, Basileuterus chrysogaster Choco Warbler, Basileuterus chlorophrys Pale-legged Warbler, Basileuterus signatus Citrine Warbler, Basileuterus luteoviridis Black-crested Warbler, Basileuterus nigrocristatus Gray-headed Warbler, Basileuterus griseiceps Santa Marta Warbler, Basileuterus basilicus Gray-throated Warbler, Basileuterus cinereicollis White-lored Warbler, Basileuterus conspicillatus Russet-crowned Warbler, Basileuterus coronatus Golden-crowned Warbler, Basileuterus culicivorus Three-banded Warbler, Basileuterus trifasciatus White-bellied Warbler, Basileuterus hypoleucus Rufous-capped Warbler, Basileuterus rufifrons Golden-browed Warbler, Basileuterus belli Black-cheeked Warbler, Basileuterus melanogenys Pirre Warbler, Basileuterus ignotus Three-striped Warbler, Basileuterus tristriatus White-rimmed Warbler, Basileuterus leucoblepharus White-striped Warbler, Basileuterus leucophrys Flavescent Warbler, Basileuterus flaveolus Buff-rumped Warbler, Basileuterus fulvicauda Neotropical River Warbler, Basileuterus rivularis

Wrenthrush, Zeledonia coronata Yellow-breasted Chat, Icteria virens Red-breasted Chat, Granatellus venustus Gray-throated Chat, Granatellus sallaei Rose-breasted Chat, Granatellus pelzelni White-winged Warbler, Xenoligea montana

References

• Curson, Quinn and Beadle, New World Warblers ISBN 0-7136-3932-6

Dendroica

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Parulidae

Genus: **Dendroica** Gray, 1842

Dendroica is a genus of <u>birds</u> of the <u>New World Warbler</u> family Parulidae. It contains 29 species. The males in breeding plumage are often highly colourful. The *Dendroica* warblers are an example of adaptive radiation with the various species using different feeding techniques and often feeding in different parts of the same tree.

List of species

Yellow Warbler, Dendroica petechia Chestnut-sided Warbler, Dendroica pensylvanica Magnolia Warbler, Dendroica magnolia Cape May Warbler, Dendroica tigrina Black-throated Blue Warbler, Dendroica caerulescens Yellow-rumped Warbler, Dendroica coronata Black-throated Gray Warbler, Dendroica nigrescens Golden-cheeked Warbler, Dendroica chrysoparia Black-throated Green Warbler. Dendroica virens Townsend's Warbler, Dendroica townsendi Hermit Warbler, Dendroica occidentalis Blackburnian Warbler. Dendroica fusca Yellow-throated Warbler, Dendroica dominica Olive-capped Warbler, Dendroica pityophila Grace's Warbler, Dendroica graciae Adelaide's Warbler, Dendroica adelaidae Barbuda Warbler, Dendroica subita St. Lucia Warbler. Dendroica delicata Pine Warbler, Dendroica pinus Kirtland's Warbler, Dendroica kirtlandii Prairie Warbler, Dendroica discolor Vitelline Warbler, Dendroica vitellina Palm Warbler, Dendroica palmarum Bay-breasted Warbler, Dendroica castanea Blackpoll Warbler, Dendroica striata Cerulean Warbler, Dendroica cerulea Plumbeous Warbler, Dendroica plumbea

Arrow-headed Warbler, Dendroica pharetra Elfin-woods Warbler, Dendroica angelae

Seiurus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Parulidae

Genus: Seiurus Swainson, 1827

The genus *Seiurus* consists of three species of <u>bird</u> in the <u>New World warbler</u> family Parulidae.

They are terrestrial feeders always found near water. Two of the species, the waterthrushes, are very similar; they are

• Louisiana Waterthrush, Seiurus motacilla Northern Waterthrush, Seiurus noveboracensis

The third member of the Seiurus genus is the

• Ovenbird, Seiurus aurocapillus.

Vermivora

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: Parulidae
Genus: *Vermivora*species: See text.

Vermivora is a genus of <u>New World Warblers</u>. There are seven species.

 Bachman's Warbler, Vermivora bachmanii Extinct Blue-winged Warbler, Vermivora pinus Golden-winged Warbler, Vermivora chrysoptera Tennessee Warbler, Vermivora peregrina Orange-crowned Warbler, Vermivora celata Nashville Warbler, Vermivora ruficapilla Virginia's Warbler, Vermivora virginiae Colima Warbler, Vermivora crissalis Lucy's Warbler, Vermivora luciae

Passeridae

Old World sparrows

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Passeridae Illiger, 1811Genera: Passer, Petronia, Carpospiza, Montifringilla

This article is about "true sparrows," the Old World **sparrows** in the family **Passeridae**. Sparrows are small <u>passerine birds</u>. The differences between sparrow species can be subtle. In general, sparrows tend to be small plump brownish or greyish birds with short tails and stubby powerful beaks. They are primarily seed-eaters, though they also consume small insects. A few species scavenge for food around cities, and like <u>gulls</u> or <u>pigeons</u> will happily eat virtually anything in small quantities.

The Old World true sparrows are found indigenously in Europe, Africa, and Asia. In Australia and the Americas, early settlers imported some species which quickly naturalised, particularly in urban and degraded areas. House Sparrows, for example, are now found throughout North America, in every state of Australia except Western Australia, and over much of heavily populated parts of South America.

Some authorities also classify the closely related <u>estrildid finches</u> of the equatorial regions and Australasia as members of the Passeridae. Like the true sparrows, the estrildid finches are small, gregarious, and often colonial seed-eaters with short, thick, but pointed bills. They are broadly similar in structure and habits, but tend to be very colourful and vary greatly in their plumage. About 140 species are native to the old world tropics and Australasia. Most taxonomic schemes list the estrildid finches as the separate family Estrildidae, leaving just the true sparrows in Passeridae.

American sparrows, or New World sparrows, are not closely related to the true sparrows, despite some physical resemblance, such as the seed-eaters bill and frequently well-marked heads. They are in the family <u>Emberizidae</u>.

The Hedge Sparrow or Dunnock (*Prunella modularis*) is similarly unrelated. It is a sparrow in name only, a relic of the old practice of calling *any* small bird a "sparrow".

There are 35 species of Old World sparrows, in four genera.

Species list

- Passer, the true sparrows
 - Saxaul Sparrow, Passer ammodendri
 House Sparrow, Passer domesticus
 Spanish Sparrow, Passer hispaniolensis
 Sind Sparrow, Passer pyrrhonotus
 Somali Sparrow, Passer castanopterus
 Cinnamon Sparrow or Russet Sparrow, Passer rutilans
 Pegu Sparrow or Plain-backed Sparrow, Passer flaveolus
 Dead Sea Sparrow, Passer moabiticus

Rufous Sparrow, Passer motitensis Socotra Sparrow, Passer insularis Iago Sparrow or Cape Verde Sparrow, Passer iagoensis Cape Sparrow or Mossie, Passer melanurus Grey-headed Sparrow, Passer griseus Swainson's Sparrow, Passer swainsonii Parrot-billed Sparrow, Passer gongonensis Swaheli Sparrow, Passer suahelicus Southern Grev-headed Sparrow, Passer diffusus Desert Sparrow, Passer simplex Tree Sparrow, Passer montanus Sudan Golden Sparrow, Passer luteus Arabian Golden Sparrow, Passer euchlorus Chestnut Sparrow, Passer eminibey Italian Sparrow, Passer italiae Kenya Rufous Sparrow, Passer rufocinctus Kordofan Rufous Sparrow, Passer cordofanicus Shelley's Rufous Sparrow, Passer shelleyi Asian Desert Sparrow, Passer zarudnyi

- *Petronia*, the rock sparrows
 - Yellow-spotted Petronia, Petronia pyrgita
 Chestnut-shouldered Petronia, Petronia xanthocollis
 Yellow-throated Petronia, Petronia superciliaris
 Bush Petronia, Petronia dentata
 Rock Sparrow, Petronia petronia
- Carpospiza, Pale Rockfinch
 - o Pale Rockfinch, Carpospiza brachydactyla
- *Montifringilla*, the snowfinches
 - White-winged Snowfinch, Montifringilla nivalis
 Black-winged Snowfinch, Montifringilla adamsi
 White-rumped Snowfinch, Montifringilla taczanowskii
 Père David's Snowfinch, Montifringilla davidiana
 Rufous-necked Snowfinch, Montifringilla ruficollis
 Blanford's Snowfinch, Montifringilla blanfordi
 Afghan Snowfinch, Montifringilla theresae
 Tibetan Snowfinch, Montifringilla henrici

Sparrows in literature

The Roman poet Catullus addresses one of his odes to his lover Lesbia's pet sparrow ('Passer, deliciae meae puellae...'), and writes an elegy on its death ('Lugete, o Veneres Cupidinesque...'). The sparrow's playful erotic intimacy with its mistress ('To whose seeking she often gives her first finger/And provokes sharp pecks') makes the poet envious. At the climax of its elegy he reproaches it for dying, and distressing her ('Now, by your deeds, my

girl's/Little eyes are slightly swollen and red from weeping'). The diminutiveness of the sparrow, and the hugeness and eternity of the afterlife, form a bathos that is typical of the mock elegy form: 'qui nunc it per iter tenebricosum/illuc unde negant redire quemquam' ('He now goes on a journey through that gloomy place,/From where they say no one returns'). Note how the sparrow's hopping is represented metrically. The bird is also alluded to in the line "He who lives by the stick, dies by the stick" in James Wilson's "The Stick Finch".

In 'Phyllyp Sparowe' (pub. c. 1505), by the English poet John Skelton, Jane Scrope's laments for her dead sparrow are mixed with antiphonal Latin liturgy from the Office of the Dead. It belongs to the same tradition as Catullus' poem, or Ovid's lament for a parrot in the Amores, but the erotic element is more direct: 'And on me it wolde lepe/Whan I was aslepe,/And his fethers shake,/Wherewith he wolde make/Me often for to wake/And for to take him in/Upon my naked skyn'.

Peucedramidae

Olive Warbler

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Peucedramidae Wolters, 1980Genus: Peucedramus Henshaw, 1875Species: P. taeniatus

Binomial name: *Peucedramus taeniatus* (Du Bus de Gisignies, 1847)

The **Olive Warbler**, *Peucedramus taeniatus*, is a small <u>passerine</u> <u>bird</u>, the only member of the family Peucedramidae.

This species breeds from Arizona, USA, south through Mexico to Nicaragua. It was in the past classed with the Parulidae (<u>New World warblers</u>), but DNA studies suggest that it split early from the other related passerines, prior to the differentiation of the entire New World warbler/American sparrow/<u>Icterid</u> group. It is therefore now given a family of its own.

The Olive Warbler is a long-winged bird. It has a grey body with some olive-green on the wings and two white wing bars. The male's head and breast are orange, and there is a black patch through the eye. In the female and juvenile, the orange is replaced by yellow, and the black mask is more diffuse. The song consists of clear whistles.

It is a <u>non-migratory</u> insectivorous species of coniferous forests. It lays 3-4 eggs in a tree nest.

- Family: Peucedramidae
- Olive Warbler. Peucedramus taeniatus

References

 BirdLife International (2004). <u>Peucedramus taeniatus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Picathartidae

Picathartes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Picathartidae Lowe, 1938Genus: Picathartes Lesson, 1828Species: See text.

The **picathartes**, **rockfowl** or **bald crows** are a small family of two <u>passerine</u> <u>bird species</u> found in the rain-forests of tropical west and central Africa. They have unfeathered heads, and feed on insects and molluscs picked from damp rocky areas. Both species are totally <u>non-migratory</u>, being dependent on a specialised rocky jungle habitat.

These are lanky birds with <u>crow-like</u> bills, long neck, tail and legs, and strong feet adapted to terrestrial feeding. They are similar in size and structure to the completely unrelated roadrunners, but they hop rather than walk. They also have brightly coloured bald heads.

Picathartes breed colonially. The nest is made of mud attached to a cave roof or overhanging rock on a cliff. Two eggs are laid.

The **White-necked Rockfowl** is found in rocky forest areas at higher altitudes from Sierra Leone to Togo. It has grey upperparts, white underparts and a yellow head with a black patch on each side.

The **Grey-necked Rockfowl** breeds in southern Cameroon, northern Nigeria and neighbouring areas of central Africa. It has grey upperparts and throat. The underparts are pale orange and the head is violet at the front and red at the back, again with black side patches.

Species of Picathartidae

 White-necked Rockfowl, Picathartes gymnocephalus Grey-necked Rockfowl, Picathartes oreas

Platysteiridae

Wattle-eyes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Platysteiridae**

Genera: Megabyas, Bias, Pseudobias, Platysteira, Batis, Lanioturdus

The **wattle-eyes** or **puffback flycatchers** are small stout <u>passerine birds</u> of the African tropics. They were previously classed as a subfamily of the <u>Old World flycatcher</u> family Muscicapidae.

They get their name from the brightly coloured fleshy eye decorations found in most species in this group.

These insect-eating birds are found in usually open forests or bush. They hunt by flycatching, or by taking prey from the ground like a shrike. The nest is a small neat cup low in a tree or bush.

• Family: Platysteiridae

- o African Shrike-flycatcher, Megabyas flammulatus
- O Black-and-white Shrike-flycatcher, Bias musicus
- o Common Wattle-eye, *Platysteira cyanea*
- o White-fronted Wattle-eye, Platysteira albifrons
- o Black-throated Wattle-eye, *Platysteira peltata*
- Banded Wattle-eve. Platvsteira laticincta
- Chestnut Wattle-eye, Platysteira castanea
- White-spotted Wattle-eye, *Platysteira tonsa*
- o Red-cheeked Wattle-eye, Platysteira blissetti
- o Black-necked Wattle-eye, *Platysteira chalybea*
- o Jameson's Wattle-eye, Platysteira jamesoni
- Yellow-bellied Wattle-eye, Platysteira concreta
- o Boulton's Batis, Batis margaritae
- Short-tailed Batis, Batis mixta
- o Ruwenzori Batis, *Batis diops*
- Cape Batis, Batis capensis
- Woodward's Batis, Batis fratrum
- Chinspot Batis, *Batis molitor*
- o Pale Batis, *Batis soror*
- o Pririt Batis, *Batis pririt*
- Senegal Batis, Batis senegalensis
- o Gray-headed Batis, Batis orientalis
- Black-headed Batis, Batis minor
- Pvgmv Batis, Batis perkeo
- o Verreaux's Batis, Batis minima
- Ituri Batis. Batis ituriensis

- o Fernando Po Batis, *Batis poensis*
- o West African Batis, Batis occulta
- o Angola Batis, *Batis minulla*
- o White-tailed Shrike *Lanioturdus torquatus*

Ploceidae

Weaver

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Ploceidae Sundevall, 1836Genera: Many:see text

The **Weavers** are small <u>passerine birds</u> related to the <u>finches</u>.

These are seed-eating birds with rounded conical bills, most of which breed in sub-Saharan Africa, with fewer species in tropical Asia and also in Australia. The weaver group is divided into the buffalo, sparrow, typical, and widow weavers. The males of many species are brightly coloured, usually in red or yellow and black, some species show variation in colour only in the breeding season.

Weaver birds, also known as weaver finches get their name because of their elaborately woven nests (the most elaborate of any birds), though some are notable for their selective parasitic nesting habits. The nests vary in size, shape, material used and construction techniques from species to species. Materials used for building nests include fine leaf-fibers, grass and twigs. Many species weave very fine nests using thin strands of leaf fiber, and some like the buffalo-weavers, however, form massive untidy stick nests in their colonies, which may have several spherical woven nests within. The sparrow weavers of Africa build apartment-house nests, in which 100 to 300 pairs have separate flask-shaped chambers entered by tubes at the bottom. Most species weave nests that have narrow entrances, facing upside down.

The weavers are gregarious birds which often breed colonially. The birds build their nests together, often several to a branch. Usually the male birds weave the nests and use them as a form of display to lure prospective females. The weaver bird colonies may be found close to water bodies. They sometimes cause crop damage, notably the Red-billed Quelea, reputed to be the world's most numerous bird.

Species list in taxonomic order

- Genus: Anomalospiza
 - Grosbeak Weaver, Amblyospiza albifrons
 Parasitic Weaver, Anomalospiza imberbis
- Genus: Anaplectes
 - o Red-headed Weaver, Anaplectes rubriceps
- Genus: Bracycope
 - o Bob-tailed Weaver, Brachycope anomala
- Genus: Bubalornis
 - Red-billed Buffalo-weaver, Bubalornis niger
 White-billed Buffalo-weaver, Bubalornis albirostris
- Genus: Dinemellia

- o White-headed Buffalo-weaver, Dinemellia dinemelli
- Genus: Euplectes
 - Black Bishop, Euplectes gierowii Black-winged Red Bishop, Euplectes hordeaceus Buff-shouldered Widowbird, Euplectes psammocromius Fan-tailed Widowbird, Euplectes axillaris Fire-fronted Bishop, Euplectes diadematus Golden-backed Bishop, Euplectes aureus Jackson's Widowbird, Euplectes jacksoni Long-tailed Widowbird, Euplectes progne Marsh Widowbird, Euplectes hartlaubi Northern Red Bishop, Euplectes orix Orange Bishop, Euplectes franciscanus Red-collared Widowbird, Euplectes ardens White-winged Widowbird, Euplectes albonotatus Yellow Bishop, Euplectes capensis Yellow-crowned Bishop, Euplectes afer Yellow-shouldered Widowbird, Euplectes macrourus Zanzibar Bishop, Euplectes nigroventris
- Genus: Foudia
 - Forest Fody, Foudia omissa
 Mauritius Fody, Foudia rubra
 Red Fody, Foudia madagascariensis
 Red-headed Fody, Foudia eminentissima
 Rodrigues Fody, Foudia flavicans
 Seychelles Fody, Foudia sechellarum
- Genus: Histurgops
 - o Rufous-tailed Weaver, *Histurgops ruficauda*
- Genus: Malimbus
 - Ballmann's Malimbe, Malimbus ballmanni
 Black-throated Malimbe, Malimbus cassini
 Crested Malimbe, Malimbus malimbicus
 Gray's Malimbe, Malimbus nitens
 Ibadan Malimbe, Malimbus ibadanensis
 Rachel's Malimbe, Malimbus racheliae
 Red-bellied Malimbe, Malimbus erythrogaster
 Red-crowned Malimbe, Malimbus coronatus
 Red-headed Malimbe, Malimbus rubricollis
 Red-vented Malimbe, Malimbus scutatus
 Yellow-legged Malimbe, Malimbus flavipes
- Genus: Pacyphantes
 - o Compact Weaver, Pachyphantes superciliosus
- Genus: Philetairus
 - o Social Weaver, Philetairus socius

- Genus: Plocepasser
 - Chestnut-backed Sparrow-weaver, Plocepasser rufoscapulatus Chestnut-crowned Sparrow-weaver, Plocepasser superciliosus Donaldson-Smith's Sparrow-weaver, Plocepasser donaldsoni White-browed Sparrow-weaver, Plocepasser mahali
- Genus: Ploceus
 - o African Golden-weaver. Ploceus subaureus African Masked-weaver, Ploceus velatus Asian Golden Weaver, Ploceus hypoxanthus Baglafecht Weaver, Ploceus baglafecht Bannerman's Weaver, Ploceus bannermani Bar-winged Weaver, Ploceus angolensis Bates' Weaver, Ploceus batesi Baya Weaver, Ploceus philippinus Bengal Weaver, Ploceus benghalensis Bertrand's Weaver, Ploceus bertrandi Black-billed Weaver, Ploceus melanogaster Black-chinned Weaver, Ploceus nigrimentum Black-headed Weaver, Ploceus melanocephalus Black-necked Weaver, Ploceus nigricollis Bocage's Weaver, Ploceus temporalis Brown-capped Weaver, Ploceus insignis Cape Weaver, Ploceus capensis Chestnut Weaver, Ploceus rubiginosus Cinnamon Weaver, Ploceus badius Clarke's Weaver, Ploceus golandi Forest Weaver, Ploceus bicolor Fox's Weaver. Ploceus spekeoides Giant Weaver, Ploceus grandis Golden Palm Weaver, Ploceus bojeri Golden-backed Weaver, Ploceus jacksoni Golden-naped Weaver, Ploceus aureonucha Heuglin's Masked-weaver, Ploceus heuglini Holub's Golden-weaver, Ploceus xanthops Kilombero Weaver, Ploceus burnieri Lesser Masked-weaver. Ploceus intermedius Little Weaver. Ploceus luteolus Loango Weaver, Ploceus subpersonatus Maxwell's Black Weaver, Ploceus albinucha Nelicourvi Weaver, Ploceus nelicourvi Northern Brown-throated Weaver, Ploceus castanops Northern Masked-weaver, Ploceus taeniopterus Olive-headed Weaver, Ploceus olivaceiceps

Orange Weaver, Ploceus aurantius

Preuss' Weaver, Ploceus preussi

Principe Golden-weaver, Ploceus princeps

Rueppell's Weaver, Ploceus galbula

Sakalava Weaver, Ploceus sakalava

Salvadori's Weaver, Ploceus dichrocephalus

Sao Tome Weaver, Ploceus sanctithomae

Slender-billed Weaver, Ploceus pelzelni

Southern Brown-throated Weaver, Ploceus xanthopterus

Spectacled Weaver, Ploceus ocularis

Speke's Weaver, Ploceus spekei

Strange Weaver, Ploceus alienus

Streaked Weaver, Ploceus manyar

Tanzania Masked-weaver, Ploceus reichardi

Taveta Golden-weaver, Ploceus castaneiceps

Usambara Weaver, Ploceus nicolli

Vieillot's Weaver, Ploceus nigerrimus

Village Weaver, Ploceus cucullatus

Weyns' Weaver, Ploceus weynsi

Yellow Weaver, Ploceus megarhynchus

Yellow-capped Weaver, Ploceus dorsomaculatus

Yellow-mantled Weaver, Ploceus tricolor

Genus: Pseudonigrita

 Black-capped Social-weaver, Pseudonigrita cabanisi Grey-headed Social-weaver, Pseudonigrita arnaudi

• Genus: Quelea

Cardinal Quelea, Quelea cardinalis
 Red-billed Quelea, Quelea quelea
 Pad boaded Quelea, Quelea entitudos

Red-headed Quelea, Quelea erythrops

• Genus: Sporopipes

Scaly Weaver, Sporopipes squamifrons
 Speckle-fronted Weaver, Sporopipes frontalis

Polioptilidae

Gnatcatchers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Polioptilidae Baird, 1858Genera: Microbates, Ramphocaenus, Polioptila

The 15 species of small <u>passerine birds</u> in the **gnatcatcher** family occur in North and South America. Most species of this mainly tropical and sub-tropical group are resident, but the Blue-gray Gnatcatcher of the USA and southern Canada <u>migrates</u> south in winter.

These dainty birds resemble <u>Old World warblers</u> in their structure and habits, moving restlessly through the foliage seeking insects. The gnatcatchers and **gnatwrens** are mainly soft bluish grey in colour, and have the typical insectivore's long sharp bill.

They are birds of fairly open woodland or scrub, and nest in bushes or trees.

A species new to science, the Iquitos Gnatcatcher *Polioptila clementsi* was first described in 2005.

• Family Polioptilidae

o Collared Gnatwren, Microbates collaris Tawny-faced Gnatwren, Microbates cinereiventris Long-billed Gnatwren, Ramphocaenus melanurus Blue-gray Gnatcatcher, Polioptila caerulea Cuban Gnatcatcher, Polioptila lembeyei California Gnatcatcher, Polioptila californica Black-tailed Gnatcatcher, Polioptila melanura Black-capped Gnatcatcher, Polioptila nigriceps White-lored Gnatcatcher, Polioptila albiloris Maranon Gnatcatcher, Polioptila maranonica Guianan Gnatcatcher, Polioptila guianensis Iguitos Gnatcatcher, Polioptila clementsi Tropical Gnatcatcher, Polioptila plumbea Creamy-bellied Gnatcatcher, Polioptila lactea Slate-throated Gnatcatcher, Polioptila schistaceigula Masked Gnatcatcher, Polioptila dumicola

Promeropidae

Sugarbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Promeropidae**

Genus: *Promerops* Brisson, 1760Species: See text.

The **sugarbirds** are a small family of <u>passerine birds</u> which are restricted to Africa.

The two species of sugarbird make up one of only two bird families restricted entirely to southern Africa, the other being the rockjumpers Chaetopidae. They are specialist nectar feeders, but will also take insects.

In general appearance as well as habits they resemble large <u>sunbirds</u>, but are possibly more closely related to the Australian <u>honeyeaters</u>. They have brownish plumage, the long downcurved bill typical of passerine nectar feeders, and long tail feathers.

They can often be seen on the flowers of the Protea bushes which are characteristic of South African highland landscapes. They lay two eggs in a nest in a fork of a tree.

Gurney's Sugarbird is found from Zambia southwards, except the extreme south of South Africa.

Cape Sugarbird is the species of the Cape provinces of South Africa. It has at times been considered conspecific with Gurney's.

- Family: Promeropidae
- o Gurney's Sugarbird, Promerops gurneyi
- o Cape Sugarbird, *Promerops cafer*

Prunellidae

Accentor

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Prunellidae** Richmond, 1908Genus: **Prunella** Vieillot, 1816Species: See text.

The **accentors** are in the only <u>bird</u> family, Prunellidae, which is completely endemic to the Palearctic. This small group of closely related <u>passerines</u> are all in a single genus *Prunella*. All but the Dunnock and the Japanese Accentor are inhabitants of the mountainous regions of Europe and Asia; these two also occur in lowland areas, as does the Siberian Accentor in the far north of Siberia. This genus is not strongly <u>migratory</u>, but they will leave the coldest parts of their range in winter, and make altitudinal movements.

These are small, fairly drab species superficially similar, but unrelated to, <u>sparrows</u>. However, accentors have thin sharp bills, reflecting their diet of insects in summer, augmented with seeds and berries in winter.

They build neat cup nests and lay about 4 unspotted green or blue eggs. Both sexes incubate.

Species list:

Alpine Accentor, Prunella collaris

Altai Accentor, Prunella himalayana

Robin Accentor, Prunella rubeculoides

Rufous-breasted Accentor, Prunella strophiata

Siberian Accentor, Prunella montanella

Brown Accentor, Prunella fulvescens

Radde's Accentor, Prunella ocularis

Black-throated Accentor, Prunella atrogularis

Koslow's Accentor. Prunella koslowi

Dunnock or Hedge Accentor or Hedge Sparrow, Prunella modularis

Japanese Accentor, Prunella rubida

Maroon-backed Accentor, Prunella immaculata

Harrison (*An Atlas of the Birds of the Western Palaearctic*, 1982) used the group name **Dunnock** for all of the species, not just *Prunella modularis* (thus e.g. **Japanese Dunnock** for *P. rubida*); this usage has much to be said for it, based as it is on the oldest known name for any of the species (old English *dun-*, brown, + -ock, small bird: "little brown bird"), and a much more euphonious name than the contrived "Accentor". *Accentor* was the scientific name for the Alpine Accentor (*Accentor collaris*). It comes from Late Latin, meaning "sing with another" (ad + cantor).

Ptilogonatidae

Silky-flycatchers Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Ptilogonatidae**

Genera: Phainoptila, Ptilogonys, Phainopepla

The **silky-flycatchers** are a small family of <u>passerine birds</u> which occur mainly in Central America, although the range of one species, the Phainopepla, extends into the southwestern USA.

They are related to <u>waxwings</u>, and like that group have a soft silky plumage, usually grey or pale yellow in colour. They have small crests.

These birds eat fruit or insects, and the Phainopepla is particularly dependent on Desert Mistletoe, *Phoradendron californicum*.

They are birds of various types of woodland (semi-desert with trees for the Phainopepla), and they nest in trees.

This family was formerly lumped with waxwings and Hypocolius in the family Bombycillidae, and they are listed in that family by the Sibley-Monroe checklist.

Species of Ptilogonatidae

 Black-and-yellow Silky-flycatcher, Phainoptila melanoxantha Gray Silky-flycatcher, Ptilogonys cinereus Long-tailed Silky-flycatcher, Ptilogonys caudatus Phainopepla Phainopepla nitens

Pycnonotidae

Bulbuls

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Pycnonotidae**

Genera: See text.

Bulbuls (**Pycnonotidae**) are a <u>family</u> of medium-sized <u>passerine</u> <u>songbirds</u> resident in Africa and tropical Asia. There are about 130 species.

These are mostly frugivorous <u>birds</u>. Some are colorful with yellow, red or orange vents, cheeks, throat or supercilia, but most are drab, with uniform olive brown to black plumage. Some have very distinct crests.

These are noisy and gregarious birds with often beautiful striking songs.

Many of these species inhabit tree tops, while some are restricted to the undergrowth. Up to five purple-pink eggs are laid in an open tree nests and incubated by the female.

The Red-whiskered Bulbul, *Pycnonotus jocosus*, has been widely introduced to tropical and subtropical areas, for example southern Florida, USA.

Systematics

The traditional layout was to divide the bulbuls into 4 groups, named *Pycnonotus*, *Phyllastrephus*, *Criniger*, and *Chlorocichla* groups after characteristic genera (Delacour, 1943). However, more recent analyses demonstrated that this arrangement was probably based on erroneous interpretation of characters:

Studies of the mitochondrial cytochrome b sequence found that five species of Phyllastrephus did not belong to the bulbuls, but to an enigmatic group of songbirds from Madagascar instead (Cibois et al., 2001; see below for the species in question). Similarly, analysis of DNA sequences of the RAG1 and RAG2 genes suggests that the genus Nicator was not a bulbul either (Beresford et al., 2005). That the previous arrangement had failed to take into account biogeography was indicated by the study of Pasquet et al. (2001) who demonstrated the genus Criniger must be divided into an African and an Asian (Alophoixus) lineage. Using analysis of 2 mitochondrial and one nuclear DNA sequences, Moyle & Marks (2006) found one largely Asian lineage and one African group of genera; the Golden Greenbul seemed to be very distinct and form a group of its own. Some taxa are not monophyletic, and more research is necessary to determine relationships within the larger genera.

Family Pycnonotidae

- Genus Pycnonotus (paraphyletic)
 - "Ancient" Asian bulbuls
 Black-headed Bulbul, Pycnonotus atriceps
 Puff-backed Bulbul, Pycnonotus eutilotus

Black-and-white Bulbul, Pycnonotus melanoleucus Pvcnonotus proper Black-crested Bulbul, Pycnonotus melanicterus Grev-bellied Bulbul, Pycnonotus cyaniventris Spectacled Bulbul, Pycnonotus erythropthalmos Straw-headed Bulbul, Pycnonotus zeylanicus Red-eyed Bulbul, Pycnonotus brunneus Olive-winged Bulbul, Pycnonotus plumosus Yellow-vented Bulbul, Pycnonotus goiavier Common Bulbul, Pycnonotus barbatus Black-fronted Bulbul, Pycnonotus nigricans White-cheeked Bulbul, Pycnonotus leucogenys Unassigned Striated Bulbul, Pycnonotus striatus Cream-striped Bulbul, Pycnonotus leucogrammicus Spot-necked Bulbul, Pycnonotus tympanistrigus Grey-headed Bulbul, Pycnonotus priocephalus Styan's Bulbul, Pycnonotus taivanus Scaly-breasted Bulbul, Pycnonotus squamatus Red-whiskered Bulbul, Pycnonotus jocosus Brown-breasted Bulbul, Pycnonotus xanthorrhous Light-vented Bulbul, Pycnonotus sinensis Cape Bulbul, Pycnonotus capensis White-spectacled Bulbul, Pycnonotus xanthopygos White-eared Bulbul, Pycnonotus leucotis Red-vented Bulbul, Pycnonotus cafer Sooty-headed Bulbul, Pycnonotus aurigaster Blue-wattled Bulbul, Pycnonotus nieuwenhuisii (disputed) Yellow-wattled Bulbul, Pycnonotus urostictus Orange-spotted Bulbul, Pycnonotus bimaculatus Stripe-throated Bulbul, Pycnonotus finlaysoni Yellow-throated Bulbul, Pycnonotus xantholaemus Yellow-eared Bulbul, Pycnonotus penicillatus Flavescent Bulbul, Pycnonotus flavescens White-browed Bulbul, Pycnonotus luteolus Streak-eared Bulbul, Pycnonotus blanfordi Cream-vented Bulbul, Pycnonotus simplex

• Genus Spizixos

- Crested Finchbill, Spizixos canifrons Collared Finchbill, Spizixos semitorques
- Genus Tricholestes
 - o Hairy-backed Bulbul, Tricholestes criniger
- Genus Setornis
 - O Hook-billed Bulbul, *Setornis criniger*

- Genus *Alophoixus* (possibly polyphyletic)
 - Finsch's Bulbul, Alophoixus finschii
 White-throated Bulbul, Alophoixus flaveolus
 Puff-throated Bulbul, Alophoixus pallidus
 Ochraceous Bulbul, Alophoixus ochraceus
 Gray-cheeked Bulbul, Alophoixus bres
 Yellow-bellied Bulbul, Alophoixus phaeocephalus
 Golden Bulbul, Alophoixus affinis
- Genus Iole
 - Olive Bulbul, Iole virescens Grey-eyed Bulbul, Iole propinqua Buff-vented Bulbul, Iole olivacea Yellow-browed Bulbul, Iole indica
- Genus *Hemixos*
 - Ashy Bulbul, Hemixos flavala
 Chestnut Bulbul, Hemixos castanonotus
- Genus Ixos (paraphyletic)
 - Close to Hemixos

Streaked Bulbul, Ixos malaccensis

Close to Hypsipetes

Philippine Bulbul, Ixos philippinus

Unassigned

Sulphur-bellied Bulbul, Ixos palawanensis

Streak-breasted Bulbul, Ixos siquijorensis

Yellowish Bulbul, Ixos everetti

Zamboanga Bulbul, Ixos rufigularis

Mountain Bulbul, Ixos mcclellandii

Sunda Bulbul, Ixos virescens

- Genus Microscelis
 - Brown-eared Bulbul, Microscelis amaurotis (sometimes included in Ixos)
- Genus Hypsipetes
 - o Madagascar Bulbul, Hypsipetes madagascariensis

Black Bulbul, Hypsipetes leucocephalus

Seychelles Bulbul, Hypsipetes crassirostris

Comoro Bulbul, Hypsipetes parvirostris

Reunion Bulbul, Hypsipetes borbonicus

Mauritius Bulbul, Hypsipetes olivaceus

Nicobar Bulbul, Hypsipetes virescens

White-headed Bulbul, Hypsipetes thompsoni

- Genus Calyptocichla
 - o Golden Greenbul, Calyptocichla serina
- Genus Phyllastrephus
 - Leaf-love Greenbul, Phyllastrephus scandens Cabanis' Greenbul, Phyllastrephus cabanisi

Fischer's Greenbul, Phyllastrephus fischeri Placid Greenbul, Phyllastrephus placidus Terrestrial Brownbul, Phyllastrephus terrestris Northern Brownbul, Phyllastrephus strepitans Pale-olive Greenbul, Phyllastrephus fulviventris Gray-olive Greenbul, Phyllastrephus cerviniventris Baumann's Greenbul. Phyllastrephus baumanni Toro Olive Greenbul, Phyllastrephus hypochloris Cameroon Olive Greenbul, Phyllastrephus poensis Sassi's Greenbul, Phyllastrephus lorenzi Yellow-streaked Bulbul, Phyllastrephus flavostriatus Grey-headed Greenbul, Phyllastrephus poliocephalus Tiny Greenbul, Phyllastrephus debilis White-throated Greenbul, Phyllastrephus albigularis Icterine Greenbul, Phyllastrephus icterinus Liberian Greenbul, Phyllastrephus leucolepis Xavier's Greenbul, Phyllastrephus xavieri

- Genus *Andropadus* (possibly polyphyletic)
 - Cameroon Mountain Greenbul, Andropadus montanus Shelley's Greenbul, Andropadus masukuensis Little Greenbul, Andropadus virens Grey Greenbul, Andropadus gracilis Ansorge's Greenbul, Andropadus ansorgei Plain Greenbul, Andropadus curvirostris Slender-billed Greenbul, Andropadus gracilirostris Sombre Greenbul, Andropadus importunus Yellow-whiskered Bulbul, Andropadus latirostris Western Mountain Greenbul, Andropadus tephrolaemus Eastern Mountain Greenbul, Andropadus nigriceps Stripe-cheeked Bulbul, Andropadus milanjensis
- Genus Criniger
 - Red-tailed Greenbul, Criniger calurus
 Western Bearded Greenbul, Criniger barbatus
 Eastern Bearded Greenbul, Criniger chloronotus
 Yellow-bearded Greenbul, Criniger olivaceus
 White-bearded Greenbul, Criniger ndussumensis
- Genus Bleda
 - Common Bristlebill, Bleda syndactyla
 Green-tailed Bristlebill, Bleda eximia
 Grey-headed Bristlebill, Bleda canicapilla
- Genus Thescelocichla
 - o Swamp Greenbul, Thescelocichla leucopleura
- Genus Chlorocichla

- Simple Greenbul, Chlorocichla simplex Yellow-throated Greenbul, Chlorocichla flavicollis Yellow-necked Greenbul, Chlorocichla falkensteini Yellow-bellied Greenbul, Chlorocichla flaviventris Joyful Greenbul, Chlorocichla laetissima Prigogine's Greenbul, Chlorocichla prigoginei
- Genus *Ixonotus* (pending confirmation of placement)
 - o Spotted Greenbul, Ixonotus guttatus
- Genus Baeopogon
 - Honeyguide Greenbul, Baeopogon indicator Sjostedt's Greenbul, Baeopogon clamans
- Genus Neolestes
 - o Black-collared Bulbul, Neolestes torquatus

The last genus might be allied to *Calyptocichla* or not be a bulbul at all.

Taxa until recently included in the Pycnonotidae are:

- Genus Bernieria
 - o Long-billed Greenbul, Bernieria madagascariensis
- Genus *Xanthomixis* (possibly polyphyletic)
 - Spectacled Greenbul, Xanthomixis zosterops
 Appert's Greenbul, Xanthomixis apperti
 Dusky Greenbul, Xanthomixis tenebrosus
 Gray-crowned Greenbul, Xanthomixis cinereiceps
- Genus *Nicator*
 - Yellow-spotted Nicator, Nicator chloris Eastern Nicator, Nicator gularis Yellow-throated Nicator, Nicator vireo

The first two belong to the "Malagasy warblers"; the affiliations of *Nicator* are unknown at present.

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Regulidae

Kinglets

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Regulidae**

Genus: Regulus Cuvier, 1800Species: See text.

The **kinglets** or **crests** are a small group of birds often included in the <u>Old World</u> <u>warblers</u>, but frequently given family status because they also resemble the <u>titmice</u>. They have representatives in North America and Eurasia. There are now seven species in this family. Madeira Firecrest, *R. madeirensis* recently split from Firecrest as a separate species. The scientific and English names come from the fact that the adults have coloured crowns.

Recent molecular techniques have added some confusion the true phylogeny of the Regulidae Family. They are placed in the Superfamily Sylvioidea (e.g., nuthatches, treecreepers, tits, wrens, crests/kinglets, swallows, bulbuls, babblers, and warblers). This is likely correct however the relationships of Regulidae are unresolved. A Myoglobin tree was used in the research in order to differentiate linneages. (Alström)

• Goldcrest, Regulus regulus

Tenerife Goldcrest or Orangecrest, R. teneriffae, split from Goldcrest as separate species

Firecrest, R. ignicapillus

Madeira Firecrest, R. madeirensis

Taiwan Firecrest or Flamecrest, R. goodfellowi

Golden-crowned Kinglet, R. satrapa

Ruby-crowned Kinglet, R. calendula

All members of the family are 9-15.5 cm. These birds have an eye-ring or a stripe at the <u>supercilium</u>. The males possess a colorful crown patch. They have one specific feather which projects forward over the nares.

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Remizidae

Penduline tits

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>

Family: Remizidae Olphe-Galliard, 1891Genera: Remiz, Anthoscopus, Cephalopyrus, Auriparus,

Pholidornis

The **penduline tits** are a group of small <u>passerine birds</u>, related to the true <u>tits</u>. All but the Verdin and Fire-capped Tit make elaborate bag nests hanging from trees, usually over water; inclusion of the Fire-capped Tit in this family is disputed by some authorities. They are insectivores.

There are 13 species in 5 genera, following Harrap & Quinn, *Tits, Nuthatches & Treecreepers*.

Genus Remiz

 European Penduline Tit Remiz pendulinus Black-headed Penduline Tit Remiz macronyx White-crowned Penduline Tit Remiz coronatus Chinese Penduline Tit Remiz consobrinus

Genus *Anthoscopus*

 Sudan Penduline Tit Anthoscopus punctifrons Yellow Penduline Tit Anthoscopus parvulus Mouse-coloured Penduline Tit Anthoscopus musculus Forest Penduline Tit Anthoscopus flavifrons African Penduline Tit Anthoscopus caroli Cape Penduline Tit Anthoscopus minutus

Genus *Cephalopyrus*

• Fire-capped Tit *Cephalopyrus flammiceps*

Genus Auriparus

• Verdin Auriparus flaviceps

Genus Pholidornis

• Tit-hylia *Pholidornis rushiae*

Rhabdornithidae

Philippine creepers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Suborder: <u>Passeri</u> Parvorder: <u>Passerida</u>

Family: Rhabdornithidae Greenway, 1967Genus: Rhabdornis

Species: R. mysticalis, R. grandis, R. inornatus

The **Philippine creepers** (Rhabdornithidae) are a family of small <u>passerine</u> <u>birds</u>. The family is <u>endemic</u> to the Philippines. The family contains a single genus *Rhabdornis* with three species. They do not <u>migrate</u> other than local movements.

The placement of genus *Rhabdornis* in a family of its own is not accepted by all authorities, and is sometimes placed in Certhiidae or Timaliidae.

The Philippine creepers are similar in appearance to <u>treecreepers</u>. They have thin pointed down-curved bills, which they can use to extricate insects from bark, but they have brush-like tongues, which enable them to also feed on nectar.

Their behaviour is said to resemble that of tits more than the treecreepers, to which they are not related.

Nests are tree crevices.

The list of species follows below.

 Stripe-headed Creeper Rhabdornis mysticalis Long-billed Creeper Rhabdornis grandis Plain-headed Creeper Rhabdornis inornatus

There are two other small bird families with 'treecreeper' or 'creeper' in their name. See also Australian treecreepers, and <u>treecreepers</u>.

Sturnidae

Starlings

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Sturnidae** Rafinesque, 1815Genera: *Aplonis, Mino, Basilornis, Sarcops, Streptocitta, Enodes, Scissirostrum, Sarroglossa, Ampeliceps, Gracula, Acridotheres, Leucopsar, Sturnia, Sturnus, Creatophora, Fregilupus (extinct), Necropsar (extinct), Coccycolius, Lamprotornis, Cinnyricinclus, Spreo, Cosmoparus, Onychognathus, Poeoptera, Grafisia, Speculipastor,*

Neochicla, Buphagus See also: Oxpecker

Starlings are small to medium-sized <u>passerine birds</u> in the <u>family</u> Sturnidae. Starlings occur naturally only in the Old World (Europe, Asia and Africa), some forms as far east as Australia, but several European and Asian species have been introduced to North America, Australia, and New Zealand.

They are medium-sized passerines with strong feet. Their flight is strong and direct, and they are very gregarious. Their preferred habitat is fairly open country, and they eat insects and fruit. Several species live around habitation, and are effectively omnivores. Many species search for food by opening the bill after probing it into dense vegetation; this behavior is called "open-bill probing" or is referred to by the German word "zirkeln."

Plumage is typically dark with a metallic sheen. Most species nest in holes, laying blue or white eggs.

Many Asian species, particularly the larger ones, are called mynas, and the members of the African genus Lamprotornis are known as glossy starlings because of their iridescent <u>plumage</u>. The two species of *Buphagus* are called <u>oxpeckers</u>.

European Starlings introduced to North America have been a factor in reducing native cavity nesting bird populations (such as Bluebirds and Red-headed Woodpeckers) by competing aggressively for nesting cavities.

Starlings were first brought to North America in the 1890s. Eugene Schieffelin decided that North America should contain all the birds mentioned in William Shakespeare's plays. As starlings receive a brief mention in Henry IV, Part 1, Schieffelin introduced 60 of the birds in Central Park, New York.

Starlings have diverse and complex vocalizations, and have been known to imbed sounds from their surroundings into their own calls, including car alarms, and human speech patterns. The birds can recognize particular individuals by their calls, and are currently the subject of research into the evolution of human language[1].

Species list

- Genus <u>Aplonis</u>
 - Metallic Starling, Aplonis metallica
 Yellow-eyed Starling, Aplonis mystacea

Singing Starling, Aplonis cantoroides

Tanimbar Starling, Aplonis crassa

Atoll Starling, Aplonis feadensis

Rennell Starling, Aplonis insularis

Long-tailed Starling, Aplonis magna

White-eyed Starling, Aplonis brunneicapillus

Brown-winged Starling, Aplonis grandis

San Cristobal Starling, Aplonis dichroa

Rusty-winged Starling, Aplonis zelandica

Striated Starling, Aplonis striata

Norfolk Starling, Aplonis fusca (extinct, c.1923)

Mountain Starling, Aplonis santovestris

Asian Glossy Starling, Aplonis panayensis

Moluccan Starling, Aplonis mysolensis

Short-tailed Starling, Aplonis minor

Micronesian Starling, Aplonis opaca

Pohnpei Starling, Aplonis pelzelni (possibly extinct, c.2000)

Polynesian Starling, Aplonis tabuensis

Samoan Starling, Aplonis atrifusca

Kosrae Island Starling, Aplonis corvina (extinct, mid-19th century)

Mysterious Starling, Aplonis mavornata (extinct, mid-19th century)

Rarotonga Starling, Aplonis cinerascens

Huahine Starling, Aplonis diluvialis (prehistoric)

Bay Starling, Aplonis ulietensis (extinct, 1774 to 1850; formerly considered a thrush)

• Genus Mino

Yellow-faced Myna, Mino dumontii

Golden Myna, Mino anais

Long-tailed Myna, Mino kreffti

• Genus Basilornis

o Sulawesi Myna, Basilornis celebensis

Helmeted Myna, Basilornis galeatus

Long-crested Myna, Basilornis corythaix

Apo Myna, Basilornis mirandus

Genus Sarcops

o Coleto, Sarcops calvus

• Genus Streptocitta

 White-necked Myna, Streptocitta albicollis Bare-eyed Myna, Streptocitta albertinae

• Genus Enodes

o Fiery-browed Myna, *Enodes erythrophris*

• Genus Scissirostrum

o Finch-billed Myna, Scissirostrum dubium

Genus Saroglossa

 Spot-winged Starling, Saroglossa spiloptera Madagascar Starling, Saroglossa aurata

• Genus Ampeliceps

o Golden-crested Myna, Ampeliceps coronatus

Genus <u>Gracula</u>

 Common Hill Myna, Gracula religiosa Southern Hill Myna, Gracula indica Enggano Myna, Gracula enganensis Nias Myna, Gracula robusta Sri Lanka Myna, Gracula ptilogenys

• Genus Acridotheres

 White-vented Myna, Acridotheres grandis Crested Myna, Acridotheres cristatellus Javan Myna, Acridotheres javanicus Pale-bellied Myna, Acridotheres cinereus Jungle Myna, Acridotheres fuscus Collared Myna, Acridotheres albocinctus Bank Myna, Acridotheres ginginianus Common Myna, Acridotheres tristis

• Genus Leucopsar

- o Bali Myna, Leucopsar rothschildi
- Genus Sturnia (often included in Sturnus)
 - Daurian Starling, Sturnia sturnina Chestnut-cheeked Starling, Sturnia philippensis White-shouldered Starling, Sturnia sinensis Chestnut-tailed Starling, Sturnia malabarica White-headed Starling, Sturnia erythropygia

• Genus Sturnus

White-faced Starling, Sturnus albofrontatus (sometimes named S. senex)
 Brahminy Starling, Sturnus pagodarum

Vinous-breasted Starling, Sturnus burmannicus (sometimes separated in Gracupica)

Black-collared Starling, Sturnus nigricollis (sometimes separated in Gracupica)

Asian Pied Starling, Sturnus contra (sometimes placed in Acridotheres) Black-winged Starling, Sturnus melanopterus (sometimes placed in Acridotheres)

Rosy Starling, Sturnus roseus Red-billed Starling, Sturnus sericeus White-cheeked Starling, Sturnus cineraceus

European Starling, Sturnus vulgaris Spotless Starling, Sturnus unicolor

• Genus Creatophora

o Wattled Starling, Creatophora cinerea

• Genus Fregilupus

o Réunion Starling, *Fregilupus varius* (extinct, 1850s)

• Genus Necropsar

o Rodrigues Starling, *Necropsar rodericanus* (extinct, late 18th century?) The supposed *N. leguati* was determined to be in reality a mislabelled albino specimen of the Martinique Trembler (*Cinclocerthia gutturalis*).

• Genus Coccycolius

o Emerald Starling, *Coccycolius iris* (sometimes placed in *Lamprotornis*)

• Genus Lamprotornis

o Cape Glossy Starling, Lamprotornis nitens Greater Blue-eared Glossy Starling, Lamprotornis chalybaeus Lesser Blue-eared Glossy Starling, Lamprotornis chloropterus Southern Blue-eared Glossy-starling, Lamprotornis elisabeth Bronze-tailed Glossy Starling, Lamprotornis chalcurus Splendid Glossy Starling, Lamprotornis splendidus Principe Glossy Starling, Lamprotornis ornatus Purple Glossy Starling, Lamprotornis purpureus Rueppell's Glossy Starling, Lamprotornis purpuroptera Long-tailed Glossy Starling, Lamprotornis caudatus Meves' Glossy Starling, Lamprotornis mevesii Burchell's Glossy Starling, Lamprotornis australis Sharp-tailed Glossy Starling, Lamprotornis acuticaudus Black-bellied Glossy Starling, Lamprotornis corruscus Superb Starling, Lamprotornis superbus Hildebrandt's Starling, Lamprotornis hildebrandti Shelley's Starling, Lamprotornis shelleyi Chestnut-bellied Starling, Lamprotornis pulcher Purple-headed Glossy Starling, Lamprotornis purpureiceps Copper-tailed Glossy Starling, Lamprotornis cupreocauda

• Genus Cinnyricinclus

Violet-backed Starling, Cinnyricinclus leucogaster
 Sharpe's Starling, Cinnyricinclus sharpii (sometimes separated in Pholia)
 Abbott's Starling, Cinnyricinclus femoralis (sometimes separated in Pholia)

• Genus Spreo

African Pied Starling, Spreo bicolor
 Fischer's Starling, Spreo fischeri
 White-crowned Starling, Spreo albicapillus

• Genus Compsarus

 Golden-breasted Starling, Compsarus regius (sometimes placed in Lamprotornis)

Ashy Starling, Compsarus unicolor (sometimes placed in Spreo)

• Genus Onychognathus

 Red-winged Starling, Onychognathus morio Slender-billed Starling, Onychognathus tenuirostris Chestnut-winged Starling, Onychognathus fulgidus Waller's Starling, Onychognathus walleri Somali Starling, Onychognathus blythii Socotra Starling, Onychognathus frater Tristram's Starling, Onychognathus tristramii Pale-winged Starling, Onychognathus nabouroup Bristle-crowned Starling, Onychognathus salvadorii White-billed Starling, Onychognathus albirostris Neumann's Starling, Onychognathus neumanni

• Genus Poeoptera

 Narrow-tailed Starling, Poeoptera lugubris Stuhlmann's Starling, Poeoptera stuhlmanni Kenrick's Starling, Poeoptera kenricki

• Genus Grafisia

o White-collared Starling, Grafisia torquata

• Genus Speculipastor

o Magpie Starling, Speculipastor bicolor

• Genus Neocichla

o Babbling Starling, *Neocichla gutturalis*

• Genus Buphagus

 Red-billed Oxpecker, Buphagus erythrorhynchus Yellow-billed Oxpecker, Buphagus africanus

Acridotheres

Acridotheres

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sturnidae</u>

Genus: *Acridotheres* Vieillot, 1816Species: *A. grandis, A. cristatellus, A. javanicus, A. cinereus, A. fuscus, A. albocinctus, A. ginginianus, A. tristis*

Acridotheres is a genus of mynas, tropical members of the <u>starling</u> family of <u>birds</u>. This genus has representatives in tropical southern Asia from Iran east to southern China and Indonesia.

The following is the list of *Acridotheres* species in taxonomic order.:

 White-vented Myna, Acridotheres grandis Crested Myna, Acridotheres cristatellus Javan Myna, Acridotheres javanicus Pale-bellied Myna, Acridotheres cinereus Jungle Myna, Acridotheres fuscus Collared Myna, Acridotheres albocinctus Bank Myna, Acridotheres ginginianus Common Myna, Acridotheres tristis

The taxonomy of this group is complex, and other authorities differ considerably in which species they place in this genus, and the species boundaries within *Acridotheres*.

Two species have been introduced widely elsewhere. The Common Myna ihas been introduced to South Africa, Israel, Hawaii, North America, Australia and New Zealand, and the Crested Myna to the Vancouver region of British Columbia.

The *Acridotheres* mynas resemble *Gracula* species in their dark plumage, large white or buff wing patches (which are obvious in flight), and fluted calls, but differ in that only the head pluamge is glossy, and the underparts tend to be paler. The sexes are similar.

Acridotheres mynas are much more terrestrial. They walk rather than hop, and have modifications to the skull and its muscles for open bill probing.

They have bowing courtship displays, whereas *Gracula* has no visual display, and they lay unmarked pale blue eggs.

Several species have frontal crests which become covered with pollen when the birds take nectar from flowers, and may play a role in pollination.

Like most starlings, the *Acridotheres* mynas are fairly omnivorous, eating fruit, nectar and insects.

References

- *Birds of India* by Grimmett, Inskipp and Inskipp, ISBN 0-691-04910-6
- *Starlings and Mynas* by Freare and Craig, ISBN 0-7136-3961-X

Aplonis

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sturnidae</u>

Genus: *Aplonis* Gould, 1836Species: see text

Aplonis is a genus of <u>starlings</u>. These are essentially island species of Indonesia, Oceania and Australasia, although some species' ranges extend to the Malay Peninsula, southern Vietnam and northeastern Queensland. Several species have restricted ranges, and, like other island endemics, have become endangered or extinct as a result of habitat loss or introduced mammals such as rats.

The following is the list of *Aplonis* species in taxonomic order.:

• Metallic Starling, Aplonis metallica

Yellow-eyed Starling, Aplonis mystacea

Singing Starling, Aplonis cantoroides

Tanimbar Starling, Aplonis crassa

Atoll Starling, Aplonis feadensis

Rennell Starling, Aplonis insularis

Long-tailed Starling, Aplonis magna

White-eyed Starling, Aplonis brunneicapillus

Brown-winged Starling, Aplonis grandis

San Cristobal Starling, Aplonis dichroa

Rusty-winged Starling, Aplonis zelandica

Striated Starling, Aplonis striata

Norfolk Starling, Aplonis fusca (extinct, c.1923)

Mountain Starling, Aplonis santovestris

Asian Glossy Starling, Aplonis panayensis

Moluccan Starling, Aplonis mysolensis

Short-tailed Starling, Aplonis minor

Micronesian Starling, Aplonis opaca

Pohnpei Starling, Aplonis pelzelni (possibly extinct, c.2000)

Polynesian Starling, Aplonis tabuensis

Samoan Starling, Aplonis atrifusca

Kosrae Island Starling, Aplonis corvina (extinct, mid-19th century)

Mysterious Starling, Aplonis mavornata (extinct, mid-19th century)

Rarotonga Starling, Aplonis cinerascens

Huahine Starling, Aplonis diluvialis (prehistoric)

Bay Starling, Aplonis ulietensis (extinct, 1774 to 1850; formerly considered a

thrush)

The typical adult *Aplonis* starling is fairly uniformly plumaged in black, brown or dark green, sometimes with a metallic gloss. The eye ring is often distinctively coloured. Immatures of several species have dark streaked pale underparts.

References

• Freare and Craig, *Starlings and Mynas* ISBN 0-7136-3961-X.

Gracula

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sturnidae</u>

Genus: *Gracula* Linnaeus, 1758Species: *G. religiosa, G. indica, G. enganensis, G. robusta, G.*

ptilogenys

Gracula is a genus of mynas, tropical members of the <u>starling</u> family of <u>birds</u>.

This genus has representatives in tropical southern Asia from India and Sri Lanka east to Indonesia, and the Hill Myna, a popular cage bird, has been introduced to the USA.

Until recently only two species were recognised, the Sri Lanka Myna and the Hill Myna, but three former subspecies of the latter have now been elevated to species status.

The *Gracula* mynas are resident breeders typically found in forest and cultivation. The nest is built in a hole and the usual clutch is two or three eggs.

These 25-30 cm long birds have glossy black <u>plumage</u> and large white wing patches which are obvious in flight. The bill and strong legs are bright yellow or orange, and there are yellow wattles on the head, the shape and position of which vary with species. The sexes are similar, but juveniles have a duller bill.

Like most starlings, the *Gracula* mynas are fairly omnivorous, eating fruit, nectar and insects.

Species

Hill Myna, Gracula religiosa
 Southern Hill Myna, Gracula indica
 Enggano Myna, Gracula enganensis
 Nias Myna, Gracula robusta
 Sri Lanka Myna, Gracula ptilogenys

References

- Birds of India by Grimmett, Inskipp and Inskipp, ISBN 0-691-04910-6
- Starlings and Mynas by Freare and Craig, ISBN 0-7136-3961-X

Sturnus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sturnidae</u>

Genus: *Sturnus* Linnaeus, 1756Species: *S. albofrontatus, S. pagodarum, S. burmannicus, S. nigricollis, S. contra*), *S. melanopterus, S. roseus, S. sericeus, S. cineraceus, S. vulgaris, S. unicolor*

Sturnus is a genus of starlingss. As indicated below, the taxonomy of this group is complex, and other authorities differ considerably in which species they place in this genus, and the species boundaries within *Sturnus*.

The following is the list of *Sturnus* species in taxonomic order.:

• Genus Sturnus

White-faced Starling, Sturnus albofrontatus (sometimes named S. senex)
 Brahminy Starling, Sturnus pagodarum

Vinous-breasted Starling, Sturnus burmannicus (sometimes separated in Gracupica)

Black-collared Starling, Sturnus nigricollis (sometimes separated in Gracupica)

Asian Pied Starling, Sturnus contra (sometimes placed in Acridotheres)

Black-winged Starling, Sturnus melanopterus (sometimes placed in

Acridotheres)

Rosy Starling, Sturnus roseus

Red-billed Starling, Sturnus sericeus

White-cheeked Starling, Sturnus cineraceus

European Starling, Sturnus vulgaris

Spotless Starling, Sturnus unicolor

This genus has representatives across most of Eurasia and one species, the European Starling, has been introduced to South Africa, North America, Australia and New Zealand.

The *Sturnus* starlings are terrestrial species; they walk rather than hop, and have modifications to the skull and its muscles for open-bill probing. The latter adaption has facilitated the spread of this genus from humid tropical southern Asia to cooler regions of Europe and Asia.

The more northerly breeding species are completely or partially <u>migratory</u>, wintering in warmer regions.

Sturnus starlings nest in holes in trees or buildings. They are omnivorous and mostly feed on the ground; they specialise in taking invertebrates from just below the surface. This is facilitated by the head adaptations decribed above, which enable the birds to probe with the bill open, closing it to secure prey items.

The plumages within this group are variable, but all the species have the starling's familiar triangular wing shape.

The European and Spotless Starlings are particularly closely related, and interbreed to some extent where their ranges overlap in southwestern France and northeastern Spain. The

non-migratory Spotless may be descended from a population of vulgaris that survived in an Iberian refugium during an ice age retreat.

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Sylviidae

Old World warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Sylviidae Vigors, 1825Genus: Many: see text

The **Old World Warblers**, family **Sylviidae**, are a group of more than 280 small insectivorous <u>passerine bird</u> species. The largely southern warbler family <u>Cisticolidae</u> is traditionally often included in the Sylviidae. The <u>Kinglets</u>, genus *Regulus*, family Regulidae, are also frequently placed in this family. The American Ornithologists' Union includes the <u>gnatcatchers</u>, family Polioptilidae, in the Sylviidae.

The American <u>Wood warblers</u>, Parulidae, and the Australian warblers, Acanthizidae, are unrelated to the Sylviidae.

The Sylviidae mainly occur as breeding species, as the name implies, in Europe, Asia and, to a lesser extent Africa. However, most birds of temperate regions are strongly <u>migratory</u>, and winter in the latter continent or tropical Asia.

Most are of generally undistinguished appearance, but many have distinctive songs.

In the following list, for those groups which do not yet have articles, the species are included to be moved at the appropriate time:

• Family: Sylviidae

- o Ground warblers, genus Tesia
 - Chestnut-headed Tesia, Tesia castaneocoronata Javan Tesia, Tesia superciliaris Slaty-bellied Tesia, Tesia olivea Grey-bellied Tesia, Tesia cyaniventer Russet-capped Tesia, Tesia everetti
- Stubtails, genus Urosphena
 - Timor Stubtail, Urosphena subulata Bornean Stubtail, Urosphena whiteheadi Asian Stubtail, Urosphena squameiceps
- o <u>Bush warblers</u>, genera *Cettia* and *Bradypterus*
- o Emu-tails, genus *Dromaeocercus*
 - Brown Emu-tail, Dromaeocercus brunneus Grey Emu-tail, Dromaeocercus seebohmi
- o Rufous-warblers, genus Bathmocercus
 - Black-capped Rufous Warbler, Bathmocercus cerviniventris Black-faced Rufous Warbler, Bathmocercus rufus
- o Mrs Moreau's Warbler, Sceptomycter winifredae
- o Brush warblers, genus *Nesillas*
 - Aldabra Brush Warbler, Nesillas aldabrana extinct Anjouan Brush Warbler, Nesillas longicaudata Madagascar Brush Warbler, Nesillas typica

Grand Comoro Brush Warbler, Nesillas brevicaudata Moheli Brush Warbler, Nesillas mariae

- Thamnornis, Thamnornis chloropetoides
 Moustached Grass Warbler, Melocichla mentalis
 Damara Rock-jumper, Achaetops pycnopygius
 Cape Grassbird, Sphenoeacus afer
 - o Grass warblers, genus Locustella
 - o Marsh warblers, genus Acrocephalus
 - o Tree warblers, genus Hippolais
- o Chloropeta warblers, genus Chloropeta
 - African Yellow Warbler, Chloropeta natalensis
 Mountain Yellow Warbler, Chloropeta similis
 Papyrus Yellow Warbler, Chloropeta gracilirostris
- Fairy Warbler, Stenostira scita
 Buff-bellied Warbler, Phyllolais pulchella
 - <u>Tailorbirds</u>, genus Orthotomus
- White-tailed Warbler, Poliolais lopezi Grauer's Warbler, Graueria vittata
- o Eremomelas, genus Eremomela
 - Salvadori's Eremomela, Eremomela salvadorii Yellow-vented Eremomela, Eremomela flavicrissalis Yellow-bellied Eremomela, Eremomela icteropygialis Senegal Eremomela, Eremomela canescens Green-backed Eremomela, Eremomela pusilla Greencap Eremomela, Eremomela scotops Yellow-rumped Eremomela, Eremomela gregalis Rufous-crowned Eremomela, Eremomela badiceps Turner's Eremomela, Eremomela turneri Black-necked Eremomela, Eremomela atricollis Burnt-neck Eremomela, Eremomela usticollis
- Rand's Warbler, Randia pseudozosterops
 Cryptic Warbler, Cryptosylvicola randriansoloi
- o Crombecs, genus Sylvietta
 - Green Crombec, Sylvietta virens
 Lemon-bellied Crombec, Sylvietta denti
 White-browed Crombec, Sylvietta leucophrys
 Northern Crombec, Sylvietta brachyura
 Short-billed Crombec, Sylvietta philippae
 Red-capped Crombec, Sylvietta ruficapilla
 Red-faced Crombec, Sylvietta whytii
 Somali Crombec, Sylvietta isabellina
 Cape Crombec, Sylvietta rufescens
- Neumann's Warbler, Hemitesia neumanni
- o Longbills, genera *Macrosphenus* and *Amaurocichla*

- Kemp's Longbill, Macrosphenus kempi
 Yellow Longbill, Macrosphenus flavicans
 Grey Longbill, Macrosphenus concolor
 Pulitzer's Longbill, Macrosphenus pulitzeri
 Kretschmer's Longbill, Macrosphenus kretschmeri
 Bocage's Longbill or São Tomé Short-tail, Amaurocichla bocagei
- Green Hylia, Hylia prasina
- o Tit-warblers, genus Leptopoecile
 - White-browed Tit-warbler, Leptopoecile sophiae Crested Tit-warbler, Leptopoecile elegans
- o Flycatcher warblers, genus Seicercus
 - Golden-spectacled Warbler, Seicercus burkii Grey-hooded Warbler, Seicercus xanthoschistos White-spectacled Warbler, Seicercus affinis Grey-cheeked Warbler, Seicercus poliogenys Chestnut-crowned Warbler, Seicercus castaniceps Yellow-breasted Warbler, Seicercus montis Sunda Warbler, Seicercus grammiceps
 - o <u>Leaf warblers</u>, genus *Phylloscopus*
- o Abroscopus warblers, genus Abroscopus
 - Rufous-faced Warbler, Abroscopus albogularis
 Yellow-bellied Warbler, Abroscopus superciliaris
 Black-faced Warbler, Abroscopus schisticeps
- Broad-billed Warbler, Tickellia hodgsoni
- Hyliotas, genus Hyliota
 - Yellow-bellied Hyliota, Hyliota flavigaster Southern Hyliota, Hyliota australis Usambara Hyliota, Hyliota usambarae Violet-backed Hyliota, Hyliota violacea
- o Grassbirds, genera Chaetornis, Graminicola Megalurus and Schoenicola
 - Marsh Grassbird, Megalurus pryeri
 Tawny Grassbird, Megalurus timoriensis
 Little Grassbird, Megalurus gramineus
 Striated Grassbird, Megalurus palustris
 Fly River Grassbird, Megalurus albolimbatus
 Fernbird, Megalurus punctatus
 Chatham Islands Fernbird, Megalurus rufescens extinct
 Bristled Grassbird, Chaetornis striatus
 Rufous-rumped Grassbird, Graminicola bengalensis
 Broad-tailed Grassbird, Schoenicola platyura
 Fan-tailed Grassbird, Schoenicola brevirostris
- Songlarks, genus Cincloramphus
 - Brown Songlark, Cincloramphus cruralis Rufous Songlark, Cincloramphus mathewsi

- Spinifex-bird, Eremiornis carteri
 Buff-banded Bushbird, Buettikoferella bivittata
- o Thicketbirds, genus Megalurulus
 - New Caledonian Grassbird, Megalurulus mariei Bismarck Thicketbird, Megalurulus grosvenori Bougainville Thicketbird, Megalurulus llaneae Guadalcanal Thicketbird, Megalurulus whitneyi Rusty Thicketbird, Megalurulus rubiginosus
- Long-legged Warbler, Trichocichla rufa Wrentit, Chamaea fasciata Typical warblers, genus Sylvia
- o Parisoma warblers, genus Parisoma
 - Layard's Warbler, Parisoma layardi Rufous-vented Warbler, Parisoma subcaeruleum Brown Warbler, Parisoma lugens Banded Warbler, Parisoma boehmi Yemen Warbler, Parisoma buryi

The Newtonias are now considered vangas.

Acrocephalus

Acrocephalus warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u>

Genus: Acrocephalus Naumann, JA & Naumann, JF, 1811 Species: About 35, see text

The *Acrocephalus* warblers are small, insectivorous <u>passerine birds</u> belonging to the genus *Acrocephalus* of the <u>Old World warbler</u> family Sylviidae. They are sometimes called **marsh warblers** or **reed warblers**, but this invites confusion with Marsh Warbler and Reed Warbler, especially in North America where it is common to use lower case for bird species.

These are rather drab brownish warblers usually associated with marshes or other wetlands. Some are streaked, others plain. Almost all are <u>migratory</u>.

Many species have a flat head profile, which gives rise to the group's scientific name.

Species breeding in temperate regions are strongly migratory.

The 35 species are

Moustached Warbler, Acrocephalus melanopogon Aquatic Warbler, Acrocephalus paludicola Sedge Warbler, Acrocephalus schoenobaenus Streaked Reed Warbler, Acrocephalus sorghophilus Black-browed Reed Warbler, Acrocephalus bistrigiceps Paddyfield Warbler, Acrocephalus agricola Blunt-winged Warbler, Acrocephalus concinens Reed Warbler, Acrocephalus scirpaceus African Reed Warbler, Acrocephalus baeticatus Blyth's Reed Warbler, Acrocephalus dumetorum Marsh Warbler, Acrocephalus palustris Great Reed Warbler, Acrocephalus arundinaceus Oriental Reed Warbler, Acrocephalus orientalis Clamorous Reed Warbler, Acrocephalus stentoreus Large-billed Reed Warbler, Acrocephalus orinus Basra Reed Warbler, Acrocephalus griseldis Australian Reed Warbler, Acrocephalus australis Nightingale Reed Warbler, Acrocephalus luscinia Caroline Reed Warbler, Acrocephalus syrinx Nauru Reed Warbler, Acrocephalus rehsei Millerbird, Acrocephalus familiaris Christmas Island Warbler, Acrocephalus aequinoctialis Tahiti Reed Warbler, Acrocephalus caffer Tuamotu Reed Warbler, Acrocephalus atyphus Rimitara Reed Warbler, Acrocephalus rimitarae Pitcairn Reed Warbler, Acrocephalus vaughani

Henderson Island Reed Warbler, Acrocephalus taiti Marquesan Reed Warbler, Acrocephalus mendanae Cook Islands Reed Warbler, Acrocephalus kerearako Greater Swamp Warbler, Acrocephalus rufescens Cape Verde Swamp Warbler, Acrocephalus brevipennis Lesser Swamp Warbler, Acrocephalus gracilirostris Madagascar Swamp Warbler, Acrocephalus newtoni Thick-billed Warbler, Acrocephalus aedon Rodrigues Brush Warbler, Acrocephalus rodericanus Seychelles Warbler, Acrocephalus sechellensis

Bradypterus

Bush warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Sylviidae</u>
Species: *See text*

Bush warblers are small insectivorous <u>birds</u> belonging to the <u>genera</u> *Cettia* and *Bradypterus* of the <u>Old World warbler family Sylviidae</u>. There are about 38 species in the genera, the most recently described being the Odedi (*Cettia haddeni*) from Bougainville.

These are mostly dull birds, unmarked brown above, with strong legs and feet and short broad wings. Many are similar in appearance. They are mostly southern Asian, although Cetti's Warbler has a more extensive range, across southern Europe. Southern species are usually resident, and northern are short-distance migrants.

These are quite terrestrial birds, which live in densely vegetated habitats like thick forest and reedbeds. The will walk away from disturbance rather than flush. The <u>plumage</u> similarities and skulking lifestyle makes these birds hard to see and identify.

Species in genus Cettia

Manchurian Bush Warbler, Cettia canturians Pale-footed Bush Warbler, Cettia pallidipes Japanese Bush Warbler, Cettia diphone Philippine Bush Warbler, Cettia seebohmi Palau Bush Warbler, Cettia annae Shade Warbler, Cettia parens Odedi, Cettia haddeni Fiji Bush Warbler, Cettia ruficapilla Tanimbar Bush Warbler, Cettia carolinae Brownish-flanked Bush Warbler, Cettia fortipes Sunda Bush-Warbler, Cettia vulcania Chestnut-crowned Bush Warbler, Cettia major Aberrant Bush Warbler, Cettia flavolivacea Yellowish-bellied Bush Warbler, Cettia acanthizoides Gray-sided Bush Warbler, Cettia brunnifrons Cetti's Warbler, Cettia cetti

Species in genus Bradypterus

 Taiwan Bush Warbler, Bradypterus alishanensis African Bush Warbler, Bradypterus baboecala Ja River Scrub Warbler, Bradypterus grandis

White-winged Scrub Warbler, Bradypterus carpalis Grauer's Scrub Warbler, Bradypterus graueri Bamboo Scrub Warbler, Bradypterus alfredi Knysna Scrub Warbler / Knysna Warbler, Bradypterus sylvaticus Cameroon Scrub Warbler, Bradypterus lopezi African Scrub Warbler, Bradypterus barratti Bangwa Scrub Warbler, Bradypterus bangwaensis Cinnamon Bracken Warbler, Bradypterus cinnamomeus Victorin's Scrub Warbler, Bradypterus victorini *almost certainly not a true Bradypterus - see SASOL Birds of Southern Africa Spotted Bush Warbler, Bradypterus thoracicus Long-billed Bush Warbler, Bradypterus major Chinese Bush Warbler, Bradypterus tacsanowskius Russet Bush Warbler, Bradypterus seebohmi Brown Bush Warbler, Bradypterus luteoventris Taiwan Bush Warbler, Bradypterus alishanensis Sri Lanka Bush Warbler, Bradypterus palliseri Friendly Bush Warbler, Bradypterus accentor

Long-tailed Bush Warbler, Bradypterus caudatus

Chestnut-backed Bush Warbler, Bradypterus castaneus

Chamaea

Wrentit

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Sylviidae</u>
Genus: *Chamaea*Species: *C. fasciata*

Binomial name *Chamaea fasciata* (Gambel, 1845)

The **Wrentit**, *Chamaea fasciata*, is a small <u>bird</u> that lives in chaparral and bushland. It is the only species in the genus Chamaea (Gambel, 1847).

It is the subject of much taxonomic debate, having been placed in many different families by different authors for as long as it has been known to science. Its name reflects the uncertainty, and its resemblance to both tits and wrens.

The Wrentit has been variously placed in its own family, the **Chamaeidae**, with the bushtits (Aegithalidae), the tits and chickadees (Paridae), the <u>Old World warblers</u> (Sylviidae), and most recently with the Old World babblers (Timaliidae). The AOU places the Wrentit in the latter family, giving it the distinction of being the only babbler known from the New World.

Description

The Wrentit is a small (15-cm) bird with uniform dull olive, brown, or grayish <u>plumage</u>. It has short wings and a long tail often held high (hence the comparison to wrens). It has a short bill and a pale iris. Given its retiring nature and loud voice, the Wrentit is more likely to be detected by its call than by sight.

Behavior and Range

The Wrentit is a sedentary (non-migratory) resident of a narrow strip of coastal habitat in western coast of North America, being found from Washington south to Baja California. It is usually restricted to scrub and certain types of woodland. It nests in 1m high shrubs such as poison oak, coyote bush and Californian blackberry. Logging and other changes in habitat have led to this species expanding its range recently, particularly northwards.

Wrentits mate for life, forming pair bonds only a few months after hatching. Both sexes participate in building the nest, a four-stage process that takes about two weeks. The three or four eggs are incubated for 14 days, again by both sexes. The chicks fledge after 15 days (at which stage they are unable to fly) and are fed by their parents for another 40 days.

The Wrentit feeds by skulking through dense scrub gleaning exposed insects found by sight. It feeds primarily on beetles, caterpillars, bugs, and ants, but also takes small berries and seeds.

References

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- Geupel, G. R., and G. Ballard. 2002. Wrentit (*Chamaea fasciata*) in *The Birds of North America*, vol. 17, no. 654 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Hippolais

Tree Warblers Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u> Genus: *Hippolais*

Species: H. caligata, H. rama, H. pallida, H. languida, H. olivetorum, H. opaca, H. polyglotta, H.

icterina

Tree warblers are medium-sized <u>birds</u> belonging to the genus *Hippolais* of the <u>Old World</u> <u>warbler</u> family *Sylviidae*. They occur in Europe, Africa and western Asia.

These warblers are always associated with trees, though normally in fairly open woodland rather than tight plantations. They are quite clumsy in their movements.

These are plump, strong-looking birds with long bills, strong feet and long wing. Most are unstreaked greenish or brownish above and cream or white below. They are insectivorous, but will occasionally take berries or seeds.

Species breeding in temperate regions are usually strongly <u>migratory</u>.

The species are:

Booted Warbler, Hippolais caligata
 Sykes' Warbler, Hippolais rama
 Western Olivaceous Warbler, Hippolais pallida
 Eastern Olivaceous Warbler, Hippolais opaca
 Upcher's Warbler, Hippolais languida
 Olive-tree Warbler, Hippolais olivetorum
 Melodious Warbler, Hippolais polyglotta
 Icterine Warbler, Hippolais icterina

Locustella

Grass warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u>

Genus: *Locustella* Kaup, 1829Species: *L. luscinoides, L. certhiola, L. ochotensis, L. lanceolata, L. fluviatilis, L. fasciolata, L. naevia, L. pleskei, L. pryeri*

The **grass warblers** are small <u>passerine</u> <u>birds</u> belonging to the genus *Locustella* of the <u>Old World warbler</u> family Sylviidae.

These are rather drab brownish warblers usually associated with fairly open grassland, shrubs or marshes. Some are streaked, others plain, all are difficult to view. They are insectivorous.

The most characteristic feature of this group is that the song of several species is a mechanical insect-like reeling which gives rise to the group's scientific name.

Species breeding in temperate regions are strongly migratory.

The nine species are

Savi's Warbler, Locustella luscinoides
Pallas's Grasshopper Warbler, Locustella certhiola
Middendorf's Grasshopper Warbler, Locustella ochotensis
Lanceolated Warbler, Locustella lanceolata
River Warbler Locustella fluviatilis
Gray's Grasshopper Warbler, Locustella fasciolata
Grasshopper Warbler, Locustella naevia
Styan's Grasshopper Warbler, Locustella pleskei
Japanese Swamp Warbler, Locustella pryeri

Orthotomus

Tailorbird

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u>

Genus: *Orthotomus* Horsfield, 1821Species: *O. metopias, O. moreaui, O. cuculatus, O. sutorius, O. heterolaemus, O. atrogularis, O. castaneiceps, O. frontalis, O. derbianus, O. sericeus, O., ruficeps, O. sepium, O. samarensis, O. nigriceps, O. cinereiceps*

Tailorbirds are small <u>birds</u> belonging to the genus *Orthotomus* of the <u>Old World warbler</u> family *Sylviidae*. They occur in the Old World tropics, principally in Asia.

These warblers are usually brightly coloured, with green or grey uppperparts and yellow white or grey underparts. They often have chestnut on the head.

Tailorbirds have short rounded wings, short tails, strong legs and long curved bills. The tail is typically held upright, like a <u>wren</u>. They are typically found in open woodland, scrub and gardens.

Tailorbirds get their name from the way their nest is constructed. The edges of a large leaf are pierced and sewn together with plant fibre or spider's web to make a cradle in which the actual grass nest is built.

The species are:

• African Tailorbird, Orthotomus metopias Long-billed Tailorbird, Orthotomus moreaui Mountain Tailorbird, Orthotomus cuculatus Common Tailorbird, Orthotomus sutorius Rufous-headed Tailorbird, Orthotomus heterolaemus Dark-necked Tailorbird, Orthotomus atrogularis Philippine Tailorbird, Orthotomus castaneiceps Rufous-fronted Tailorbird, Orthotomus frontalis Grey-backed Tailorbird, Orthotomus derbianus Rufous-tailed Tailorbird, Orthotomus sericeus Ashy Tailorbird, Orthotomus ruficeps Olive-backed Tailorbird, Orthotomus sepium Yellow-breasted Tailorbird, Orthotomus nigriceps White-browed Tailorbird, Orthotomus nigriceps

References

Warblers of Europe, Asia and North Africa by Baker, ISBN 0-7136-3971-7

Phylloscopus

Leaf warblers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u>

Genus: Phylloscopus Boie, 1826Species: See text.

Leaf warblers are very small insectivorous <u>birds</u> belonging to the genus *Phylloscopus* of the Old World warbler family Sylviidae. There are about 50 species in the genus.

These are active, constantly moving, warblers always associated with trees, though normally in fairly open woodland rather than tight plantations. They occur from top canopy to undershrubs. Most of the species are markedly territorial both in their summer and winter quarters.

Most are greenish or brownish above and off-white below. Compared to some other warbler families, their songs are very simple.

Species breeding in temperate regions are usually strongly <u>migratory</u>. The species are

Red-faced Woodland Warbler, Phylloscopus laetus Laura's Wood Warbler, Phylloscopus laurae Yellow-throated Wood Warbler, Phylloscopus ruficapillus Uganda Wood Warbler, Phylloscopus budongoensis Brown Woodland Warbler, Phylloscopus umbrovirens Black-capped Woodland Warbler, Phylloscopus herberti Willow Warbler, Phylloscopus trochilus Canary Islands Chiffchaff, Phylloscopus canariensis Common Chiffchaff, Phylloscopus collybita Iberian Chiffchaff, Phylloscopus brehmii Mountain Chiffchaff, Phylloscopus sindianus Plain Leaf Warbler, Phylloscopus neglectus Western Bonelli's Warbler, Phylloscopus bonelli Eastern Bonelli's Warbler, Phylloscopus orientalis Wood Warbler, Phylloscopus sibilatrix Dusky Warbler, Phylloscopus fuscatus Smoky Warbler, Phylloscopus fuligiventer Tickell's Leaf Warbler, Phylloscopus affinis Buff-throated Warbler, Phylloscopus subaffinis Sulphur-bellied Warbler, Phylloscopus griseolus Yellow-streaked Warbler, Phylloscopus armandii Radde's Warbler, Phylloscopus schwarzi Buff-barred Warbler, Phylloscopus pulcher Ashy-throated Warbler, Phylloscopus maculipennis Pale-rumped Warbler, Phylloscopus chloronotus

Pallas's Warbler, Phylloscopus proregulus Lemon-rumped Warbler, Phylloscopus chloronotus Gansu Leaf Warbler, Phylloscopus kansuensis Chinese Leaf Warbler, Phylloscopus sichuanensis Brooks' Leaf Warbler, Phylloscopus subviridis Yellow-browed Warbler, Phylloscopus inornatus Hume's Warbler, Phylloscopus humei Arctic Warbler, Phylloscopus borealis Greenish Warbler, Phylloscopus trochiloides Pale-legged Warbler, Phylloscopus tenellipes Sakhalin Leaf Warbler, Phylloscopus borealoides Large-billed Leaf Warbler, Phylloscopus magnirostris Tytler's Leaf Warbler, Phylloscopus tytleri Western Crowned Warbler, Phylloscopus occipitalis Eastern Crowned Warbler, Phylloscopus coronatus Ijima's Warbler, Phylloscopus ijimae Blyth's Leaf Warbler, Phylloscopus reguloides Hainan Leaf Warbler, Phylloscopus hainanus Emei Leaf Warbler, Phylloscopus emeiensis White-tailed Leaf Warbler, Phylloscopus davisoni Yellow-vented Warbler, Phylloscopus cantator Sulphur-breasted Warbler, Phylloscopus ricketti Lemon-throated Warbler, Phylloscopus cebuensis Mountain Warbler, Phylloscopus trivirgatus Sulawesi Leaf Warbler, Phylloscopus sarasinorum Timor Leaf Warbler, Phylloscopus presbytes Island Leaf Warbler, Phylloscopus poliocephalus Philippine Leaf Warbler, Phylloscopus olivaceus San Cristobal Leaf Warbler, Phylloscopus makirensis Kulambangra Leaf Warbler, Phylloscopus amoenus

Sylvia

Typical Warblers Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Sylviidae</u>

Genus: Sylvia Scopoli, 1769Species: see species list

The **typical warblers** are small insectivorous <u>birds</u> belonging to the genus *Sylvia* of the <u>Old World warbler</u> family Sylviidae. There are about 20 species in the genus.

These are active, constantly moving, warblers usually associated with fairly open woodland, hedges or shrubs.

This is one of the few Old World warbler groups in which many of the species show sexual dimorphism, with distinctive male and female <u>plumages</u>. Males of some species have black on the head.

Species breeding in temperate regions are usually strongly <u>migratory</u>, although some are resident.

The species are

Yemen Warbler, Sylvia buryi Blackcap, Sylvia atricapilla Garden Warbler, Sylvia borin Whitethroat, Sylvia communis Lesser Whitethroat, Sylvia curruca Small Whitethroat, Sylvia minula Hume's Whitethroat, Sylvia althaea Asian Desert Warbler, Sylvia nana African Desert Warbler, Sylvia deserti Barred Warbler, Sylvia nisoria Orphean Warbler, Sylvia hortensis Red Sea Warbler, Sylvia leucomelaena Rüppell's Warbler, Sylvia rueppelli Subalpine Warbler, Sylvia cantillans Sardinian Warbler, Sylvia melanocephala Cyprus Warbler, Sylvia melanothorax Menetries' Warbler, Sylvia mystacea Spectacled Warbler, Sylvia conspicillata Tristram's Warbler, Sylvia deserticola Dartford Warbler, Sylvia undata Marmora's Warbler, Sylvia sarda

Thraupidae

Tanagers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Thraupidae**Genera: many: see text

There are 240 species of **Tanagers** in the bird family <u>Thraupidae</u>. Thraupidae belongs to the order <u>Passeriformes</u>.

<u>Euphonias</u> and chlorophonias were once considered part of the tanager family, but they are now treated as members of <u>Fringillidae</u>, in their own subfamily (<u>Euphoniinae</u>).

- 1 Size and appearance
- 2 Range
- 3 Social behavior
- 4 Diet
- 5 Breeding and reproduction
- <u> 6 Species list</u>
- 7 References

Size and appearance

Tanagers are small to medium-sized birds. The smallest, the Short-billed Honeycreeper, is 9 cm long and weighs 9 grams. The longest, the Magpie Tanager is 26 cm. The heaviest is the White-capped Tanager which weighs 114 grams. Both sexes are usually the same size and weight. Tanagers are often brightly colored, but some species are black and white. Birds in their first year are often duller or a different color altogether. Males are typically more brightly coloured than females.

Most tanagers have short, rounded wings. The shape of the bill seems to be linked to the species' foraging habits.

Range

Tanagers are restricted to the New World tropics. About 60% of tanagers live in South America, and 30% of these species live in the Andes. Most species are endemic to a relatively small area. 18 species live in North America and Central America year round. 4 species are migratory, breeding in North America. They are the Scarlet Tanager, Western Tanager, Hepatic Tanager and the Summer Tanager. Recent molecular evidence indicates these 4 migratory species may be more closely related to the family Emberizidae.

Social behavior

Most tanagers live in pairs or in small groups of 3-5 individuals. These groups may consist simply of parents and their offspring. Birds may also be seen in single species or mixed flocks. Tanagers are thought to have dull songs. Some are very elaborate.

Diet

Tanagers are omnivorous, but the diet of tanagers varies from genus to genus. They have been seen eating fruits, seeds, nectar, flower parts and insects. Their foraging technique depends much on what they look for. Many pick insects off branches. Other species look for insects on the underside of leaves. Yet others wait on branches until they see a flying insect and catch it in the air. Many of these particular species inhabit the same areas, but these specializations aleviate competition.

Breeding and reproduction

The breeding season begin in March through until June in temperate areas and in September through October in South America. Some species are territorial while others build their nests closer together. There is little information on tanager breeding behavior so it is difficult say if they are monogamous or polygamous. Males show off their brightest feathers to potential mates and rival males. Some species' courtship rituals involve bowing and tail lifting.

Most tanagers build cup nests on branches in trees. Some nests are almost globular. Entrances are usually built on the side of the nest. The nests can be shallow or deep. The species of the tree they choose to build their nest in and the nest's position varies among genera. Most species nest in an area hidden by very dense vegetation. There is still no information on the nests of some species.

The clutch size is 3-5 eggs. The female incubates the eggs and builds the nest, but the male may feed the female while she incubates. Both sexes feed the young. Five species have helpers assist in feeding the young. These helpers are thought to be the previous year's nestlings.

Species list

Family: Thraupidae

- Genus *Conirostrum*, the conebills
 - o Chestnut-vented Conebill, Conirostrum speciosum
 - White-eared Conebill, Conirostrum leucogenys
 Bicolored Conebill, Conirostrum bicolor
 Pearly-breasted Conebill, Conirostrum margaritae

Cinereous Conebill, Conirostrum cinereum
Tamarugo Conebill, Conirostrum tamarugense
White-browed Conebill, Conirostrum ferrugineiventre
Rufous-browed Conebill, Conirostrum rufum
Blue-backed Conebill, Conirostrum sitticolor
Capped Conebill, Conirostrum albifrons

- Genus Oreomanes
 - o Giant Conebill, Oreomanes fraseri
- Genus Orchesticus
 - o Brown Tanager, Orchesticus abeillei
- Genus Schistochlamys
 - Cinnamon Tanager, Schistochlamys ruficapillus Black-faced Tanager, Schistochlamys melanopis
- Genus Neothraupis
 - o White-banded Tanager, Neothraupis fasciata
- Genus *Cypsnagra*
 - o White-rumped Tanager, Cypsnagra hirundinacea
- Genus Conothraupis
 - Black-and-white Tanager, Conothraupis speculigera Cone-billed Tanager, Conothraupis mesoleuca
- Genus Cissopis
 - o Magpie Tanager, Cissopis leveriana
- Genus *Lamprospiza*
 - o Red-billed Pied Tanager, Lamprospiza melanoleuca
- Genus Chlorornis
 - o Grass-green Tanager, Chlorornis riefferii
- Genus Compsothraupis
 - o Scarlet-throated Tanager, Compsothraupis loricata
- Genus Sericossypha
 - o White-capped Sericossypha Tanager, Sericossypha albocristata
- Genus *Nesospingus*
 - o Puerto Rican Tanager, Nesospingus speculiferus
- Genus *Chlorospingus*, the bush tanagers
 - Common Bush Tanager, Chlorospingus ophthalmicus
 Tacarcuna Bush Tanager, Chlorospingus tacarcunae
 Pirre Bush Tanager, Chlorospingus inornatus
 Dusky Bush Tanager, Chlorospingus semifuscus
 Sooty-capped Bush Tanager, Chlorospingus pileatus
 Short-billed Bush Tanager, Chlorospingus parvirostris
 Yellow-throated Bush Tanager, Chlorospingus flavigularis
 Yellow-green Bush Tanager, Chlorospingus flavovirens
 Ashy-throated Bush Tanager, Chlorospingus canigularis
- Genus Cnemoscopus

- o Gray-hooded Bush Tanager, Cnemoscopus rubrirostris
- Genus *Hemispingus*, the hemispinguses
 - Orange-browed Hemispingus, Hemispingus atropileus
 Orange-browed Hemispingus, Hemispingus calophrys
 Parodi's Hemispingus, Hemispingus parodii
 Superciliaried Hemispingus, Hemispingus superciliaris
 Gray-capped Hemispingus, Hemispingus reyi
 Oleaginous Hemispingus, Hemispingus frontalis
 Black-eared Hemispingus, Hemispingus melanotis
 Slaty-backed Hemispingus, Hemispingus goeringi
 Rufous-browed Hemispingus, Hemispingus rufosuperciliaris
 Black-headed Hemispingus, Hemispingus verticalis
 Drab Hemispingus, Hemispingus xanthophthalmus
 Three-striped Hemispingus, Hemispingus trifasciatus
- Genus Pyrrhocoma
 - o Chestnut-headed Tanager, Pyrrhocoma ruficeps
- Genus Thlypopsis
 - Fulvous-headed Tanager, Thlypopsis fulviceps Rufous-chested Tanager, Thlypopsis ornata Brown-flanked Tanager, Thlypopsis pectoralis Orange-headed Tanager, Thlypopsis sordida Buff-bellied Tanager, Thlypopsis inornata Rust-and-yellow Tanager, Thlypopsis ruficeps
- Genus Hemithraupis
 - Guira Tanager, Hemithraupis guira
 Rufous-headed Tanager, Hemithraupis ruficapilla
 Yellow-backed Tanager, Hemithraupis flavicollis
- Genus Chrysothlypis
 - Black-and-yellow Tanager, Chrysothlypis chrysomelaena
 Scarlet-and-white Tanager, Chrysothlypis salmoni
- Genus Nemosia
 - Hooded Tanager, Nemosia pileata
 Cherry-throated Tanager, Nemosia rourei
- Genus Phaenicophilus
 - Black-crowned Palm Tanager, Phaenicophilus palmarum Gray-crowned Palm Tanager, Phaenicophilus poliocephalus
- Genus Calyptophilus, the chat-tanager
 - Western Chat-tanager, Calyptophilus tertius
 Eastern Chat-tanager, Calyptophilus frugivorus
- Genus Rhodinocichla
 - o Rosy Thrush-tanager, Rhodinocichla rosea
- Genus *Mitrospingus*
 - Dusky-faced Tanager, Mitrospingus cassinii
 Olive-backed Tanager, Mitrospingus oleagineus

- Genus *Chlorothraupis*
 - Olive Tanager, Chlorothraupis carmioli
 Lemon-spectacled Tanager, Chlorothraupis olivacea
 Ochre-breasted Tanager, Chlorothraupis stolzmanni
- Genus Orthogonys
 - o Olive-green Tanager, Orthogonys chloricterus
- Genus Eucometis
 - o Gray-headed Tanager, Eucometis penicillata
- Genus Lanio, the shrike-tanagers
 - Fulvous Shrike-tanager, Lanio fulvus
 White-winged Shrike-tanager, Lanio versicolor
 Black-throated Shrike-tanager, Lanio aurantius
 White-throated Shrike-tanager, Lanio leucothorax
- Genus *Creurgops*
 - Rufous-crested Tanager, Creurgops verticalis
 Slaty Tanager, Creurgops dentata
- Genus Heterospingus
 - Sulphur-rumped Tanager, Heterospingus rubrifrons Scarlet-browed Tanager, Heterospingus xanthopygius
- Genus Tachyphonus
 - Flame-crested Tanager, Tachyphonus cristatus Yellow-crested Tanager, Tachyphonus rufiventer Fulvous-crested Tanager, Tachyphonus surinamus White-shouldered Tanager, Tachyphonus luctuosus Tawny-crested Tanager, Tachyphonus delatrii Ruby-crowned Tanager, Tachyphonus coronatus White-lined Tanager, Tachyphonus rufus Red-shouldered Tanager, Tachyphonus phoenicius
- Genus *Trichothraupis*
 - o Black-goggled Tanager, Trichothraupis melanops
- Genus Habia, the ant tanagers
 - Red-crowned Ant-Tanager, Habia rubica
 Red-throated Ant-Tanager, Habia fuscicauda
 Sooty Ant-Tanager, Habia gutturalis
 Black-cheeked Ant-Tanager, Habia atrimaxillaris
 Crested Ant-Tanager, Habia cristata
- Genus Piranga
 - Rose-throated Tanager, Piranga roseogularis
 Hepatic Tanager, Piranga flava
 Scarlet Tanager, Piranga olivacea
 Summer Tanager, Piranga rubra
 Western Tanager, Piranga ludoviciana
 Flame-colored Tanager, Piranga bidentata
 White-winged Tanager, Piranga leucoptera

Red-headed Tanager, Piranga erythrocephala Red-hooded Tanager, Piranga rubriceps

- Genus Calochaetes
 - Vermilion Tanager, Calochaetes coccineus
- Genus Ramphocelus
 - Crimson-collared Tanager, Ramphocelus sanguinolentus Masked Crimson Tanager, Ramphocelus nigrogularis Crimson-backed Tanager, Ramphocelus dimidiatus Huallaga Tanager, Ramphocelus melanogaster Silver-beaked Tanager, Ramphocelus carbo Brazilian Tanager, Ramphocelus bresilius Passerini's Tanager, Ramphocelus passerinii Cherrie's Tanager, Ramphocelus costaricensis Flame-rumped Tanager, Ramphocelus flammigerus
- Genus *Spindalis*, the spindalises
 - Western Spindalis, Spindalis zena
 Puerto Rican Spindalis, Spindalis portoricensis
 Hispaniolan Spindalis, Spindalis dominicensis
 Jamaican Spindalis, Spindalis nigricephala
- Genus Thraupis
 - Blue-gray Tanager, Thraupis episcopus
 Glaucous Tanager, Thraupis glaucocolpa
 Sayaca Tanager, Thraupis sayaca
 Azure-shouldered Tanager, Thraupis cyanoptera
 Golden-chevroned Tanager, Thraupis ornata
 Blue-capped Tanager, Thraupis cyanocephala
 Blue-and-yellow Tanager, Thraupis bonariensis
 Yellow-winged Tanager, Thraupis abbas
 Palm Tanager, Thraupis palmarum
- Genus Cvanicterus
 - o Blue-backed Tanager, Cyanicterus cyanicterus
- Genus Bangsia
 - Blue-and-gold Tanager, Bangsia arcaei
 Black-and-gold Tanager, Bangsia melanochlamys
 Golden-chested Tanager, Bangsia rothschildi
 Moss-backed Tanager, Bangsia edwardsi
 Gold-ringed Tanager, Bangsia aureocincta
- Genus *Buthraupis*
 - O Hooded Mountain Tanager, Buthraupis montana
 Black-chested Mountain Tanager, Buthraupis eximia
 Golden-backed Mountain Tanager, Buthraupis aureodorsalis
 Masked Mountain Tanager, Buthraupis wetmorei
- Genus *Wetmorethraupis*
 - o Orange-throated Tanager, Wetmorethraupis sterrhopteron

- Genus Anisognathus
 - Santa Marta Mountain Tanager, Anisognathus melanogenys Lacrimose Mountain Tanager, Anisognathus lacrymosus Scarlet-bellied Mountain Tanager, Anisognathus igniventris Blue-winged Mountain Tanager, Anisognathus somptuosus Black-chinned Mountain Tanager, Anisognathus notabilis
- Genus Stephanophorus
 - o Diademed Tanager, Stephanophorus diadematus
- Genus Iridosornis
 - Purplish-mantled Tanager, Iridosornis porphyrocephala Yellow-throated Tanager, Iridosornis analis Golden-collared Tanager, Iridosornis jelskii Golden-crowned Tanager, Iridosornis rufivertex Yellow-scarfed Tanager, Iridosornis reinhardti
- Genus Thraupis Dubusia
 - o Buff-breasted Mountain Tanager, Dubusia taeniata
- Genus *Delothraupis*
 - o Chestnut-bellied Mountain Tanager, Delothraupis castaneoventris
- Genus Pipraeidea
 - o Fawn-breasted Tanager, Pipraeidea melanonota
- Genus Chlorochrysa
 - Glistening-green Tanager, Chlorochrysa phoenicotis
 Orange-eared Tanager, Chlorochrysa calliparaea
 Multicolored Tanager, Chlorochrysa nitidissima
- Genus Tangara
 - Plain-colored Tanager, Tangara inornata Turquoise Tanager, Tangara mexicana Azure-rumped Tanager, Tangara cabanisi Gray-and-gold Tanager, Tangara palmeri Paradise Tanager, Tangara chilensis Seven-colored Tanager, Tangara fastuosa Green-headed Tanager, Tangara seledon Red-necked Tanager, Tangara cyanocephala Brassy-breasted Tanager, Tangara desmaresti Gilt-edged Tanager, Tangara cyanoventris Blue-whiskered Tanager, Tangara johannae Green-and-gold Tanager, Tangara schrankii Emerald Tanager, Tangara florida Golden Tanager, Tangara arthus Silver-throated Tanager, Tangara icterocephala Golden-eared Tanager, Tangara chrysotis Saffron-crowned Tanager, Tangara xanthocephala Flame-faced Tanager, Tangara parzudakii Yellow-bellied Tanager, Tangara xanthogastra

Spotted Tanager, Tangara punctata Speckled Tanager, Tangara guttata Dotted Tanager, Tangara varia Rufous-throated Tanager, Tangara rufigula Bay-headed Tanager, Tangara gyrola Rufous-winged Tanager, Tangara lavinia Burnished-buff Tanager, Tangara cayana Black-backed Tanager, Tangara peruviana Lesser Antillean Tanager, Tangara cucullata Chestnut-backed Tanager, Tangara preciosa Scrub Tanager, Tangara vitriolina Green-capped Tanager, Tangara meyerdeschauenseei Rufous-cheeked Tanager, Tangara rufigenis Golden-naped Tanager, Tangara ruficervix Metallic-green Tanager, Tangara labradorides Blue-browed Tanager, Tangara cyanotis Blue-necked Tanager, Tangara cyanicollis Golden-hooded Tanager, Tangara larvata Masked Tanager, Tangara nigrocincta Spangle-cheeked Tanager, Tangara dowii Green-naped Tanager, Tangara fucosa Beryl-spangled Tanager, Tangara nigroviridis Blue-and-black Tanager, Tangara vassorii Black-capped Tanager, Tangara heinei Sira Tanager, Tangara phillipsi Silver-backed Tanager, Tangara viridicollis Straw-backed Tanager, Tangara argyrofenges Black-headed Tanager, Tangara cyanoptera Opal-rumped Tanager, Tangara velia Opal-crowned Tanager, Tangara callophrys

Genus Iridophanes

- o Golden-collared Honeycreeper, Iridophanes pulcherrima
- Genus Pseudodacnis
 - o Turquoise Dacnis-Tanager, Pseudodacnis hartlaubi
- Genus *Dacnis*, the dacnises
 - White-bellied Dacnis, Dacnis albiventris
 Black-faced Dacnis, Dacnis lineata
 Yellow-bellied Dacnis, Dacnis flaviventer
 Black-legged Dacnis, Dacnis nigripes
 Scarlet-thighed Dacnis, Dacnis venusta
 Blue Dacnis, Dacnis cayana
 Viridian Dacnis, Dacnis viguieri
 Scarlet-breasted Dacnis, Dacnis berlepschi
- Genus *Chlorophanes*

- o Green Honeycreeper, Chlorophanes spiza
- Genus *Cyanerpes*, the <u>honeycreepers</u>
 - Short-billed Honeycreeper, Cyanerpes nitidus Shining Honeycreeper, Cyanerpes lucidus Purple Honeycreeper, Cyanerpes caeruleus Red-legged Honeycreeper, Cyanerpes cyaneus
- Genus *Xenodacnis*
 - o Tit-like Dacnis, Xenodacnis parina
- Genus Tersina
 - o Swallow Tanager, Tersina viridis
- Genus *Catamblyrhynchus*
 - o Plush-capped Finch, Catamblyrhynchus diadema
- Genus *Oreothraupis*
 - o Tanager Finch, Oreothraupis arremonops
- Genus *Urothraupis*
 - o Black-backed Bush Tanager, Urothraupis stolzmanni
- Genus *Nephelornis*
 - o Pardusco Nephelornis oneilli

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Cyanerpes

Honeycreeper

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Thraupidae</u>
Genus: *Cyanerpes*Species: See text.

The **Honeycreepers** are small <u>birds</u> in the <u>tanager</u> family. They are found in the tropical New World from Mexico south to Brazil.

They occur in the forest canopy, and, as the name implies, they are specialist nectar feeders with long curved bills.

The four *Cyanerpes* species have colourful legs, long wings and a short tail. The males are typically glossy purple-blue and the females greenish.

The Green Honeycreeper is called a Honeycreeper, but belongs to the monotypic *Chlorophanes* genus. It has a larger, stouter bill than the *Cyanerpes* group, and is less heavily dependent on nectar.

Honeycreeper is also the name of an independent rock band from upstate New York. [1]

Species

 Short-billed Honeycreeper, Cyanerpes nitidus Shining Honeycreeper, Cyanerpes lucidus Purple Honeycreeper, Cyanerpes caeruleus Red-legged Honeycreeper, Cyanerpes cyaneus

- *Birds of Venezuela* by Hilty, ISBN 0-7136-6418-5
- *Birds of Trinidad and Tobago* by ffrench, ISBN 0-7136-6759-1

Habia

Ant tanager

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: *Habia* Blyth, 1840species: *H. rubica, H. fuscicauda, H. gutturalis, H. atrimaxillaris, H.*

cristata

Ant tanagers are <u>birds</u> of the <u>tanager</u> family in the genus *Habia*. These are long-tailed and strong billed birds. The males have a red crest and plumage containing red, brown or sooty hues. Females may resemble the males or be largely yellowish or brown in colour.

All species forage for insects, which can be larger than their bills. Fruit is a minor part of their diet. Red-throated, Sooty and Black-cheeked Ant-Tanagers form a superspecies; they inhabit secon growth and patchy woodland. They look down from a series of low (2-3 m) perches and take prey from foliage or in flight. They follow army ant swarms to catch insects that are fleeing from the ants.

Red-crowned and Crested Ant-Tanagers prefer denser undergrowth and watch from higher (4-5 m) perches, often working upwards through the foliage. They are less likely to follow ant columns.

The female alone builds a cup nest and incubates the two or three eggs. The young leave the nest before they can fly and hide in dense vegetation.

Ant tanagers have harsh call notes but musical whistled songs.

Species in taxonomic order

Red-crowned Ant-Tanager, Habia rubica
 Red-throated Ant-Tanager, Habia fuscicauda
 Sooty Ant-Tanager, Habia gutturalis
 Black-cheeked Ant-Tanager, Habia atrimaxillaris
 Crested Ant-Tanager, Habia cristata

- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Hilty, Birds of Venezuela, ISBN 0-7136-6418-5
- Morton, Isler & Isler, *Tanagers* ISBN 0-7136-5116-4
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Piranga

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: Piranga Vieillot, 1807 species: see species list

Piranga is a genus of <u>birds</u> of the <u>tanager</u> family. Several species are <u>migratory</u>, breeding in North America and wintering in the tropics.

These tanagers are found high in tree canopies, and are not very gregarious in their breeding areas.

Piranga tanagers pick insects from leaves, or sometimes in flight. They will also take some fruit

Species in taxonomic order

Rose-throated Tanager, Piranga roseogularis
 Hepatic Tanager, Piranga flava
 Scarlet Tanager, Piranga olivacea
 Summer Tanager, Piranga rubra
 Western Tanager, Piranga ludoviciana
 Flame-colored Tanager, Piranga bidentata
 White-winged Tanager, Piranga leucoptera
 Red-headed Tanager, Piranga erythrocephala
 Red-hooded Tanager, Piranga rubriceps

- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Hilty, Birds of Venezuela, ISBN 0-7136-6418-5
- Morton, Isler & Isler, Tanagers ISBN 0-7136-5116-4
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Ramphocelus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: Ramphocelus Desmarest, 1805 species: see species list

Ramphocelus is a genus of <u>birds</u> of the <u>tanager</u> family. Most species have enlarged shiny whitish lower mandibles, which are pointed upwards in display.

Ramphocelus tanagers are found in semi-open areas. The nest is a cup built by the female of plant materials such as moss, rootlets, and strips of large leaves like banana or Heliconia, and is often in a fairly open site in a tree. The female usually lays pale blue eggs, with grey, brown or lavender spots, and the young stay in the nest for only about 12 days.

The songs of this genus are repetitions of rich one- or two-syllable whistles

Ramphocelus tanagers hunt at forest edges or in second growth, taking insects in flight or picking them from leaves

Taxonomy

The Crimson-collared Tanager is sometimes placed in a genus of its own as *Phlogothraupis sanguinolenta* (Howell and Webb 1994), and a genetic study suggests that it is less closely related to the other *Ramphocelus* tanagers than they are to each other (Hackett 1996). Its closest relative is Masked Crimson Tanager.

The other species form two superspecies. One includes Crimson-backed, Huallaga, Silverbeaked and Brazilian Tanagers, and the other comprises Passerini's, Cherrie's and Flamerumped Tanagers.

The northern form of Flame-rumped Tanager is sometimes split as Lemon-rumped Tanager, *Ramphocelus icteronotus*, and Passerini's and Cherrie's Tanager were formerly lumped as Scarlet-rumped Tanager, *Ramphocelus passerinii*.

Species in taxonomic order

 Crimson-collared Tanager, Ramphocelus sanguinolentus Masked Crimson Tanager, Ramphocelus nigrogularis Crimson-backed Tanager, Ramphocelus dimidiatus Huallaga Tanager, Ramphocelus melanogaster Silver-beaked Tanager, Ramphocelus carbo Brazilian Tanager, Ramphocelus bresilius Passerini's Tanager, Ramphocelus passerinii Cherrie's Tanager, Ramphocelus costaricensis Flame-rumped Tanager, Ramphocelus flammigerus

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- Morton, Isler & Isler, *Tanagers* ISBN 0-7136-5116-4
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Spindalis

Kingdom: Animalia Phylum: Chordata Subphylum: Vertebrata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: Spindalis Jardine and Selby, 1837 Species: Spindalis zena, Spindalis portoricensis,

Spindalis dominicensis, Spindalis nigricephala

Spindalis is a non-migratory genus of <u>tanagers</u> (Thraupidae family) comprised of 4 species. The genus is considered <u>endemic</u> to the Greater Antilles; a population on Cozumel Island, off the Yucatan Peninsula's east coast, is part of that island's West Indian fauna.

Historically, the genus consisted of a single polytypic species, Spindalis zena, with eight recognized subspecies—S. z. townsendi and S. z. zena from the Bahamas,S. z. pretrei from Cuba, S. z. salvini from Grand Cayman, S. z. dominicensis from Hispaniola and Gonave Island, S. z. portoricensis from Puerto Rico, S. z. nigreciphala from Jamaica, and S. z. benedicti from Cozumel Island. In 1997, based primarily on morphological and vocalization differences, three of the subspecies (portoricensis, dominicensis and nigricephala) were elevated to species status. S. zena remained a polytypic species with five recognized subspecies—S. z. pretrei, S. z. salvini, S. z. benedicti, S. z. townsendi, and S. z. zena.[1]

Spindalis males are characterized by bright plumage while females are duller and have a different coloration.

The nests of *Spindalis* are cup-shaped. 24

Footnotes

- 1. <u>^</u> Garrildo, et al, p.588-89.
- 2. <u>^</u> Garrildo, et al, p.587.

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Tangara

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: Tangara Brisson, 1760 species: see species list

Tangara is a large genus of <u>birds</u> of the <u>tanager</u> family. Many have restricted ranges. These tanagers are mainly found high in forest canopies, but some occupy more open

habitat.

The female builds a usually well concealed cup nest and lays two brown- or lilac-speckled white eggs. These hatch in 13-14 days and the chicks fledge in a further 15-16 days. The male and female feed the nestlings on insects and fruit, and may be assisted by helpers.

Tangara tanagers pick insects from leaves, or sometimes in flight, but fruit is a major dietary item, accounting for 53-86% of food items in those species which have been studied.

Species in taxonomic order

Plain-colored Tanager, Tangara inornata Turquoise Tanager, Tangara mexicana Azure-rumped Tanager, Tangara cabanisi Gray-and-gold Tanager, Tangara palmeri Paradise Tanager, Tangara chilensis Seven-colored Tanager, Tangara fastuosa Green-headed Tanager, Tangara seledon Red-necked Tanager, Tangara cyanocephala Brassy-breasted Tanager, Tangara desmaresti Gilt-edged Tanager, Tangara cyanoventris Blue-whiskered Tanager, Tangara johannae Green-and-gold Tanager, Tangara schrankii Emerald Tanager, Tangara florida Golden Tanager, Tangara arthus Silver-throated Tanager, Tangara icterocephala Golden-eared Tanager, Tangara chrysotis Saffron-crowned Tanager, Tangara xanthocephala Flame-faced Tanager, Tangara parzudakii Yellow-bellied Tanager, Tangara xanthogastra Spotted Tanager, Tangara punctata Speckled Tanager, Tangara guttata Dotted Tanager, Tangara varia Rufous-throated Tanager, Tangara rufigula Bay-headed Tanager, Tangara gyrola Rufous-winged Tanager, Tangara lavinia

Burnished-buff Tanager, Tangara cayana Black-backed Tanager, Tangara peruviana Lesser Antillean Tanager, Tangara cucullata Chestnut-backed Tanager, Tangara preciosa Scrub Tanager, Tangara vitriolina Green-capped Tanager, Tangara meyerdeschauenseei Rufous-cheeked Tanager, Tangara rufigenis Golden-naped Tanager, Tangara ruficervix Metallic-green Tanager, Tangara labradorides Blue-browed Tanager, Tangara cyanotis Blue-necked Tanager, Tangara cyanicollis Golden-hooded Tanager, Tangara larvata Masked Tanager, Tangara nigrocincta Spangle-cheeked Tanager, Tangara dowii Green-naped Tanager, Tangara fucosa Beryl-spangled Tanager, Tangara nigroviridis Blue-and-black Tanager, Tangara vassorii Black-capped Tanager, Tangara heinei Sira Tanager, Tangara phillipsi Silver-backed Tanager, Tangara viridicollis Straw-backed Tanager, Tangara argyrofenges Black-headed Tanager, Tangara cyanoptera Opal-rumped Tanager, Tangara velia Opal-crowned Tanager, Tangara callophrys

- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Hilty, Birds of Venezuela, ISBN 0-7136-6418-5
- Morton, Isler & Isler, *Tanagers* ISBN 0-7136-5116-4
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Thraupis

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Thraupidae</u>

Genus: Thraupis Boie, 1826species: see species list

Thraupis is a genus of <u>birds</u> of the <u>tanager</u> family occuring from Mexico to Argentina. Some are familiar species with large ranges.

These tanagers are mainly found in semi-open habitats including plantations and open woodland, but some will venture into towns. They feed from medium to high levels in trees, taking mainly fruit, with some nectar, and insects which may be taken in flight.

The pair builds a usually well concealed cup nest, but the female incubates alone. The Blue-gray and Palm Tanagers will nest in buildings.

Thraupis tanagers have squeaky call notes and songs which consist of 5-10 repetitions of a single or double note.

Species in taxonomic order

Blue-gray Tanager, Thraupis episcopus
 Glaucous Tanager, Thraupis glaucocolpa
 Sayaca Tanager, Thraupis sayaca
 Azure-shouldered Tanager, Thraupis cyanoptera
 Golden-chevroned Tanager, Thraupis ornata
 Blue-capped Tanager, Thraupis cyanocephala
 Blue-and-yellow Tanager, Thraupis bonariensis
 Yellow-winged Tanager, Thraupis abbas
 Palm Tanager, Thraupis palmarum

- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Hilty, Birds of Venezuela, ISBN 0-7136-6418-5
- Morton, Isler & Isler, *Tanagers* ISBN 0-7136-5116-4
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Troglodytidae

Wrens

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Troglodytidae** Swainson, 1832 Genera: Donacobius, Odontorchilus, Salpinctes, Microcerculus, Campylorhynchus, Catherpes, Hylorchilus, Thryomanes, Thryothorus, Cinnycerthia, Cantorchilus, Thryophilus, Pheugopedius Cyphorhinus, Uropsila, Thryorchilus, Henicorhina, Troglodytes, Cistothorus, Ferminia

The true **wrens** are members of a mainly New World <u>passerine</u> <u>bird</u> family **Troglodytidae** containing 79 <u>species</u>.

A troglodyte means a cave-dweller, and wrens get their scientific name from the tendency of some species to forage in dark crevices. They are mainly small and inconspicuous except for their loud songs. These birds have short wings and a thin down-turned bill. Several species often hold their tails upright. All are insectivorous.

Only one species, *Troglodytes troglodytes*, known as the Winter Wren in North America, occurs in the Old World, where it is commonly known simply as the **Wren**.

The 27 Australasian "wren" species are unrelated and are in the family <u>Maluridae</u>, as are the <u>New Zealand "wrens"</u> in the family Acanthisittidae.

The wren is to become the next official mascot of The College of William and Mary.

Species list

This list follows the review by Mann et al. (2006).

- Genus *Donacobius*
 - o Black-capped Donacobius *Donacobius atricapillus*
- Genus Odontorchilus
 - Gray-mantled Wren Odontorchilus branickii
 Tooth-billed Wren Odontorchilus cinereus
- Genus Salpinctes
 - o Rock Wren Salpinctes obsoletus
- Genus Microcerculus
 - Flutist Wren Microcerculus ustulatus
 Nightingale Wren Microcerculus philomela
 Scaly-breasted Wren Microcerculus marginatus
 Wing-banded Wren Microcerculus bambla
- Genus Catherpes
 - o Canyon Wren Catherpes mexicanus
- Genus Hylorchilus
 - Nava's Wren Hylorchilus navai
 Slender-billed Wren Hylorchilus sumichrasti

- Genus <u>Campylorhynchus</u>
 - Band-backed Wren Campylorhynchus griseus
 Bicolored Wren Campylorhynchus griseus
 Boucard's Wren Campylorhynchus jocosus
 Cactus Wren Campylorhynchus brunneicapillus
 Fasciated Wren Campylorhynchus fasciatus
 Giant Wren Campylorhynchus chiapensis
 Gray-barred Wren Campylorhynchus megalopterus
 Rufous-naped Wren Campylorhynchus rufinucha
 Spotted Wren Campylorhynchus gularis
 Stripe-backed Wren Campylorhynchus nuchalis
 Thrush-like Wren Campylorhynchus turdinus
 White-headed Wren Campylorhynchus albobrunneus
 Yucatan Wren Campylorhynchus yucatanicus
- Genus Thryomanes
 - o Bewick's Wren Thryomanes bewickii
- Genus Thryothorus
 - o Carolina Wren Thryothorus ludovicianus
 - White-browed Wren Thryothorus (l.) albinucha
- Genus Cinnycerthia
 - Fulvous Wren Cinnycerthia fulva
 Peruvian Wren Cinnycerthia peruana
 Rufous Wren Cinnycerthia unirufa
 Sharpe's Wren Cinnycerthia olivascens
- Genus *Cantorchilus* (formerly *Thryothorus*)
 - Stripe-breasted Wren Cantorchilus thoracicus
 Stripe-throated Wren Cantorchilus leucopogon
 Plain Wren Cantorchilus modestus
 Riverside Wren Cantorchilus semibadius
 Bay Wren Cantorchilus nigricapillus
 Superciliated Wren Cantorchilus superciliaris
 Buff-breasted Wren Cantorchilus leucotis (probably not monophyletic)
 Fawn-breasted Wren Cantorchilus guarayanus
 Long-billed Wren Cantorchilus longirostris
- Genus *Thryophilus* (formerly *Thryothorus*)
 - Gray Wren Thryophilus griseus (placement in genus requires confirmation)
 Rufous-and-white Wren Thryophilus rufalbus
 Niceforo's Wren Thryophilus nicefori
 Sinaloa Wren Thryophilus sinaloa
 Banded Wren Thryophilus pleurostictus
- Genus *Pheugopedius* (formerly *Thryothorus*)
 - Moustached Wren Pheugopedius genibarbis Coraya Wren Pheugopedius coraya Whiskered Wren Pheugopedius mystacalis

Plain-tailed Wren Pheugopedius euophrys
Black-bellied Wren Pheugopedius fasciatoventris
Black-throated Wren Pheugopedius atrogularis
Speckle-breasted Wren Pheugopedius sclateri
Sooty-headed Wren Pheugopedius spadix
Happy Wren Pheugopedius felix
Inca Wren Pheugopedius eisenmanni
Rufous-breasted Wren Pheugopedius rutilus
Spot-breasted Wren Pheugopedius maculipectus

- Genus *Cyphorhinus*
 - Chestnut-breasted Wren Cyphorhinus thoracicus Musician Wren Cyphorhinus aradus Song Wren Cyphorhinus phaeocephalus
- Genus Uropsila
 - o White-bellied Wren Uropsila leucogastra
- Genus Thryorchilus
 - o Timberline Wren Thryorchilus browni
- Genus Henicorhina
 - Bar-winged Wood Wren Henicorhina leucoptera
 Gray-breasted Wood Wren Henicorhina leucophrys
 White-breasted Wood Wren Henicorhina leucosticta
 Munchique Wood-wren, Henicorhina negreti
- Genus *Troglodytes*
 - o Clarion Island Wren Troglodytes tanneri

Cobb's Wren Troglodytes cobbi

House Wren Troglodytes aedon

Socorro Wren Trodlodytes sissonii (sometimes placed in Thryomanes)

Mountain Wren Troglodytes solstitialis

Ochraceous Wren Troglodytes ochraceus

Rufous-browed Wren Troglodytes rufociliatus

Santa Marta Wren Troglodytes monticola

Tepui Wren Troglodytes rufulus

Winter Wren Troglodytes troglodytes (sometimes monotypic genus

Nannus)

- Genus Cistothorus
 - Apolinar's Wren Cistothorus apolinari Marsh Wren Cistothorus palustris Paramo Wren Cistothorus meridae Sedge Wren Cistothorus platensis
- Genus Ferminia
 - o Zapata Wren Ferminia cerverai

• **Mann**, Nigel I.; Barker, F. Keith; Graves, Jeff A.; Dingess-Mann, Kimberly A. & Slater, Peter J. B. (2006): Molecular data delineate four genera of "Thryothorus" wrens. *Molecular Phylogenetics and Evolution* **40**: 750–759. DOI:10.1016/j.ympev.2006.04.014 (HTML abstract)

Campylorhynchus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Troglodytidae</u>

Genus: *Campylorhynchus* Spix, 1824Species: *Campylorhynchus brunneicapillus, Campylorhynchus nuchalis, Campylorhynchus rufinucha, Campylorhynchus zonatus, ...*

Campylorhynchus is a genus of wrens.

Troglodytes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Troglodytidae</u>

Genus: *Troglodytes* Vieillot, 1809Species: See text.

Troglodytes is a genus of small <u>passerine birds</u> in the <u>wren</u> family. The genus name (Greek *troglodytai*, from *trogle*, "a hole" and *dyein*, "to enter") refers to the tendency of these wrens to enter small crevices and similar as they forage for food.

These wrens are around 11-12 cm long. They are typically streaked brown above and somewhat paler below, with short rounded wings, strong legs and a cocked tail. The flight is direct and buzzing.

Troglodytes wrens are mostly found in somewhat cooler habitats than most of their relatives, being birds of temperate latitudes and tropical highlands, apart from the widely distributed lowland House Wren. The hardy Winter Wren has a wide distribution in North America, Europe and Asia and is the only wren of any genus which occurs outside the New World. The Cobb's Wren of the Falkland Islands is another species which tolerates harsh conditions well.

The other species are found in the mountains of the tropics from Mexico to northern South America.

Like other wrens, this group have skulking lifestyles as they hunt for small insects and spiders but readily reveal their positions through their loud songs.

These are territorial birds, but the tiny Winter Wren will roost communally in a cavity in cold weather to help conserve heat.

Species

Winter Wren Troglodytes troglodytes
 House Wren Troglodytes aedon
 Cobb's Wren Troglodytes cobbi
 Clarion Island Wren Troglodytes tanneri
 Rufous-browed Wren Troglodytes rufociliatus
 Ochraceous Wren Troglodytes ochraceus
 Santa Marta Wren Troglodytes monticola
 Mountain Wren Troglodytes solstitialis
 Tepui Wren Troglodytes rufulus

A number of these species, such as the Clarion Island Wren, were formerly considered subspecies of the House Wren, and it has been argued that the tropical forms of the House Wren should be further spilt as the Southern House Wren, *Troglodytes mutilus*.

The Winter Wren is less closely related to the other members of the genus, and is occasionally split as the montypical genus *Nannus*.

- Hilty, Birds of Venezuela ISBN 0-7136-6418-5
- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-08-149600-4
- National Geographic Field Guide to the Birds of North America ISBN 0-7922-6877-
- Mullarney, Svensson, Zetterstrom and Grant, *Collins Bird Guide* ISBN 0-00-219728-6
- Rice, Peterson and Escalona-Segura *Phylogenetic patterns in montane* Troglodytes *wrens*

Turdidae

Thrushes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Turdidae**

Genera: 22 genera, see text

See also other birds with Thrush in their name: Waterthrush, Shrike-thrush, Thrush

Nightingale

The **Thrushes**, <u>family</u> **Turdidae**, are a group of <u>passerine</u> <u>birds</u> that occur mainly but not exclusively in the Old World.

They are plump, soft plumaged, small to medium sized insectivores or sometimes omnivores, often feeding on the ground. Many have attractive songs.

The taxonomic treatment of this large family has varied significantly in recent years. Traditionally it included the small Old World species, like the Nightingale and European Robin in the subfamily Saxicolini, but now often either that group or the whole family is now placed in the <u>Old World flycatcher</u> family <u>Muscicapidae</u>.

This article follows Handbook of the Birds of the World with edits from Clement & Hathaway, *Thrushes* (2000), and retains the large thrushes in Turdidae.

• Family Turdidae

- o Genus *Turdus*, true thrushes
- Blackbird, Turdus merula

Yemen Thrush. Turdus menachensis

Olive Thrush. Turdus olivaceus

Olivaceous Thrush, Turdus olivaceofuscus

Comoro Thrush, Turdus bewsheri

Kurrichane Thrush. Turdus libonyanus

African Thrush, Turdus pelios

African Bare-eyed Thrush, Turdus tephronotus

Grey-backed Thrush, Turdus hortulorum

Tickell's Thrush, Turdus unicolor

Black-breasted Thrush, Turdus dissimilis

Japanese Thrush, Turdus cardis

White-collared Blackbird, Turdus albocinctus

Ring Ouzel, Turdus torquatus

Grey-winged Blackbird, Turdus boulboul

Island Thrush, Turdus poliocephalus

Chestnut Thrush, Turdus rubrocanus

White-backed Thrush, Turdus kessleri

Grev-sided Thrush, Turdus feae

Eyebrowed Thrush, Turdus obscurus

Pale Thrush, Turdus pallidus

Brown-headed Thrush, Turdus chrysolaus Izu Thrush, Turdus celaenops

- Dark-throated Thrush, Turdus atrogularis
 - Black-throated Thrush, T. a. atrogularis
 - Red-throated Thrush, T.a. ruficollis
- Dusky Thrush, Turdus naumanni
 - Naumann's Thrush. T. n. naumanni
 - Dusky Thrush, T. n. eunomus
- Fieldfare, Turdus pilaris Redwing, Turdus iliacus Song Thrush, Turdus philomelos Chinese Thrush, Turdus mupinensis Mistle Thrush, Turdus viscivorus Red-legged Thrush, Turdus plumbeus Chiguanco Thrush, Turdus chiguanco Sooty Robin, Turdus nigrescens Great Thrush. Turdus fuscater Black Robin, Turdus infuscatus Glossy-black Thrush, Turdus serranus Andean Slaty Thrush, Turdus nigriceps Eastern Slaty Thrush, Turdus subalaris Black-hooded Thrush. Turdus olivater Plumbeous-backed Thrush, Turdus reevei Maranon Thrush, Turdus maranonicus Chestnut-bellied Thrush, Turdus fulviventris Rufous-bellied Thrush, Turdus rufiventris Austral Thrush, Turdus falcklandii Pale-breasted Thrush. Turdus leucomelas Creamy-bellied Thrush, Turdus amaurochalinus Mountain Robin, Turdus plebejus Black-billed Thrush, Turdus ignobilis Lawrence's Thrush, Turdus lawrencii Cocoa Thrush, Turdus fumigatus Pale-vented Thrush, Turdus obsoletus Hauxwell's Thrush, Turdus hauxwelli Clay-colored Robin. Turdus gravi Bare-eyed Thrush, Turdus nudigenis Ecuadorian Thrush, Turdus maculirostris Unicolored Thrush, Turdus haplochrous White-eyed Thrush, Turdus jamaicensis White-throated Thrush. Turdus assimilis White-necked Thrush, Turdus albicollis Rufous-backed Robin, Turdus rufopalliatus Rufous-collared Robin, Turdus rufitorques American Robin, Turdus migratorius

La Selle Thrush, Turdus swalesi White-chinned Thrush, Turdus aurantius

- o Genus Zoothera, Asian thrushes
 - Slaty-backed Thrush, Zoothera schistacea Moluccan Thrush, Zoothera dumasi Chestnut-capped Thrush, Zoothera interpres Rusty-backed Thrush. Zoothera erythronota Red-and-black Thrush, Zoothera mendeni Chestnut-backed Thrush, Zoothera dohertvi Pied Thrush, Zoothera wardii Ashy Thrush, Zoothera cinerea Orange-banded Thrush, Zoothera peronii Orange-headed Thrush, Zoothera citrina Everett's Thrush, Zoothera everetti Siberian Thrush, Zoothera sibirica Varied Thrush, Zoothera naevia Aztec Thrush, Zoothera pinicola Abyssinian Ground Thrush, Zoothera piaggiae Kivu Ground Thrush, Zoothera tanganjicae Crosslev's Ground Thrush, Zoothera crosslevi Orange Ground Thrush, Zoothera gurneyi Oberlaender's Ground Thrush, Zoothera oberlaenderi Black-eared Ground Thrush, Zoothera cameronensis Grev Ground Thrush, Zoothera princei Spotted Ground Thrush, Zoothera guttata Spot-winged Thrush, Zoothera spiloptera Sunda Thrush. Zoothera andromedae Plain-backed Thrush. Zoothera mollissima Long-tailed Thrush, Zoothera dixoni White's Thrush or Scaly Thrush, Zoothera dauma Amami Thrush, Zoothera major Horsfield's Thrush, Zoothera horsfieldi Fawn-breasted Thrush, Zoothera machiki Olive-tailed Thrush, Zoothera lunulata Russet-tailed Thrush, Zoothera heinei New Britain Thrush. Zoothera talaseae San Cristobal Thrush, Zoothera margaretae Guadalcanal Thrush, Zoothera turipavae Long-billed Thrush, Zoothera monticola Dark-sided Thrush, Zoothera marginata †Bonin Islands Thrush, Zoothera terrestris Conservation status: Extinct
- o Genus *Catharus*, typical American thrushes
 - Veery, Catharus fuscescens Gray-cheeked Thrush, Catharus minimus Bicknell's Thrush, Catharus bicknelli

Swainson's Thrush, Catharus ustulatus
Hermit Thrush, Catharus guttatus
Orange-billed Nightingale-thrush, Catharus aurantiirostris
Slaty-backed Nightingale-thrush, Catharus fuscater
Russet Nightingale-thrush, Catharus occidentalis
Black-billed Nightingale-thrush, Catharus gracilirostris
Ruddy-capped Nightingale-thrush, Catharus frantzii
Black-headed Nightingale-thrush, Catharus mexicanus
Spotted Nightingale-thrush, Catharus dryas

- Genus Hylocichla
 - Wood Thrush, *Hylocichla mustelina*
 - o Genus *Monticola*, <u>rock thrushes</u>
 - Benson's Rock Thrush, Monticola sharpei
 Benson's Rock Thrush, Monticola bensoni
 Littoral Rock Thrush, Monticola imerinus
 Cape Rock Thrush, Monticola rupestris
 Sentinel Rock Thrush, Monticola explorator
 Short-toed Rock Thrush, Monticola brevipes
 Miombo Rock Thrush, Monticola angolensis
 Rufous-tailed Rock Thrush, Monticola saxatilis
 Little Rock Thrush, Monticola rufocinereus
 Blue-capped Rock Thrush, Monticola cinclorhynchus
 White-throated Rock Thrush, Monticola gularis
 Chestnut-bellied Rock Thrush, Monticola rufiventris
 Blue Rock Thrush, Monticola solitarius
- Genus *Neocossyphus*, flycatcher thrushes and ant thrushes
 - Rufous Flycatcher-thrush, Neocossyphus fraseri Finsch's Flycatcher-thrush, Neocossyphus finschii Red-tailed Ant-thrush, Neocossyphus rufus White-tailed Ant-thrush, Neocossyphus poensis
- o Genus *Myophonus*, whistling thrushes
 - Sri Lanka Whistling Thrush, Myophonus blighi Shiny Whistling Thrush, Myophonus melanurus Sunda Whistling Thrush, Myophonus glaucinus Malayan Whistling Thrush, Myophonus robinsoni Malabar Whistling Thrush, Myophonus horsfieldii Formosan Whistling Thrush, Myophonus insularis Blue Whistling Thrush, Myophonus caeruleus
- o Genus Geomalia
 - Geomalia Geomalia heinrichi
- o Genus Cataponera
 - Sulawesi Thrush, Cataponera turdoides
- o Genus Nesocichla
 - Tristan Thrush, Nesocichla eremita
- Genus Cichlherminia

- Forest Thrush, Cichlherminia lherminieri
- o Genus Sialia, bluebirds
 - Eastern Bluebird, Sialia sialis
 Western Bluebird, Sialia mexicana
 Mountain Bluebird, Sialia currucoides
 - Genus Myadestes, solitaires
 - Townsend's Solitaire, Myadestes townsendi

Brown-backed Solitaire, Myadestes occidentalis

Cuban Solitaire, Myadestes elisabeth

Rufous-throated Solitaire, Myadestes genibarbis

Black-faced Solitaire, Myadestes melanops

Varied Solitaire, Myadestes coloratus

Slate-colored Solitaire, Myadestes unicolor

Andean Solitaire, Myadestes ralloides

†»maui, Myadestes woahensis Conservation status: Extinct (mid-19th century)

†Kma»o, Myadestes myadestinus Conservation status: Extinct (mid-1990s)

Oloma»o, Myadestes lanaiensis - probably extinct (1980s)

»Lma»o, Myadestes obscurus

Puaiohi, Myadestes palmeri

- Genus Cichlopsis, solitaires
 - Rufous-brown Solitaire, Cichlopsis leucogenys
- Genus *Entomodestes*, solitaires
 - White-eared Solitaire, Entomodestes leucotis Black Solitaire, Entomodestes coracinus
- Genus Platycichla
 - Pale-eyed Thrush, Platycichla leucops
 Yellow-legged Thrush, Platycichla flavipes
- o Genus *Psophocichla*
 - Groundscraper Thrush, *Psophocichla litsipsirupa*
- Genus *Chlamydochaera*
 - Fruit-hunter, *Chlamydochaera jefferyi*
- o Genus *Brachypteryx*, shortwings
 - Rusty-bellied Shortwing, Brachypteryx hyperythra Gould's Shortwing, Brachypteryx stellata White-bellied Shortwing, Brachypteryx major Lesser Shortwing, Brachypteryx leucophrys White-browed Shortwing, Brachypteryx montana
- Genus Heinrichia, shortwings
 - Great Shortwing, *Heinrichia calligyna*
 - o Genus *Chaetops*, <u>rock-jumpers</u>
 - Rufous Rock-jumper, Chaetops frenatus
 Orange-breasted Rock-jumper, Chaetops aurantius,
- Genus Alethe <u>alethes</u>

 Brown-chested Alethe, Alethe poliocephala Red-throated Alethe, Alethe poliophrys Cholo Alethe, Alethe choloensis White-chested Alethe, Alethe fuelleborni Fire-crested Alethe, Alethe diademata

Alethes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: <u>Turdidae</u>
Genus: *Alethe*Species: See text.

The **Alethes** are small mainly insectivorous <u>birds</u> in the genus *Alethe* of the <u>thrush</u> family <u>Turdidae</u>.

All are African species:

 Brown-chested Alethe, Alethe poliocephala Red-throated Alethe, Alethe poliophrys Cholo Alethe, Alethe choloensis White-chested Alethe, Alethe fuelleborni Fire-crested Alethe Alethe diademata

Bluebirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Turdidae</u> Genus: *Sialia*

Species: Sialia sialis, Sialia mexicana, Sialia currucoides

The **bluebirds** are medium-sized, mostly insectivorous or omnivorous <u>birds</u> in the genus *Sialia* of the thrush family Turdidae.

These are one of the relatively few thrush genera to be restricted to the Americas. As the name implies, these are attractive birds with blue, or blue and red, plumage. Female birds are less brightly colored than males, although color patterns are similar and there is no noticeable difference in size between genders.

Species:

Eastern Bluebird Sialia sialis
 Western Bluebird Sialia mexicana
 Mountain Bluebird Sialia currucoides

Behavior

Bluebirds are territorial, prefer open grassland with scattered trees and are cavity nesters (similar to many species of woodpecker). Bluebirds can typically produce between two to four broods during the spring and summer (March through August in the Northeastern United States). Males identify potential nest sites and try to attract prospective female mates to those nesting sites with special behaviors that include singing and flapping wings, and then placing some material in a nesting box or cavity. If the female accepts the male and the nesting site she and she alone builds the nest and incubates the eggs.

Predators of young in the nests can include snakes, cats and raccoons. Non-native bird species competing with bluebirds for nesting locations include the Common Starling and House Sparrow, both of which have been known to kill young bluebirds.

Bluebirds are attracted to platform bird feeders, filled with grubs of the darkling beetle, sold by many online bird product wholesalers as mealworms. Bluebirds will also eat raisins soaked in water. In addition, in winter bluebirds use backyard heated birdbaths.

Bluebird numbers declined by estimates ranging to 70% in the 1970s due to a decline in habitat. However, in late 2005 Cornell University's Lab of Ornithology reported bluebird sightings at many locations in the southern U.S. as part of its yearly Backyard Bird Count, a strong indication of the bluebird's return to the region.

Catharus thrushes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Turdidae</u>

Genus: Catharus Bonaparte, 1850 species: See list

Catharus is a genus of <u>birds</u> in the <u>thrush</u> family <u>Turdidae</u>. It comprises the small, mostly insectivorous or omnivorous thrushes of North America and the nightingale-thrushes of Central and South America

These are mainly forest birds with large eyes, straight slim bills and fluty voices.

This is a typical New World thrush genus, although representatives of other genera, such as the true thrushes, Turdus also occur, especially in Central and South America.

The species are:

• Veery, Catharus fuscescens

Gray-cheeked Thrush, Catharus minimus

Bicknell's Thrush, Catharus bicknelli

Swainson's Thrush, Catharus ustulatus

Hermit Thrush, Catharus guttatus

Orange-billed Nightingale-thrush, Catharus aurantiirostris

Slaty-backed Nightingale-thrush, Catharus fuscater

Russet Nightingale-thrush, Catharus occidentalis

Black-billed Nightingale-thrush, Catharus gracilirostris

Ruddy-capped Nightingale-thrush, Catharus frantzii

Black-headed Nightingale-thrush, Catharus mexicanus

Spotted Nightingale-thrush, Catharus dryas

References

• Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-8014-9600-4

Myadestes

Solitaires

Kingdom: Animalia Subkingdom: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Turdidae</u>

Genera: Myadestes, Cichlopsis, Entomodestes

The **Solitaires** are medium-sized mostly insectivorous <u>birds</u> in the <u>genera</u> *Myadestes*, *Cichlopsis* and *Entomodestes* of the thrush family Turdidae.

These are **species** of the Americas and Hawaii.

Species list:

Townsend's Solitaire, Myadestes townsendi
Brown-backed Solitaire, Myadestes occidentalis
Cuban Solitaire, Myadestes elisabeth
Rufous-throated Solitaire, Myadestes genibarbis
Black-faced Solitaire, Myadestes melanops
Varied Solitaire, Myadestes coloratus
Slate-colored Solitaire, Myadestes unicolor
Andean Solitaire, Myadestes ralloides
Kamao, Myadestes myadestinus (extinct)
Olomao, Myadestes lanaiensis
Omao, Myadestes obscurus
Puaiohi, Myadestes palmeri
Amaui, Myadestes woahensis (extinct)
Rufous-brown Solitaire, Cichlopsis leucogenys
White-eared Solitaire, Entomodestes leucotis

Black Solitaire. Entomodestes coracinus

Rock thrushes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Turdidae</u>

Genus: *Monticola* Boie, 1822Species: See text

The **rock thrushes** are medium-sized mostly insectivorous or omnivorous <u>birds</u> in the genus *Monticola* in the <u>thrush</u> family <u>Turdidae</u>. Three of the species are sometimes treated in a separate genus *Pseudocossyphus*.

All are Old World species associated with mountainous regions:

White-throated Rock Thrush, Monticola gularis

Benson's Rock Thrush, Monticola (Pseudocossyphus) bensoni Blue-capped Rock Thrush, Monticola cinclorhynchus Blue Rock Thrush, Monticola solitarius Cape Rock Thrush, Monticola rupestris Chestnut-bellied Rock Thrush, Monticola rufiventris Forest Rock Thrush, Monticola (Pseudocossyphus) sharpei Little Rock Thrush, Monticola rufocinereus Littoral Rock Thrush, Monticola (Pseudocossyphus) imerinus Miombo Rock Thrush, Monticola angolensis Rufous-tailed Rock Thrush, Monticola saxatilis Sentinel Rock Thrush, Monticola explorator Short-toed Rock Thrush, Monticola brevipes

Zoothera

Asian Thrushes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Turdidae</u>

Genus: **Zoothera** Vigors, 1832Species: Many, see text

The **Asian thrushes** are medium-sized mostly insectivorous or omnivorous <u>birds</u> in the genus **Zoothera** of the thrush family Turdidae.

Apart from two in the New World (Varied Thrush, Aztec Thrush), all are Old World species:

Slaty-backed Thrush, Zoothera schistacea

Moluccan Thrush, Zoothera dumasi

Chestnut-capped Thrush, Zoothera interpres

Chestnut-backed Thrush, Zoothera dohertyi

Rusty-backed Thrush, Zoothera erythronota

Pied Thrush, Zoothera wardii

Ashy Thrush, Zoothera cinerea

Orange-banded Thrush, Zoothera peronii

Orange-headed Thrush, Zoothera citrina

Everett's Thrush, Zoothera everetti

Siberian Thrush, Zoothera sibirica

Varied Thrush, Zoothera naevia

Aztec Thrush, Zoothera pinicola

Abyssinian Ground Thrush, Zoothera piaggiae

Kivu Ground Thrush, Zoothera tanganjicae

Crossley's Ground Thrush, Zoothera crossleyi

Orange Ground Thrush, Zoothera gurneyi

Black-eared Ground Thrush, Zoothera cameronensis

Gray Ground Thrush, Zoothera princei

Oberlaender's Ground Thrush, Zoothera oberlaenderi

Spotted Ground Thrush, Zoothera guttata

Spot-winged Thrush, Zoothera spiloptera

Sunda Thrush, Zoothera andromedae

Plain-backed Thrush, Zoothera mollissima

Long-tailed Thrush, Zoothera dixoni

White's Thrush or Scaly Thrush, Zoothera dauma

Amami Thrush, Zoothera major

Horsfield's Thrush, Zoothera horsfieldi

Fawn-breasted Thrush, Zoothera machiki

Olive-tailed Thrush, Zoothera lunulata

Russet-tailed Thrush, Zoothera heinei

New Britain Thrush, Zoothera talaseae San Cristobal Thrush, Zoothera margaretae Long-billed Thrush, Zoothera monticola Dark-sided Thrush, Zoothera marginata Bonin Thrush, Zoothera terrestris (extinct)

Viduidae

Indigobirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Viduidae

Genus: Vidua Cuvier, 1816Species: See text.

The **Indigobirds** and **whydahs**, are small <u>passerine</u> <u>birds</u> native to Africa.

These are <u>finch-like</u> species which usually have black or indigo predominating in their plumage. The birds named as "whydahs" have long or very long tails.

All are brood parasites, which lay their eggs in the nests of <u>estrildid finch</u> species; most indigobirds use fire-finches as hosts, whereas the paradise whydahs chose pytilias.

Unlike the cuckoo, the host's eggs are not destroyed. Typically, 2-4 eggs are laid in with the those already present. The eggs of both the host and the victim are white, although the indigobird's are slightly larger.

Many of the indigo-plumaged species named as "indigobirds" are very similar in appearance, with the males difficult to separate in the field, and the young and females near impossible. The best guide is often the estrildid finch with which they are associating, since each indigobird parasitises a different host species. Thus the Village Indigobird is usually found with Red-billed Fire-finches.

Indigobirds and whydahs imitate their host's song, which the males learn in the nest. Although females do not sing, they also learn to recognise the song, and chose males with the same song, thus perpetuating the link between each species of indigobird and firefinch.

Similarly, the nestling indigobirds mimic the unique gape pattern of the fledglings of the host species.

The matching with the host is the driving force behind speciation in this family, but the close gemetic and morphological similarities among species suggest that they are of recent origin.

• Family: Viduidae

- O Village Indigobird, Vidua chalybeata
- o Jambandu Indigobird, Vidua raricola
- o Baka Indigobird, Vidua larvaticola
- o Jos Plateau Indigobird, Vidua maryae
- o Quailfinch Indigobird, Vidua nigeriae
- o Variable Indigobird, Vidua funerea
- o Green Indigobird, Vidua codringtoni
- o Purple Indigobird, *Vidua purpurascens*
- o Pale-winged Indigobird, Vidua wilsoni
- o Cameroon Indigobird, Vidua camerunensis
- Steel-blue Whydah, Vidua hypocherina
- Straw-tailed Whydah, Vidua fischeri
- Shaft-tailed Whydah, Vidua regia

- o Pin-tailed Whydah, Vidua macroura
- o Togo Paradise Whydah, Vidua togoensis
- o Long-tailed Paradise Whydah, Vidua interjecta
- o Eastern Paradise Whydah, Vidua paradisaea
- o Northern Paradise Whydah, Vidua orientalis
- o Broad-tailed Paradise Whydah, Vidua obtusa

Waxwings

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Bombycillidae**

Genus: Bombycilla Vieillot, 1808 Species: B. garrulus, B. japonica, B. cedrorum

The **waxwings** are a group of <u>passerine</u> <u>birds</u> characterised by soft silky plumage and unique red tips to some of the wing feathers. In the Bohemian and Cedar Waxwings, these tips look like sealing wax, and give the group its name.

These are arboreal birds of northern forests. They live on insects in summer and berries in winter.

They are not true long-distance <u>migrants</u>, but wander erratically outside the breeding season and move south from their summer range in winter. In poor berry years huge numbers can erupt well beyond their normal range.

Some authorities (including the Sibley-Monroe checklist) place the <u>silky-flycatchers</u>, and the <u>Hypocolius</u>, in family Bombycillidae along with the waxwings.

Species

 Bohemian Waxwing, B. garrulus Japanese Waxwing, B. japonica Cedar Waxwing, B. cedrorum

Quote

I was the shadow of the waxwing slain By the false azure of the windowpane

are the first lines of the poem "Pale Fire" by "John Shade," a fictional poet created by Vladimir Nabokov, for his novel Pale Fire.

Zosteropidae

White-Eyes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Zosteropidae**

Genera: Cleptornis, Heleia, Hypocryptadius, Lophozosterops, Madanga, Megazosterops, Oculocincta, Rukia, Speirops, Tephrozosterops, Woodfordia, Zosterops, Apalopteron

The **white-eyes** are small <u>passerine</u> <u>birds</u> native to tropical and sub-tropical Africa, southern Asia and Australasia. They also inhabit most of the islands in the Indian and Pacific Oceans. Many white-eye species are endemic to single islands, and the brown-backed species only occur on islands, but some have a very wide distribution. The Silvereye, Zosterops lateralis, naturally colonised New Zealand, where it is known as the "Wax-eye" or Tauhau, from 1855. The genus Apalopteron, formerly treated in the Meliphagidae, has recently been transferred to the Zosteropidae on genetic evidence.

The birds of this group are mostly of undistinguished appearance, the plumage above being generally either mouse-coloured or greenish olive, but some species have a white or bright yellow throat, breast or lower parts, and several have buff flanks. They have rounded wings and strong legs. The size ranges up to 15cm (6 inches) in length.

All the species of white-eyes are sociable, forming large flocks which only separate on the approach of the breeding season. They build tree nests and lay 2-4 unspotted pale blue eggs.

Though mainly insectivorous, they eat nectar and fruits of various kinds. The Silvereye can be a problem in Australian vineyards, through piercing the grape allowing infection or insect damage to follow.

The scientific name of the group derives from the Greek for girdle-eye, and refers to the ring of white feathers round the eyes, which is very conspicuous in many species.

Species in taxonomic order

Black-capped Speirops, Speirops lugubris
 Cameroon Speirops, Speirops melanocephalus
 Fernando Po Speirops, Speirops brunneus
 Principe Speirops, Speirops leucophoeus
 African Yellow White-eye, Zosterops senegalensis
 Broad-ringed White-eye, Zosterops poliogaster
 White-breasted White-eye, Zosterops abyssinicus
 Cape White-eye, Zosterops pallidus
 Pemba White-eye, Zosterops vaughani
 Mayotte White-eye, Zosterops mayottensis
 Madagascar White-eye, Zosterops maderaspatanus

Comoro White-eye, Zosterops mouroniensis Sao Tome White-eve. Zosterops ficedulinus Annobon White-eye, Zosterops griseovirescens Mascarene White-eve, Zosterops borbonicus Reunion White-eye, Zosterops olivaceus Mauritius Olive White-eye, Zosterops chloronothos Sevchelles White-eve. Zosterops modestus Sri Lanka White-eye, Zosterops ceylonensis Chestnut-flanked White-eye, Zosterops erythropleurus Oriental White-eye, Zosterops palpebrosus Japanese White-eye, Zosterops japonicus Lowland White-eye, Zosterops meyeni Enggano White-eye, Zosterops salvadorii Bridled White-eve, Zosterops conspicillatus Caroline Islands White-eve, Zosterops semperi Plain White-eye, Zosterops hypolais Black-capped White-eye, Zosterops atricapillus Everett's White-eye, Zosterops everetti Yellowish White-eye, Zosterops nigrorum Mountain White-eve, Zosterops montanus Christmas Island White-eye, Zosterops natalis Javan White-eye, Zosterops flavus Yellow-bellied White-eye, Zosterops chloris Ashy-bellied White-eye, Zosterops citrinellus Great Kai White-eve, Zosterops gravi Little Kai White-eye, Zosterops uropygialis Sulawesi White-eye, Zosterops consobrinorum Black-ringed White-eye, Zosterops anomalus Yellow-spectacled White-eye, Zosterops wallacei Black-crowned White-eve, Zosterops atrifrons Sangihe White-eye, Zosterops nehrkorni Seram White-eye, Zosterops stalkeri Cream-throated White-eye, Zosterops atriceps Black-fronted White-eye, Zosterops minor White-throated White-eye, Zosterops meeki Black-headed White-eve. Zosterops hypoxanthus Biak White-eye, Zosterops mysorensis Capped White-eye, Zosterops fuscicapillus Buru White-eye, Zosterops buruensis Ambon White-eye, Zosterops kuehni New Guinea White-eye, Zosterops novaeguineae Australian Yellow White-eye, Zosterops luteus Louisiade White-eye, Zosterops griseotinctus Rennell White-eve, Zosterops rennellianus Banded White-eye, Zosterops vellalavella

Ganongga White-eye, Zosterops splendidus Splendid White-eye, Zosterops luteirostris Solomon Islands White-eye, Zosterops kulambangrae Kulambangra White-eye, Zosterops murphyi Yellow-throated White-eye, Zosterops metcalfii Grey-throated White-eye, Zosterops rendovae Malaita White-eve. Zosterops stresemanni Santa Cruz White-eye, Zosterops santaecrucis Large Lifou White-eve, Zosterops inornatus Green-backed White-eye, Zosterops xanthochrous Small Lifou White-eye, Zosterops minutus Lord Howe White-eye, Zosterops tephropleurus Slender-billed White-eye, Zosterops tenuirostris White-chested White-eye, Zosterops albogularis Layard's White-eye, Zosterops explorator Silvereye, Zosterops lateralis Yellow-fronted White-eye, Zosterops flavifrons Samoan White-eye, Zosterops samoensis Dusky White-eye, Zosterops finschii Grev White-eve, Zosterops cinereus Yap White-eye, Zosterops oleagineus Truk White-eve. Rukia ruki Long-billed White-eye, Rukia longirostra Golden White-eye, Cleptornis marchei Rufescent White-eve, Tephrozosterops stalkeri Rufous-throated White-eye, Madanga ruficollis Javan Grey-throated White-eye, Lophozosterops javanicus Streak-headed White-eye, Lophozosterops squamiceps Grey-hooded White-eye, Lophozosterops pinaiae Mindanao White-eye, Lophozosterops goodfellowi White-browed White-eye, Lophozosterops superciliaris Dark-crowned White-eye, Lophozosterops dohertyi Pygmy White-eye, Oculocincta squamifrons Flores White-eye, Heleia crassirostris Timor White-eve, Heleia muelleri Mountain Black-eve, Chlorocharis emiliae Bare-eyed White-eye, Woodfordia superciliosa Sanford's White-eye, Woodfordia lacertosa Giant White-eye, Megazosterops palauensis Cinnamon White-eye, Hypocryptadius cinnamomeus Bonin White-eye, Apalopteron familiare (formerly Bonin Honeyeater)

Zosterops

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Zosteropidae

Genus: Zosterops Vigors & Horsfield, 1827 Species: See text.

Zosterops is a genus of birds in the White-eye family Zosteropidae

This genus contains with 73 the highest number of species in that family. They occur in the Afrotropic ecoregion, the Indomalaya zone, and the Australasia ecozone. They can reach a length between 8 and 15 cm. Their most characteric feature is the conspicious white feather ring around the eyes.

Species list

• Zosterops abyssinicus Guerin-Meneville, 1843

Zosterops albogularis Gould, 1837

Zosterops anomalus Meyer & Wiglesworth, 1896

Zosterops atricapillus Salvadori, 1879

Zosterops atriceps Gray, 1860

Zosterops atrifrons Wallace, 1864

Zosterops borbonicus (Boddaert, 1783)

Zosterops buruensis Salvadori, 1878

Zosterops ceylonensis Holdsworth, 1872

Zosterops chloris Bonaparte, 1850

Zosterops chloronothos (Vieillot, 1817)

Zosterops cinereus (Kittlitz, 1832)

Zosterops citrinellus Bonaparte, 1850

Zosterops consobrinorum Meyer, 1904

Zosterops conspicillatus (Kittlitz, 1833)

Zosterops erythropleurus Swinhoe, 1863

Zosterops everetti Tweeddale, 1878

Zosterops explorator Layard, 1875

Zosterops ficedulinus Hartlaub, 1866

Zosterops finschii (Hartlaub, 1868)

Zosterops flavifrons (J. F. Gmelin, 1789)

Zosterops flavus (Horsfield, 1821)

Zosterops fuscicapillus Salvadori, 1876

Zosterops grayi Wallace, 1864

Zosterops griseotinctus Gray, 1858

Zosterops griseovirescens Bocage, 1893

Zosterops hypolais Hartlaub & Finsch, 1872

Zosterops hypoxanthus Salvadori, 1881

Zosterops inornatus Layard, 1878

Zosterops japonicus Temminck & Schlegel, 1847

Zosterops kirki Shelley, 1880

Zosterops kuehni Hartert, 1906

Zosterops kulambangrae Rothschild & Hartert, 1901

Zosterops lateralis (Latham, 1802)

Zosterops luteirostris Hartert, 1904

Zosterops luteus Gould, 1843

Zosterops maderaspatanus (Linnaeus, 1766)

Zosterops mayottensis Schlegel, 1866

Zosterops meeki Hartert, 1898

Zosterops metcalfii Tristram, 1894

Zosterops meyeni Bonaparte, 1850

Zosterops minor Meyer, 1875

Zosterops minutus Layard, 1878

Zosterops modestus (Newton, 1867)

Zosterops montanus Bonaparte, 1850

Zosterops mouroniensis Milne-Edwards & Oustalet, 1885

Zosterops murphyi Hartert, 1929

Zosterops mysorensis Meyer, 1875

Zosterops natalis Lister, 1889

Zosterops nigrorum Tweeddale, 1878

Zosterops novaeguineae Salvadori, 1878

Zosterops oleagineus Hartlaub & Finsch, 1872

Zosterops olivaceus (Linnaeus, 1766)

Zosterops pallidus Swainson, 1838

Zosterops palpebrosus (Temminck, 1824)

Zosterops poliogaster Heuglin, 1861

Zosterops rendovae Tristram, 1882

Zosterops rennellianus Murphy, 1929

Zosterops salvadorii Meyer & Wiglesworth, 1894

Zosterops samoensis Murphy & Mathews, 1929

Zosterops sanctaecrucis Tristram, 1894

Zosterops semperi Hartlaub, 1868

Zosterops senegalensis Bonaparte, 1850

Zosterops splendidus Hartert, 1929

Zosterops strenuus Gould, 1855 (extinct)

Zosterops stresemanni Mayr, 1931

Zosterops tenuirostris Gould, 1837

Zosterops tephropleurus Gould, 1855

Zosterops uropygialis Salvadori, 1874

Zosterops vaughani Bannerman, 1924

Zosterops vellalavella Hartert, 1908

Zosterops wallacei Finsch, 1901

Zosterops xanthochrous Gray, 1859

Tyranni

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Suborder: **Tyranni**

Families: Tyrannidae, Pittidae, Eurylaimidae, Dendrocolaptidae, Furnariidae,

Thamnophilidae, Formicariidae, Conopophagidae, Rhinocryptidae, Cotingidae, Pipridae,

Philepittidae , Acanthisittidae

The suborder **Tyranni** (the **suboscines**) of <u>passerine birds</u> include about 1,000 fairly primitive species, the large majority of which are South American.

These have a less developed vocal structure than the <u>songbirds</u> in the suborder Passeri, the oscine passerines. Mitochondrial DNA studies have confirmed that the Tyranni and Passeri suborders are genetically distinct.

Families

Tyrannidae: tyrant flycatchers

Pittidae: pittas

Eurylaimidae: broadbills

Dendrocolaptidae: woodcreepers

Furnariidae: ovenbirds Thamnophilidae: antbirds

Formicariidae: antpittas and antthrushes

Conopophagidae: gnateaters Rhinocryptidae: tapaculos

Cotingidae: cotingas Pipridae: manakins Philepittidae: asities

Acanthisittidae: New Zealand "wrens"

Acanthisittidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Acanthisittidae**

Genera: Acanthisitta, Xenicus, Pachyplichas, Dendroscansor

The **New Zealand "wrens"**, <u>family</u> **Acanthisittidae**, are tiny <u>passerines</u> restricted to New Zealand.

They are understood to form a distinct lineage within the passerines, but authorities differ on their assignment to the oscines or suboscines (the two suborders that between them make up the passeriformes). DNA-DNA hybridisation studies suggest that they may, in fact, form a third suborder and have no living close relatives at all. They are called "wrens" due to their similar appearance and behavior, but are not related to true wrens.

Species

Titipounamu or Rifleman, Acanthisitta chloris
 Bush Wren, Xenicus longipes (possibly extinct)
 Piwauwau or New Zealand Rock Wren, Xenicus gilviventris
 Stephens Island Wren, Xenicus lyalli (extinct)
 North Island Stout-legged Wren, Pachyplichas yaldwyni (extinct in prehistoric times)

South Island Stout-legged Wren, Pachyplichas jagmi (extinct in prehistoric times)

Long-legged Wren, Dendroscansor decurvirostris (extinct in prehistoric times)

Conopophagidae

Gnateaters

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Conopophagidae Sclater & Salvin, 1873Genus: Conopophaga Vieillot, 1816Species: 8, see

text

The **gnateaters** are a family of eight small <u>passerine bird species</u> found in South America. They are birds of dense wet forest undergrowth or bamboo stands in the Amazon and Orinoco basins and surrounding slightly higher ground.

They are round, short-tailed, and long-legged birds, about 5 inches in length. They are quite upright when standing. Sexes differ in <u>plumage</u>, and males are attractively coloured in shades of red and brown. Most species have a white tuft behind the eye. They are insectivorous as the group name implies.

Species list

Family: Conopophagidae

Rufous Gnateater, Conopophaga lineata
 Chestnut-bellied Gnateater, Conopophaga aurita
 Hooded Gnateater, Conopophaga roberti
 Ash-throated Gnateater, Conopophaga peruviana
 Slaty Gnateater, Conopophaga ardesiaca
 Chestnut-crowned Gnateater, Conopophaga castaneiceps
 Black-cheeked Gnateater, Conopophaga melanops
 Black-bellied Gnateater, Conopophaga melanogaster

Cotingidae

Cotingas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Cotingidae**Genera: Many, see text.

The **cotingas** are a large family of <u>passerine bird species</u> found in tropical South America. They are birds of forests or forest edges, which mostly eat fruit or insects and fruit. Comparatively little is known about this diverse group, although all have broad bills with hooked tips, rounded wings, and strong legs.

The males of many species, such as the <u>cock-of-the-rocks</u>, are brightly coloured, or decorated with plumes or wattles, like the <u>umbrellabirds</u>, with their umbrella-like crest and long throat wattles. Some, like the bellbirds, have distinctive and far-carrying calls. The females of most species are duller than the males.

The cock-of-the-rocks are more terrestrial than other species, and have an elaborate group mating display.

Species

- Genus *Oxyruncus*
 - o Sharpbill, Oxyruncus cristatus
- Genus *Phytotoma*, the plantcutters
 - Peruvian Plantcutter, Phytotoma raimondii White-tipped Plantcutter, Phytotoma rutila Rufous-tailed Plantcutter, Phytotoma rara
- Genus Phoenicircus
 - o Black-necked Red Cotinga, *Phoenicircus nigricollis*
 - o Guianan Red Cotinga, Phoenicircus carnifex
- Genus Laniisoma
 - Shrike-like Cotinga, *Laniisoma elegans*
- Genus *Laniocera*, the mourners
 - o Speckled Mourner, Laniocera rufescens
 - o Cinereous Mourner, Laniocera hypopyrra
- Genus *Phibalura*
 - o Swallow-tailed Cotinga, *Phibalura flavirostris*
- Genus Tijuca
 - o Black-and-gold Cotinga, *Tijuca atra*
 - o Gray-winged Cotinga, Tijuca condita
- Genus *Carpornis*, the berryeaters
 - o Hooded Berryeater, *Carpornis cucullatus*

- o Black-headed Berryeater, Carpornis melanocephalus
- Genus Ampelion
 - o Red-crested Cotinga, Ampelion rubrocristata
 - o Chestnut-crested Cotinga, Ampelion rufaxilla
- Genus Doliornis
 - Chestnut-bellied Cotinga, Doliornis remseni
 - o Bay-vented Cotinga, Doliornis sclateri
- Genus Zaratornis
 - o White-cheeked Cotinga, Zaratornis stresemanni
- Genus Pipreola, the fruiteaters
 - o Green-and-black Fruiteater, Pipreola riefferii
 - Band-tailed Fruiteater, Pipreola intermedia
 - o Barred Fruiteater, *Pipreola arcuata*
 - o Golden-breasted Fruiteater, Pipreola aureopectus
 - o Orange-breasted Fruiteater, Pipreola jucunda
 - Black-chested Fruiteater, Pipreola lubomirskii
 - Masked Fruiteater, Pipreola pulchra
 - o Fiery-throated Fruiteater, Pipreola chlorolepidota
 - Scarlet-breasted Fruiteater, Pipreola frontalis
 - o Handsome Fruiteater, Pipreola formosa
 - o Red-banded Fruiteater, Pipreola whitelyi
- Genus Ampelioides
 - o Scaled Fruiteater, Ampelioides tschudii
- Genus *Iodopleura*, the purpletufts
 - o Buff-throated Purpletuft, *Iodopleura pipra*
 - o White-browed Purpletuft, *Iodopleura isabellae*
 - o Dusky Purpletuft, *Iodopleura fusca*
- Genus *Calyptura*
 - o Kinglet Calyptura, Calyptura cristata
- Genus *Lipaugus*, the pihas
 - o Gray-tailed Piha, Lipaugus subalaris
 - o Olivaceous Piha, *Lipaugus cryptolophus*
 - Dusky Piha, Lipaugus fuscocinereus
 - o Scimitar-winged Piha, *Lipaugus uropygialis*
 - Screaming Piha, Lipaugus vociferans
 - o Rufous Piha, Lipaugus unirufus
 - o Cinnamon-vented Piha, *Lipaugus lanioides*
 - o Rose-collared Piha, *Lipaugus streptophorus*
- Genus *Porphyrolaema*
 - o Purple-throated Cotinga, Porphyrolaema porphyrolaema
- Genus Cotinga
 - o Lovely Cotinga, Cotinga amabilis
 - Turquoise Cotinga, Cotinga ridgwayi
 - o Blue Cotinga, Cotinga nattererii

- o Plum-throated Cotinga, Cotinga maynana
- o Purple-breasted Cotinga, Cotinga cotinga
- o Banded Cotinga, Cotinga maculata
- o Spangled Cotinga, Cotinga cayana
- Genus Xipholena
 - o Pompadour Cotinga, Xipholena punicea
 - o White-tailed Cotinga, Xipholena lamellipennis
 - o White-winged Cotinga, Xipholena atropurpurea
- Genus Carpodectes
 - o Black-tipped Cotinga, Carpodectes hopkei
 - o Yellow-billed Cotinga, Carpodectes antoniae
 - o Snowy Cotinga, Carpodectes nitidus
- Genus Conioptilon
 - o Black-faced Cotinga, Conioptilon mcilhennyi
- Genus Gymnoderus
 - o Bare-necked Fruitcrow, Gymnoderus foetidus
- Genus Haematoderus
 - o Crimson Fruitcrow, *Haematoderus militaris*
- Genus Querula
 - o Purple-throated Fruitcrow, Querula purpurata
- Genus *Pyroderus*
 - o Red-ruffed Fruitcrow, Pyroderus scutatus
- Genus Cephalopterus, the <u>umbrellabirds</u>
 - o Long-wattled Umbrellabird, Cephalopterus penduliger
 - o Amazonian Umbrellabird, Cephalopterus ornatus
 - o Bare-necked Umbrellabird, Cephalopterus glabricollis
- Genus Perissocephalus
 - o Capuchinbird, Perissocephalus tricolor
- Genus *Procnias*, the bellbirds
 - Three-wattled Bellbird, Procnias tricarunculata
 White Bellbird, Procnias alba
 Bearded Bellbird, Procnias averano
 Bare-throated Bellbird, Procnias nudicollis
 - Genus Rupicola, the <u>cock-of-the-rocks</u>
 - Guianan Cock-of-the-rock, Rupicola rupicola Andean Cock-of-the-rock, Rupicola peruviana

Cephalopterus

Umbrellabirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Cotingidae</u>

Genus: Cephalopterus Geoffroy Saint-Hilaire, E, 1809 Species: Long-wattled Umbrellabird,

Amazonian Umbrellabird , Bare-necked Umbrellabird

Umbrellabird or *Cephalopterus* is a <u>genus</u> of the <u>cotinga</u> family. They live in the tropical

forests of the Americas.

Species

 Long-wattled Umbrellabird, Cephalopterus penduliger Amazonian Umbrellabird, Cephalopterus ornatus Bare-necked Umbrellabird, Cephalopterus glabricollis

Procnias

South American Bellbird

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Cotingidae</u>

Genus: *Procnias* Illiger, 1811 Species: *Three-wattled Bellbird*, *White Bellbird*, *Bearded Bellbird*

, Bare-throated Bellbird

South American Bellbird (or simply 'bellbird') is the common name given to <u>passerine</u> <u>birds</u> of the <u>genus</u> *Procnias*, found in South America. They are members of the <u>cotinga</u> family.

Species list

Genus Procnias

 Three-wattled Bellbird, Procnias tricarunculata White Bellbird, Procnias alba Bearded Bellbird, Procnias averano Bare-throated Bellbird, Procnias nudicollis

Rupicola

Cock-of-the-rock Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Cotingidae</u>

Genus: *Rupicola* Brisson, 1760 Species: *Rupicola rupicola*, *Rupicola peruviana*The **Cock-of-the-rock**, <u>genus</u> *Rupicola*, is a South American <u>cotingid</u> bird.

They are found in Tropical Rain Forests close to rocky areas, where they build their nests. Just like other cotingids they have a complex court behaviour, performing impressive lek displays.

The males are magnificent birds, not only because of their strong bright-orange or reddish colors, but also because of the very prominent fan shaped crests they have. They are wary animals and feed, basically, on fruits.

There are two different species of Cock-of-the-rocks, the Andean Cock-of-the-rock (Rupicola peruviana) and the Guianan Cock-of-the-rock (*Rupicola rupicola*), both species found only in the northern part of South America.

Eurylaimidae

Broadbills

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Eurylaimidae**

Genera: Sapayoa, Smithornis, Pseudocalyptomena, Corydon, Cymbirhynchus, Eurylaimus, Psarisomus, Serilophus, Calyptomena

The **broadbills** are a family of small <u>passerine</u> <u>bird</u> <u>species</u> found in tropical southeast Asia, with a few species in Africa.

Broadbills are brightly coloured birds that feed on fruit and also take insects in flycatcher fashion, snapping their broad bills. Their habitat is canopies of wet forests, so despite their colours, they are difficult to observe.

Their nest is a purse-shaped structure built in a tree, into which typically 2–3 eggs are laid.

The *Smithornis* and *Pseudocalyptomena* species occur in tropical Africa; the rest extend from the eastern Himalayas to Sumatra and Borneo.

The Sapayoa was originally classified in the group Pipridae, according to <u>Sapayoa aenigma</u>: a <u>New World representative of 'Old World suboscines'</u> the genus more accurately fits the broadbill family.

In addition to the Sapayoa, which if included would be in its own subfamily, there are four other subfamilies of broadbill:

- The typical African broadbills, **Smithornithinae** (containing three species in a single genus, *Smithornis*)
- The Asian green broadbills, **Calyptomeninae** (containing three species in a single genus, *Calyptomena*)
- Grauer's Broadbill, **Pseudocalyptomeninae**
- The typical Asian broadbills, **Eurylaiminae** (the remaining five genera, containing eight species)

Species

Broad-billed Sapayoa, Sapayoa aenigma
 African Broadbill, Smithornis capensis
 Gray-headed Broadbill, Smithornis sharpei
 Rufous-sided Broadbill, Smithornis rufolateralis
 Grauer's Broadbill, Pseudocalyptomena graueri
 Dusky Broadbill, Corydon sumatranus
 Black-and-red Broadbill, Cymbirhynchus macrorhynchos
 Banded Broadbill, Eurylaimus javanicus

Black-and-yellow Broadbill, Eurylaimus ochromalus Wattled Broadbill, Eurylaimus steerii Visayan Broadbill, Eurylaimus samarensis Long-tailed Broadbill, Psarisomus dalhousiae Silver-breasted Broadbill, Serilophus lunatus Green Broadbill, Calyptomena viridis Hose's Broadbill, Calyptomena hosei Whitehead's Broadbill Calyptomena whiteheadi

Calyptomena

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Eurylaimidae

Genus: Calyptomena Raffles, 1822

The genus *Calyptomena* Raffles, 1822 consist of three species of Asian green <u>broadbills</u>.

Species

Green Broadbill, Calyptomena viridis
 Hose's Broadbill, Calyptomena hosii
 Whitehead's Broadbill Calyptomena whiteheadi

Formicariidae

Antthrushes and Antpittas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: **Formicariidae**

Genera: Formicarius, Chamaeza, Pittasoma, Grallaria, Hylopezus, Myrmothera, Grallaricula

The **Formicariidae** are a <u>family</u> of smallish <u>passerine</u> <u>bird</u> <u>species</u> of subtropical and tropical Central and South America. They are between 10 and 15 cm in length, and are related to the <u>antbirds</u>, Thamnophilidae.

These are forest birds that tend to feed on insects at or near the ground since many are specialist ant eaters. Most are drab in appearance with shades of brown, black, and white being their dominant tones.

They are conventionally divided into two groups. The **antthrushes** in **genera** *Formicarius* and *Chamaeza* are similar in appearance to the <u>rails</u>. They have sexes alike in plumage, and walk like <u>starlings</u>. The *thrush* part of the name refers only to the similarity in size to true thrushes.

The **antpittas** in the genera *Pittasoma*, *Grallaria*, *Hylopezus*, *Myrmothera* and *Grallaricula* are also sexually monomorphic; they resemble the true pittas in that they are virtually tailess; they hop like <u>thrushes</u>, and are much easier to hear than see.

They lay two or three eggs in a nest in a tree, both sexes incubating.

Species

- Genus Formicarius
 - o Rufous-capped Antthrush, Formicarius colma
 - o Black-headed Antthrush, Formicarius nigricapillus
 - Black-faced Antthrush, Formicarius analis
 - Rufous-fronted Antthrush, Formicarius rufifrons
 - Rufous-breasted Antthrush, Formicarius rufipectus
- Genus Chamaeza
 - o Striated Antthrush, Chamaeza nobilis
 - o Short-tailed Antthrush, *Chamaeza campanisona*
 - o Brazilian Antthrush, Chamaeza ruficauda
 - o Schwartz's Antthrush, Chamaeza turdina
 - Such's Antthrush, Chamaeza meruloides
 - o Barred Antthrush, Chamaeza mollissima
- Genus Pittasoma
 - o Black-crowned Antpitta, Pittasoma michleri
 - o Rufous-crowned Antpitta, Pittasoma rufopileatum
- Genus Grallaria
 - o Undulated Antpitta, Grallaria squamigera

- o Giant Antpitta, Grallaria gigantea
- o Great Antpitta, Grallaria excelsa
- o Variegated Antpitta, Grallaria varia
- Scaled Antpitta, Grallaria guatimalensis
- o Moustached Antpitta, Grallaria alleni
- o Táchira Antpitta, Grallaria chthonia
- o Plain-backed Antpitta, Grallaria haplonota
- o Ochre-striped Antpitta, Grallaria dignissima
- o Elusive Antpitta, Grallaria eludens
- o Santa Marta Antpitta, Grallaria bangsi
- o Chestnut-crowned Antpitta, Grallaria ruficapilla
- o Cundinamarca Antpitta, Grallaria kaestneri
- Watkins' Antpitta, Grallaria watkinsi
- o Stripe-headed Antpitta, Grallaria andicola
- o Bicolored Antpitta, Grallaria rufocinerea
- o Chestnut-naped Antpitta, *Grallaria nuchalis*
- o Jocotoco Antpitta, Grallaria ridgelyi
- o Pale-billed Antpitta, Grallaria carrikeri
- o Yellow-breasted Antpitta, Grallaria flavotincta
- White-bellied Antpitta, Grallaria hypoleuca
- o Rusty-tinged Antpitta, Grallaria przewalskii
- o Bay Antpitta, Grallaria capitalis
- o Red-and-white Antpitta, Grallaria erythroleuca
- o White-throated Antpitta, Grallaria albigula
- o Gray-naped Antpitta, Grallaria griseonucha
- o Rufous Antpitta, *Grallaria rufula*
- o Chestnut Antpitta, Grallaria blakei
- o Rufous-faced Antpitta, Grallaria erythrotis
- o Tawny Antpitta, Grallaria quitensis
- o Brown-banded Antpitta, Grallaria milleri

• Genus Hylopezus

- Spotted Antpitta, Hylopezus macularius
- Streak-chested Antpitta, Hylopezus perspicillatus
- o Masked Antpitta, *Hylopezus auricularis*
- o Fulvous-bellied Antpitta, Hylopezus dives
- White-lored Antpitta, *Hylopezus fulviventris*
- Amazonian Antpitta, Hylopezus berlepschi
- White-browed Antpitta, Hylopezus ochroleucus
- Speckle-breasted Antpitta, Hylopezus nattereri

• Genus *Myrmothera*

- o Thrush-like Antpitta, Myrmothera campanisona
- o Tepui Antpitta, Myrmothera simplex

• Genus *Grallaricula*

Ochre-breasted Antpitta, *Grallaricula flavirostris*

- o Rusty-breasted Antpitta, *Grallaricula ferrugineipectus*
- o Scallop-breasted Antpitta, Grallaricula loricata
- o Hooded Antpitta, *Grallaricula cucullata*
- o Peruvian Antpitta, Grallaricula peruviana
- o Ochre-fronted Antpitta, Grallaricula ochraceifrons
- o Slate-crowned Antpitta, Grallaricula nana
- o Crescent-faced Antpitta Grallaricula lineifronsHome

Furnariidae

Ovenbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Furnariidae**Genera: Many, see text.

Ovenbirds or **furnariids** comprise a large family of small sub-oscine passerine bird species found in Central and South America. They form the family Furnariidae. They should not be confused with the Ovenbird, *Seiurus aurocapillus*, which is a <u>wood warbler</u> in the family Parulidae.

This is a diverse group of insectivores which gets its name from the elaborate "oven-like" clay nests built by some species, although others build stick nests or nest in tunnels or clefts in rock. The Spanish word for "oven" gives the conspicuous horneros their name. Furnariid nests are always constructed with a cover, and up to six pale blue, greenish or white eggs are laid. Most species are forest birds, but some are found in more open habitats.

- 1 Systematics
 - o 1.1 Subfamily Sclerurinae
 - o <u>1.2 Subfamily Dendrocolaptinae Woodcreepers</u>
 - 1.3 Subfamily Furnariinae
- 2 References

Systematics

Recently, the <u>woodcreepers</u> (formerly Dendrocolaptidae) were merged into this family. The systematics of the Dendrocolaptinae were reviewed by Rajkow (1994) based on morphology and by Irestedt *et al.* (2004) based on analysis of nuclear and mitochondrial DNA. Using the latter approach, the suspected major lineages of the Furnariinae (foilage-gleaners, spinetails, and true ovenbirds) were confirmed, but some new lineages were discovered and the relationships of several genera had to be revised (Fjeldså et al., 2005).

The taxonomic arrangement presented below is based on a synthesis of current data (e.g. Cheviron *et al.*, 2005). Many species or entire genera have not been sampled to analyze DNA sequences, and as the recent studies have discovered that convergent evolution is commonplace in the family, it seems not advisable to place them in the taxonomic sequence without further research. Several genera are in need of revision too.

Subfamily Sclerurinae

Miners and leaftossers

- Genus Geositta miners
- Genus Sclerurus leaftossers

Subfamily Dendrocolaptinae - Woodcreepers

Tribe Xenopini - xenops

 Genus Megaxenops - Great Xenops Genus Xenops

Tribe Dendrocolaptini - true woodcreepers

• Genus Glyphorynchus - Wedge-billed Woodcreeper

Genus Dendrocincla

Genus Deconychura

Genus Sittasomus - Olivaceous Woodcreeper

Genus Nasica - Long-billed Woodcreeper

Genus Dendrexetastes - Cinnamon-throated Woodcreeper

Genus Dendrocolaptes

Genus Hylexetastes

Genus Xiphocolaptes

Genus Campylorhamphus

Genus Drymornis - Scimitar-billed Woodcreeper

Genus Lepidocolaptes

Genus Dendroplex - formerly in Xiphorhynchus

Genus Xiphorhynchus (possibly polyphyletic)

Subfamily Furnariinae

Horneros and allies

Tribe "Berlepschiini" - Palmcreeper (possibly distinct subfamily)

• Genus Berlepschia

Tribe Philydorini - foilage-gleaners and allies

- Foilage-gleaners
 - Genus Philydor
 Genus Automolus

• Genus *Thripadectes* - treehunters

Tribe "Margarornini" - treerunners

• Genus *Margarornis*

Tribe Furnarini - true ovenbirds

 Genus Furnarius - horneros Genus Upucerthia Genus Cinclodes - cinclodes

Tribe Synallaxini - spinetails and allies

- Genus Leptasthenura tit-spinetails Genus Phacellodomus - thornbirds Genus Anumbius - Firewood-gatherer Genus Coryphistera - Brushrunner Genus Asthenes - canasteros
- Spinetails
 - Genus Cranioleuca
 Genus Synallaxis
 Genus Poecilurus

Affiliations undetermined

• Genus Lochmias - Streamcreeper (Sclerurinae or "Margaronini"?)

Genus Heliobletus - Sharp-billed Treehunter (probably Xenopini)

Genus Pseudocolaptes - tuftedcheeks (possibly "Berlepschiini")

Genus Anabacerthia (probably Philydorini)

Genus Syndactyla (probably Philydorini)

Genus Simoxenops - recurvebills (probably Philydorini)

Genus Ancistrops - Hookbill (probably Philydorini)

Genus Hyloctistes - Woodhaunter (probably Philydorini)

Genus Anabazenops (probably Philydorini)

Genus Cichlocolaptes - Pale-browed Treehunter (probably Philydorini)

Genus Hylocryptus (possibly Philydorini)

- Barbtails (probably "Margaronini")
 - Genus Premnornis
 Genus Premnoplex
 Genus Roraimia
- Genus Ochetorhynchus (probably Furnarini)

Genus Eremobius - Band-tailed Earthcreeper (probably Furnarini)

Genus Chilia - Chilia (probably Furnarini)

Genus Clibanornis - Groundcreeper (possibly Furnarini)

Genus Limnornis - reedhaunters (possibly Synallaxini)

Genus Phleocryptes - Rushbird

Genus Aphrastura - rayaditos (possibly Synallaxini) Genus Spartonoica - Wren-spinetail (possibly Synallaxini) Genus Sylviorthorhynchus - Wiretail (possibly Synallaxini)

- Thistletails (probably Synallaxini)
 - o Genus Schizoeaca

Genus Oreophylax

Genus Schoeniophylax

Genus Siptornopsis

Genus Gyalophylax

Genus Hellmayrea

Genus Certhiaxis

Genus Thripophaga

• Genus Siptornis - Prickletail

Genus Metopothrix - Plushcrown

Genus Xenerpestes - graytails

Genus Acrobatornis - Graveteiro

Genus Pseudoseisura - cacholotes

Genus Pygarrhichas - White-throated Treerunner

References

- **Fjeldså**, Jon; Irestedt, Martin & Ericson, Per G. P. (2005): Molecular data reveal some major adaptational shifts in the early evolution of the most diverse avian family, the Furnariidae. *Journal of Ornithology* **146**: 1–13. [English with German abstract] DOI:10.1007/s10336-004-0054-5 (HTML abstract)
- **Irestedt**, Martin; Fjeldså, Jon & Ericson, Per G. P. (2004): Phylogenetic relationships of woodcreepers (Aves: Dendrocolaptinae) incongruence between molecular and morphological data. *Journal of Avian Biology* **35**(3): 280-288. DOI:10.1111/j.0908-8857.2004.03234.x (HTML abstract)
- **Rajkow**, Robert J. (1994): A phylogeny of the woodcreepers (Dendrocolaptinae). *Auk* **111**(1): 104–114. <u>PDF fulltext</u>

Furnarius

Hornero

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Furnariidae</u>

Genus: *Furnarius* Vieillot, 1816Species: *Pale-legged Hornero, F. leucopus, Bay Hornero, F. torridus, Tail-banded Hornero, F. figulus, Lesser Hornero, F. minor, Rufous Hornero, F. rufus, Crested Hornero, F. cristatus*

The **horneros**, also known as ovenbirds (though unrelated to the <u>Ovenbird</u>, which is a parulid warbler) are members of the genus *Furnarius* in the family <u>Furnariidae</u>, native to South America.

Horneros are rather soft-looking, light-brown birds known for building mud nests that resemble old wood-fired ovens. (The Spanish word "hornero" comes from *horno*, meaning "oven".) The entrance forms a curved doorway to protect the chicks from intense winds and from predators. The nest contains two chambers for the 3–4 chicks.

An adult hornero can frequently be seen sitting on top of its nest. When distressed while it is inside, it forces air out under its wings to create a loud noise sounding like a cry.

Horneros are a national emblem of Argentina, one of the many countries they inhabit.

References

• <u>Furnarius (TSN 557691)</u>. Integrated Taxonomic Information System. Accessed on 13 March 2006.

Pseudocolaptes

Tuftedcheek

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Furnariidae</u>

Genus: *Pseudocolaptes* Reichenbach, 1853Species: *P. boissonneautii, P. lawrencii, P. johnsoni*The **Tuftedcheeks** are <u>passerine birds</u> in the genus *Pseudocolaptes* of the <u>ovenbird family</u>. The three species occur in the mountains of the tropical New World from Costa Rica to Bolivia. They are:

 Streaked Tuftedcheek, Pseudocolaptes boissonneautii Buffy Tuftedcheek, Pseudocolaptes lawrencii Pacific Tuftedcheek, Pseudocolaptes johnsoni

They are sometimes considered conspecific.

They occur as resident breeders in wet mountain forests with many epiphytes, normallyabove 1500 m. The female lays one white egg in a thickly lined old woodpecker nest or other tree cavity. One parent, probably the female, incubates the single white egg for about 29 days to hatching

The Tuftedcheeks are 20-22 cm long weigh 48 g, and have long bright rufous tails, mainly brown upperparts, and a pale-streaked dark brown cap to the head. The feature that gives the group its English name is the tuft of buff or whitish feathers on each cheek. The throat is the same colour as the tufts.

The Tuftedcheeks forage actively amongst mosses, vines, bromeliads and other epiphytes for insects, spiders, and even small amphibians. They will join mixed feeding flocks in the middle levels of the mountain forests.

References

- Hilty, Birds of Venezuela by, ISBN 0-7136-6418-5
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Xenops

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Furnariidae</u>

Genus: *Xenops* Illiger, 1811Species: See text.

Xenops is a genus in the South American bird family Furnariidae, the ovenbirds.

They are small birds with a longish tail, a laterally flattened bill with an upturned tip, brown back and buff or rufous wing stripe. They forage for insects on bark, rotting stumps or bare twigs, moving mechanically in all directions on the trunk like a <u>woodcreeper</u>, but without using the tail as a prop.

Species

 Rufous-tailed Xenops, Xenops milleri Slender-billed Xenops, Xenops tenuirostris Plain Xenops, Xenops minutus Streaked Xenops, Xenops rutilans

References

- *Birds of Venezuela* by Hilty, ISBN 0-7136-6418-5
- Birds of Trinidad and Tobago by ffrench, ISBN 0-7136-6759-1

Philepittidae

Asities

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Philepittidae** Sharpe, 1870Genera: *Philepitta*, *Neodrepanis*

The **asities** are a family of small suboscine passerine <u>bird</u> species found in Madagascar. They were thought to have been related to the <u>pittas</u>, hence the scientific name, but a study by Prum (1993) suggested that they are actually just a subfamily of <u>broadbills</u>. Here they are considered traditionally as a separate family.

These are plump strong-legged birds of the Malagasy forests which take fruit and insects and nest in trees or scrub. The *Neodrepanis* species — **sunbird-asities** — will take nectar, and were formerly known as false sunbirds.

• Family: Philepittidae

Velvet Asity, Philepitta castanea
 Schlegel's Asity, Philepitta schlegeli
 Common Sunbird-asity, Neodrepanis coruscans
 Yellow-bellied Sunbird-Asity, Neodrepanis hypoxanthus

Reference

Prum, R. 0. 1993. Phylogeny, biogeography, and evolution of the broadbills (Eurylaimidae) and asities (Philepittidae) based on morphology. *Auk* **110**:304-324.

Pipridae

Manakins

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Pipridae** Rafinesque, 1815Genera: *Many, see text*

The **manakins** are a family of some sixty small <u>passerine bird species</u> of subtropical and tropical mainland Central and South America, and Trinidad and Tobago.

These are compact forest birds, the males typically being brightly coloured, although the females of most species are duller and usually green-plumaged. Manakins feed on small fruits, berries and insects.

Many manakin species have spectacular lekking courtship rituals, which are especially elaborate in the genus Pipra. Manakins make buzzing, snapping, and other sounds with their wings, which are heavily modified in two species (the White-collared and Orange-collared Manakins). Nest-building, incubation for 18-21 days, and care of the young are undertaken by the female alone, since manakins do not form stable pairs. The normally clutch is two eggs.

Species list

- Genus Chloropipo
 - Jet Manakin, Chloropipo unicolor
 Olive Manakin, Chloropipo uniformis
 Green Manakin, Chloropipo holochlora
 Yellow-headed Manakin, Chloropipo flavicapilla
- Genus Manacus
 - White-collared Manakin, Manacus candei
 Orange-collared Manakin, Manacus aurantiacus
 Golden-collared Manakin, Manacus vitellinus
 White-bearded Manakin, Manacus manacus
- Genus Corapipo
 - White-throated Manakin, Corapipo gutturalis
 White-ruffed Manakin, Corapipo altera
 White-bibbed Manakin, Corapipo leucorrhoa
- Genus <u>Chiroxiphia</u>
 - Lance-tailed Manakin, Chiroxiphia lanceolata Long-tailed Manakin, Chiroxiphia linearis Blue-backed Manakin, Chiroxiphia pareola Yungas Manakin, Chiroxiphia boliviana Blue Manakin, Chiroxiphia caudata
- Genus Dixiphia
 - o White-crowned Manakin, Dixiphia pipra
- Genus Pipra

O Crimson-hooded Manakin, Pipra aureola
Band-tailed Manakin, Pipra fasciicauda
Wire-tailed Manakin, Pipra filicauda
Blue-crowned Manakin, Pipra coronata
Golden-headed Manakin, Pipra erythrocephala
Red-capped Manakin, Pipra mentalis
Red-headed Manakin, Pipra rubrocapilla
Round-tailed Manakin, Pipra chloromeros
Scarlet-horned Manakin, Pipra cornuta
Opal-crowned Manakin, Pipra iris
Blue-rumped Manakin, Pipra isidorei
Golden-crowned Manakin, Pipra vilasboasi
Snow-capped Manakin, Pipra nattereri
Cerulean-capped Manakin, Pipra coeruleocapilla

- Genus Lepidothrix
 - Tepui Manakin, Lepidothrix suavissima
 White-fronted Manakin, Lepidothrix serena
- Genus Antilophia
 - Araripe Manakin, Antilophia bokermanni
 Helmeted Manakin, Antilophia galeata
- Genus Masius
 - o Golden-winged Manakin, *Masius chrysopterus*
- Genus *Ilicura*
 - o Pin-tailed Manakin, *Ilicura militaris*
- Genus *Machaeropterus*
 - Fiery-capped Manakin, Machaeropterus pyrocephalus Striped Manakin, Machaeropterus regulus Club-winged Manakin, Machaeropterus deliciosus
- Genus Xenopipo
 - o Black Manakin, *Xenopipo atronitens*
- Genus *Heterocercus*, crested manakins
 - Yellow-crested Manakin, Heterocercus flavivertex
 Orange-crested Manakin, Heterocercus aurantiivertex
 Flame-crested Manakin, Heterocercus linteatus
- Genus *Neopelma*, tyrant-manakins
 - Saffron-crested Tyrant-manakin, Neopelma chrysocephalum Sulphur-bellied Tyrant-manakin, Neopelma sulphureiventer Pale-bellied Tyrant-manakin, Neopelma pallescens Wied's Tyrant-manakin, Neopelma aurifrons
- Genus *Tyranneutes*, tyrant-manakins
 - Dwarf Tyrant-manakin, Tyranneutes stolzmanni Tiny Tyrant-manakin, Tyranneutes virescens
- Genus *Piprites*, Piprites

 Black-capped Piprites, Piprites pileatus Gray-headed Piprites, Piprites griseiceps Wing-barred Piprites, Piprites chloris

Chiroxiphia

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Pipridae

Genus: Chiroxiphia Cabanis, 1847 Species: Chiroxiphia lanceolata, Chiroxiphia linearis,

Chiroxiphia pareola , Chiroxiphia boliviana , Chiroxiphia caudata

Chiroxiphia is one of several <u>genera</u> of <u>manakins</u>, small song birds of South and Central America.

Manakins of the genus *Chiroxiphia* have an unusual mating system, based on female mate choice. In order to mate successfully, males have to form partnerships with another male. The two males co-operate in an elaborate courtship dance, and sing a joint song (called a *duet*) at one of many traditionally fixed mating sites; the area where mating takes place can be described as an exploded lek. Females attend a number of these courtship sites, observing the male displays and eventually allow a male at one of the sites to mate.

Partnerships normally consist of only two males, which can be designated alpha and beta, since there is a clear dominance relationship between them. Only the alpha male is ever seen to mate with the female.

As in other manakins, males play no part in the care of the young.

Species

 Lance-tailed Manakin, Chiroxiphia lanceolata Long-tailed Manakin, Chiroxiphia linearis Blue-backed Manakin, Chiroxiphia pareola Yungas Manakin, Chiroxiphia boliviana Blue Manakin, Chiroxiphia caudata

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Manacus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Pipridae</u>

Genus: *Manacus* Brisson, 1760 species: *M. candei, M. aurantiacus, M. vitellinus, M. manacus*

Manacus is a genus of <u>passerine</u> <u>birds</u> in the <u>manakin</u> family which are found in the forests of tropical mainland Central and South America, and on Trinidad and Tobago. There are four species.

• White-collared Manakin, Manacus candei

Orange-collared Manakin, Manacus aurantiacus

Golden-collared Manakin, Manacus vitellinus

White-bearded Manakin, Manacus manacus

The "Almirante Manakin" (*Manacus* x *cerritus*) are stereotyped hybrids between the White-collared and the Golden-collared species, found in Bocas del Toro Province, Panama (Brumfield *et al.*, 2001; McDonald *et al.*, 2001).

These are small, compact, short-tailed birds with a heavy hooked bill and orange legs. The males have brightly coloured plumage and long puffed throat feathers, whereas the females are the typical manakin dull olive hue.

The females lay two eggs in a shallow cup nest in a tree. Nest-building, incubation for 18-21 days, and care of the young are undertaken by the female alone, since manakins do not form stable pairs.

Manacus manakins feed low in the trees on fruit and some insects, both plucked from the foliage in flight.

Like some other manakin species, this genus has spectacular courtship rituals, in which the males give communal displays in a specially prepared lek. The males jump with their throat feathers erected to form a beard, and give whistles together with the characteristic loud snaps (like a breaking twig) and various buzzing, rustling and whiffling noises made with the wings.

The males of three very closely related species, the White-collared Manakin of the Caribbean slopes of Central America, and its Pacific counterparts, the Orange-collared and Golden-collared Manakins, have heavily modified wings with the five outer primaries very narrow for their outer half, and the inner primaries thickened and bowed.

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Pitta

Pittas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Pittidae Swainson, 1831Genus: Pitta Vieillot, 1816Species: See text.

Pittas are <u>passerine birds</u> mainly found in tropical Asia and Australasia, although a couple of species live in Africa.

They are all similar in general structure and habits, and are placed in single genus. Pittas are medium-sized by passerine standards, and stocky, with longish strong legs, very short tails and stout bills. Many, but not all, are brightly coloured. The name is derived from the word *pitta* in the Telugu language of Andhra Pradesh in India and is a generic local name used for all small birds.

These are fairly terrestrial birds of wet forest floors, which eat snails, insects and similar invertebrate prey. They are mostly solitary and lay up to six eggs in a large spherical nest in a tree or shrub, or sometimes on the ground.

Many species of pittas are migratory, and they often end up at odd places like house-gardens during passage migration.

Species

Eared Pitta, Pitta phayrei Blue-naped Pitta, Pitta nipalensis Blue-rumped Pitta, Pitta soror Rusty-naped Pitta, Pitta oatesi Schneider's Pitta. Pitta schneideri Giant Pitta, Pitta caerulea Blue Pitta, Pitta cyanea Banded Pitta, Pitta guajana Bar-bellied Pitta, Pitta elliotii Gurney's Pitta, Pitta gurneyi Blue-headed Pitta. Pitta baudii Hooded Pitta, Pitta sordida Ivory-breasted Pitta, Pitta maxima Superb Pitta, Pitta superba Azure-breasted Pitta. Pitta steerii Whiskered Pitta, Pitta kochi Red-bellied Pitta, Pitta erythrogaster Sula Pitta, Pitta dohertvi Blue-banded Pitta, Pitta arcuata Garnet Pitta, Pitta granatina Black-headed Pitta, Pitta ussheri

Black-crowned Pitta, Pitta venusta
African Pitta, Pitta angolensis
Green-breasted Pitta, Pitta reichenowi
Indian Pitta, Pitta brachyura
Fairy Pitta, Pitta nympha
Blue-winged Pitta, Pitta moluccensis
Mangrove Pitta, Pitta megarhyncha
Elegant Pitta, Pitta elegans
Noisy Pitta, Pitta versicolor
Black-faced Pitta, Pitta anerythra
Rainbow Pitta, Pitta iris

Rhinocryptidae

Tapaculos

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: **Rhinocryptidae** Wetmore, 1930Genera: Pteroptochos, Scelorchilus, Rhinocrypta, Teledromas, Liosceles, Psilorhamphus, Merulaxis, Melanopareia, Eugralla, Myornis, Scytalopus, Acropternis

The **tapaculos** are a family (**Rhinocryptidae**) of small <u>passerine</u> <u>bird</u> <u>species</u> found in South America.

These are terrestrial species that fly only poorly on their short wings. They have strong legs, well-suited to their habitat of grassland or forest undergrowth. The tail is cocked and pointed towards the head, and the name *tapaculo* derives from the Spanish for "cover your behind".

While the majority of the family are small blackish or brown birds there are some larger and more colourful species. They are best located and identified by their vocalisations.

They feed on insects, seeds and other soft plant material with their pointy bills, and will scratch on the ground like a <u>pheasant</u>.

Most species lay two or three white eggs in a covered environment, whether it be a burrow, hole in a tree or domed nest.

Species list:

Family Rhinocryptidae

- Genus *Pteroptochos*, the huet-huets
 - Black-throated Huet-huet, Pteroptochos tarnii
 Chestnut-throated Huet-huet, Pteroptochos castaneus
- Genus Pteroptochos
 - o Moustached Turca, Pteroptochos megapodius
- Genus Scelorchilus
 - White-throated Tapaculo, Scelorchilus albicollis Chucao Tapaculo, Scelorchilus rubecula
- Genus *Rhinocrypta*, the gallitos
 - o Crested Gallito, Rhinocrypta lanceolata
 - o Sandy Gallito, Teledromas fuscus
- Genus Liosceles
 - o Rusty-belted Tapaculo, Liosceles thoracicus
- Genus *Melanopareia*, the crescent-chests
 - Collared Crescent-chest, Melanopareia torquata
 Olive-crowned Crescent-chest, Melanopareia maximiliani
 Elegant Crescent-chest, Melanopareia elegans
 Maranon Crescent-chest, Melanopareia maranonica

- Genus Psilorhamphus
 - o Spotted Bamboowren, Psilorhamphus guttatus
- Genus Merulaxis, the bristlefronts
 - Slaty Bristlefront, Merulaxis ater
 Stresemann's Bristlefront, Merulaxis stresemanni
- Genus Eugralla
 - o Ochre-flanked Tapaculo, Eugralla paradoxa
- Genus Myornis
 - o Ash-colored Tapaculo, Myornis senilis
- Genus Scytalopus
 - o Unicolored Tapaculo, Scytalopus unicolor Blackish Tapaculo, Scytalopus latrans Trilling Tapaculo, Scytalopus parvirostris Large-footed Tapaculo, Scytalopus macropus Rufous-vented Tapaculo, Scytalopus femoralis Long-tailed Tapaculo, Scytalopus micropterus Bolivian Tapaculo, Scytalopus bolivianus White-crowned Tapaculo, Scytalopus atratus Perija Tapaculo, Scytalopus nigricans Santa Marta Tapaculo, Scytalopus sanctaemartae Pale-throated Tapaculo, Scytalopus panamensis Narino Tapaculo, Scytalopus vicinior Silvery-fronted Tapaculo, Scytalopus argentifrons Brown-rumped Tapaculo, Scytalopus latebricola Merida Tapaculo, Scytalopus meridanus Colombian Tapaculo, Scytalopus infasciatus Caracas Tapaculo, Scytalopus caracae Spillman's Tapaculo, Scytalopus spillmanni Zimmer's Tapaculo, Scytalopus zimmeri Puna Tapaculo, Scytalopus simonsi Vilcabamba Tapaculo, Scytalopus urubambae Neblina Tapaculo, Scytalopus altirostris Ancash Tapaculo, Scytalopus affinis Paramo Tapaculo, Scytalopus canus Magellanic Tapaculo, Scytalopus magellanicus Matorral Tapaculo, Scytalopus griseicollis White-browed Tapaculo, Scytalopus superciliaris Dusky Tapaculo, Scytalopus fuscus Tschudi's Tapaculo, Scytalopus acutirostris Mouse-colored Tapaculo, Scytalopus speluncae Planalto Tapaculo, Scytalopus pachecoi Brasilia Tapaculo, Scytalopus novacapitalis Bahia Tapaculo, Scytalopus psychopompus Wetland Tapaculo, Scytalopus iraiensis

White-breasted Tapaculo, Scytalopus indigoticus Diademed Tapaculo, Scytalopus schulenbergi Choco Tapaculo, Scytalopus chocoensis Ecuadorian Tapaculo, Scytalopus robbinsi Stiles' Tapaculo, Scytalopus stilesi Chusquea Tapaculo, Scytalopus parkeri Upper Magdalena Tapaculo, Scytalopus rodriguezi

- Genus Acropternis
 - o Ocellated Tapaculo, Acropternis orthonyx

Thamnophilidae

Antbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u>
Family: **Thamnophilidae**Genera: Many, see text.

The **antbirds** are a large family of smallish <u>passerine</u> <u>bird</u> species of subtropical and tropical Central and South America. They are closely related to the antthrushes and antpittas in the family <u>Formicariidae</u>.

These are forest birds, but tend to feed on insects at or near the ground. A sizable minority of them specialize in following columns of army ants to eat the small invertebrates that leave hiding to flee the ants.

Many species lack bright colour; brown, black and white being the dominant tones in their appearance.

They lay two or three eggs in a nest in a tree, both sexes incubating.

- 1 Systematics
 - o 1.1 Subfamily N.N.: Basal antbirds
 - o 1.2 Subfamily Thamnophilinae: antshrikes and relatives
 - o 1.3 Subfamily N.N.: Typical antwrens and relatives
 - o 1.4 Unassigned
- 2 References

Systematics

There are some 200 species, variously called as antwrens, antvireos, antbirds and antshrikes. These terms refer to the relative sizes of the birds (increasing in the order given) rather than any particular morphological resemblance to the true <u>wrens</u>, <u>vireos</u> or <u>shrikes</u>. The genus *Phlegopsis* is the bare-eyes, *Pyriglena* the fire-eyes and *Neoctantes* and *Clytoctantes* are the bushbirds.

Although the taxonomical layout of the group is based on studies from the mid-19th century when less than half the present species were known to science, comparison of the myoglobin intron 2, GAPDH intron 11 and the mitochondrial cytochrome b DNA sequences (Irestedt et al., 2004) has largely verified it. Two major clades - most antshrikes and other larger, strong-billed species and Herpsilochmus, and the classical antwrens the more slender, longer-billed species and other antwrens - and the monophyly of most genera was confirmed.

The Thamnophilidae contain several large or very large genera, and a considerable number of small or monotypic ones. Several of these, which have always been difficult to assign, seem to form a third, hitherto unrecognized clade independently derived from

ancestral antbirds. The results also confirmed suspicions of previous researchers that some species, most notably in Myrmotherula and Myrmeciza, need to be assigned to different genera. Still, due to the difficulties of sampling from such a large number of often poorly known species, the assignment of some genera is still awaiting confirmation.

Subfamily N.N.: Basal antbirds

- Genus Terenura
 - Streak-capped Antwren, Terenura maculata
 Orange-bellied Antwren, Terenura sicki
 Rufous-rumped Antwren, Terenura callinota
 Chestnut-shouldered Antwren, Terenura humeralis
 Yellow-rumped Antwren, Terenura sharpei
 Ash-winged Antwren, Terenura spodioptila
- Genus *Myrmornis*
 - o Wing-banded Antbird, Myrmornis torquata
- Genus *Pygiptila*
 - o Spot-winged Antshrike, *Pygiptila stellaris*
- Genus Thamnistes
 - o Russet Antshrike, *Thamnistes anabatinus*

Subfamily Thamnophilinae: antshrikes and relatives

- Genus *Megastictus*
 - o Pearly Antshrike, *Megastictus margaritatus*
- Genus *Thamnomanes*
 - Saturnine Antshrike, Thamnomanes saturninus
 Dusky-throated Antshrike, Thamnomanes ardesiacus
 Cinereous Antshrike, Thamnomanes caesius
 Bluish-slate Antshrike, Thamnomanes schistogynus
- Genus *Xenornis* (pending confirmation of placement)
 - o Speckled Antshrike, *Xenornis setifrons*
- Genus Dichrozona
 - o Banded Antwren, Dichrozona cincta
- Genus *Taraba*
 - o Great Antshrike, *Taraba major*
- Genus *Hypoedaleus*
 - o Spot-backed Antshrike, *Hypoedaleus guttatus*
- Genus Batara
 - o Giant Antshrike, Batara cinerea
- Genus Mackenziaena

- Tufted Antshrike, Mackenziaena severa
 Large-tailed Antshrike, Mackenziaena leachii
- Genus Cymbilaimus (pending confirmation of placement)
 - Fasciated Antshrike, Cymbilaimus lineatus
 Bamboo Antshrike, Cymbilaimus sanctaemariae
- Genus Frederickena
 - Black-throated Antshrike, Frederickena viridis Undulated Antshrike, Frederickena unduligera
- Genus *Dysithamnus*
 - Spot-breasted Antvireo, Dysithamnus stictothorax Plain Antvireo, Dysithamnus mentalis Streak-crowned Antvireo, Dysithamnus striaticeps Spot-crowned Antvireo, Dysithamnus puncticeps Rufous-backed Antvireo, Dysithamnus xanthopterus White-streaked Antvireo, Dysithamnus leucostictus Plumbeous Antvireo, Dysithamnus plumbeus Bicolored Antvireo, Dysithamnus occidentalis
- Genus Herpsilochmus
 - Ash-throated Antwren, Herpsilochmus parkeri
 Creamy-bellied Antwren, Herpsilochmus motacilloides
 Black-capped Antwren, Herpsilochmus atricapillus
 Caatinga Antwren, Herpsilochmus sellowi
 Pileated Antwren, Herpsilochmus pileatus
 Spot-tailed Antwren, Herpsilochmus sticturus
 Dugand's Antwren, Herpsilochmus dugandi
 Todd's Antwren, Herpsilochmus gentryi
 Spot-backed Antwren, Herpsilochmus gentryi
 Spot-backed Antwren, Herpsilochmus roraimae
 Pectoral Antwren, Herpsilochmus roraimae
 Pectoral Antwren, Herpsilochmus pectoralis
 Large-billed Antwren, Herpsilochmus longirostris
 Yellow-breasted Antwren, Herpsilochmus axillaris
 Rufous-winged Antwren, Herpsilochmus rufimarginatus
- Genus Sakesphorus
 - Collared Antshrike, Sakesphorus bernardi Black-crested Antshrike, Sakesphorus canadensis Silvery-cheeked Antshrike, Sakesphorus cristatus Black-backed Antshrike, Sakesphorus melanonotus Band-tailed Antshrike, Sakesphorus melanothorax Glossy Antshrike, Sakesphorus luctuosus
- Genus *Thamnophilus* (possibly polyphyletic)
 - Acre Antshrike, Thamnophilus divisorus
 Barred Antshrike, Thamnophilus doliatus
 Chapman's Antshrike, Thamnophilus zarumae

Bar-crested Antshrike, Thamnophilus multistriatus Chestnut-backed Antshrike, Thamnophilus palliatus Lined Antshrike, Thamnophilus tenuepunctatus Black-hooded Antshrike, Thamnophilus bridgesi Black Antshrike, Thamnophilus nigriceps Cocha Antshrike, Thamnophilus praecox Blackish-gray Antshrike. Thamnophilus nigrocinereus Castelnau's Antshrike, Thamnophilus cryptoleucus White-shouldered Antshrike, Thamnophilus aethiops Uniform Antshrike, Thamnophilus unicolor Upland Antshrike, Thamnophilus aroyae Plain-winged Antshrike, Thamnophilus schistaceus Mouse-colored Antshrike, Thamnophilus murinus Western Slaty Antshrike, Thamnophilus atrinucha Guianan Slaty Antshrike, Thamnophilus punctatus Peruvian Slaty Antshrike, Thamnophilus leucogaster Natterer's Slaty Antshrike, Thamnophilus stictocephalus Bolivian Slaty Antshrike, Thamnophilus sticturus Planalto Slaty Antshrike, Thamnophilus pelzelni Sooretama Slaty Antshrike, Thamnophilus ambiguus Streak-backed Antshrike, Thamnophilus insignis Amazonian Antshrike, Thamnophilus amazonicus Variable Antshrike, Thamnophilus caerulescens Rufous-winged Antshrike, Thamnophilus torquatus Rufous-capped Antshrike, Thamnophilus ruficapillus

Subfamily N.N.: Typical antwrens and relatives

Tribe "Microrhopini"

- Genus Neoctantes
 - o Black Bushbird, Neoctantes niger
- Genus *Clytoctantes* (pending confirmation of placement)
 - Recurve-billed Bushbird, Clytoctantes alixii
 Rondonia Bushbird, Clytoctantes atrogularis
- Genus Myrmorchilus
 - o Stripe-backed Antbird, Myrmorchilus strigilatus
- Genus *Microrhopias*
 - o Dot-winged Antwren, Microrhopias quixensis

Tribe Formicivorini

- Genus Mvrmochanes
 - o Black-and-white Antbird, Myrmochanes hemileucus

- Genus Myrmotherula (paraphyletic)
 - Stipple-throated group ("Microrhopini"):

Brown-bellied Antwren, Myrmotherula gutturalis

Checker-throated Antwren, Myrmotherula fulviventris

White-eyed Antwren, Myrmotherula leucophthalma

Foothill Antwren, Myrmotherula spodionota

Stipple-throated Antwren, Myrmotherula haematonota

Brown-backed Antwren, Myrmotherula fjeldsaai

Ornate Antwren, Myrmotherula ornata

Rufous-tailed Antwren, Myrmotherula erythrura

Streaked group (closer to Myrmochanes):

Pygmy Antwren, Myrmotherula brachyura

Short-billed Antwren, Myrmotherula ignota (sometimes M. obscura)

Guianan Antwren, Myrmotherula surinamensis

Amazonian Antwren, Myrmotherula multostriata

Pacific Antwren, Myrmotherula pacifica

Cherrie's Antwren, Myrmotherula cherriei

Klages' Antwren, Myrmotherula klagesi

Stripe-chested Antwren, Myrmotherula longicauda

Sclater's Antwren, Myrmotherula sclateri

Yellow-throated Antwren, Myrmotherula ambigua

Grey group (may include Formicivora):

White-flanked Antwren, Myrmotherula axillaris

Slaty Antwren, Myrmotherula schisticolor

Rio Suno Antwren, Myrmotherula sunensis

Salvadori's Antwren, Myrmotherula minor

Ihering's Antwren, Myrmotherula iheringi

Rio de Janeiro Antwren, Myrmotherula fluminensis

Plain-winged Antwren, Myrmotherula behni

Ashy Antwren, Myrmotherula grisea

Unicolored Antwren, Myrmotherula unicolor

Alagoas Antwren, Myrmotherula snowi

Long-winged Antwren, Myrmotherula longipennis

Band-tailed Antwren, Myrmotherula urosticta

Gray Antwren, Myrmotherula menetriesii

unassigned (probably stipple-throated group):

Rufous-bellied Antwren, Myrmotherula guttata

Plain-throated Antwren, Myrmotherula hauxwelli

Star-throated Antwren, Myrmotherula gularis

unassigned (Relationships unknown):

Leaden Antwren, Myrmotherula assimilis

- Genus Formicivora
 - Narrow-billed Antwren, Formicivora iheringi
 White-fringed Antwren, Formicivora grisea

Black-bellied Antwren, Formicivora melanogaster Serra Antwren, Formicivora serrana Restinga Antwren, Formicivora littoralis Black-hooded Antwren, Formicivora erythronotos Rusty-backed Antwren, Formicivora rufa

- Genus Stymphalornis (pending confirmation of placement)
 - o Parana Antwren, Stymphalornis acutirostris

Tribe Pithyini

- Genus Pithys
 - White-plumed Antbird, Pithys albifrons
 White-masked Antbird, Pithys castanea
- Genus Skutchia (pending confirmation of placement)
 - o Pale-faced Antbird, Skutchia borbae
- Genus *Phlegopsis*
 - Black-spotted Bare-eye, Phlegopsis nigromaculata
 Reddish-winged Bare-eye, Phlegopsis erythroptera
- Genus Phaenostictus
 - o Ocellated Antbird, Phaenostictus mcleannani
- Genus *Gymnopithys*
 - Rufous-throated Antbird, Gymnopithys rufigula Bicolored Antbird, Gymnopithys leucaspis Lunulated Antbird, Gymnopithys lunulata White-throated Antbird, Gymnopithys salvini
- Genus Rhegmatorhina
 - Hairy-crested Antbird, Rhegmatorhina melanosticta Chestnut-crested Antbird, Rhegmatorhina cristata White-breasted Antbird, Rhegmatorhina hoffmannsi Harlequin Antbird, Rhegmatorhina berlepschi Bare-eyed Antbird, Rhegmatorhina gymnops
- Genus Cercomacra
 - Gray Antbird, Cercomacra cinerascens
 Rio de Janeiro Antbird, Cercomacra brasiliana
 Dusky Antbird, Cercomacra tyrannina
 Willis' Antbird, Cercomacra laeta
 Parker's Antbird, Cercomacra parkeri
 Blackish Antbird, Cercomacra nigrescens
 Bananal Antbird, Cercomacra ferdinandi
 Black Antbird, Cercomacra serva
 Jet Antbird, Cercomacra nigricans
 Rio Branco Antbird, Cercomacra carbonaria
 Mato Grosso Antbird, Cercomacra melanaria
 Manu Antbird, Cercomacra manu
- Genus *Hypocnemis*

- Warbling Antbird, Hypocnemis cantator
 Yellow-browed Antbird, Hypocnemis hypoxantha
- Genus *Drymophila*
 - Ferruginous Antbird, Drymophila ferruginea
 Bertoni's Antbird, Drymophila rubricollis
 Rufous-tailed Antbird, Drymophila genei
 Ochre-rumped Antbird, Drymophila ochropyga
 Striated Antbird, Drymophila devillei
 Dusky-tailed Antbird, Drymophila malura
 Long-tailed Antbird, Drymophila caudata
 Scaled Antbird, Drymophila squamata

Tribe Myrmecizini

- Genus Sclateria
 - o Silvered Antbird Sclateria naevia
- Genus Percnostola (pending confirmation of placement)
 - Black-headed Antbird, Percnostola rufifrons White-lined Antbird, Percnostola lophotes
- Genus Schistocichla (sometimes placed in Percnostola)
 - Slate-colored Antbird, Schistocichla schistacea
 Spot-winged Antbird, Schistocichla leucostigma
 Caura Antbird, Schistocichla caurensis
- Genus Myrmoborus
 - White-browed Antbird, Myrmoborus leucophrys Ash-breasted Antbird, Myrmoborus lugubris Black-faced Antbird, Myrmoborus myotherinus Black-tailed Antbird, Myrmoborus melanurus
- Genus Gymnocichla
 - o Bare-crowned Antbird, Gymnocichla nudiceps
- Genus *Rhopornis* (pending confirmation of placement)
 - o Slender Antbird, Rhopornis ardesiaca
- Genus *Pyriglena*
 - White-backed Fire-eye, Pyriglena leuconota
 White-shouldered Fire-eye, Pyriglena leucoptera
 Fringe-backed Fire-eye, Pyriglena atra
- Genus *Hypocnemoides*
 - o Black-chinned Antbird, Hypocnemoides melanopogon Band-tailed Antbird, Hypocnemoides maculicauda
- Genus Hylophylax
 - Spotted Antbird, Hylophylax naevioides
 Spot-backed Antbird, Hylophylax naevia
 Dot-backed Antbird, Hylophylax punctulata
 Scale-backed Antbird, Hylophylax poecilinota
- Genus Myrmeciza (paraphyletic)

o Chestnut-tailed group (Pithyini)

Southern Chestnut-tailed Antbird, Myrmeciza hemimelaena

Northern Chestnut-tailed Antbird, Myrmeciza castanea

Large dark group (close to Pyriglena)

Plumbeous Antbird, Myrmeciza hyperythra

Goeldi's Antbird, Myrmeciza goeldii

White-shouldered Antbird, Myrmeciza melanoceps

Sooty Antbird, Myrmeciza fortis

Immaculate Antbird, Myrmeciza immaculata

Patterned breast group (close to Hypocnemoides and Hylophylax)

Ferruginous-backed Antbird, Myrmeciza ferruginea

Scalloped Antbird, Myrmeciza ruficauda

White-bibbed Antbird, Myrmeciza loricata

Squamate Antbird, Myrmeciza squamosa

Main group

Gray-headed Antbird, Myrmeciza griseiceps

Dull-mantled Antbird, Myrmeciza laemosticta

Esmeraldas Antbird, Myrmeciza nigricauda

Stub-tailed Antbird, Myrmeciza berlepschi

unassigned

Yapacana Antbird, Myrmeciza disjuncta

White-bellied Antbird, Myrmeciza longipes

Chestnut-backed Antbird, Myrmeciza exsul

Gray-bellied Antbird, Myrmeciza pelzelni

Black-throated Antbird, Myrmeciza atrothorax

Unassigned

- Genus Biatas
 - o White-bearded Antshrike, *Biatas nigropectus*

References

• Irestedt, Martin; Fjeldså, Jon; Nylander, Johan A. A. & Ericson, Per G. P. (2004): Phylogenetic relationships of typical antbirds (Thamnophilidae) and test of incongruence based on Bayes factors. *BMC Evol. Biol.* **4**: 23. DOI:10.1186/1471-2148-4-23 Supplementary information

Tyrannidae

Tyrant Flycatchers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes

Family: Tyrannidae Vigors, 1825Genera: Many, see text.

The **tyrant flycatchers** are a large family of <u>passerine</u> <u>birds</u> which occur throughout North and South America, but are mainly tropical in distribution. They superficially resemble the <u>Old World flycatchers</u>, but are more robust with stronger bills. They are members of suborder Tyranni (suboscines) and so do not have the sophisticated vocal capabilities of the <u>songbirds</u>.

Most, but not all, are rather plain, and many have erectile crests. As the name implies, most are insectivorous, but some will eat fruit.

The becards and tityras were formerly considered to be <u>cotingas</u>, but are now usually included in the Tyrannidae. They are also sometimes given their own family, the Tityridae.

- <u>1 Habitat Distribution</u>
- 2 Protected status
- 3 Species in taxonomic order

Habitat Distribution

Species richness of Tyrannidae, when compared to habitat, is highly variable. The habitats of tropical lowland evergreen forest and montane evergreen forest have the highest single site species diversity while many habitats including rivers, palm forest, possible white sand forest, tropical deciduous forest edge, southern temperate forest, southern temperate forest edge, semihumid/humid montane scrub, and northern temperate grassland have the lowest single species diversity. The variation between the highest and the lowest is extreme; ninety species can be found in the tropical lowland evergreen forests while only one species can be found at the habitats listed above. This may be due in part to the fewer niches found in certain areas and therefore fewer places for the species to occupy.

Tyrannidae specialization among habitat is very strong in tropical lowland evergreen forests and montane evergreen forests. These habitat types therefore display the greatest specialization. The counts differ by three species (tropical lowland evergreen forests have 49 endemic species and montane evergreen forests have 46 endemic species). It can be assumed that they both have similar levels of specialization.

Regionally, the South Atlantic Coast has a significantlly higher species richness with the Manabí-Tumbes region following closely behind.

Protected status

The Northern Beardless Tyrannulet (*Camptostoma imberbe*) and the Rose-throated Becard (*Pachyramphus aglaiae*) are protected in the US under the Migratory Bird Treaty Act of 1918.[1]

Species in taxonomic order

There are about 429 species.

- Genus Ornithion
 - White-lored Tyrannulet, Ornithion inerme
 Yellow-bellied Tyrannulet, Ornithion semiflavum
 Brown-capped Tyrannulet, Ornithion brunneicapillum
- Genus Camptostoma
 - Northern Beardless-Tyrannulet, Camptostoma imberbe Southern Beardless Tyrannulet, Camptostoma obsoletum
- Mouse-colored Tyrannulet, Phaeomyias murina Cocos Island Flycatcher, Nesotriccus ridgwayi Yellow Tyrannulet, Capsiempis flaveola Yellow-crowned Tyrannulet, Tyrannulus elatus
- Genus *Myiopagis*
 - Forest Elaenia, Myiopagis gaimardii
 Foothill Elaenia, Myiopagis olallai
 Gray Elaenia, Myiopagis caniceps
 Pacific Elaenia, Myiopagis subplacens
 Yellow-crowned Elaenia, Myiopagis flavivertex
 Jamaican Elaenia, Myiopagis cotta
 Greenish Elaenia, Myiopagis viridicata
- Gray-and-white Tyrannulet, Pseudelaenia leucospodia
- Genus Elaenia
 - Caribbean Elaenia, Elaenia martinica
 Large Elaenia, Elaenia spectabilis
 Yellow-bellied Elaenia, Elaenia flavogaster
 Noronha Elaenia, Elaenia ridleyana
 White-crested Elaenia, Elaenia albiceps
 Small-billed Elaenia, Elaenia parvirostris
 Slaty Elaenia, Elaenia strepera
 Olivaceous Elaenia, Elaenia mesoleuca
 Mottle-backed Elaenia, Elaenia gigas
 Brownish Elaenia, Elaenia pelzelni
 Plain-crested Elaenia, Elaenia cristata
 Rufous-crowned Elaenia, Elaenia ruficeps
 Lesser Elaenia, Elaenia chiriquensis

Mountain Elaenia, Elaenia frantzii Highland Elaenia, Elaenia obscura Great Elaenia, Elaenia dayi Sierran Elaenia, Elaenia pallatangae Greater Antillean Elaenia, Elaenia fallax

Genus Serpophaga

Torrent Tyrannulet, Serpophaga cinerea
 Sooty Tyrannulet, Serpophaga nigricans
 River Tyrannulet, Serpophaga hypoleuca
 White-crested Tyrannulet, Serpophaga subcristata
 White-bellied Tyrannulet, Serpophaga munda

• Genus Mionectes

 Ochre-bellied Flycatcher, Mionectes oleagineus Streak-necked Flycatcher, Mionectes striaticollis Olive-striped Flycatcher, Mionectes olivaceus Gray-hooded Flycatcher, Mionectes rufiventris MacConnell's Flycatcher, Mionectes macconnelli

• Genus Leptopogon

 Rufous-breasted Flycatcher, Leptopogon rufipectus Inca Flycatcher, Leptopogon taczanowskii
 Sepia-capped Flycatcher, Leptopogon amaurocephalus Slaty-capped Flycatcher, Leptopogon superciliaris

• Genus Pseudotriccus

 Bronze-olive Pygmy Tyrant, Pseudotriccus pelzelni Hazel-fronted Pygmy Tyrant, Pseudotriccus simplex Rufous-headed Pygmy Tyrant, Pseudotriccus ruficeps

• Genus *Phylloscartes*

Marble-faced Bristle Tyrant, Phylloscartes ophthalmicus Venezuelan Bristle Tyrant, Phylloscartes venezuelanus Antioquia Bristle Tyrant, Phylloscartes lanyoni Spectacled Bristle Tyrant, Phylloscartes orbitalis Variegated Bristle Tyrant, Phylloscartes poecilotis Southern Bristle Tyrant, Phylloscartes eximius Black-fronted Tyrannulet, Phylloscartes nigrifrons Chapman's Bristle Tyrant, Phylloscartes chapmani Ecuadorian Tyrannulet, Phylloscartes gualaquizae Rufous-lored Tyrannulet, Phylloscartes flaviventris Cinnamon-faced Tyrannulet, Phylloscartes parkeri Minas Gerais Tyrannulet, Phylloscartes roquettei Sao Paulo Tyrannulet, Phylloscartes paulistus Oustalet's Tyrannulet, Phylloscartes oustaleti Restinga Tyrannulet, Phylloscartes kronei Serra do Mar Tyrannulet, Phylloscartes difficilis Alagoas Tyrannulet, Phylloscartes ceciliae

Mottle-cheeked Tyrannulet, Phylloscartes ventralis Bahia Tyrannulet, Phylloscartes beckeri Yellow-green Tyrannulet, Phylloscartes flavovirens Olive-green Tyrannulet, Phylloscartes virescens Rufous-browed Tyrannulet, Phylloscartes superciliaris Bay-ringed Tyrannulet, Phylloscartes sylviolus

• Genus *Phyllomyias*

Planalto Tyrannulet, Phyllomyias fasciatus
 White-fronted Tyrannulet, Phyllomyias zeledoni
 Rough-legged Tyrannulet, Phyllomyias burmeisteri
 Greenish Tyrannulet, Phyllomyias virescens
 Reiser's Tyrannulet, Phyllomyias reiseri
 Sclater's Tyrannulet, Phyllomyias sclateri
 Gray-capped Tyrannulet, Phyllomyias griseocapilla
 Sooty-headed Tyrannulet, Phyllomyias griseiceps
 Plumbeous-crowned Tyrannulet, Phyllomyias plumbeiceps
 Black-capped Tyrannulet, Phyllomyias nigrocapillus
 Ashy-headed Tyrannulet, Phyllomyias cinereiceps
 Tawny-rumped Tyrannulet, Phyllomyias uropygialis

Genus Zimmerius

 Mistletoe Tyrannulet, Zimmerius vilissimus Venezuelan Tyrannulet, Zimmerius improbus Bolivian Tyrannulet, Zimmerius bolivianus Red-billed Tyrannulet, Zimmerius cinereicapillus Slender-footed Tyrannulet, Zimmerius gracilipes Peruvian Tyrannulet, Zimmerius viridiflavus Golden-faced Tyrannulet, Zimmerius chrysops

• Genus Sublegatus

- Amazonian Scrub Flycatcher, Sublegatus obscurior Northern Scrub Flycatcher, Sublegatus arenarum Southern Scrub Flycatcher, Sublegatus modestus
- Suiriri Flycatcher, Suiriri suiriri
- Genus Mecocerculus
 - White-throated Tyrannulet, Mecocerculus leucophrys White-tailed Tyrannulet, Mecocerculus poecilocercus Buff-banded Tyrannulet, Mecocerculus hellmayri Rufous-winged Tyrannulet, Mecocerculus calopterus Sulphur-bellied Tyrannulet, Mecocerculus minor White-banded Tyrannulet, Mecocerculus stictopterus

• Genus Inezia

- Slender-billed Tyrannulet, Inezia tenuirostris Plain Tyrannulet, Inezia inornata
 Pale-tipped Tyrannulet, Inezia subflava
- Genus *Stigmatura*

- Lesser Wagtail-tyrant, Stigmatura napensis
 Greater Wagtail-tyrant, Stigmatura budytoides
- Genus Uromyias
 - Agile Tit-tyrant, Uromyias agilis
 Unstreaked Tit-tyrant, Uromyias agraphia
- Genus Anairetes
 - Ash-breasted Tit-tyrant, Anairetes alpinus
 Black-crested Tit-tyrant, Anairetes nigrocristatus
 Pied-crested Tit-tyrant, Anairetes reguloides
 Yellow-billed Tit-tyrant, Anairetes flavirostris
 Juan Fernandez Tit-tyrant, Anairetes fernandezianus
 Tufted Tit-Tyrant, Anairetes parulus
- Many-colored Rush Tyrant, Tachuris rubrigastra Sharp-tailed Tyrant, Culicivora caudacuta
- Genus Polystictus
 - Bearded Tachuri, Polystictus pectoralis
 Gray-backed Tachuri, Polystictus superciliaris
- Genus Pseudocolopteryx
 - Crested Doradito, Pseudocolopteryx sclateri
 Dinelli's Doradito, Pseudocolopteryx dinellianus
 Subtropical Doradito, Pseudocolopteryx acutipennis
 Warbling Doradito, Pseudocolopteryx flaviventris
- Genus Euscarthmus
 - Tawny-crowned Pygmy Tyrant, Euscarthmus meloryphus Rufous-sided Pygmy Tyrant, Euscarthmus rufomarginatus
- Genus Myiornis
 - White-bellied Pygmy Tyrant, Myiornis albiventris Eared Pygmy Tyrant, Myiornis auricularis Black-capped Pygmy Tyrant, Myiornis atricapillus Short-tailed Pygmy Tyrant, Myiornis ecaudatus
- Genus Lophotriccus
 - Scale-crested Pygmy Tyrant, Lophotriccus pileatus Double-banded Pygmy Tyrant, Lophotriccus vitiosus Long-crested Pygmy Tyrant, Lophotriccus eulophotes Helmeted Pygmy Tyrant, Lophotriccus galeatus Pale-eyed Pygmy Tyrant, Lophotriccus pilaris
- Genus Oncostoma
 - Northern Bentbill, Oncostoma cinereigulare Southern Bentbill, Oncostoma olivaceum
- Genus Poecilotriccus
 - Rufous-crowned Tody-tyrant, Poecilotriccus ruficeps Slate-headed Tody-tyrant, Poecilotriccus sylvia Black-and-white Tody-tyrant, Poecilotriccus capitalis White-cheeked Tody-tyrant, Poecilotriccus albifacies

- Black-chested Tyrant, Taeniotriccus andrei
- Genus Hemitriccus
 - Snethlage's Tody-tyrant, Hemitriccus minor Boat-billed Tody-tyrant, Hemitriccus josephinae Flammulated Bamboo Tyrant, Hemitriccus flammulatus Drab-breasted Bamboo Tyrant, Hemitriccus diops Brown-breasted Bamboo Tyrant, Hemitriccus obsoletus White-eyed Tody-tyrant, Hemitriccus zosterops Zimmer's Tody-tyrant, Hemitriccus minimus Eve-ringed Tody-tyrant, Hemitriccus orbitatus Johannes' Tody-tyrant, Hemitriccus iohannis Stripe-necked Tody-tyrant, Hemitriccus striaticollis Hangnest Tody-tyrant, Hemitriccus nidipendulus Yungas Tody-tyrant, Hemitriccus spodiops Pearly-vented Tody-tyrant, Hemitriccus margaritaceiventer Pelzeln's Tody-tyrant, Hemitriccus inornatus Black-throated Tody-tyrant, Hemitriccus granadensis Buff-throated Tody-tyrant, Hemitriccus rufigularis Cinnamon-breasted Tody-tyrant, Hemitriccus cinnamomeipectus Buff-breasted Tody-tyrant, Hemitriccus mirandae Kaempfer's Tody-tyrant, Hemitriccus kaempferi Fork-tailed Tody-tyrant, Hemitriccus furcatus

• Genus Todirostrum

- O Buff-cheeked Tody-Flycatcher, Todirostrum senex
 Ruddy Tody-Flycatcher, Todirostrum russatum
 Ochre-faced Tody-Flycatcher, Todirostrum plumbeiceps
 Rusty-fronted Tody-Flycatcher, Todirostrum latirostre
 Smoky-fronted Tody-Flycatcher, Todirostrum fumifrons
 Spotted Tody-Flycatcher, Todirostrum maculatum
 Yellow-lored Tody-Flycatcher, Todirostrum poliocephalum
 Short-tailed Tody-Flycatcher, Todirostrum viridanum
 Black-headed Tody-Flycatcher, Todirostrum nigriceps
 Painted Tody-Flycatcher, Todirostrum calopterum
 Golden-winged Tody-Flycatcher, Todirostrum pulchellum
 Common Tody-Flycatcher, Todirostrum cinereum
 Yellow-browed Tody-Flycatcher, Todirostrum chrysocrotaphum
- Genus Corythopis
 - Ringed Antpipit, Corythopis torquata
 Southern Antpipit, Corythopis delalandi
- Brownish Flycatcher, Cnipodectes subbrunneus
- Genus Ramphotrigon

- Large-headed Flatbill, Ramphotrigon megacephala
 Dusky-tailed Flatbill, Ramphotrigon fuscicauda
 Rufous-tailed Flatbill, Ramphotrigon ruficauda
- Genus Rhynchocyclus
 - Eye-ringed Flatbill, Rhynchocyclus brevirostris
 Pacific Flatbill, Rhynchocyclus pacificus
 Olivaceous Flatbill, Rhynchocyclus olivaceus
 Fulvous-breasted Flatbill, Rhynchocyclus fulvipectus
- Genus *Tolmomyias*
 - Yellow-olive Flycatcher, Tolmomyias sulphurescens Yellow-margined Flycatcher, Tolmomyias assimilis Gray-crowned Flycatcher, Tolmomyias poliocephalus Orange-eyed Flycatcher, Tolmomyias traylori Yellow-breasted Flycatcher, Tolmomyias flaviventris
- Genus Platvrinchus
 - Cinnamon-crested Spadebill, Platyrinchus saturatus Stub-tailed Spadebill, Platyrinchus cancrominus Yellow-throated Spadebill, Platyrinchus flavigularis Golden-crowned Spadebill, Platyrinchus coronatus White-throated Spadebill, Platyrinchus mystaceus White-crested Spadebill, Platyrinchus platyrhynchos Russet-winged Spadebill, Platyrinchus leucoryphus
- Royal Flycatcher, Onychorhynchus coronatus
- Ornate Flycatcher, Myiotriccus ornatus
- Genus *Myiophobus*
 - Orange-crested Flycatcher, Myiophobus flavicans
 Orange-crested Flycatcher, Myiophobus phoenicomitra
 Roraiman Flycatcher, Myiophobus roraimae
 Unadorned Flycatcher, Myiophobus inornatus
 Handsome Flycatcher, Myiophobus pulcher
 Orange-banded Flycatcher, Myiophobus lintoni
 Ochraceous-breasted Flycatcher, Myiophobus ochraceiventris
 Bran-colored Flycatcher, Myiophobus fasciatus
 Olive-chested Flycatcher, Myiophobus cryptoxanthus
- Ruddy-tailed Flycatcher, Terenotriccus erythrurus
- Genus Mviobius
 - Tawny-breasted Flycatcher, Myiobius villosus Sulphur-rumped Flycatcher, Myiobius sulphureipygius Whiskered Flycatcher, Myiobius barbatus Yellow-rumped Flycatcher, Myiobius mastacalis Black-tailed Flycatcher, Myiobius atricaudus
- Cinnamon Tyrant, Neopipo cinnamomea
 Cinnamon Flycatcher, Pyrrhomyias cinnamomea

Cliff Flycatcher, Hirundinea ferruginea Fuscous Flycatcher, Cnemotriccus fuscatus

- Genus <u>Lathrotriccus</u>
 - Euler's Flycatcher, Lathrotriccus euleri
 Gray-breasted Flycatcher, Lathrotriccus griseipectus
- Genus Aphanotriccus
 - Tawny-chested Flycatcher, Aphanotriccus capitalis Black-billed Flycatcher, Aphanotriccus audax
- Genus Xenotriccus
 - Belted Flycatcher, Xenotriccus callizonus
 Pileated Flycatcher, Xenotriccus mexicanus
- Genus Mitrephanes
 - Tufted Flycatcher, Mitrephanes phaeocercus
 Olive Flycatcher, Mitrephanes olivaceus
- Genus Contopus, pewees
 - Olive-sided Flycatcher, Contopus cooperi Greater Pewee, Contopus pertinax
 Dark Pewee, Contopus lugubris
 Smoke-colored Pewee, Contopus fumigatus
 Ochraceous Pewee, Contopus ochraceus
 Western Wood-Pewee, Contopus sordidulus
 Eastern Wood-Pewee, Contopus virens
 Tropical Pewee, Contopus cinereus
 Blackish Pewee, Contopus nigrescens
 Cuban Pewee, Contopus caribaeus
 Jamaican Pewee, Contopus pallidus
 Hispaniolan Pewee, Contopus hispaniolensis
 Lesser Antillean Pewee, Contopus latirostris
 White-throated Pewee, Contopus albogularis
- Genus *Empidonax*
 - Yellow-bellied Flycatcher, Empidonax flaviventris
 Acadian Flycatcher, Empidonax virescens
 Alder Flycatcher, Empidonax alnorum
 Willow Flycatcher, Empidonax traillii
 White-throated Flycatcher, Empidonax albigularis
 Least Flycatcher, Empidonax minimus
 Hammond's Flycatcher, Empidonax hammondii
 Gray Flycatcher, Empidonax wrightii
 Dusky Flycatcher, Empidonax oberholseri
 Pine Flycatcher, Empidonax affinis
 Pacific-slope Flycatcher, Empidonax difficilis
 Cordilleran Flycatcher, Empidonax occidentalis
 Yellowish Flycatcher, Empidonax flavescens

Buff-breasted Flycatcher, Empidonax fulvifrons Black-capped Flycatcher, Empidonax atriceps

- Genus Sayornis, phoebes
 - Eastern Phoebe, Sayornis phoebe
 Black Phoebe, Sayornis nigricans
 Say's Phoebe, Sayornis saya
- Vermilion Flycatcher, *Pyrocephalus rubinus*
- Genus *Silvicultrix*
 - Jelski's Chat-tyrant, Silvicultrix jelskii
 Yellow-bellied Chat-tyrant, Silvicultrix diadema
 Golden-browed Chat-tyrant, Silvicultrix pulchella
- Genus Ochthoeca
 - Crowned Chat-tyrant, Ochthoeca frontalis
 Peruvian Chat-tyrant, Ochthoeca spodionota
 Slaty-backed Chat-tyrant, Ochthoeca cinnamomeiventris
 Maroon-chested Chat-tyrant, Ochthoeca thoracica
 Piura Chat-tyrant, Ochthoeca piurae
 D'Orbigny's Chat-tyrant, Ochthoeca oenanthoides
 Rufous-breasted Chat-tyrant, Ochthoeca rufipectoralis
 Brown-backed Chat-tyrant, Ochthoeca fumicolor
 White-browed Chat-tyrant, Ochthoeca leucophrys
- Tumbes Tyrant, Tumbezia salvini
 Patagonian Tyrant, Colorhamphus parvirostris
 Drab Water Tyrant, Ochthornis littoralis
 Red-rumped Bush Tyrant, Cnemarchus erythropygius
- Genus *Myiotheretes*
 - Streak-throated Bush Tyrant, Myiotheretes striaticollis Santa Marta Bush Tyrant, Myiotheretes pernix Smoky Bush Tyrant, Myiotheretes fumigatus Rufous-bellied Bush Tyrant, Myiotheretes fuscorufus
- Genus Xolmis
 - Fire-eyed Diucon, Xolmis pyrope
 Gray Monjita, Xolmis cinerea
 Black-crowned Monjita, Xolmis coronata
 White-rumped Monjita, Xolmis velata
 White Monjita, Xolmis irupero
 Rusty-backed Monjita, Xolmis rubetra
 Salinas Monjita, Xolmis salinarum
- Black-and-white Monjita, Heteroxolmis dominicana Chocolate-vented Tyrant, Neoxolmis rufiventris
- Genus *Agriornis*
 - Black-billed Shrike-tyrant, Agriornis montana
 White-tailed Shrike-tyrant, Agriornis andicola
 Great Shrike-tyrant, Agriornis livida

Gray-bellied Shrike-tyrant, Agriornis microptera Lesser Shrike-tyrant, Agriornis murina

- Rufous-webbed Tyrant, Polioxolmis rufipennis
- Genus Muscisaxicola
 - Spot-billed Ground Tyrant, Muscisaxicola maculirostris
 Little Ground Tyrant, Muscisaxicola fluviatilis
 Dark-faced Ground Tyrant, Muscisaxicola macloviana
 Cinnamon-bellied Ground Tyrant, Muscisaxicola capistrata
 Rufous-naped Ground Tyrant, Muscisaxicola rufivertex
 Puna Ground Tyrant, Muscisaxicola juninensis
 White-browed Ground Tyrant, Muscisaxicola albilora
 Plain-capped Ground Tyrant, Muscisaxicola alpina
 Cinereous Ground Tyrant, Muscisaxicola cinerea
 White-fronted Ground Tyrant, Muscisaxicola albifrons
 Ochre-naped Ground Tyrant, Muscisaxicola flavinucha
 Black-fronted Ground Tyrant, Muscisaxicola frontalis
 Short-tailed Field Tyrant, Muscigralla brevicauda
- Genus Lessonia
 - Andean Negrito, Lessonia oreas Austral Negrito, Lessonia rufa
- Genus Knipolegus
 - Cinereous Tyrant, Knipolegus striaticeps
 Hudson's Black Tyrant, Knipolegus hudsoni
 Amazonian Black Tyrant, Knipolegus poecilocercus
 Andean Tyrant, Knipolegus signatus
 Blue-billed Black Tyrant, Knipolegus cyanirostris
 Rufous-tailed Tyrant, Knipolegus poecilurus
 Riverside Tyrant, Knipolegus orenocensis
 White-winged Black Tyrant, Knipolegus aterrimus
 Caatinga Black Tyrant, Knipolegus franciscanus
 Velvety Black Tyrant, Knipolegus nigerrimus
 Crested Black Tyrant, Knipolegus lophotes
- Spectacled Tyrant, Hymenops perspicillatus
- Genus Fluvicola
 - Pied Water Tyrant, Fluvicola pica
 Black-backed Water Tyrant, Fluvicola albiventer
 Masked Water Tyrant, Fluvicola nengeta
- White-headed Marsh Tyrant, Arundinicola leucocephala
- Genus Alectrurus
 - Cock-tailed Tyrant, Alectrurus tricolor Strange-tailed Tyrant, Alectrurus risora
- Streamer-tailed Tyrant, Gubernetes yetapa Yellow-browed Tyrant, Satrapa icterophrys Long-tailed Tyrant, Colonia colonus

Cattle Tyrant, Machetornis rixosus Shear-tailed Gray Tyrant, Muscipipra vetula

- Genus <u>Attila</u>
 - Rufous-tailed Attila, Attila phoenicurus Cinnamon Attila, Attila cinnamomeus Ochraceous Attila, Attila torridus Citron-bellied Attila, Attila citriniventris Bright-rumped Attila, Attila spadiceus Dull-capped Attila, Attila bolivianus Gray-hooded Attila, Attila rufus
- Genus Casiornis
 - Rufous Casiornis, Casiornis rufa
 Ash-throated Casiornis, Casiornis fusca
- Sirystes, Sirystes sibilator
- Genus Rhytipterna
 - Rufous Mourner, Rhytipterna holerythra
 Grayish Mourner, Rhytipterna simplex
 Pale-bellied Mourner, Rhytipterna immunda
- Genus *Myiarchus*
 - Rufous Flycatcher, Myiarchus semirufus Yucatan Flycatcher, Myiarchus vucatanensis Sad Flycatcher, Myiarchus barbirostris Dusky-capped Flycatcher, Myiarchus tuberculifer Swainson's Flycatcher, Myiarchus swainsoni Venezuelan Flycatcher, Myiarchus venezuelensis Panama Flycatcher, Myiarchus panamensis Short-crested Flycatcher, Myiarchus ferox Pale-edged Flycatcher, Myiarchus cephalotes Sooty-crowned Flycatcher, Myiarchus phaeocephalus Apical Flycatcher, Myiarchus apicalis Ash-throated Flycatcher, Myiarchus cinerascens Nutting's Flycatcher, Myiarchus nuttingi Great Crested Flycatcher, Myiarchus crinitus Brown-crested Flycatcher, Myiarchus tyrannulus Grenada Flycatcher, Myiarchus nugator Galapagos Flycatcher, Myiarchus magnirostris Rufous-tailed Flycatcher, Myiarchus validus La Sagra's Flycatcher, Myiarchus sagrae Stolid Flycatcher, Myiarchus stolidus Lesser Antillean Flycatcher, Myiarchus oberi Puerto Rican Flycatcher, Myiarchus antillarum
- Flammulated Flycatcher, Deltarhynchus flammulatus Lesser Kiskadee, Philohydor lictor

Great Kiskadee, Pitangus sulphuratus Boat-billed Flycatcher, Megarynchus pitangua

- Genus <u>Myiozetetes</u>
 - Rusty-margined Flycatcher, Myiozetetes cayanensis Social Flycatcher, Myiozetetes similis Grey-capped Flycatcher, Myiozetetes granadensis Dusky-chested Flycatcher, Myiozetetes luteiventris
- Genus Conopias
 - White-ringed Flycatcher, Conopias albovittata
 Three-striped Flycatcher, Conopias trivirgata
 Yellow-throated Flycatcher, Conopias parva
 Lemon-browed Flycatcher, Conopias cinchoneti
- Genus *Myiodynastes*
 - Golden-bellied Flycatcher, Myiodynastes hemichrysus Golden-crowned Flycatcher, Myiodynastes chrysocephalus Baird's Flycatcher, Myiodynastes bairdii Streaked Flycatcher, Myiodynastes maculatus Sulphur-bellied Flycatcher, Myiodynastes luteiventris
- Piratic Flycatcher, Legatus leucophaius
 White-bearded Flycatcher, Phelpsia inornata
 Variegated Flycatcher, Empidonomus varius
 Crowned Slaty Flycatcher, Griseotyrannus aurantioatrocristatus
 Sulphury Flycatcher, Tyrannopsis sulphurea
- Genus *Tyrannus*, kingbirds
 - Snowy-throated Kingbird, Tyrannus niveigularis
 White-throated Kingbird, Tyrannus albogularis
 Tropical Kingbird, Tyrannus melancholicus
 Couch's Kingbird, Tyrannus couchii
 Cassin's Kingbird, Tyrannus vociferans
 Thick-billed Kingbird, Tyrannus crassirostris
 Western Kingbird, Tyrannus verticalis
 Eastern Kingbird, Tyrannus tyrannus
 Gray Kingbird, Tyrannus dominicensis
 Loggerhead Kingbird, Tyrannus caudifasciatus
 Giant Kingbird, Tyrannus cubensis
 Scissor-tailed Flycatcher, Tyrannus forficatus
 Fork-tailed Flycatcher, Tyrannus savana
- Genus *Schiffornis*
 - Greater Schiffornis, Schiffornis major
 Thrush-like Schiffornis, Schiffornis turdinus
 Greenish Schiffornis, Schiffornis virescens
- White-naped Xenopsaris, *Xenopsaris albinucha*
- Genus Pachyramphus, becards

Chestnut-crowned Becard, Pachyramphus castaneus Green-backed Becard, Pachyramphus viridis Yellow-cheeked Becard, Pachyramphus xanthogenys Barred Becard, Pachyramphus versicolor Cinnamon Becard, Pachyramphus cinnamomeus White-winged Becard, Pachyramphus polychopterus Gray-collared Becard, Pachyramphus major Black-and-white Becard, Pachyramphus albogriseus Black-capped Becard, Pachyramphus marginatus Glossy-backed Becard, Pachyramphus surinamus Cinereous Becard, Pachyramphus rufus Slaty Becard, Pachyramphus spodiurus Pink-throated Becard, Pachyramphus minor Jamaican Becard, Pachyramphus niger Rose-throated Becard, Pachyramphus aglaiae One-colored Becard, Pachyramphus homochrous Crested Becard, Pachyramphus validus

• Genus <u>Tityra</u>

Black-tailed Tityra, Tityra cayana
 Masked Tityra, Tityra semifasciata
 Black-crowned Tityra, Tityra inquisitor

Aphanotriccus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: *Aphanotriccus* Ridgway, 1905species: *A. capitalis, A. audax*

Aphanotriccus is a small genus of <u>passerine birds</u> in the <u>tyrant flycatcher</u> family. They breed in the Caribbean lowlands and foothills of Central America.

There are just two species

- Tawny-chested Flycatcher or Salvin's Flycatcher, Aphanotriccus capitalis
- Black-billed Flycatcher, or Nelson's Flycatcher Aphanotriccus audax

Tawny-chested breeds from eastern Nicaragua to northeastern Costa Rica, although all Nicaraguan records are historical specimens collected near Lake Nicaragua or its outflow.

Black-billed Flycatcher occurs in eastern Panama and northwestern Colombia.

These are uncommon inhabitants of mature evergreen forest and tall secondary growth, usually in dense understory vegetation on the woodland edges, along streams or in clearings.

These flycatchers are seen alone or in pairs seeking insects, especially beetles and ants, picked from the underside of foliage in flight.

Logging, conversion to banana plantations and cattle-ranch expansion have resulted in widespread forest clearance and severe fragmentation, particularly in Costa Rica and Panama. These species' small range and intolerance of forest fragmentation suggest that they are declining, although more research is needed.

References

- Stiles and Skutch, A guide to the birds of Costa Rica, ISBN 0-8014-9600-4
- Young and Zook, Nesting of Four Poorly-Known Bird Species on the Caribbean Slope of Costa Rica, Wilson Bull., 11 l(l), 1999, pp. 124-128

Attila

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: Attila Lesson, 1830species: A. phoenicurus, A. cinnamomeus, A. torridus, A.

citriniventris, A. spadiceus, A. bolivianus, A. rufus

Attila is a genus of tropical <u>passerine birds</u> in the <u>tyrant flycatcher</u> family. The species in this genus have large heads and hooked bills.

Species

 Rufous-tailed Attila, Attila phoenicurus Cinnamon Attila, Attila cinnamomeus Ochraceous Attila, Attila torridus Citron-bellied Attila, Attila citriniventris Bright-rumped Attila, Attila spadiceus Dull-capped Attila, Attila bolivianus Gray-hooded Attila, Attila rufus

References

- Hilty, Birds of Venezuela, ISBN 0-7136-6418-5
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Contopus

Pewees

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: Tyrannidae

Genus: Contopus Cabanis, 1855 Species: See text.

The genus *Contopus* is a group of small to medium-sized insect-eating <u>birds</u> in the <u>Tyrant</u> flycatcher family Tyrannidae.

These birds are commonly known as *peewees*, from the call of one of the more common members of this vocal group. They are generally greyish birds with wing bars that live in wooded areas.

Species

 Olive-sided Flycatcher, Contopus cooperi Greater Pewee, Contopus pertinax
Dark Pewee, Contopus lugubris
Smoke-colored Pewee, Contopus fumigatus
Ochraceous Pewee, Contopus ochraceus
Western Wood Pewee, Contopus sordidulus
Eastern Wood Pewee, Contopus virens
Tropical Pewee, Contopus cinereus
Blackish Pewee, Contopus nigrescens
Cuban Pewee, Contopus caribaeus
Jamaican Pewee, Contopus pallidus
Hispaniolan Pewee, Contopus hispaniolensis
Lesser Antillean Pewee, Contopus latirostris
White-throated Pewee, Contopus albogularis

Empidonax

Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrranidae</u>

Genus: *Empidonax* Cabanis 1855 Species: See text.

The genus *Empidonax* is a group of small insect-eating <u>passerine</u> <u>birds</u> in the <u>tyrant</u> <u>flycatcher</u> family, the Tyrannidae.

These birds are remarkably similar in <u>plumage</u>: olive on the upper parts with light underparts, eye rings and wing bars. In the nesting season, they may be distinguished on range, habitat and call; in other situations, particularly on <u>migration</u>, it may not be possible to be sure of specific identification.

Empidonax flycatchers often flick their wings and tails rapidly.

Euler's Flycatcher, Lathrotriccus euleri and Gray-breasted Flycatcher, *Lathrotriccus griseipectus* were formerly placed in *Empidonax*, but differ anatomically and biochemically and are now split as the genus *Lathrotriccus*.

Species

Yellow-bellied Flycatcher, Empidonax flaviventris
 Acadian Flycatcher, Empidonax virescens
 Alder Flycatcher, Empidonax alnorum
 Willow Flycatcher, Empidonax traillii
 White-throated Flycatcher, Empidonax albigularis
 Least Flycatcher, Empidonax minimus
 Hammond's Flycatcher, Empidonax hammondii
 Gray Flycatcher, Empidonax wrightii
 Dusky Flycatcher, Empidonax oberholseri
 Pine Flycatcher, Empidonax affinis
 Pacific-slope Flycatcher, Empidonax difficilis
 Cordilleran Flycatcher, Empidonax occidentalis
 Yellowish Flycatcher, Empidonax flavescens
 Buff-breasted Flycatcher, Empidonax fulvifrons
 Black-capped Flycatcher, Empidonax atriceps

Lathrotriccus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: Lathrotriccus Lanyon & Lanyon, 1986species: L. euleri, L. griseipectus

Lathrotriccus is a small genus of <u>passerine birds</u> in the <u>tyrant flycatcher</u> family. They breed in tropical South America, including, for one species, the islands of Trinidad and formerly also Grenada.

They closely resembles the *Empidonax* flycatchers in appearance, and were formerly placed in that genus, but differ anatomically and biochemically.

There are just two species

- Euler's Flycatcher, Lathrotriccus euleri
- Gray-breasted Flycatcher, Lathrotriccus griseipectus

These are birds of fairly open habitats such as open woods and arid scrub. They are inconspicuous birds, tending to keep to undergrowth perches from which they sally forth to catch insects.

References

- *Birds of Venezuela* by Hilty, ISBN 0-7136-6418-5
- Birds of Trinidad and Tobago by ffrench, ISBN

Myiarchus

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: *Myiarchus* Cabanis, 1844Species: *Myiarchus antillarum, Myiarchus crinitus, Myiarchus*

tuberculifer, Myiarchus tyrannulus, Myiarchus venezuelensis, ...

Myiozetetes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: Myiozetetes Sclater, 1859 Species: M. cayanensis, M. granadensis, M. similis, M.

luteiventris

Myiozetetes is a small genus of <u>passerine birds</u> in the <u>tyrant flycatcher</u> family. The four species occur in tropical Central and South America. They are.

 Rusty-margined Flycatcher, Myiozetetes cayanensis Grey-capped Flycatcher, Myiozetetes granadensis Social Flycatcher, Myiozetetes similis Dusky-chested Flycatcher, Myiozetetes luteiventris

They breed in cultivation, pasture, and open woodland with some trees, building a large roofed nest from stems and in a bush, tree or on a building. The nest is often constructed near a wasp, bee or ant nest, or the nest of another tyrant flycatcher,. The nest site is often near or over water. The typical clutch is two to four brown or lilac-blotched cream or white eggs, laid between February and June.

The adult *Myiozetetes* flycatchers are r16-18 cm long and weighs 24-30 g. The upperparts are olive-brown, and the wings and tail are brown with only faint rufous fringes. The underparts are yellow and the throat is white. Young birds lack the red-orange crown stripe of the adult, and have chestnut fringes to the wing and tail feathers. The best distinction between the species is the head pattern. Social Flycatcher has strong black-and white head markings, whereas Grey-capped Flycatcher has a grey head with a short weak eyestripe

Myiozetetes flycatchers sally out from an open perch in a tree to catch insects in flight. They sometimes hover to take small berries.

References

- Hilty, Birds of Venezuela ISBN 0-7136-6418-5
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Sayornis

Phoebes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrranidae</u>

Genus: Sayornis Bonaparte, 1854 Species: See text.

The genus *Sayornis* is a small group of medium-sized insect-eating <u>birds</u> in the <u>Tyrant flycatcher</u> family *Tyrranidae* native to North and South America.

They prefer semi-open or open areas. These birds wait on a perch and then catch insects in flight, also sometimes picking them up from the ground. Their nest is an open cup sometimes placed on man-made structures.

They often slowly lower and raise their tails while perched.

The full list of species is:

 Eastern Phoebe, Sayornis phoebe Black Phoebe, Sayornis nigricans Say's Phoebe, Sayornis saya

Tityra

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: Tityra Vieillot, 1816species: T. cayana, T. semifasciata, T. inquisitor

The **Tityras** are <u>passerine birds</u> in the genus *Tityra* of the <u>tyrant flycatcher</u> family. They breed from southern Mexico throughout tropical Central and South America, including Trinidad.

The tityras were formerly placed in the <u>cotinga</u> family, but are now usually treated as <u>tyrant flycatchers</u>, although Stiles and Skutch separate the tityras as part of a separate family, the Tityridae. The Black-crowned Tityra is sometimes placed in a separate genus *Erator*.

There are just three species of tityra.

Black-tailed Tityra, Tityra cayana
 Masked Tityra, Tityra semifasciata
 Black-crowned Tityra, Tityra inquisitor

These are medium-sized birds. Their plumage is quite unlike that of other tyrant flycatchers. The adult males are greyish-white above and white below, except for the wings and tail which are black. The males of all three species also have black head markings. The females are similar, but darker grey above, with brown head markings.

These species are found in forest clearings and edges, second growth and other semiopen habitats such as plantation shade trees. The eggs are laid in a bed of dry leaves in a tree hole, often an old woodpecker nest. The female incubates alone, but both parents feed the chicks. Fledging takes up to 25 days.

Tityras are seen alone or in pairs, perched conspicuously as they feed on medium-sized fruits, large insects and sometimes small lizards. They have unmusical nasal grunting or buzzing calls.

References

- Hilty, Birds of Venezuela ISBN 0-7136-6418-5
- ffrench, Birds of Trinidad and Tobago ISBN 0-7136-6759-1
- Stiles and Skutch, A guide to the birds of Costa Rica ISBN 0-0814-9600-4

Tyrannus

Kingbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Tyrannidae</u>

Genus: Tyrannus Lacepede, 1799Species: See text.

The genus *Tyrannus* is a group of large insect-eating <u>birds</u> in the <u>Tyrant flycatcher</u> family Tyrannidae. The majority are named as **Kingbirds**.

They prefer semi-open or open areas. These birds wait on an exposed perch and then catch insects in flight. They have long pointed wings and large broad bills.

These birds tend to defend their breeding territories aggressively, often chasing away much larger birds. The genus name means "tyrant".

Species

Snowy-throated Kingbird, Tyrannus niveigularis
 White-throated Kingbird, Tyrannus albogularis
 Tropical Kingbird, Tyrannus melancholicus
 Couch's Kingbird, Tyrannus couchii
 Cassin's Kingbird, Tyrannus vociferans
 Thick-billed Kingbird, Tyrannus crassirostris
 Western Kingbird, Tyrannus verticalis
 Eastern Kingbird, Tyrannus tyrannus
 Gray Kingbird, Tyrannus dominicensis
 Loggerhead Kingbird, Tyrannus caudifasciatus
 Giant Kingbird, Tyrannus cubensis
 Scissor-tailed Flycatcher, Tyrannus forficatus
 Fork-tailed Flycatcher, Tyrannus sayana

Parvorders of birds

Superfamilies of birds

Anatoidea

Ducks

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes

Family: Anatidae Vigors, 1825Subfamilies: Dendrocygninae, Thalassorninae, Anserinae,

Stictonettinae, Plectropterinae, Tadorninae, Anatinae, Merginae, Oxyurinae

Anatidae is the biological family that includes the <u>ducks</u> and most duck-like waterfowl, such as <u>geese</u> and <u>swan</u>. The Magpie-goose is no longer considered to be part of the Anatidae, but is placed in its own family Anseranatidae. These are <u>birds</u> that are modified for swimming, floating on the water surface, and in some cases diving in at least shallow water.

They have webbed feet and bills which are flattened to a greater or lesser extent. Their feathers are excellent at shedding water due to special oils. Anatidae are remarkable for being one of the few families of birds that possess a penis; they are adapted for copulation on the water only and care must be taken when breeding ducks or geese that a pool is provided for this purpose as attempts to copulate on dry land will often lead to injury of the drake's penis. Duck, eider and goose feathers and down have long been popular for bedspreads, pillows, sleeping bags and coats. The members of this family also have long been used for food.

While the status of the Anatidae as a family is straightforward, and there is little debate about which species properly belong to it, the relationships of the different tribes and subfamilies within it are poorly understood. The listing in the box at right should be regarded simply one of several possible ways of organising the many species within the Anatidae.

- 1 Classification
 - o 1.1 Dendrocygninae: whistling ducks
 - o 1.2 Thalassorninae: White-backed Duck
 - o 1.3 Anserinae: swans and geese
 - o 1.4 Stictonettinae: Freckled Duck
 - o 1.5 Plectropterinae: Spur-winged Goose
 - o 1.6 Tadorninae: shelducks, sheldgeese and steamer-ducks
 - o 1.7 Anatinae: dabbling and diving ducks and moa-nalos
 - o 1.8 Merginae: eiders, scoters, sawbills and other sea-ducks
 - o 1.9 Oxyurinae: stiff-tail ducks
- 2 References

Classification

Previously divided into six subfamilies, recent anatomical studies by Livezey (1986; A phylogenetic analysis of recent Anseriform genera, *Auk* 103: 737-754) showed that the

Anatidae are better treated in nine subfamilies. This classification has been followed by Madge & Burn:

Dendrocygninae: whistling ducks

- One pantropical genus, of distinctive long-legged goose-like birds:
 - o *Dendrocygna* (whistling ducks, 9 species)

Thalassorninae: White-backed Duck

- One genus in Africa, most closely related to the subfamily Dendrocygninae, though also showing convergent similarities to the subfamily Oxyurinae:
 - o Thalassornis (White-backed Duck, 1 species)

Anserinae: swans and geese

- Five to seven extant genera with 27 living species, mainly cool temperate Northern Hemisphere but also some Southern Hemisphere species, with the swans in two genera (three genera in some treatments), and the geese in four genera (three genera in some treatments):
 - Coscoroba (Coscoroba Swan, 1 species)
 Cygnus (swans, 7 species, 4 sometimes separated in Olor)
 Sarcidiornis (Mascarene Swan, extinct[1]).
 Anser (grey geese, 7 species)
 - o *Chen* (white geese, 3 species)
 - o *Branta* (black geese, 8 living species)
 - Cereopsis (Cape Barren Goose, 1 species, sometimes transferred to Tadorninae)
 - Cnemiornis (New Zealand Geese, extinct)

Stictonettinae: Freckled Duck

- One genus in Australia, formerly included in the Oxyurinae, but with anatomy suggesting a distinct ancient lineage perhaps closest to the Anserinae:
 - o Stictonetta (Freckled Duck, 1 species)

Plectropterinae: Spur-winged Goose

- One genus in Africa, formerly included in the 'perching ducks', but closer to the Tadorninae:
 - o *Plectropterus* (Spur-winged Goose, 1 species)

Tadorninae: shelducks, sheldgeese and steamer-ducks

- This group of larger, often semi-terrestrial waterfowl can be seen as intermediate between Anserinae and Anatinae. Recent revision has resulted in the inclusion of 10 extant genera with 23 living species (one probably extinct) in this subfamily, mostly from the Southern Hemisphere but a few in the Northern Hemisphere:
 - o Sarkidiornis (Comb Duck, 1 species)

Pachyanas (Chatham Island Duck, extinct)

Tadorna (shelducks, 7 species, one probably extinct)

Malacorhynchus (Pink-eared Ducks, 1 living species)

Centrornis (Madagascar Sheldgoose, extinct)

Alopochen (Egyptian Goose and Mascarene Shelducks, 1 living species)

Neochen (Orinoco Goose, 1 species)

Chloephaga (sheldgeese, 5 species)

Cyanochen (Blue-winged Goose, 1 species)

Hymenolaimus (Blue Duck, 1 species)

Merganetta (Torrent Duck, 1 species)

Tachyeres (steamer ducks, 4 species)

Anatinae: dabbling and diving ducks and moa-nalos

- The dabbling duck group, of worldwide distribution, were previously restricted to just one or two genera, but has now been extended to include 8 extant genera and about 55 living species, including several genera formerly known as the "perching ducks":
 - o Pteronetta (Hartlaub's Duck, 1 species)

Cairina (Muscovy Duck and White-winged Wood Duck, 2 species)

Aix (Mandarin Duck and Wood Duck, 2 species)

Nettapus (pygmy geese, 3 species)

Anas (wigeons, gadwalls, teals, pintails, mallards, shovelers, etc, 40-45

living species)

Callonetta (Ringed Teal, 1 species)

Chenonetta (Maned Duck, 1 living species)

Amazonetta (Brazilian Duck, 1 species)

- The moa-nalos, of which 4 species in 3 genera are known to date, are a peculiar group of flightless, extinct Anatidae from the Hawaiian Islands. Gigantic in size and with massive bills, they were believed to be geese, but have been shown to be in reality very closely related to the genus Anas. They evolved to fill the ecological niche of turtles, ungulates and other megaherbivores.
 - Chelychelynechen (Turtle-jawed Moa-nalo, extinct)
 Thambetochen (Large-billed Moa-nalos, 2 species, extinct)
 Ptaiochen (Small-billed Moa-nalo, extinct)
- The 16 species of diving ducks, of worldwide distribution, in 3 genera; Marmaronetta was formerly included with the dabbling ducks but is now treated here, and phylogenetic analysis of the probably extinct Pink-headed Duck of India, previously treated separately in *Rhodonessa*, has shown that it is possibly better placed in *Netta*:
 - Marmaronetta (Marbled Duck, 1 species)
 Netta (Red-crested Pochard and allies, 4 species, one probably extinct)
 Aythya (pochards, scaups, etc, 12 species, one probably extinct)

Merginae: eiders, scoters, sawbills and other sea-ducks

- There are 10 extant genera and 20 living species (one or two extinct); most of this group occur in the Northern Hemisphere, but two *Mergus* in the Southern Hemisphere:
 - o Chendytes (Diving-geese, extinct)

Polysticta (Steller's Eider, 1 species)

Somateria (eiders, 3 species)

Histrionicus (Harlequin Duck, 1 species)

Camptorhynchus (Labrador Duck, extinct)

Melanitta (scoters, 3 species)

Clangula (Long-tailed Duck, 1 species)

Bucephala (goldeneyes, 3 species)

Mergellus (Smew, 1 species)

Lophodytes (Hooded Merganser, 1 species)

Mergus (mergansers, 5 species, one extinct).

Oxyurinae: stiff-tail ducks

- A small group of 4 genera, 3 of them monotypic, with 8 living species:
 - Oxyura (stiff-tailed ducks, 5 living species)

Nomonyx (Masked Duck, 1 living species)

Biziura (Musk Ducks, 1 living species)

Heteronetta (Black-headed Duck, 1 species)

References

• Madge and Burn, *Wildfowl* 1998 ISBN 0-7470-2201-1

Bird families

Bird families - A

Accipitridae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes

Family: Accipitridae Vieillot, 1816Subfamilies: Elaninae, Perninae, Milvinae, Accipitrinae,

Buteoninae, Aegypiinae, Circinae, Circaetinae

The **Accipitridae** is one of the two major families within the order Falconiformes (the diurnal <u>birds of prey</u>). Many well-known birds like <u>hawks</u>, <u>eagles</u>, <u>kites</u>, <u>harriers</u> and Old World vultures are included in this group. Most, but not all, other raptors belong to the Falconidae, or falcon family, which is often considered a distinct order, in which case the present group would belong to the order Accipitriformes.)

The <u>Osprey</u> is usually placed in a separate family (Pandionidae), as is the <u>Secretary bird</u> (Sagittariidae), and the New World vultures are also usually now regarded as a separate family or order. Karyotype data (Amaral & Jorge, 2003) indicated that the accipitrids hitherto analyzed are indeed a distinct monophyletic group, but whether this group should be considered a family of the Falconiformes or an order on its own is a matter of taste.

Species

• Subfamily Elaninae

Black-winged Kite, Elanus caeruleus
 Black-shouldered Kite, Elanus axillaris
 White-tailed Kite, Elanus leucurus
 Letter-winged Kite, Elanus scriptus
 Scissor-tailed Kite, Chelictinia riocourii
 Bat Hawk, Machaerhamphus alcinus
 Pearl Kite, Gampsonyx swainsonii
 Swallow-tailed Kite, Elanoides forficatus

• Subfamily Perninae

African Baza, Aviceda cuculoides
Madagascar Baza, Aviceda madagascariensis
Jerdon's Baza, Aviceda jerdoni
Pacific Baza, Aviceda subcristata
Black Baza, Aviceda leuphotes
Long-tailed Honey Buzzard, Hernicopernis longicauda
Black Honey Buzzard, Hernicopernis infuscatus
European Honey Buzzard, Pernis apivorus
Oriental Honey Buzzard, Pernis ptilorhynchus
Barred Honey-buzzard, Pernis celebensis
Grey-headed Kite, Leptodon cayanensis
White-collared Kite, Leptodon forbesi
Hook-billed Kite, Chondrohierax uncinatus

Subfamily Milvinae

Double-toothed Kite, Harpagus bidentatus Rufous-thighed Kite, Harpagus diodon Mississippi Kite, Ictinia mississippiensis Plumbeous Kite, Ictinia plumbea Snail Kite, Rostrhamus sociabilis Slender-billed Kite, Rostrhamus hamatus Whistling Kite, Haliastur sphenurus Brahminy Kite, Haliastur indus Red Kite, Milvus milvus Black Kite, Milvus migrans Black-eared Kite, Milvus lineatus Square-tailed Kite, Lophoictinia isura

Black-breasted Buzzard, Hamirostra melanosternon

Subfamily Accipitrinae

Goshawk, Accipiter gentilis Sparrowhawk, Accipiter nisus Grey-bellied Goshawk, Accipiter poliogaster Crested Goshawk, Accipiter trivirgatus Sulawesi Goshawk, Accipiter griseiceps Red-chested Goshawk, Accipiter toussenelii African Goshawk, Accipiter tachiro Chinese Goshawk, Accipiter soloensis Frances' Goshawk, Accipiter francesii Spot-tailed Goshawk, Accipiter trinotatus Grev Goshawk, Accipiter novaehollandiae Brown Goshawk, Accipiter fasciatus Black-mantled Goshawk, Accipiter melanochlamys Pied Goshawk, Accipiter albogularis Fiji Goshawk, Accipiter rufitorques White-bellied Goshawk, Accipiter haplochrous Moluccan Goshawk, Accipiter henicogrammus Grey-headed Goshawk, Accipiter poliocephalus New Britain Goshawk, Accipiter princeps Black Goshawk, Accipiter melanoleucus Henst's Goshawk, Accipiter henstii Meyer's Goshawk, Accipiter meyerianus Chestnut-flanked Sparrowhawk, Accipiter castanilius Nicobar Sparrowhawk, Accipiter butleri Levant Sparrowhawk, Accipiter brevipes Slaty-mantled Sparrowhawk, Accipiter luteoschistaceus Imitator Sparrowhawk, Accipiter imitator Red-thighed Sparrowhawk, Accipiter erythropus

Little Sparrowhawk, Accipiter minullus

Japanese Sparrowhawk, Accipiter gularis Small Sparrowhawk, Accipiter nanus Rufous-necked Sparrowhawk, Accipiter erythrauchen Collared Sparrowhawk, Accipiter cirrocephalus New Britain Sparrowhawk, Accipiter brachyurus Vinous-breasted Sparrowhawk, Accipiter rhodogaster Madagascar Sparrowhawk, Accipiter madagascariensis Ovampo Sparrowhawk, Accipiter ovampensis Rufous-chested Sparrowhawk, Accipiter rufiventris Shikra, Accipiter badius Tiny Hawk, Accipiter superciliosus Semicollared Hawk, Accipiter collaris Sharp-shinned Hawk, Accipiter striatus White-breasted Hawk, Accipiter chionogaster Plain-breasted Hawk, Accipiter ventralis Rufous-thighed Hawk, Accipiter erythronemius Cooper's Hawk, Accipiter cooperii Gundlach's Hawk, Accipiter gundlachi Bicoloured Hawk, Accipiter bicolor Besra, Accipiter virgatus Gabar Goshawk, Micronisus gabar Dark Chanting Goshawk, Melierax metabates Eastern Chanting Goshawk, Melierax poliopterus Pale Chanting Goshawk, Melierax canorus Long-tailed Hawk, Urotriorchis macrourus Red Goshawk, Erythrotriorchis radiatus Chestnut-shouldered Goshawk, Erythrotriorchis buergersi Doria's Goshawk, Megatriorchis doriae

Subfamily <u>Buteoninae</u>

Common Buzzard, Buteo buteo
Red-tailed Hawk, Buteo jamaicensis
Long-legged Buzzard, Buteo rufinus
Rough-legged Buzzard, Buteo lagopus
Ferruginous Hawk, Buteo regalis
Red-shouldered Hawk, Buteo lineatus
Broad-winged Hawk, Buteo platypterus
Swainson's Hawk, Buteo swainsoni
Roadside Hawk, Buteo magnirostris
Ridgway's Hawk, Buteo ridgwayi
White-rumped Hawk, Buteo leucorrhous
Short-tailed Hawk, Buteo albigula
White-tailed Hawk, Buteo albicaudatus

Galápagos Hawk, Buteo galapagoensis Red-backed Hawk, Buteo polyosoma Puna Hawk, Buteo poecilochrous Grav Hawk, Buteo nitidus Zone-tailed Hawk, Buteo albonotatus Hawaiian Hawk, Buteo solitarius Rufous-tailed Hawk. Buteo ventralis Mountain Buzzard, Buteo oreophilus Madagascar Buzzard, Buteo brachypterus Upland Buzzard, Buteo hemilasius Red-necked Buzzard, Buteo auguralis Augur Buzzard, Buteo augur Archer's Buzzard, Buteo archeri Jackal Buzzard, Buteo rufofuscus Harris' Hawk, Parabuteo unicinctus Common Black Hawk, Buteogallus anthracinus Mangrove Black Hawk, Buteogallus subtilis Great Black Hawk, Buteogallus urubitinga Rufous Crab Hawk, Buteogallus aequinoctialis Savanna Hawk, Buteogallus meridionalis Black-collared Hawk, Busarellus nigricollis Plumbeous Hawk, Leucopternis plumbea Slate-coloured Hawk, Leucopternis schistacea Barred Hawk, Leucopternis princeps Black-faced Hawk, Leucopternis melanops White-browed Hawk, Leucopternis kuhli White-necked Hawk, Leucopternis lacernulata Semiplumbeous Hawk, Leucopternis semiplumbea White Hawk, Leucopternis albicollis Grey-backed Hawk, Leucopternis occidentalis Mantled Hawk, Leucopternis polionota Lizard Buzzard, Kaupifalco monogrammicus Grasshopper Buzzard, Butastur rufipennis White-eyed Buzzard, Butastur teesa Rufous-winged Buzzard, Butastur liventer Grev-faced Buzzard. Butastur indicus Crowned Solitary Eagle, Harpyhaliaetus coronatus Solitary Eagle, Harpyhaliaetus solitarius Crested Eagle, Morphnus guianensis Harpy Eagle, Harpia harpyja Philippine Eagle, Pithecophaga jefferyi New Guinea Eagle, Harpyopsis novaeguineae Black-and-chestnut Eagle, Oroaetus isidori Black-and-white Hawk Eagle, Spizastur melanoleucus Cassin's Hawk Eagle, Spizaetus africanus

Changeable Hawk Eagle, Spizaetus cirrhatus

Mountain Hawk Eagle, Spizaetus nipalensis

Blyth's Hawk Eagle, Spizaetus alboniger

Javan Hawk Eagle, Spizaetus bartelsi

Sulawesi Hawk Eagle, Spizaetus lanceolatus

Philippine Hawk Eagle, Spizaetus philippensis

Wallace's Hawk Eagle, Spizaetus nanus

Black Hawk Eagle, Spizaetus tyrannus

Ornate Hawk Eagle, Spizaetus ornatus

Long-crested Eagle, Lophaetus occipitalis - possibly belongs into Ictinaetus

Crowned Hawk Eagle, Stephanoaetus coronatus

Martial Eagle, Polemaetus bellicosus

Little Eagle, Hieraaetus morphnoides

Ayres' Hawk-eagle, Hieraaetus ayresii

Rufous-bellied Hawk-eagle, Hieraaetus kienerii

Bonelli's Eagle, Aquila fasciata - formerly Hieraaetus fasciatus

Booted Eagle, Aquila pennata - formerly Hieraaetus pennatus

African Hawk-eagle, Aquila spilogastra - formerly Hieraaetus spilogaster

Golden Eagle, Aquila chrysaetos

Eastern Imperial Eagle, Aquila heliaca

Spanish Imperial Eagle, Aquila adalberti

Steppe Eagle, Aquila nipalensis

Tawny Eagle, Aquila rapax

Greater Spotted Eagle, Aquila clanga - to be moved to Lophaetus or

Ictinaetus

Lesser Spotted Eagle, Aquila pomarina - to be moved to Lophaetus or

Ictinaetus

Verreaux's Eagle, Aquila verreauxii

Gurney's Eagle, Aquila gurneyi

Wahlberg's Eagle, Aquila wahlbergi

Wedge-tailed Eagle, Aquila audax

Black Eagle, Ictinaetus malayensis

White-tailed Eagle, Haliaeetus albicilla

Bald Eagle, Haliaeetus leucocephalus

Steller's Sea-eagle, Haliaeetus pelagicus

African Fish-eagle, Haliaeetus vocifer

White-bellied Sea-eagle, Haliaeetus leucogaster

Sanford's Fish-eagle, Haliaeetus sanfordi

Madagascar Fish-eagle, Haliaeetus vociferoides

Pallas' Sea-eagle, Haliaeetus leucoryphus

Lesser Fish-eagle, Ichthyophaga humilis

Grey-headed Fish-eagle, Ichthyophaga ichthyaetus

• Subfamily Aegypiinae: old world vultures

Eurasian Black Vulture or Monk Vulture, Aegypius monachus
Lappet-faced Vulture, Torgos tracheliotus
White-headed Vulture, Trigonoceps occipitalis
Common Griffon Vulture, Gyps fulvus
Rüppell's Vulture or Rüppell's Griffon, Gyps rueppellii
Himalayan Griffon Vulture, Gyps himalayensis
Cape Griffon, Gyps coprotheres
White-backed Vulture, Gyps africanus
Indian White-rumped Vulture, Gyps bengalensis
Long-billed Vulture, Gyps indicus
Egyptian Vulture, Neophron percnopterus
Hooded Vulture, Necrosyrtes monachus
Palm Nut Vulture, Gypohierax angolensis
Lammergeier or Bearded Vulture, Gypaetus barbatus

Subfamily Circinae: harriers

Montagu's Harrier, Circus pygargus Northern Harrier, Circus cyaneus Western Marsh Harrier, Circus aeruginosus Eastern Marsh Harrier, Circus spilonotus African Marsh Harrier, Circus ranivorus Swamp Harrier, Circus approximans Madagascar Marsh Harrier, Circus maillardi Long-winged Harrier, Circus buffoni Spotted Harrier, Circus assimilis Black Harrier, Circus maurus Cinereous Harrier, Circus cinereus Pallid Harrier, Circus macrourus Pied Harrier, Circus melanoleucos Madagascar Harrier-hawk, Polyboroides radiatus African Harrier-hawk, Polyboroides typus Crane Hawk, Geranospiza caerulescens

Subfamily Circaetinae: snake-eagles

Bateleur, Terathopius ecaudatus
 Short-toed Eagle, Circaetus gallicus
 Black-chested Snake-eagle, Circaetus pectoralis
 Brown Snake-eagle, Circaetus cinereus
 Fasciated Snake-eagle, Circaetus fasciolatus
 Banded Snake-eagle, Circaetus cinerascens
 Crested Serpent-eagle, Spilornis cheela
 Nicobar Serpent-eagle, Spilornis minimus
 Mountain Serpent-eagle, Spilornis kinabaluensis
 Sulawesi Serpent-eagle, Spilornis rufipectus
 Philippine Serpent-eagle, Spilornis holospilus

Andaman Serpent-eagle, Spilornis elgini Madagascar Serpent-eagle, Eutriorchis astur See also <u>list of birds</u>.

References

• **Amaral**, Karina Felipe & **Jorge**, Wilham (2003): The chromosomes of the Order Falconiformes: a review. *Ararajuba* **11**(1): 65-73. <u>PDF fulltext</u>

Aegothelidae

Owlet-nightjar

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Caprimulgiformes Family: *Aegothelidae*

Genus: Aegotheles Vigors and Horsfield, 1827

Owlet-nightjars are small nocturnal <u>birds</u> related to the <u>nightjars</u> and frogmouths. Most are native to New Guinea, but some species extend to Australia, the Moluccas, and New Caledonia.

Owlet-nightjars are insectivores which hunt mostly in the air but sometimes on the ground; their soft plumage is a crypic mixture of browns and paler shades, they have fairly small, weak feet (but larger and stronger than those of a frogmouth or a nightjar), a tiny bill that opens extraordinarily wide, surrounded by prominent whiskers. The wings are short, with 10 primaries and about 11 secondaries; the tail long and rounded.

Systematics

The comprehensive 2003 study by Dumbacher *et al.* analyzing mtDNA sequences Cytochrome b and ATPase subunit 8 suggests that 11 species of owlet-nightjar should be recognized, plus one that went extinct early in the second millennium AD.

The relationship between the owlet-nightjars and other groups within the Caprimulgiformes has long been controversial and obscure and remains so today: in the 19th century they were regarded as a subfamily of the frogmouths, and they are still generally considered to be related to the frogmouths and/or the <u>nightjars</u> but there have also been recent suggestions (Mayr, 2002) that they are not so closely related to either as previously thought, and that the owlet-nightjars share a common ancestor with the Apodiformes.

In form and habits, however, they are very similar to both caprimulgiform group - or, at first glance, to small <u>owls</u> with huge eyes. Interestingly, the ancestors of the swifts and <u>hummingbirds</u>, two groups of birds which are morphologically very specialized, seem to have looked very similar to a small owlet-nightjar, possessing strong legs and a wide gape, while the legs and feet are very reduced in today's swifts and hummingbirds, and the bill is narrow in the latter.

They were thought to have originated in Australasia or Southeast Asia, but the recent discovery of owlet-nightjar fossils in France dating back to the Oligocene suggests otherwise.

- Genus *Quipollornis* (fossil; Early/Middle Miocene of New South Wales)
- Genus Aegotheles
 - New Zealand Owlet-nightjar, Aegotheles novaezealandiae (prehistoric; formerly Megaegotheles)
 New Caledonian Owlet-nightjar, Aegotheles savesi
 Feline Owlet-nightjar, Aegotheles insignis
 Starry or Spangled Owlet-nightjar, Aegotheles tatei

Moluccan or Long-whiskered Owlet-nightjar, Aegotheles crinifrons

Australian Owlet-nightjar, Aegotheles cristatus

Barred Owlet-nightjar, Aegotheles bennettii

Upland Barred Owlet-nightjar, Aegotheles affinis (formerly A. bennettii affinis

Salvadori's Owlet-nightjar, Aegotheles salvadorii (formerly A. albertisi salvadorii)

Wallace's Owlet-nightjar, Aegotheles wallacii

Archbold's Owlet-nightjar, Aegotheles archboldi

Mountain Owlet-nightjar, Aegotheles albertisi

References

- **Dumbacher**, John P.; Pratt, Thane K. & Fleischer, Robert C. (2003): Phylogeny of the owlet-nightjars (Aves: Aegothelidae) based on mitochondrial DNA sequence. *Molecular Phylogenetics and Evolution* **29**(3): 540–549. DOI:10.1016/S1055-7903(03)00135-0 PDF fulltext
- Mayr, Gerald (2002): Osteological evidence for paraphyly of the avian order Caprimulgiformes (nightjars and allies). *Journal für Ornithologie* 143: 82–97. PDF fulltext

Aepyornithidae

Elephant birds

Conservation status Extinct (16th century)

Kingdom: Animalia Phylum: Chordata

Class: Aves

Superorder: Paleognathae Order: Struthioniformes Family: **Aepyornithidae**

Genera Aepyornis, Mullerornis

Elephant birds are an <u>extinct</u> family of flightless <u>birds</u> made up of the genera *Aepyornis* and *Mullerornis*. These large birds, which were native to Madagascar, have been extinct since at least the 16th century. Aepyornis was the world's largest bird, believed to have been over three metres (10 feet) tall and weighing more than half a tonne (500 kilograms, or 1,100 pounds), until being dethroned by Phorusrhacidae in October 2006. [1] Remains of *Aepyornis* adults and eggs have been found; in some cases the eggs have a circumference of over one metre (three feet). Four species are usually accepted in the genus *Aepyornis* today; *A. hildebrandti, A. gracilis, A. medius* and *A. maximus* (Brodkorb, 1963), but the validity of some is disputed, with numerous authors treating them all in just one species, *A. maximus*. *Aepyornis* was a <u>ratite</u>, related to the <u>ostrich</u>; it could not fly, and its breast bone had no keel.

The National Geographic Society in Washington holds a specimen of an Aepyornis egg which was discovered by Luis Marden in 1967. The specimen is intact and contains an embryonic skeleton of the unborn bird.

Whilst it is often believed that the extinction of the *Aepyornis* was an effect of human actions, a study in 2000, by a team of archaeologists from Sheffield University and Royal Holloway University in the UK, suggests otherwise. Their study in Madagascar aimed to investigate human relationships with this bird. Research reports from Sheffield University stated that there was no evidence for the suggestion that the bird had been hunted to extinction. The archaeologists also believe that the killing of the bird may have been taboo, or "fady," as no evidence was found that it had been killed for food.

The modern Malagasy name for the bird is **Vorompatra**, meaning "marsh bird". They are commonly known as the 'elephant bird', a term that originated from Marco Polo. It has also been suggested, (compare text on the Fra Mauro map of 1467-69) that the legend of the roc may have originated from this bird.

- 1 Elephant Bird Species
- 2 In literature
- 3 References

Elephant Bird Species

Aepyornis gracilis (Monnier, 1913)
 Aepyornis hildebrandti (Burckhardt, 1893)
 Aepyornis maximus (Geoffroy-Saint Hilaire, 1851)
 Aepyornis medius (Milne-Edwards & Grandidier, 1866)
 Mullerornis betsilei (Milne-Edwards & Grandidier, 1894)
 Mullerornis agilis (Milne-Edwards & Grandidier, 1894)
 Mullerornis rudis (Milne-Edwards & Grandidier, 1894)

In literature

 H.G. Wells wrote a short story entitled Aepyornis Island about the bird. It was published in The Complete Short Stories of H.G. Wells (ISBN 0-7538-0872-2). <u>Full</u> text.

References

Brodkorb, Pierce (1963): Catalogue of Fossil Birds Part 1 (Archaeopterygiformes through Ardeiformes). Bulletin of the Florida State Museum, Biological Sciences 7(4): 179-293. PDF fulltext

Alcedinidae

River Kingfishers Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Coraciiformes Family: **Alcedinidae**

Genera: Alcedo, Ceyx, Ispidina

The **river kingfishers** or **Alcedinidae**, are one of the three <u>families</u> of <u>bird</u> in the <u>kingfisher</u> group.

The family is widespread through Africa, through east and south Asia as far as Australia, with one species, the River Kingfisher or European Kingfisher (Alcedo atthis) also appearing in Europe and northern Asia. The origin of the family is thought to have been in Asia.

The taxonomy of the family is uncertain at present: it includes 22 to 24 species in 2 to 4 genera. The uncertaintity arises from two small African species. The Dwarf Kingfisher is sometimes placed in the monospecific genus Myioceyx, and sometimes with the Pygmy Kingfishers in Ispidina. However, molecular analysis (Moyle, 2006) suggests that the Madagascar Pygmy Kingfisher is most closely related to the Malachite Kingfisher, and that the present arrangement into Alcedo and Ceyx needs to be reviewed as it seems not to reflect the actual relationships (for example, the Azure Kingfisher is closer to *Ceyx erithacus*).

Species list:

• Blyth's Kingfisher, Alcedo hercules

European Kingfisher, Alcedo atthis

Half-collared Kingfisher, Alcedo semitorquata

Shining-blue Kingfisher, Alcedo quadribrachys

Blue-eared Kingfisher, Alcedo meninting

Azure Kingfisher, Alcedo azurea

Bismarck Kingfisher, Alcedo websteri

Blue-banded Kingfisher, Alcedo euryzona

Indigo-banded Kingfisher, Alcedo cyanopecta

Silvery Kingfisher, Alcedo argentata

Malachite Kingfisher, Alcedo cristata

Madagascar Malachite Kingfisher, Alcedo vintsioides

White-bellied Kingfisher, Alcedo leucogaster

Small Blue Kingfisher, Alcedo coerulescens

Little Kingfisher, Alcedo pusilla

Príncipe Kingfisher, Alcedo nais

São Tomé Kingfisher, Alcedo thomensis

Black-backed Kingfisher, Ceyx erithacus

Philippine Kingfisher, Ceyx melanurus

Sulawesi Kingfisher, Ceyx fallax

Rufous-backed Kingfisher, Ceyx rufidorsa

Variable Kingfisher, Ceyx lepidus

Madagascar Pygmy Kingfisher, Ispidina madagascariensis African Pygmy Kingfisher, Ispidina picta Dwarf Kingfisher, Ispidina lecontei

References

Moyle, Robert G. (2006): A Molecular Phylogeny of Kingfishers (Alcedinidae)
 With Insights into Early Biogeographic History. Auk 123(2): 487–499. <a href="https://html.ncbe.nlm.ncbe.nll

Alcidae

Auks

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Alcidae Leach, 1820 Genera: Uria, , Alle, Alca, Pinguinus, Synthliboramphus, Cepphus,

Brachyramphus, Ptychoramphus, Aethia, Cerorhinca, Fratercula

Extinct Genera, see **Systematics**

Auks are <u>birds</u> of the family **Alcidae** in the order Charadriiformes. They are superficially similar to <u>penguins</u> due to their black-and-white colours, their upright posture and some of their habits. Nevertheless they are not related to the penguins at all, but considered by some to be a product of moderate convergent evolution.

In contrast to penguins, the modern auks are able to fly (with the exception of the recently extinct Great Auk). They are good swimmers and divers, but their walking appears clumsy. Due to their short wings auks have to flap their wings very fast in order to fly.

Auks live on the open sea and only go ashore for breeding, although some species, like the Common Guillemot, spend a great part of the year defending their nesting spot from others.

Several species have different names in Europe and North America. The guillemots of Europe are murres in North America, if they occur in both continents, and the Little Auk becomes the Dovekie.

Some species, such as the Uria guillemots, nest in large colonies on cliff edges; others, like the *Cepphus* guillemots, breed in small groups on rocky coasts; and the <u>puffins</u>, auklets and some murrelets nest in burrows. All species except the *Brachyramphus* murrelets are colonial.

- 1 Evolution and distribution
- 2 Feeding and ecology
- 3 Social behaviour and breeding
- <u>4 Systematics</u>
- <u>5 References</u>

Evolution and distribution

Traditionally, the auks were believed to be one of the earliest distinct charadriiform lineages due to their characteristic morphology. However, molecular analyses have demonstrated that these peculiarities are the product of strong natural selection instead: as opposed to, for example, plovers (a much older charadriiform lineage), auks radically changed from a wading shorebird to a diving seabird lifestyle. Thus, today, the auks are no longer separated in their own suborder ("Alcae"), but are considered part of the Lari suborder which otherwise contains gulls and similar birds. Judging from molecular data,

their closest living relatives appear to be the skuas, with these two lineages separating about 30 MYA (Paton et al., 2003). This may or may not be correct due to uncertainties of the fossil record (Thomas et al., 2004, and see below). Alternatively, auks may have split off far earlier from the rest of the Lari and undergone strong morphological, but slow molecular evolution, which would require a very high evolutionary pressure, coupled with a long lifespan and slow reproduction.

The earliest unequivocal fossils of auks are from the Miocene (e.g. the genus Miocepphus, 15 MYA). Two very fragmentary fossils are often assigned to the Alcidae, although this may not be correct: Hydrotherikornis (Late Eocene, some 35 MYA) and Petralca (Late Oligocene). Most extant genera are known to exist since the Late Miocene or Early Pliocene (c. 5 MYA). Miocene fossils have been found in both California and Maryland, but the greater diversity of fossils and tribes in the Pacific leads most scientists to conclude that it was there they first evolved, and it is in the Miocene Pacific that the first fossils of extant genera are found. Early movement between the Pacific and the Atlantic probably happened to the south (since there was no northern opening to the Atlantic), later movements across the Arctic Sea (Konyukhov, 2002). The flightless subfamily Mancallinae which was apparently restricted to the Pacific coast of southern North America became extinct in the Early Pleistocene.

The extant auks (subfamily Alcinae) are broken up into 2 main groups: the usually high-billed puffins (tribe Fraterculini) and auklets (tribe Aethiini), and the more slender-billed murres (tribe Alcini) and the murrelets and guillemots (tribes Brachyramphini and Cepphini). Molecular studies (Friesen *et al.*, 1996; Moum *et al.*, 2002) confirm this arrangement except that the *Synthliboramphus* murrelets should be split into a distinct tribe, as they appear more closely related to the Alcini.

Compared to other families of seabirds, there are no genera with many species (such as the 47 *Larus* gulls). This is probably a product of the rather small geographic range of the family (the most limited of any seabird family), and the periods of glacial advance and retreat that have kept the populations on the move in a narrow band of subarctic ocean.

Today, as in the past, the auks are restricted to cooler northern waters. Their ability to spread further south is restricted as their prey hunting method, pursuit diving, becomes less efficient in warmer waters. The speed at which small fish (which along with krill are the auk's principal food items) can swim doubles as the temperature increases from 5°C to 15°C, with no corresponding increase in speed for the bird. The southernmost auks, in California and Mexico, can survive there because of cold upwellings. The current paucity of auks in the Atlantic (6 species), compared to the Pacific (19-20 species) is considered to be because of extinctions to the Atlantic auks; the fossil record shows there were many more species in the Atlantic during the Pliocene. Auks also tend to be restricted to continental shelf waters and breed on few oceanic islands.

Feeding and ecology

The feeding behaviour of auks is often compared to that of <u>penguins</u>; they are both wing-propelled pursuit divers. In the region where auks live their only seabird competition is with

<u>cormorants</u> (which dive powered by their strong feet); in areas where the two groups feed on the same prey the auks tend to feed further offshore.

Although not to the extent of penguins, auks have to a large extent sacrificed flight, and also mobility on land, in exchange for swimming; their wings are a compromise between the best possible design for diving and the bare minimum needed for flying. This varies by subfamily, the *Uria* guillemots (including the Razorbill) and murrelets being the most efficient under the water, whereas the puffins and auklets are better adapted for flying and walking. This reflects the type of prey taken; murres hunt faster schooling fish, whereas auklets take slower moving krill. Time depth recorders on auks have shown that they can dive as deep as 100 m in the case of *Uria* guillemots, 40 m for the *Cepphus* guillemots and between 30 m for the auklets.

Social behaviour and breeding

The majority of auk species are colonial, nesting in anything between small groups to large thousand strong colonies. As well as possible advantages for defence against predators, there is a benefit in terms of foraging to being colonial; birds that see a neighbour returning with food will set off to forage in the direction it came from. Two species, the Marbled Murrelet and the Kittlitz's Murrelet are solitary nesters, choosing old growth forest and high mountains respectively. In these areas the benefits of colonial nesting would be outweighed by the presence of terrestrial predators (foxes and raccoons, for example) which island and cliff breeding auks do not have to deal with.

Nesting sites in colonies can vary from nothing more than a patch on a cliff face, to natural crevices in the rocks and boulders, to burrows dug by the bird. Many nesting sites are attended nocturnally, in some cases as the adults are likely to fall victim to kleptoparasitism (such as the Rhinoceros Auklet) or because the adults themselves are likely prey items (like the Cassin's Auklet). Mating itself can happen both on the colony, as happens with the Razorbill and Little Auk, or at sea, as is the case for puffins and auklets.

Systematics

ORDER CHARADRIIFORMES Suborder Lari

Family Alcidae

- *Hydrotherikornis* (fossil, disputed)
 - **Subfamily Petralcinae** (<u>fossil</u>, disputed)
 - o Petralca
- Subfamily Mancallinae (fossil)

- Alcodes
- Praemancalla
- Mancalla
 - Subfamily Alcinae
- Miocepphus (<u>fossil</u>)
- o Tribe Alcini Auks and murres
 - Uria
 - Common Guillemot or Common Murre, Uria aalge
 - Brunnich's Guillemot or Thick-billed Murre, Uria lomvia
 - Little Auk or Dovekie, *Alle alle*
 - Great Auk, Pinguinus impennis (extinct, c.1844)
 - Razorbill, *Alca torda*
- Tribe Synthliboramphini Synthliboramphine murrelets
 - Synthliboramphus
 - Xantus's Murrelet, Synthliboramphus hypoleucus sometimes separated in Endomychura
 - Craveri's Murrelet, Synthliboramphus craveri sometimes separated in Endomychura
 - Ancient Murrelet, Synthliboramphus antiquus
 - Japanese Murrelet, Synthliboramphus wumizusume
- o **Tribe Cepphini** True guillemots
 - Cepphus
 - Black Guillemot or Tystie, Cepphus grylle
 - Pigeon Guillemot, Cepphus columba
 - Kurile Guillemot, Cepphus (columba) snowi
 - Spectacled Guillemot, Cepphus carbo
- o **Tribe Brachyramphini** Brachyramphine murrelets
 - Brachyramphus
 - Marbled Murrelet, Brachyramphus marmoratus
 - Long-billed Murrelet Brachyramphus (marmoratus) perdix
 - Kittlitz's Murrelet, *Brachyramphus brevirostris*
 - o Tribe Aethiini Auklets
 - Cassin's Auklet, Ptychoramphus aleuticus
 - Aethia
 - Parakeet Auklet, Aethia psittacula
 - Crested Auklet, Aethia cristatella
 - Whiskered Auklet, Aethia pygmaea
 - Least Auklet, Aethia pusilla
 - o Tribe Fraterculini Puffins
 - Rhinoceros Auklet, Cerorhinca monocerata
 - Fratercula
 - Atlantic Puffin, Fratercula arctica
 - Horned Puffin, Fratercula corniculata
 - Tufted Puffin. Fratercula cirrhata

Biodiversity of auks seems to have been markedly higher during the Pliocene (Konyukhov, 2002). See the genus accounts for prehistoric species.

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Anhingidae

Darters

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Anhingidae** Reichenbach, 1849Genus: **Anhinga** Brisson, 1760Species: **A. anhinga**, **A.**

melanogaster, A. rufa, A. novaehollandiaeFor extinct taxa, see article text.

The **darters** or snake-birds are <u>birds</u> in the family **Anhingidae**. There are four living species, one of which is near-threatened. The darters are frequently referred to as "snake-birds" because of their long thin neck, which gives a snake-like appearance when they swim with their bodies submerged.

The darters are large birds with dimorphic plumage. The males have black and dark brown plumage, an erectile crest on the nape and a larger bill than the female. The females have a much paler plumage especially on the neck and underparts. Both have grey stippling on long scapulars and upper wing coverts. The sharply pointed bill has serrated edges. The darters have completely webbed feet, and their legs are short and set far back on the body. Their plumage is somewhat permeable, like that of <u>cormorants</u>, and they spread their wings to dry after diving. Vocalizations include a clicking or rattling when flying or perching. During breeding adults sometimes have *caw* or hissing calls.

- <u>1 Range:</u>
- <u>2 Die</u>t:
- <u>3 Breeding:</u>
- 4 Systematics and evolution
- 5 References

Range:

Darters are circum-equatorial, tropical or subtropical. They inhabit either fresh or brackish water and can be found in lakes, rivers, marshes, swamps, estuaries, bays, lagoons and mangrove swamps. They tend to gather in flocks sometimes up to about 100 birds but are highly territorial when breeding. Most are sedentary and do not <u>migrate</u>, however the populations at extreme distributions may migrate. The Oriental Darter is near-threatened species[1]. Habitat destruction along with other human interferences is among the main reasons for a declining population.

Diet:

Darters feed mainly on fish. They use their sharply pointed bill to spear their prey when they dive; this is how they get the name darter. Their ventral keel is present on the 5-7

vertebrae which allows for muscles to attach so that they are able to project their bill forward like a spear. They also eat amphibians such as frogs and newts, reptiles such as snakes and turtles and invertebrates such as insects, shrimp and mollusks. These birds use their feet to move underwater and quietly stalk and ambush their prey. They then stab the prey, such as a fish, and bring them to the surface where they toss it into the air and catch and swallow it.

Breeding:

The darters are monogamous and pair bond during the breeding season. There are many different types of displays used for mating including male displays to attract the female, greeting displays between the male and female and pair bonding displays between the pairs. Also during breeding, their small gular sac changes from pink or yellow to black and the bare facial skin turns to turquoise from a yellow or yellow-green color. They usually breed in colonies.

Breeding can be seasonal or year round and varies by geographic range. The nests are made of twigs and are built in trees or reeds, often near water. The clutch size is two to six eggs (usually about 4) of a pale green color and the eggs are incubated for 25 to 30 days. The eggs hatch asynchronously. Bi-parental care is given and the young are considered altricial. They reach sexual maturity by about 2 years. These birds generally live to around 9 years.

Systematics and evolution

This family is very closely related to the other families in the order Pelecaniformes. There are four living species recognized, all in the <u>genus</u> *Anhinga*, although the Old World ones are often lumped together as subspecies of *A. melanogaster*.

Anhinga, Anhinga anhinga
 Oriental Darter, Anhinga melanogaster
 African Darter, Anhinga rufa
 Australian Darter, Anhinga novaehollandiae

Extinct "species" from Mauritius and Australia known only from bones were described as Anhinga nana ("Mauritian Darter") and Anhinga parva, but they were misidentifications of bones of the Long-tailed Cormorant and the Little Pied Cormorant, respectively (Miller, 1966; Olson, 1975). In the former case, however, they might belong to an extinct subspecies which would have to be called *Phalacrocorax africanus nanus* (Mauritian Cormorant) - quite ironically, as *nana* means "dwarf" and the remains are *larger* than those of the geographically closest population of the Long-tailed Cormorant.

The darters are known since the Early Miocene. The diversity was highest in the Americas; a number of prehistoric species and genera known only from fossils have been described. The aptly named *Macranhinga*, *Meganhinga* and *Giganhinga* represent very large and flightless forms.

- Meganhinga (Early Miocene of Chile)
- Macranhinga (Late Miocene -? Early Pliocene of SC South America)

- Giganhinga (Late Pliocene/Early Pleistocene of Uruguay)
- Anhinga subvolans (Early Miocene of Thomas Farm, USA)
- Anhinga cf. grandis (Middle Miocene of Colombia -? Late Pliocene of SC South America)
- Anhinga fraileyi (Late Miocene -? Early Pliocene of S South America)
- Anhinga minuta (Solimões Late Miocene/Early Pliocene of SC South America)
- Anhinga pannonica (Late Miocene/Early Pliocene of Tataru_-Brusturi, Hungary ?and Tunisia, Pakistan and Thailand)
- Anhinga grandis (Late Miocene Kimball Late Pliocene of USA)
- Anhinga malagurala (Allingham Early Pliocene of Charters Towers, Australia)
- Anhinga cf. pannonica (Sahabi Early Pliocene of Libya)
- Anhinga sp. (Early Pliocene of Bone Valley, USA)
- Anhinga hadarensis (Late Pliocene/Early Pleistocene of E Africa)
- *Anhinga* sp. (Early Pleistocene of Coleman, USA)

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Apterygidae

Kiwi

Conservation status: Vulnerable Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Struthioniformes

Family: **Apterygidae** G.R. Gray, 1840Genus: **Apteryx** Shaw, 1813Species: See text.

A **kiwi** is any of the species of small <u>flightless birds</u> endemic to New Zealand of the genus **Apteryx** (the only genus in family **Apterygidae**). At around the size of a domestic <u>chicken</u>, kiwi are by far the smallest living <u>ratites</u>. Several kiwi species are endangered. The kiwi is also a national symbol for New Zealand.

1 Habitat

- 2 Species
- 3 Discovery and documentation
- 4 Food
- 5 References

Habitat

Prior to the arrival of humans in the 13th century or earlier, New Zealand's only endemic mammals were three species of bat, and the ecological niches that in other parts of the world were filled by creatures as diverse as horses, wolves and mice were taken up by birds (and, to a lesser extent, reptiles).

Kiwi are shy and usually nocturnal. Their mostly nocturnal habits may be a result of habitat intrusion by predators including man, resulting in kiwis that prefer day-time activities loosing out . This seems evident in areas of New Zealand where introduced predators have been removed like sanctuaries where kiwis are often seen in day light. Kiwis are creatures with a highly developed sense of smell and, most unusual in a bird, nostrils at the end of their long bill. They feed by thrusting the bill into the ground in search of worms, insects, and other invertebrates; they also take fruit and, if the opportunity arises, small crayfish, amphibians and eels.

After an initial meeting during mating season (March to June), kiwi usually live as monogamous couples, unless a more suitable mate arises. The pair will meet in the nesting burrow every few days and call to each other at night. These relationships have been known to last for up to 20 years. (Source: KiwiRecovery.org) Kiwi eggs can weigh up to one quarter the size of the female. Usually only one egg is laid. Although the kiwi is about the size of a domestic chicken, it is able to lay eggs that are up to ten times larger than a chicken's egg. (Source: Grzimek's Animal Life Encyclopedia)

Their adaptation to a terrestrial life is extensive: like all ratites they have no keel on the breastbone to anchor wing muscles, and barely any wings either: the vestiges are so small

that they are invisible under the kiwi's bristly, hair-like, two-branched feathers. While birds generally have hollow bones to save weight and make flight practicable, kiwi have marrow, in the style of mammals. With no constraints on weight from flight requirements, some Brown Kiwi females carry and lay a single 450 g egg.

It was long presumed that the kiwi's closest relatives were the other New Zealand ratites, the <u>moa</u>. However recent DNA studies indicate that the <u>Ostrich</u> is more closely related to the <u>moa</u> and the kiwi's closest relatives are the <u>Emu</u> and the <u>cassowaries</u>. This theory suggests that the kiwi's ancestors arrived in New Zealand from elsewhere in Australasia well after the <u>moa</u>.

According to British scientists, the kiwi may be an ancient import from Australia. Researchers of Oxford University have found DNA evidence connected to Australia's Emu and the Ostrich of Africa. Upon examining DNA from New Zealand's native moa, they believe that the kiwi is more closely related to its Australian cousins. (Source: News In Science)

Species

Currently there are five accepted species (one of which has four sub-species), plus one to be formally described:

- The largest species is the **Great Spotted Kiwi**, *Apteryx haastii*, which stands about 450 mm high and weighs about 3.3 kg. (Males about 2.4 kg) It has greybrown <u>plumage</u> with lighter bands. The female lays just one egg, with both sexes incubating. Population is estimated to be over 20,000, distributed through the more mountainous parts of northwest Nelson, the northern West Coast, and the Southern Alps.
- The very small **Little Spotted Kiwi**, *Apteryx owenii* is unable to survive predation by imported pigs, stoats and cats and is extinct on the mainland and the most threatened of all kiwi. About 1350 remain on Kapiti Island and it has been introduced to other predator-free islands and appears to be becoming established with about 50 'Little Spots' on each island. A docile bird the size of a bantam, it stands 250 mm high and the female weighs 1.3 kg. She lays one egg which is incubated by the male.
- The **North Island Brown Kiwi**, *Apteryx mantelli* is widespread in the northern two-thirds of the North Island and with about 35,000 remaining is the most common kiwi. Females stand about 400 mm high and weigh about 2.8 kg, the males about 2.2 kg. The North Island Brown has demonstrated a remarkable resilience: it adapts to a wide range of habitats, even non-native forests and some farmland. The plumage is streaky red-brown and spiky. The female usually lays two eggs, which are incubated by the male.
- The **Rowi**, also known as the **Okarito Brown Kiwi** or *Apteryx rowi*, is a recently identified species, slightly smaller, with a greyish tinge to the plumage and sometimes white facial feathers. Females lay as many as three eggs in a season, each one in a different nest. Male and female both incubate. Distribution of these

kiwi are limited to a small area on the west coast of the South Island of New Zealand.

- The **Southern Tokoeka**, *Apteryx australis australis*, relatively common species of kiwi known from southwest South Island (Fiordland) that occurs at most elevations. It is approximately the size of the **Great Spotted Kiwi** and is similar in appearance to the **Brown Kiwi** but its plumage is lighter in colour.
 - The Stewart Island Tokoeka, Apteryx australis lawryi, is a subspecies of Southern Tokoeka known from Stewart Island.
- The **Haast Tokoeka**, *Apteryx* n. sp. (*?fusca*), is the rarest species of kiwi with only about 300 individuals. It was identified as a distinct form in 1993. It only occurs in a restricted area in South Island's Haast Range at an altitude of 1,500 m. This form is distinguished by a more strongly downcurved bill and more rufous plumage.

Analysis of mitochondrial DNA, ecology, behaviour, morphology, geographic distribution and parasites of the North Island Brown Kiwi has led scientists to propose that the Brown Kiwi is three distinct species. The North Island Brown Kiwi; the Okarito Brown Kiwi (Rowi), whose distribution is restricted to a single site on the West Coast of the South Island of New Zealand; and a third distinct population of the North Island Brown Kiwi, the Southern Tokoeka, distributed in the in lowland forest to the north of Franz Josef glacier in the South Island and on Stewart Island, with a small population near Haast being another possibly distinct species, the Haast Tokoeka.

Discovery and documentation

The first kiwi specimen to be studied by Europeans was a kiwi skin brought to George Shaw by Captain Andrew Barclay aboard the ship Providence, who was reported to have been given it by a sealer in Sydney Harbour around 1811. George Shaw gave the kiwi its scientific name and drew sketches of the way he imagined a live bird to look which appeared as plates 1057 and 1058 in volume 24 of *The Naturalist's Miscellany* in 1813.

Food

The kiwi birds eat spiders, beetles, catepillars, seeds, grubs, and many varities of worms. Of course, their long beaks make it easy to catch prey.

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 - News In Science

Bird families - B

Bucerotidae

Hornbills

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Coraciiformes

Family: **Bucerotidae** Rafinesque, 1815Genera: Aceros, Anorrhinus, Anthracoceros, Buceros,

Bucorvus, Ceratogymna (=Bycanistes), Ocyceros, Penelopides, Tockus

Hornbills (<u>family</u> **Bucerotidae**) are a group of <u>birds</u> whose bill is shaped like a cow's horn, but without a twist, sometimes with a casque on the upper mandible. Frequently, the bill is brightly coloured.

Both the common English and the scientific name of the family refer to the shape of the bill, "buceros" being "cow horn" in Greek.

The Bucerotidae family includes 57 species, 9 of them endemic to the southern part of Africa. Their distribution ranges from Africa south of the Sahara through tropical Asia to the Philippines and Solomon Islands. Most are arboreal birds of dense forest, but the large ground hornbills (Bucorvus), as their name implies, are terrestrial birds of open savanna.

The female lays up to six white eggs. During incubation, the female (of all species except the two ground hornbills) is locked within the nest cavity by a wall made of mud, droppings and fruit pulp. There is only one narrow aperture, big enough for the male to transfer food to the mother and the chicks. During the incubation period the female undergoes a complete moult. When the chicks and the female are too big to fit in the nest, the mother breaks out and rebuilds the wall, then both parents feed the chicks. In some species the chicks themselves rebuild the wall unaided.

Hornbills are omnivorous birds, eating fruit, insects and small animals.

In the Sibley-Ahlquist taxonomy, hornbills are separated from the Coraciiformes, which also includes kingfishers, bee-eaters and rollers, as a separate order *Bucerotiformes*.

Some species have different plumages for each sex. The blue throat of the Abyssinian Ground Hornbill pictured here shows it to be an adult female.

Most species' casques are very light, containing a good deal of air space. However, the Helmeted Hornbill has a solid casque made of a material called hornbill ivory, which the Chinese valued greatly as a carving material, as did the Japanese, who often used it to make netsuke.

Hornbill is also the magazine of the Bombay Natural History Society. This society's icon is a Great Indian Hornbill sitting on a branch.

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Bird families - C

Caprimulgidae

Nightjars

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Caprimulgiformes

Family: **Caprimulgidae** Vigors, 1825Genera: *Nyctiprogne*, *Podager*, *Lurocalis*, *Chordeiles*, *Nyctidromus*, *Phalaenoptilus*, *Siphonorhis*, *Nyctiphrynus*, *Caprimulgus*, *Macrodipteryx*,

Hydropsalis , Uropsalis , Macropsalis , Eleothreptus , Eurostopodus

Nightjars are medium-sized nocturnal <u>birds</u> with long wings, short legs and very short bills that usually nest on the ground. Nightjars are sometimes referred to as **goatsuckers** from the mistaken belief that they suck milk from goats (the Latin for goatsucker is *Caprimulgus*). Some North American species are named as **nighthawks**.

Nightjars are found around the world. They are mostly active in the late evening and early morning or at night, and feed predominantly on moths and other large flying insects.

Most have small feet, of little use for walking, and long pointed wings. Their soft plumage is cryptically coloured to resemble bark or leaves. Some species, unusually for birds, perch along a branch, rather than across it. This helps to conceal them during the day.

The Common Poorwill, *Phalaenoptilus nuttallii* is unique as a bird that undergoes a form of hibernation, becoming torpid and with a much reduced body temperature for weeks or months.

Nightjars lay one or two patterned eggs directly onto bare ground.

Traditionally, nightjars have been divided into two subfamilies: the **Caprimulginae**, or typical nightjars with about 70 species, and the **Chordeilinae**, or <u>nighthawks</u> of the New World with about 8 species. The two groups are similar in most respects, but the typical nightjars have rictal bristles, longer bills, and softer plumage. In their pioneering DNA-DNA hybridisation work, Sibley and Ahlquist found that the genetic difference between the eared nightjars and the typical nightjars was, in fact, greater than that between the typical nightjars and the nighthawks of the New World. Accordingly, they placed the eared nightjars in a separate family: Eurostopodidae.

Subsequent work, both morphological and genetic, has provided support for the separation of the typical and the eared nightjars, and some authorities have adopted this Sibley-Ahlquist recommendation, and also the more far-reaching one to group all the owls (traditionally Strigiformes) together in the Caprimulgiformes. The listing below retains a more orthodox arrangement, but recognises the eared nightjars as a separate group. For more detail and an alternative classification scheme, see Caprimulgiformes and Sibley-Ahlquist taxonomy.

Species

• **Subfamily Chordeilinae** (New World nighthawks)

- Band-tailed Nighthawk, Nyctiprogne leucopyga Nacunda Nighthawk, Podager nacunda Rufous-bellied Nighthawk, Lurocalis rufiventris Short-tailed Nighthawk, Lurocalis semitorquatus Antillean Nighthawk, Chordeiles gundlachii Lesser Nighthawk, Chordeiles acutipennis Common Nighthawk, Chordeiles minor Least Nighthawk, Chordeiles pusillus Sand-colored Nighthawk, Chordeiles rupestris
 - **Subfamily Caprimulginae** (typical nightjars)
- Egyptian Nightjar, Caprimulgus aegyptius Savanna Nightjar, Caprimulgus affinis Scrub Nightjar, Caprimulgus anthonyi Indian Nightjar, Caprimulgus asiaticus Jerdon's Nightjar Caprimulgus atripennis Yucatan Nightjar, Caprimulgus badius Bates's Nightjar, Caprimulgus batesi Brown Nightjar, Caprimulgus binotatus White-winged Nightjar, Caprimulgus candicans Chuck-will's-widow Caprimulgus carolinensis White-tailed Nightjar, Caprimulgus cayennensis Sulawesi Nightjar, Caprimulgus celebensis Vaurie's Nightjar, Caprimulgus centralasicus Slender-tailed Nightjar, Caprimulgus clarus Long-tailed Nightjar, Caprimulgus climacurus Bonaparte's Nightjar, Caprimulgus concretus Greater Antillean Nightjar, Caprimulgus cubanensis Donaldson-Smith's Nightjar, Caprimulgus donaldsoni Collared Nightjar, Caprimulgus enarratus European Nightjar, Caprimulgus europaeus Golden Nightjar, Caprimulgus eximius Square-tailed Nightjar, Caprimulgus fossii Sombre Nightjar, Caprimulgus fraenatus Pygmy Nightjar, Caprimulgus hirundinaceus Grey Nightjar, Caprimulgus indicus Plain Nightjar, Caprimulgus inornatus Band-winged Nightjar, Caprimulgus longirostris Large-tailed Nightjar, Caprimulgus macrurus Spot-tailed Nightjar, Caprimulgus maculicaudus Cayenne Nightjar, Caprimulgus maculosus Madagascar Nightjar, Caprimulgus madagascariensis Sykes's Nightjar, Caprimulgus mahrattensis Philippine Nightjar, Caprimulgus manillensis Swamp Nightiar, Caprimulgus natalensis

Blackish Nightjar, Caprimulgus nigrescens

Black-shouldered Nightjar, Caprimulgus nigriscapularis

Puerto Rican Nightjar, Caprimulgus noctitherus

Nubian Nightjar, Caprimulgus nubicus

Little Nightjar, Caprimulgus parvulus

Fiery-necked Nightjar, Caprimulgus pectoralis

Montane Nightjar, Caprimulgus poliocephalus

Itombwe Nightjar, Caprimulgus prigoginei

Salvadori's Nightjar, Caprimulgus pulchellus

Buff-collared Nightjar, Caprimulgus ridgwayi

Red-necked Nightjar, Caprimulgus ruficollis

Rufous-cheeked Nightjar, Caprimulgus rufigena

Rufous Nightjar, Caprimulgus rufus

Ruwenzori Nightjar, Caprimulgus ruwenzorii

Tawny-collared Nightjar, Caprimulgus salvini

Dusky Nightjar, Caprimulgus saturatus

Silky-tailed Nightjar, Caprimulgus sericocaudatus

Star-spotted Nightjar, Caprimulgus stellatus

Freckled Nightjar, Caprimulgus tristigma

Whip-poor-will, Caprimulgus vociferus

Roraiman Nightjar, Caprimulgus whitelyi

Scissor-tailed Nightjar, Hydropsalis brasiliana

Ladder-tailed Nightjar, Hydropsalis climacocerca

Standard-winged Nightjar, Macrodipteryx longipennis

Pennant-winged Nightjar, Macrodipteryx vexillarius

Long-trained Nightjar, Macropsalis creagra

Pauraque, Nyctidromus albicollis

Eared Poorwill, Nyctiphrynus mcleodii

Ocellated Poorwill, Nyctiphrynus ocellatus

Yucatan Poorwill, Nyctiphrynus yucatanicus

Common Poorwill, Phalaenoptilus nuttallii

Jamaican Pauraque, Siphonorhis americana (extinct; rumors of survival)

Least Pauraque, Siphonorhis brewsteri

Cuban Parauque, Siphonorhis daiquiri (extinct; rumors of survival)

Lyre-tailed Nightjar, Uropsalis lyra

Swallow-tailed Nightjar, Uropsalis segmentata

Sickle-winged Nightjar, Eleothreptus anomalus

• **Subfamily Eurostopodidae** (eared nightjars)

Mountain Eared Nightjar, Eurostopodus archboldi

Spotted Eared Nightjar, Eurostopodus argus

Satanic Eared Nightiar, Eurostopodus diabolicus

Great Eared Nightjar, Eurostopodus macrotis

White-throated Eared Nightjar, Eurostopodus mystacalis

Papuan Eared Nightjar, Eurostopodus papuensis Malaysian Eared Nightjar, Eurostopodus temminckii

Casuariidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Struthioniformes

Family: Casuariidae Kaup, 1847 Genera: Casuarius, Dromaius

For fossil forms, see article

The bird family **Casuariidae** has four surviving members: the three <u>species</u> of <u>cassowary</u>, and the only remaining species of <u>Emu</u>. The emus were formerly classified in their own family, Dromaiidae, but are regarded as sufficiently closely related to the cassowaries to be part of the same family.

All four members of the family are very large flightless birds native to Australia-New Guinea. The characteristics of the family are those of its members.

Systematics and evolution

The emus form a distinct subfamily, characterized by legs adapted for running. As with all <u>ratites</u>, there are several contested theories concerning their evolution and relationships. As regards this family, it is especially interesting whether emus or cassowaries are the more primitive form: the latter are generally assumed to retain more plesiomorphic features, but this does not need to be true at all; the fossil record is also ambiguous, and the present state of genomics does not allow for sufficiently comprehensive analyses. A combination of all these approaches with considerations of plate tectonics at least is necessary for resolving this issue.

The number of cassowary species described based on minor differences in casque shape and color variations ist quite large. In recent times, however, only 3 species are recognized, and most authorities only acknowledge few subspecies or none at all.

The fossil record of casuariforms is interesting, but not very extensive. Regarding fossil species of *Dromaius* and *Casuarius*, see their genus pages.

Some Australian fossils initially believed to be from emus were recognized to represent a distinct genus, *Emuarius*, which had a cassowary-like skull and femur and an emu-like lower leg and foot. In addition, the first fossils of mihirungs were initially believed to be from giant emus, but these birds were completely unrelated.

Subfamily **Casuariinae** - cassowaries

- Genus *Casuarius*
 - Southern Cassowary, Casuarius casuarius
 Dwarf Cassowary, Casuarius bennetti
 Northern Cassowary, Casuarius unappendiculatus

Subfamily **Dromaiinae** - emus

- Genus **Dromaius**
 - o Emu, Dromaius novaehollandiae
 - Tasmanian Emu, D. n. diemenensis (extinct)
 South-eastern Emu, D. n. novaehollandiae

South-western Emu, D. n. rothschildi Northern Emu, D. n. woodwardi

- Kangaroo Island Emu, Dromaius baudinianus (extinct)
 King Island Emu, Dromaius ater (extinct)
- Genus *Emuarius* "emuwaries" (<u>fossil</u>)
 - o Emuarius guljaruba (Late Oligocene Late Miocene)
 - o Emuarius gidju (Wipajiri Early Miocene of Lake Ngapakaldi)

References

• Boles, Walter E. (2001): A new emu (Dromaiinae) from the Late Oligocene Etadunna Formation. *Emu* **101**: 317–321. *HTML abstract*

Footnotes

- 1. <u>^</u> From "Emu" + "*Casuarius*". Describer W. E. Boles commonly refers to the genus as "emuwaries" or "cassomus".
- 2. ^ The vernacular name "mihirung" is derived from *mihirung paringmal*, which means "giant emu" in the Chaap Wuurong language

Cathartidae

New World vultures

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: Cathartidae Lafresnaye, 1839Genera: Cathartes, Coragyps, Gymnogyps,

Sarcorhamphus, Vultur

The **New World vultures** <u>family</u> **Cathartidae** contains seven <u>species</u> found in warm and temperate areas of the Americas. It includes five <u>vultures</u> and two <u>condors</u>. Except *Cathartes*, all <u>genera</u> are monotypic.

The five species of vulture are:

 Turkey Vulture Cathartes aura Greater Yellow-headed Vulture Cathartes melambrotus Lesser Yellow-headed Vulture Cathartes burrovianus King Vulture Sarcorhamphus papa American Black Vulture Coragyps atratus

The **Condors** are

- California Condor *Gymnogyps californianus*
- Andean Condor Vultur gryphus

Evolution and systematics

New World vultures are most probably not closely related to <u>Old World vultures</u> or other diurnal <u>raptors</u>, which themselves are often classified in different <u>orders</u>. They rather resemble Old World vultures because of convergent evolution and are usually considered to be more closely related to storks, as is reflected by their placement in the Ciconiiformes and supported by karyotype (Ligon, 1967), morphological, mtDNA cytochrome b sequence (Avise et al., 1994; Wink, 1995) and behavioral data. Nonetheless, this has been criticized more recently, as the Ciconiiformes - not only in Sibley & Ahlquist's undoubtedly paraphyletic, but also in the traditional sense - appear not to be a monophyletic assemblage. Consequently, there is a recent trend to raise the New World vultures to the rank of an independent order **Cathartiformes** not closely associated with either birds of prey or storks or herons (Ericson *et al.*, 2006).

A related extinct family were the Teratornithidae or **Teratorns**, essentially an exclusively (North) American counterpart to the New World vultures - the latter were, in prehistoric times, also present in Europe and possibly even evolved there. The Incredible Teratorn is sometimes called "Giant Condor" because it must have looked similar to the modern bird. They were, however, not very closely related but rather an example of parallel evolution, and the external similarity is less emphasized in recent times due to new information suggesting that the teratorns were more predatory than vultures (Campbell & Tonni, 1983).

The fossil history of the Cathartidae is fairly extensive, but nonetheless confusing. Many taxa that may or may not have been New World vultures were considered to be early

representatives of the family. There is no unequivocal European record fom the Neogene and trying to retrace the evolutionary history of the entire Ciconiiformes sensu Sibley & Ahlquist by means of molecular analysis has proven to be just as equivocal until the mid-2000s.

At any rate, the Cathartidae had a much higher diversity in the Plio-/Pleistocene, rivalling the current diversity of Old World vultures and their relatives in shapes, sizes, and ecological niches. Extinct genera are:

- *Diatropornis* (Late Eocene/Early Oligocene -? Middle Oligocene of France)
- Phasmagyps (Early Oligocene of WC North America)
- Brasilogyps (Late Oligocene Early Miocene of Brazil)
- Hadrogyps (Middle Miocene of SW North America)
- Pliogyps (Late Miocene Late Pliocene of S North America)
- Perugyps (Pisco Late Miocene/Early Pliocene of SC Peru)
- *Dryornis* (Early Middle Pliocene of Argentina; may belong to modern genus *Vultur*)
- *Aizenogyps* (Late Pliocene of SE North America)
- *Breagyps* (Late Pleistocene of SW North America)
- *Geronogyps* (Late Pleistocene of Peru)
- Wingegyps (Late Pleistocene of Brazil)
- Parasarcoramphus

Fossils found in Mongolia (Late Oligocene), Lee Creek Mine, USA (Late Miocene/Early Pliocene) and Argentina (Middle Pliocene) have not been assigned to a genus yet. There is also a number of extinct congeners of the extant species; see the respective genus accounts.

An European genus from the Earliest Neogene that possibly belongs to the New World vultures is Plesiocathartes. On the other hand, the bathornithid Neocathartes was long believed to be a peculiar New World vulture (including charming, but inaccurate reconstructions as a kind of Turkey Vulture on stilts).

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Charadriidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: **Charadriidae** Vigors, 1825 Genera: Vanellinae (Erthrogonys, Vanellus), Charadriinae (Pluvialis, Charadrius, Thinornis, Elseyornis, Peltohyas, Anarhynchus, Phegornis, Oreopholus)

The bird family **Charadriidae** includes the plovers, dotterels, and lapwings, about 64 to 66 <u>species</u> in all. They are small to medium-sized <u>birds</u> with compact bodies, short, thick necks and long, usually pointed, wings.

They are distributed through open country worldwide, mostly in habitats near water, although there are some exceptions: the Inland Dotterel, for example, prefers stony ground in the deserts of central and western Australia.

They hunt by sight, rather than by feel as longer-billed waders like snipe do. Foods eaten include insects, worms or other invetebrates depending on habitat, and are usually obtained by a run-and-pause technique, rather than the steady probing of some other wader groups.

Most members of the family are known as *plovers*, *lapwings* or *dotterels*. These were rather vague terms which were not applied with any great consistency in the past. In general, larger species have often been called *lapwings*, smaller species *plovers* or *dotterels* and there are in fact two clear taxonomic sub-groups: most lapwings belong to the subfamily Vanellinae, most plovers and dotterels to Charadriinae.

The trend in recent years has been to rationalise the common names of the Charadriidae. For example, the large and very common Australian bird traditionally known as the 'Spurwinged Plover', is now the Masked Lapwing; the former 'Solitary Plover' is now the Solitary Lapwing.

Chionididae

Sheathbills

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Chionididae Bonaparte, 1832Genus: Chionis Forster, JR, 1788Species: Chionis alba, Chionis

minor

The **sheathbills** are the two species of <u>birds</u> in the genus *Chionis* in the **Chionididae** family. They are confined to Antarctic regions.

They have white <u>plumage</u>, with only the face and leg colours distinguishing the two species. They look plump and <u>dove</u>-like, but are believed to be similar to the ancestors of the modern <u>gulls</u> and <u>terns</u>.

They derive their English name from the horny sheath which partially covers the upper mandible of their stout bills.

The sheathbills are scavengers, but will take chicks and eggs as well as offal.

They lay 2 or 3 blotchy white eggs on the ground.

The two species are the Snowy Sheathbill (Chionis alba) and the Black-faced Sheathbill (*C. minor*).

Columbidae

Pigeons and Doves

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Columbiformes
Family: Columbidae
subfamily: see article text

Pigeon beside Weiming Lake, Peking University (2002)

Pigeons and **doves** are some 300 <u>species</u> of near passerine <u>birds</u> in the order Columbiformes. In general parlance the terms "dove" and "pigeon" are used somewhat interchangeably. In ornithological practice there is a tendency for "dove" to be used for smaller species and "pigeon" for larger ones, but this is in no way consistently applied, and historically the common names for these birds involve much variation between "dove" and "pigeon".

The species commonly referred to just as the "pigeon" is the feral <u>Rock Pigeon</u>, common in many cities.

Pigeons and doves are stout-bodied birds with short necks and short slender bills with a fleshy cere.

The usually flimsy nests are made of sticks, and the two white <u>eggs</u> are incubated by both sexes. Doves feed on seeds, fruit and other soft plantstuff. Unlike most other birds, (but see flamingo), the doves and pigeons produce "crop milk", which is secreted by a sloughing of fluid-filled cells from the lining of the crop. Both sexes produce this highly nutritious substance to feed to the young.

This family occurs worldwide, but the greatest variety is in the Indomalaya and Australasia ecozones. It is related to the extinct dodo. The young doves and pigeons are called "squabs".

- 1 Systematics and evolution
 - o 1.1 Subfamily Columbinae typical pigeons & doves
 - o 1.2 Subfamily N.N. Bronzewings and relatives
 - o 1.3 Subfamily Leptotilinae Zenaidine and quail doves
 - o 1.4 Subfamily Columbininae American ground doves
 - o 1.5 Subfamily N.N. Indopacific ground doves
 - o 1.6 Subfamily Otidiphabinae Pheasant Pigeon
 - o 1.7 Subfamily Didunculinae tooth-billed pigeon
 - 1.8 Subfamily Gourinae crowned pigeons
 - o 1.9 Subfamily N.N. ("Treroninae") green and fruit doves and imperial

pigeons

- o 1.10 Placement unresolved
- 2 Symbolism
- 3 Doves as food
- 4 Trivia

- 6 References
 - o 6.1 Footnotes
- <u>7 See also</u>
 - o 7.1 Related to doves
- o 7.2 Related to symbolism
- 7.3 Miscellaneous

Systematics and evolution

The family is usually divided into five subfamilies, but this is probably inaccurate. For example, the American ground and quail doves which are usually placed in the Columbinae seem to be two distinct subfamilies. The order presented here follows Baptista *et al.* (1997) with some updates (Johnson & Clayton, 2000; Johnson *et al.*, 2001; Shapiro *et al.*, 2002)...

Note that the arrangement of genera and naming of subfamilies is in some cases provisional because analyses of different DNA sequences yield results that differ, often radically, in the placement of certain (mainly Indo-Australian) genera. This ambiguity, probably caused by Long branch attraction, on the other hand seems to confirm that the first pigeons evolved in the Australasian region, and that the "Treronidae" and allied forms (crowned and pheasant pigeons, for example) represent the earliest radiation of the group.

Exacerbating these issues, columbids are not well represented in the fossil record. No really primitive forms have been found to date. The genus Gerandia which most likely belongs to the Columbinae has been described from Early Miocene deposits of France. Apart from that, all other fossils belong to extant genera. For these, and for the considerable number of more recently extinct prehistoric species, see the respective genus accounts.

Subfamily Columbinae - typical pigeons & doves

Genus Columba (Old World pigeons)

- Rock Pigeon, Columba livia
 - o Domestic pigeon or feral pigeon, Columba livia domestica
- Stock Pigeon, Columba oenas

Trocaz Pigeon, Columba trocaz

Bolle's Pigeon, Columba bollii

Laurel Pigeon, Columba junoniae

Hill Pigeon, Columba rupestris

Snow Pigeon, Columba leuconota

Speckled Pigeon, Columba guinea

White-collared Pigeon, Columba albitorques

Pale-backed Pigeon, Columba eversmanni

Somali Pigeon, Columba oliviae

Wood Pigeon, Columba palumbus

Afep Pigeon, Columba unicincta
African Olive Pigeon, Columba arquatrix
Cameroon Olive Pigeon, Columba sjostedti
Sao Tome Olive Pigeon, Columba thomensis
Comoro Olive Pigeon, Columba polleni
Speckled Wood-pigeon, Columba hodgsonii
White-naped Pigeon, Columba albinucha
Ashy Wood-pigeon, Columba pulchricollis
Nilgiri Wood-pigeon, Columba elphinstonii

- Sri Lanka Wood-pigeon, Columba torringtoni
 Pale-capped Pigeon, Columba punicea
 Silvery Pigeon, Columba argentina (possibly extinct)
 Andaman Wood-pigeon, Columba palumboides
 Japanese Wood-pigeon, Columba janthina
 Bonin Wood-pigeon, Columba versicolor (extinct)
 Ryukyu Wood-pigeon, Columba jouyi (extinct)
 Metallic Pigeon or White-throated Pigeon, Columba vitiensis
 White-headed Pigeon, Columba leucomela
 Yellow-legged Pigeon, Columba pallidiceps
- Eastern Bronze-naped Pigeon, Columba delegorguei Western Bronze-naped Pigeon, Columba iriditorques Sao Tome Bronze-naped Pigeon, Columba malherbii African Lemon-dove, Columba larvata Sao Tome Lemon-dove, Columba simplex

Genus Streptopelia (turtledoves)

Laughing Dove Streptopelia senegalensis (may be distinct genus Stigmatopelia) Spotted Dove Streptopelia chinensis (may be distinct genus Stigmatopelia) Collared Dove Streptopelia decaocto Barbary Dove Streptopelia risoria (domesticated; taxonomic status doubtful) African Collared Dove, Streptopelia roseogrisea Turtle Dove Streptopelia turtur Oriental Turtle Dove Streptopelia orientalis Dusky Turtle Dove, Streptopelia lugens Adamawa Turtle Dove, Streptopelia hypopyrrha Island Collared Dove, Streptopelia bitorquata White-winged Collared Dove, Streptopelia reichenowi African Mourning Dove, Streptopelia decipiens Red-eyed Dove, Streptopelia semitorquata Ring-necked Dove, Streptopelia capicola Vinaceous Dove, Streptopelia vinacea Red Turtle Dove, Streptopelia tranquebarica

Madagascar Turtle Dove, Streptopelia picturata (may be distinct genus Nesoenas)

Rodrigues Turtle Dove, Streptopelia rodericana (extinct; may be distinct genus Nesoenas)

Pink Pigeon, Streptopelia mayeri (may be distinct genus Nesoenas) Réunion Pink Pigeon, Streptopelia duboisi (extinct; may be distinct genus Nesoenas)

Genus *Patagioenas* (American pigeons; formerly included in *Columba*)

 White-crowned Pigeon, Patagioenas leucocephala Scaly-naped Pigeon, Patagioenas squamosa Scaled Pigeon, Patagioenas speciosa Picazuro Pigeon, Patagioenas picazuro Bare-eyed Pigeon, Patagioenas corensis Spot-winged Pigeon, Patagioenas maculosa Band-tailed Pigeon, Patagioenas fasciata Chilean Pigeon, Patagioenas araucana Ring-tailed Pigeon, Patagioenas caribaea Pale-vented Pigeon, Patagioenas cayennensis

Red-billed Pigeon, Patagioenas flavirostris

Peruvian Pigeon, Patagioenas oenops

Plain Pigeon, Patagioenas inornata

Plumbeous Pigeon, Patagioenas plumbea

Ruddy Pigeon, Patagioenas subvinacea

Short-billed Pigeon, Patagioenas nigrirostris

Dusky Pigeon, Patagioenas goodsoni

Genus *Macropygia*

 Barred Cuckoo-dove, Macropygia unchall Slender-billed Cuckoo-dove, Macropygia amboinensis Brown Cuckoo-dove, Macropygia phasianella Dusky Cuckoo-dove, Macropygia magna Andaman Cuckoo-dove, Macropygia rufipennis Philippine Cuckoo-dove, Macropygia tenuirostris Ruddy Cuckoo-dove, Macropygia emiliana Black-billed Cuckoo-dove, Macropygia nigrirostris Mackinlay's Cuckoo-dove, Macropygia mackinlayi Little Cuckoo-dove, Macropygia ruficeps

Genus Reinwardtoena

Great Cuckoo-dove, Reinwardtoena reinwardtii
Pied Cuckoo-dove, Reinwardtoena browni
Crested Cuckoo-dove, Reinwardtoena crassirostris

Genus Turacoena

 White-faced Cuckoo-dove, Turacoena manadensis Black Cuckoo-dove, Turacoena modesta

Subfamily N.N. - Bronzewings and relatives

Genus *Turtur* (African wood doves; subfamily assignment unclear)

 Emerald-spotted Wood Dove, Turtur chalcospilos Black-billed Wood Dove, Turtur abyssinicus Blue-spotted Wood Dove, Turtur afer Tambourine Dove, Turtur tympanistria Blue-headed Wood Dove, Turtur brehmeri

Genus Oena (subfamily assignment unclear)

Namaqua Dove, Oena capensis

Genus Chalcophaps

• Emerald Dove, Chalcophaps indica Stephan's Dove, Chalcophaps stephani

Genus Henicophaps

 New Guinea Bronzewing, Henicophaps albifrons New Britain Bronzewing, Henicophaps foersteri

Genus *Phaps*

 Common Bronzewing, Phaps chalcoptera Brush Bronzewing, Phaps elegans Flock Bronzewing, Phaps histrionica

Genus Ocyphaps

• Crested Pigeon, Ocyphaps lophotes

Genus Geophaps

 Spinifex Pigeon, Geophaps plumifera Squatter Pigeon, Geophaps scripta Partridge Pigeon, Geophaps smithii

Genus Petrophassa, rock pigeons

• Chestnut-quilled Rock Pigeon, Petrophassa rufipennis White-quilled Rock Pigeon, Petrophassa albipennis

Genus Geopelia

Diamond Dove, Geopelia cuneata
 Zebra Dove, Geopelia striata
 Peaceful Dove, Geopelia placida
 Barred Dove, Geopelia maugei
 Bar-shouldered Dove, Geopelia humeralis

Subfamily Leptotilinae - Zenaidine and quail doves

Genus Zenaida

White-winged Dove, Zenaida asiatica
 Pacific Dove, Zenaida meloda
 Zenaida Dove, Zenaida aurita
 Galapagos Dove, Zenaida galapagoensis
 Eared Dove, Zenaida auriculata
 Mourning Dove, Zenaida macroura
 Socorro Dove, Zenaida graysoni (extinct in the wild)

Genus Ectopistes

- Passenger Pigeon *Ectopistes migratorius* (<u>extinct</u>) Genus *Leptotila*
 - White-tipped Dove, Leptotila verreauxi
 White-faced Dove, Leptotila megalura
 Grey-fronted Dove, Leptotila rufaxilla
 Grey-headed Dove, Leptotila plumbeiceps
 Pallid Dove, Leptotila pallida
 Brown-backed Dove, Leptotila battyi
 Grenada Dove, Leptotila wellsi
 Caribbean Dove, Leptotila jamaicensis
 Grey-chested Dove, Leptotila cassini
 Ochre-bellied Dove, Leptotila ochraceiventris
 Tolima Dove, Leptotila conoveri

Genus *Geotrygon*, quail-doves

Purplish-backed Quail-Dove, Geotrygon lawrencii Veracruz Quail-Dove, Geotrygon carrikeri Costa Rica Quail-Dove, Geotrygon costaricensis Russet-crowned Quail-Dove, Geotrygon goldmani Sapphire Quail-Dove, Geotrygon saphirina Grey-headed Quail-Dove, Geotrygon caniceps Crested Quail-Dove, Geotrygon versicolor Rufous-breasted Quail-Dove, Geotrygon chiriquensis Olive-backed Quail-Dove, Geotrygon veraguensis White-faced Quail-Dove, Geotrygon albifacies Lined Quail-Dove, Geotrygon linearis White-throated Quail-Dove, Geotrygon frenata Key West Quail-Dove, Geotrygon chrysia Bridled Quail-Dove, Geotrygon mystacea Violaceous Quail-Dove, Geotrygon violacea Ruddy Quail-Dove, Geotrygon montana

Genus Starnoenas

• Blue-headed Quail-Dove, Starnoenas cyanocephala

Subfamily Columbininae - American ground doves

Genus Columbina

 Common Ground Dove, Columbina passerina Plain-breasted Ground Dove, Columbina minuta Ecuadorian Ground Dove, Columbina buckleyi Ruddy Ground Dove, Columbina talpacoti Picui Dove, Columbina picui Croaking Ground Dove, Columbina cruziana Blue-eyed Ground Dove, Columbina cyanopis

Genus Claravis

Blue Ground Dove, Claravis pretiosa
 Purple-winged Ground Dove, Claravis godefrida
 Maroon-chested Ground Dove, Claravis mondetoura

Genus Metropelia

 Bare-faced Ground Dove, Metriopelia ceciliae Moreno's Ground Dove, Metriopelia morenoi Black-winged Ground Dove, Metriopelia melanoptera Golden-spotted Ground Dove, Metriopelia aymara

Genus Scardafella

 Inca Dove, Scardafella inca Scaled Dove, Scardafella squammata

Genus Uropelia

• Long-tailed Ground Dove, *Uropelia campestris...*

Subfamily N.N. - Indopacific ground doves

Genus Gallicolumba

the description)

Luzon Bleeding-heart, Gallicolumba luzonica
 Mindanao Bleeding-heart, Gallicolumba crinigera (criniger is a spelling error in

Mindoro Bleeding-heart, Gallicolumba platenae

Negros Bleeding-heart, Gallicolumba keavi

Sulu Bleeding-heart, Gallicolumba menagei (possibly extinct)

Cinnamon Ground Dove, Gallicolumba rufigula

Sulawesi Ground Dove, Gallicolumba tristigmata

White-bibbed Ground Dove, Gallicolumba jobiensis

Caroline Ground Dove, Gallicolumba kubaryi

Polynesian Ground Dove, Gallicolumba erythroptera

White-throated Ground Dove, Gallicolumba xanthonura

Friendly Ground Dove, Gallicolumba stairi

Tanna Ground Dove, Gallicolumba ferruginea (extinct)

Santa Cruz Ground Dove, Gallicolumba sanctaecrucis
Thick-billed Ground Dove, Gallicolumba salamonis (extinct)
Marquesas Ground Dove, Gallicolumba rubescens
Bronze Ground Dove, Gallicolumba beccarii
Palau Ground Dove, Gallicolumba canifrons
Wetar Ground Dove, Gallicolumba hoedtii
Norfolk Island Ground Dove, Gallicolumba norfolciensis (extinct)

Genus Trugon

• Thick-billed Ground Pigeon, *Trugon terrestris*

Subfamily Otidiphabinae - Pheasant Pigeon

Genus Otidiphaps

• Pheasant Pigeon, Otidiphaps nobilis

Subfamily Didunculinae - tooth-billed pigeon

Genus Didunculus

• Tooth-billed Pigeon, Didunculus strigirostris

Subfamily Gourinae - crowned pigeons

Genus Goura

 Western Crowned Pigeon, Goura cristata Southern Crowned Pigeon, Goura scheepmakeri Victoria Crowned Pigeon, Goura victoria

Subfamily N.N. ("Treroninae") - green and fruit doves and imperial pigeons

Genus *Ducula* (imperial pigeons)

 Pink-bellied Imperial Pigeon, Ducula poliocephala White-bellied Imperial Pigeon, Ducula forsteni Mindoro Imperial Pigeon, Ducula mindorensis Grey-headed Imperial Pigeon, Ducula radiata Grey-necked Imperial Pigeon, Ducula carola Green Imperial Pigeon, Ducula aenea White-eyed Imperial Pigeon, Ducula perspicillata Blue-tailed Imperial Pigeon, Ducula concinna Pacific Imperial Pigeon, Ducula pacifica

Micronesian Imperial Pigeon, Ducula oceanica Polynesian Imperial Pigeon, Ducula aurorae Nukuhiva Imperial Pigeon, Ducula galeata Red-knobbed Imperial Pigeon, Ducula rubricera Spice Imperial Pigeon, Ducula myristicivora Purple-tailed Imperial Pigeon, Ducula rufigaster Cinnamon-bellied Imperial Pigeon, Ducula basilica Finsch's Imperial Pigeon, Ducula finschii Shinning Imperial Pigeon, Ducula chalconota Island Imperial Pigeon, Ducula pistrinaria Pink-headed Imperial Pigeon, Ducula rosacea Christmas Imperial Pigeon, Ducula whartoni Grey Imperial Pigeon, Ducula pickeringii Peale's Imperial Pigeon, Ducula latrans Chestnut-bellied Imperial Pigeon, Ducula brenchlevi Vanuatu Imperial Pigeon, Ducula bakeri New Caledonian Imperial Pigeon, Ducula goliath Pinon's Imperial Pigeon, Ducula pinon Bismarck Imperial Pigeon, Ducula melanochroa Collared Imperial Pigeon, Ducula mullerii Zoe's Imperial Pigeon, Ducula zoeae Mountain Imperial Pigeon, Ducula badia Dark-backed Imperial Pigeon, Ducula lacernulata Timor Imperial Pigeon, Ducula cineracea

- Pied Imperial Pigeon, Ducula bicolor Torresian Imperial Pigeon, Ducula spilorrhoa White Imperial Pigeon, Ducula luctuosa
- Genus Lopholaimus
 - Topknot Pigeon, Lopholaimus antarcticus

Genus Hemiphaga

- $\bullet \;\;$ New Zealand Pigeon, Hemiphaga novaeseelandiae Genus Cryptophaps
- Sombre Pigeon, *Cryptophaps poecilorrhoa* Genus *Gymnophaps* (mountain pigeons)
- Papuan Mountain Pigeon, Gymnophaps albertisii Long-tailed Mountain Pigeon, Gymnophaps mada Pale Mountain Pigeon, Gymnophaps solomonensis Genus Ptilinopus (fruit doves)
 - Black-backed Fruit Dove, Ptilinopus cinctus Black-banded Fruit Dove, Ptilinopus alligator Red-naped Fruit Dove, Ptilinopus dohertyi Pink-headed Fruit Dove, Ptilinopus porphyreus

Flame-breasted Fruit Dove, Ptilinopus marchei Cream-bellied Fruit Dove, Ptilinopus merrilli Yellow-breasted Fruit Dove, Ptilinopus occipitalis Red-eared Fruit Dove, Ptilinopus fischeri Jambu Fruit Dove, Ptilinopus jambu Maroon-chinned Fruit Dove, Ptilinopus subgularis Black-chinned Fruit Dove, Ptilinopus leclancheri Scarlet-breasted Fruit Dove, Ptilinopus bernsteinii Wompoo Fruit Dove, Ptilinopus magnificus Pink-spotted Fruit Dove, Ptilinopus perlatus Ornate Fruit Dove, Ptilinopus ornatus Tanna Fruit Dove, Ptilinopus tannensis Orange-fronted Fruit Dove, Ptilinopus aurantiifrons Wallace's Fruit Dove, Ptilinopus wallacii Superb Fruit Dove, Ptilinopus superbus Many-coloured Fruit Dove, Ptilinopus perousii Purple-capped Fruit Dove, Ptilinopus porphyraceus Palau Fruit Dove, Ptilinopus pelewensis Rarotonga Fruit Dove, Ptilinopus rarotongensis Mariana Fruit Dove, Ptilinopus roseicapilla Rose-crowned Fruit Dove, Ptilinopus regina Silver-capped Fruit Dove, Ptilinopus richardsii Grey-green Fruit Dove, Ptilinopus purpuratus Makatea Fruit Dove, Ptilinopus chalcurus Atoll Fruit Dove, Ptilinopus coralensis Red-bellied Fruit Dove, Ptilinopus greyii Rapa Fruit Dove, Ptilinopus huttoni White-capped Fruit Dove, Ptilinopus dupetithouarsii

Henderson Fruit Dove, Ptilinopus insularis
Coroneted Fruit Dove, Ptilinopus coronulatus
Beautiful Fruit Dove, Ptilinopus pulchellus
Blue-capped Fruit Dove, Ptilinopus monacha
White-bibbed Fruit Dove, Ptilinopus rivoli
Yellow-bibbed Fruit Dove, Ptilinopus solomonensis
Claret-breasted Fruit Dove, Ptilinopus viridis
White-headed Fruit Dove, Ptilinopus eugeniae
Orange-bellied Fruit Dove, Ptilinopus iozonus
Knob-billed Fruit Dove, Ptilinopus insolitus
Grey-headed Fruit Dove, Ptilinopus granulifrons
Black-naped Fruit Dove, Ptilinopus melanospila
Dwarf Fruit Dove, Ptilinopus nanus

Negros Fruit Dove, Ptilinopus arcanus (possibly extinct)

Orange Dove, Ptilinopus victor

Golden Dove, Ptilinopus luteovirens

Whistling Dove, Ptilinopus layardi

Genus *Natunaornis*

• Viti Levu Giant Pigeon, *Natunaornis gigoura* (prehistoric)

Genus Drepanoptila

• Cloven-feathered Dove, Drepanoptila holosericea

Genus *Alectroenas* (blue pigeons)

• Madagascar Blue Pigeon, Alectroenas madagascariensis

Comoro Blue Pigeon, Alectroenas sganzini

Seychelles Blue Pigeon, Alectroenas pulcherrima

Farquhar Blue Pigeon, Alectroenas sp. (extinct)

Mauritius Blue Pigeon, Alectroenas nitidissima (extinct)

Rodrigues Pigeon "Alectroenas" rodericana (extinct; probably distinct genus)

Placement unresolved

Genus Caloenas

Nicobar Pigeon, Caloenas nicobarica

Liverpool Pigeon, "Caloenas" maculata (extinct; probably distinct genus)

Genus *Treron* (green pigeons)

• Cinnamon-headed Green Pigeon, Treron fulvicollis

Little Green Pigeon, Treron olax

Pink-necked Green Pigeon, Treron vernans

Orange-breasted Green Pigeon, Treron bicincta

Pompadour Green Pigeon, Treron pompadora

Thick-billed Green Pigeon, Treron curvirostra

Grey-cheeked Green Pigeon, Treron griseicauda

Sumba Green Pigeon, Treron teysmannii

Flores Green Pigeon, Treron floris

Timor Green Pigeon, Treron psittacea

Large Green Pigeon, Treron capellei

Yellow-footed Green Pigeon, Treron phoenicoptera

Bruce's Green Pigeon, Treron waalia

Madagascar Green Pigeon, Treron australis

African Green Pigeon, Treron calva

Pemba Green Pigeon, Treron pembaensis

Sao Tome Green Pigeon, Treron sanctithomae

Pin-tailed Green Pigeon, Treron apicauda

Sumatran Green Pigeon, Treron oxyura

Yellow-vented Green Pigeon, Treron seimundi

Wedge-tailed Green Pigeon, Treron sphenura White-bellied Green Pigeon, Treron sieboldii Whistling Green Pigeon, Treron formosae

Genus Phapitreron (brown doves)

 White-eared Brown Dove, Phapitreron leucotis Amethyst Brown Dove, Phapitreron amethystina Dark-eared Brown Dove, Phapitreron cinereiceps

Genus Leucosarcia

• Wonga Pigeon, Leucosarcia melanoleuca

Genus Microgoura

- Choiseul Pigeon, *Microgoura meeki* (<u>extinct</u>; subfamily assignment unclear) Genus *Dysmoropelia*
- St Helena Flightless Pigeon, *Dysmoropelia dekarchiskos* (<u>extinct</u>) Genus indeterminate
 - Henderson Island Archaic Pigeon, Columbidae gen. et sp. indet. (prehistoric)

Symbolism

- White doves, usually meaning domesticated <u>Rock Pigeons</u>, are a traditional Christian and Jewish symbol of love and peace. According to the biblical story, a dove was released by Noah after the flood in order to find land; it came back carrying an olive branch, telling Noah that, somewhere, there was land. A dove with an olive branch has since then come to symbolize peace. In Christian iconography, a dove also symbolizes the Holy Spirit, in reference to Matthew 3:16 and Luke 3:22 where the Holy Spirit appeared as a dove at the Baptism of Jesus.
- Doves or other birds are sometimes released at Christian weddings. It should be noted that these birds, unless they are trained homing pigeons, cannot survive in the wild and will either starve to death or be easy prey for predators.
- Doves are often associated with the concept of peace and pacifism. They often
 appear in political cartoons, on banners and signs at events promoting peace
 (such as the Olympic games, at various anti-war/anti-violence protests, etc.), and
 in pacifist literature. A person who is a pacifist is sometimes referred to as a dove
 (similarly, in American politics, a person who advocates the use of military
 resources as opposed to diplomacy can be referred to as a hawk).
- Ironically, although sometimes ungratefully considered "pests" in big cities, common pigeons or Rock Pigeons have served humans in times of war as war pigeons, and have even been awarded war medals to honour their services to humanity. These include the homing pigeon, Cher Ami, who received the French Croix de guerre for services during wartime, and who is now enshrined in the Smithsonian Institution, and G.I. Joe, who received the Dickin Medal for his role in preventing the bombing of an Italian village of over 1,000 people.

Doves as food

Several species of pigeon or dove are used as food, and probably any could be; the powerful breast muscles characteristic of the family make excellent meat. In Europe the Wood Pigeon is commonly shot as a game bird, while <u>Rock Pigeons</u> were originally domesticated as a food species, and many breeds were developed for their meat-bearing qualities. The extinction of the Passenger Pigeon was at least partly due to shooting for use as food.

Doves are Kosher, and they and Turtle Doves are the only birds that may be used for a Korban. Other Kosher birds may be eaten, but not brought as a Korban.

Trivia

- Doves can be trained and often are utilized in tricks and animal acts by magicians and showmen.
- In the United States, "dove" is sometimes used as a street name for cocaine. Ecstasy pills are also sometimes referred to as "doves", due to a well-known "brand" of pills featuring an embossed dove.
- Dove is a brand of American ice cream; their "Dove Bar", featuring a vanilla ice cream filling with a thin chocolate coating, is particularly well known.
- Dove is also a brand of soaps, deodorants skin care and hair care products, manufactured by Unilever.
- A "pigeon" is an English slang word to refer to an uneducated, naive, or unsophisticated person: one that is easily deceived or cheated by underhanded means. To be referred to as a "pigeon" or a "dupe" suggests unwariness in the person deluded — especially used in the slang language of gambling. Etymology: from Middle French duppe.

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Footnotes

1. A Basically, the conventional treatment had 2 large subfamilies, one for the fruit-doves, imperial pigeons and fruit-pigeons, and another for nearly all of the remaining species. Additionally, there were 3 monotypic subfamilies, one each for the genera *Goura*, *Otidiphaps* and *Didunculus*. The old subfamily Columbinae consists of 5 distinct lineages, whereas the other 4 groups are more or less accurate representations of the evolutionary relationships.

See also

Related to doves

- Homing pigeon
- <u>Carrier pigeon</u>

Bird families - D

Dendrocolaptidae

Woodcreepers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Passeriformes</u> Family: <u>Furnariidae</u>

Subfamily: **Dendrocolaptinae** Genera: many; see article text

The **woodcreepers**, Dendrocolaptinae, comprise a <u>subfamily</u> of sub-oscine <u>passerine</u> <u>birds</u> <u>endemic</u> to the neotropics. They were formerly considered a distinct <u>family</u>, Dendrocolaptidae.

Generally brownish birds, the true woodcreepers maintain an upright vertical posture, supported by their stiff tail vanes, and feed mainly on insects taken from tree trunks. However, woodcreepers often form part of the core group at the center of flocks attending army ant swarms. Though unrelated, they superficially resemble the Old World treecreepers. Woodcreepers are arboreal cavity-nesting birds; 2-3 white eggs are laid and incubated for about 15 days.

These birds can be difficult to identify in that they tend to have similar brown upperparts, and the more distinctive underparts are hard to see on a bird pressed against a trunk in deep forest shade. The bill shape and call are useful aids to determining species.

Systematics

The former family has been merged into the ovenbird family, <u>Furnariidae</u>, due to genetic work showing *Sclerus* leaftossers and *Geositta* miners to be basal to the Furnariidae and the woodcreepers. Maintaining Dendrocolaptidae as a separate family between them and the other furnariids created a paraphyletic Furnariidae, hence the merger.

Interestingly, the xenops, which were usually considered to be ovenbirds with a somewhat woodcreeper-like plumage, are in fact closely related to the latter (Fjeldså et al., 2005). They are best considered to form a separate tribe and give a good impression of how the ancestors of the woodcreepers must have looked like. The true woodcreepers are characterized by a belly feather growth pattern not found in any other birds.

The systematics of the Dendrocolaptinae were reviewed by Raikow (1994, based on morphology) and Irestedt et al. (2004, based on analysis of nuclear and mitochondrial DNA sequences). As the latter paper revealed, the commonplace convergent evolution of bill morphology hampered Raikow's analysis. Color patterns, on the other hand, were more in agreement with the molecular data, but the generally drab coloration of the woodcreepers renders this character less informative than desirable. The work of Irested *et al.*, on the other hand, was severely limited by unavailability of samples of many phylogenetically interesting taxa.

For example, the *Deconychura* species apparently belong into separate genera, but only *D. longicauda* was available for molecular analysis. Moving *Lepidocolaptes fuscus* to

Xiphorhynchus restores monophyly of *Lepidocolaptes*, and *Xiphorhynchus* was very much under-split (Aleixo, 2002a,b). *Hylexetastes* may contain anything from 1 to 4 species.

It remains unresolved whether the Scimitar-billed and Long-billed Woodcreepers' distinctiveness is due to strong selective pressure (and therefore rapid morphological evolution) of forms related to Lepidocolaptes and Dendrexetastes, respectively, or to long-time evolution of distinct lineages which separated early in the evolution of the group, with genetic similarity due to long branch attraction. The data gained from the myoglobin intron II DNA sequence disagrees strongly with mtDNA cytochrome b sequence data regarding the validity of *Lepidocolaptes* in general Irestedt *et al.* (2004); as the latter agrees much better with morphological and biogeographical data it therefore is used here.

More detailed studies are needed to resolve these questions, namely reevaluation of morphological data in the light of the molecular findings, and new molecular studies which thoroughly sample the questionable genera.

FAMILY FURNARIIDAE

Subfamily **Dendrocolaptinae** - woodcreepers

Tribe **Xenopini** - **xenops**

- Genus *Megaxenops* Great Xenops
 - o Great Xenops, Megaxenops parnaguae
- Genus Xenops
 - Rufous-tailed Xenops, Xenops milleri
 Slender-billed Xenops, Xenops tenuirostris
 Plain Xenops, Xenops minutus
 Streaked Xenops, Xenops rutilans

Tribe **Dendrocolaptini** - true woodcreepers

- Genus *Glyphorynchus*
 - o Wedge-billed Woodcreeper, Glyphorynchus spirurus
- Genus *Dendrocincla*
 - Tyrannine Woodcreeper, Dendrocincla tyrannina
 Thrush-like Woodcreeper, Dendrocincla turdina
 Tawny-winged Woodcreeper, Dendrocincla anabatina
 Plain-brown Woodcreeper, Dendrocincla fuliginosa
 White-chinned Woodcreeper, Dendrocincla merula
 Ruddy Woodcreeper, Dendrocincla homochroa
- Genus Deconvchura
 - Long-tailed Woodcreeper, Deconychura longicauda
 Spot-throated Woodcreeper, Deconychura stictolaema probably a genus on its own
- Genus Sittasomus
 - o Olivaceous Woodcreeper, Sittasomus griseicapillus
- Genus Nasica
 - o Long-billed Woodcreeper, *Nasica longirostris*

- Genus Dendrexetastes
 - o Cinnamon-throated Woodcreeper, Dendrexetastes rufigula
- Genus Dendrocolaptes
 - Northern Barred-Woodcreeper, Dendrocolaptes sanctithomae Amazonian Barred-Woodcreeper, Dendrocolaptes certhia Hoffmann's Woodcreeper, Dendrocolaptes hoffmannsi Black-banded Woodcreeper, Dendrocolaptes picumnus Planalto Woodcreeper, Dendrocolaptes platyrostris
- Genus Hylexetastes
 - Bar-bellied Woodcreeper, Hylexetastes stresemanni
 - o Red-billed Woodcreeper, Hylexetastes perrotii
 - Uniform Woodcreeper, Hylexetastes (perrotii) uniformis
 - Brigida's Woodcreeper, Hylexetastes (perrotii) brigidai
- Genus Xiphocolaptes
 - White-throated Woodcreeper, Xiphocolaptes albicollis
 Moustached Woodcreeper, Xiphocolaptes falcirostris
 Great Rufous Woodcreeper, Xiphocolaptes major
 Strong-billed Woodcreeper, Xiphocolaptes promeropirhynchus
- Genus Campylorhamphus
 - Greater Scythebill, Campylorhamphus pucherani Red-billed Scythebill, Campylorhamphus trochilirostris Brown-billed Scythebill, Campylorhamphus pusillus Black-billed Scythebill, Campylorhamphus falcularius Curve-billed Scythebill, Campylorhamphus procurvoides
- Genus Dendroplex formerly in Xiphorhynchus
 - Straight-billed Woodcreeper, Dendroplex picus
 Zimmer's Woodcreeper, Dendroplex kienerii formerly Xiphorhynchus necopinus
- Genus *Xiphorhynchus* (possibly polyphyletic)
 - Lesser Woodcreeper, Xiphorhynchus fuscus formerly Lepidocolaptes
 Spix's Woodcreeper, Xiphorhynchus spixii
 Elegant Woodcreeper, Xiphorhynchus elegans
 Tschudi's Woodcreeper, Xiphorhynchus chunchotambo
 Ocellated Woodcreeper, Xiphorhynchus ocellatus
 Chestnut-rumped Woodcreeper, Xiphorhynchus pardalotus
 Striped Woodcreeper, Xiphorhynchus obsoletus
 Spotted Woodcreeper, Xiphorhynchus erythropygius
 Olive-backed Woodcreeper, Xiphorhynchus triangularis
 Ivory-billed Woodcreeper, Xiphorhynchus flavigaster
 Black-striped Woodcreeper, Xiphorhynchus lachrymosus
 Buff-throated Woodcreeper, Xiphorhynchus guttatus
 Lafesnaye's Woodcreeper, Xiphorhynchus guttatoides
 - o Cocoa Woodcreeper, Xiphorhynchus susurrans
 - Lawrence's Woodcreeper, *Xiphorhynchus* (susurrans) nanus

- Genus *Drymornis*
 - o Scimitar-billed Woodcreeper, Drymornis bridgesii
- Genus *Lepidocolaptes*
 - White-striped Woodcreeper, Lepidocolaptes leucogaster Streak-headed Woodcreeper, Lepidocolaptes souleyetii Narrow-billed Woodcreeper, Lepidocolaptes angustirostris Spot-crowned Woodcreeper, Lepidocolaptes affinis Montane Woodcreeper, Lepidocolaptes lacrymiger Scaled Woodcreeper, Lepidocolaptes squamatus Lineated Woodcreeper, Lepidocolaptes albolineatus

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Dinornithidae

Moa

Conservation status: Extinct (c. 1500)

Kingdom: Animalia Phylum: Chordata

Class: Aves

Superorder: Paleognathae Order: Struthioniformes Family: **Dinornithidae**

Genera: Anomalopteryx (bush moa), Euryapteryx, Megalapteryx (upland moa), Dinornis

(giant moa), Emeus, Pachyornis

Moa were giant flightless <u>birds</u> native to New Zealand. They are unique in having no wings, not even small wings, unlike other ratites. Ten species of varying sizes are known, with the largest species, the giant moa (Dinornis robustus and Dinornis novaezelandiae), reaching about 3 m (10 ft) in height and about 250 kg (550 lb) in weight. They were the dominant herbivores in the New Zealand forest ecosystem.

- 1 History
- <u>2 Taxonomy</u>
- 3 Biology
- 4 Claims by cryptozoologists
- 5 Trivia
- 6 References

History

Moa are thought to have become extinct about 1500, although some reports speculate that a few stragglers of *Megalapteryx didinus* may have persisted in remote corners of New Zealand until the 18th and even 19th centuries.

Although it used to be thought that numbers were declining before the impact of humans, their extinction is now attributed to hunting and forest clearance by the Polynesian ancestors of the Mori, who settled in New Zealand a few hundred years earlier. Before the arrival of humans, moa were hunted by Haast's Eagle, the world's largest eagle, which is also now extinct.

Although the indigenous Mori told European settlers tales about the huge birds which they called moa, which had once roamed the flats and valleys, the widespread physical evidence that they had actually existed was never closely examined by early European settlers.

In 1839, John W. Harris, a Poverty Bay flax trader who was a natural history enthusiast, was given a piece of unusual bone by a Mori who had found it in a river bank. He showed the 15 cm fragment of bone to his uncle, John Rule, a Sydney surgeon, who sent it to Richard Owen who at that time was working at the Hunterian Museum at the Royal College of

Surgeons in London. Owen became a noted biologist, anatomist and paleontologist at the British Museum.

Owen puzzled over the fragment for almost four years. He established it was part of the femur of a big animal, but it was uncharacteristically light and honeycombed.

Owen announced to a skeptical scientific community and the world that it was from a giant extinct bird like an <u>ostrich</u>, and named it "Dinornis". His deduction was ridiculed in some quarters but was proved correct with the subsequent discoveries of considerable quantities of moa bones throughout the land, sufficient to construct skeletons of the birds.

In July 2004, the Natural History Museum in London placed on display the moa bone fragment Owen had first examined, to celebrate 200 years since his birth, and in memory of Owen as founder of the museum.

Taxonomy

The <u>kiwi</u> were once regarded as the closest relatives of the moa, but comparisons of their DNA suggest they are more closely related to the Australian <u>emu</u> and <u>cassowary</u>. (Turvey *et al.*, 2005).

Although dozens of species were described in the late 19th and early 20th centuries, many were based on partial skeletons and turned out to be synonyms. More recent research, based on DNA recovered from museum collections, suggest that there were only 11-15 species, including 2-4 giant moa. The giant moa seem to have had pronounced sexual dimorphism, with females being much larger than males; so much bigger that they were formerly classified as separate species (see also below). The giant moa grew as large as 13 feet and became extinct much earlier (also by Mori hunting), about 1300.

Although traditionally reconstructed in an upright position giving impressive height, it is thought more likely that moas carried their heads forward, in the manner of a kiwi in order to graze on low-level vegetation.

Most interestingly, ancient DNA analyses have determined that there were a number of cryptic evolutionary lineages in several moa species. These may eventually be classified as species or subspecies; *Megalapteryx benhami* which was synonymized with *M. didinus* has been revealed to be a valid species by the same study (Baker *et al.*, 2005).

Sometimes, the Dinornithidae are considered to be a full order (Dinornithiformes), in which case the subfamilies listed below would be advanced to full family status (replacing "inae" with "-idae").

Thus, the currently recognized genera and species are:

- Family †Dinornithidae Moa
 - o Subfamily Megalapteryginae Megalapteryx Moa
 - Genus *Megalapteryx*
 - Benham's Megalapteryx, Megalapteryx benhami (South Island, New Zealand)
 - Lesser Megalapteryx, Megalapteryx didinus (South Island, New Zealand)
 - Subfamily Anomalopteryginae Lesser Moa

- Genus Anomalopteryx
 - Bush Moa, Anomalopteryx didiformis (South Island, New Zealand)
- Genus *Euryapteryx*
 - North Island Broad-billed Moa, Euryapteryx curtus (North Island, New Zealand)
 - South Island Broad-billed Moa, Euryapteryx geranoides (South Island, New Zealand)
- Genus *Emeus*
 - Eastern Moa, Emeus crassus (South Island, New Zealand)
- Genus *Pachyornis*
 - Crested Moa, Pachyornis australis (South Island, New Zealand)
 - Heavy-footed Moa, Pachyornis elephantopus (South Island, New Zealand)
 - Mappin's Moa, Pachyornis mappini (North Island, New Zealand)
 - Pachyornis new lineage A (North Island, New Zealand)
 - Pachyornis new lineage B (South Island, New Zealand)
- o Subfamily **Dinornithinae** Giant Moa
 - Genus *Dinornis*
 - North Island Giant Moa, Dinornis novaezealandiae (North Island, New Zealand)
 - South Island Giant Moa, Dinornis robustus (South Island, New Zealand)
 - Dinornis new lineage A (South Island, New Zealand)
 - Dinornis new lineage B (South Island, New Zealand)

Biology

It has been long suspected that the species of moa described as *Euryapteryx curtus / E. exilis, Emeus huttonii / E. crassus*, and *Pachyornis septentrionalis / P. mappini* constituted males and females, respectively. This has been confirmed by analysis for sex-specific genetic markers of DNA extracted from bone material (Huynen *et al.*, 2003). More interestingly, the former three species of *Dinornis*: *D. giganteus = robustus*, *D. novaezealandiae* and *D. struthioides* have turned out to be males (*struthioides*) and females of only two species, one each formerly occurring on New Zealands North Island (*D. novaezealandiae*) and South Island (*D. robustus*) (Huynen *et al.*, 2003; Bunce *et al.*, 2003); *robustus* however, comprises 3 distinct genetic lineages and may eventually be classified as as many species as discussed above.

Moa females were larger than males, being up to 150% of the male's size and 280% of their weight. This phenomenon — reverse size dimorphism — is not uncommon amongst <u>ratites</u>, being most pronounced in moa and <u>kiwis</u>.

Claims by cryptozoologists

Though there is no reasonable doubt that moa are <u>extinct</u>, there has been occasional speculation that some may still exist in deepest south Westland, a rugged wilderness in the South Island of New Zealand. Cryptozoologists and others reputedly continue to search for them, but no hard evidence or actual specimens have ever been found, and their efforts are widely considered to be pseudoscientific.

In January 1993, on the West Coast, Paddy Freaney, Sam Waby and Rochelle Rafferty claimed to have seen a large moa-like bird. Analysis of the blurry photograph they claimed was of a moa suggested that the subject could be either a large bird or a red deer. The incident is considered a hoax, especially as Freaney is a hotelier, and may have concocted the story to attract tourists.

Moa experts say the likelihood of any moa remaining alive and unnoticed is extremely unlikely, since they would be giant birds in a region often visited by hunters and hikers. Freaney cites the rediscovery of the Takah as evidence that living birds could still exist undiscovered. However, while the hen-sized Takah could successfully avoid humans, a large moa would have considerably more difficulty in doing so. The Takah was rediscovered after its tracks were identified, but no reliable evidence of moa tracks has been reported.

Trivia

- The plural form of moa is also moa, as Mori words do not feature plural-"s".
- In the popular MMORPG Guild Wars, moa can be tamed as combat pets.

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Dromadidae

Crab Plover

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: **Dromadidae** GR Gray, 1840Genus: **Dromas** Paykull, 1805Species: **D. ardeola**

Binomial name: **Dromas ardeola** Paykull, 1805

The **Crab Plover** (*Dromas ardeola*) is a <u>bird</u> related to the <u>waders</u>, but sufficiently distinctive to merit its own family **Dromadidae**. Its relationship within the Charadriiformes is unclear, some have in close to the Thick-knees, or the pratincoles, or even closer to the <u>auks</u> and <u>gulls</u>. It is the only member of the genus *Dromas*.

• <u>1 Description</u>

• 2 Range and Behaviour

• <u>3 References</u>

Description

This bird resembles a plover, but has very long grey legs and a strong heavy black bill similar to a <u>tern</u>. Its black-and-white plumage and long-necked upright posture make it look like a cross between a pied avocet and a giraffe. Its bill is unique among waders, and specialised for eating crabs. It has partially webbed toes. The plumage is white except for black on its back and in the primary feathers of the wings. They are noisy birds, calling frequently on their breeding sites and in their wintering grounds.

The Crab Plover is one of the species to which the *Agreement on the Conservation of African-Eurasian Migratory Waterbirds* (AEWA) applies.

Range and Behaviour

It is resident on the coasts and islands of the Indian Ocean, where it feeds on crabs and other small animals. They are gregarious and will feed in large groups, at night and during dawn and dusk as well as during the day; this crepuscular and nocturnal behaviour is more common during the breeding season. They breed around the Persian Gulf, Red Sea and Somalia in the months of April to July then disperse across the Indian Ocean in August as far as the Andaman Islands and Sri Lanka in the east and Tanzania and Madagascar.

The Crab Plover is unusual for waders in that it nests in burrows in sandy banks. It is a colonial breeder, nesting in colonies as large 1500 pairs. It lays one white egg, occasionally two, which are large for its body size. The chicks are also unique for waders in being unable

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to walk and remain in the nest for several days after hatching, having food brought to them. Even once they fledge they have a long period of parental care afterwards.

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Dromornithidae

Conservation status: Fossil Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes

Family: Dromornithidae P. Rich, 1979Genera: Dromornis, Barawertornis, Bullockornis,

Ilbandornis, Genyornis

Dromornithidae were a family of large, flightless <u>birds</u> that lived in Australia until the end of the Pleistocene, but are now <u>extinct</u>. They were long believed to belong to the order of Struthioniformes, but are now usually classified as a family of Anseriformes 1. Their closest living relatives are waterfowl such as <u>ducks</u> and <u>geese</u>.

The scientific name *Dromornithidae* derives from Greek *dromaios* ("swift-running") and *ornis* ("bird"). Additionally, the family has been called *Thunder birds*, *giant emus*, *giant runners*, *demon ducks* and *Mihirungs*. The latter word is derived from Chaap Wuurong (Tjapwuring) *mihirung paringmal* for a "giant emu". The name used in this article, **dromornithids**, is derived from the family name.

Including the probably largest bird that ever lived —Dromornis stirtoni grew up to 3 meters tall— dromornithids were part of the Australian megafauna. This collective term is used to describe a number of comparatively large species of animals that lived in Australia from 20,000 to 50,000 years ago. The causes for the disappearance of these animals are under dispute (see "Extinction" below). It is also not clear to what degree dromornithids were carnivores. The massive, crushing beaks of some species suggest that at least some members of the family were a combination of carnivorous predators and scavengers (much like today's hyenas) or omnivores. Other features, such as the "hoof-like" feet, stomach structure, and eye structure that resulted in a wide field of vision but likely also created a centre blind spot of about forty degrees (which would hinder hunting significantly) suggest a more herbivorous, migratory lifestyle.

- 1 Appearance
- 2 Species
- <u>3 Distribution</u>
- 4 Age
- <u>5 Discovery</u>
- <u>6 Fossils</u>
- 7 Diet
- 8 Locomotion
- <u>9 Phylogeny</u>
- 10 Extinction
- 11 See also
- 13 References

Appearance

Dromornithids looked superficially like very large emus or moas. Most were heavybodied, with powerfully developed legs and greatly reduced wings. The last bones of the toes resembled small hooves, rather than claws as in most birds. Like emus and other flightless birds, dromornithids lost the keel on the breastbone (or sternum), that serves as the attachment for the large flight muscles in most bird skeletons. Their skull also was quite different from that of emus. These birds ranged from about the size of a modern cassowary (1.5 to 1.8 meters) up to 3 meters in the case of Dromornis stirtoni, possibly the largest bird that ever lived.

Species

As of 2005, 5 genera and 7 species have been described, and at least one new genus is currently under study. The smallest species was Barawertornis tedfordi, a bird about the size of a modern <u>cassowary</u>, weighing 80-95 kg. The two species of *Ilbandornis* (Ilbandornis lawsoni and Ilbandornis woodburnei) were larger birds, but had more slender legs than the other dromornithids and were similar to <u>ostriches</u> in their build and size. Bullockornis planei (the Demon Duck of Doom) and Genyornis newtoni (the mihirung) were more heavily built, stood about 2-2.5m tall and probably reached weights of 220 to 240 kg. The largest dromornithids were Dromornis australis and the massive Dromornis stirtoni (*Stirton's Thunderbird*).

Distribution

Records of these birds are known only from Australia. Most of the records of dromornithids come from the eastern half of the continent, although fossil evidence of has also been discovered in Tasmania and Western Australia. At some Northern Territory sites they are very common, sometimes comprising 60-70% of the fossil material. A fragment of a dromornithid-sized foot bone has been found in Antarctica, but whether it represents these birds is uncertain.

Age

The earliest bones identified were found in Late Oligocene deposits at Riversleigh, northwest Queensland. There are foot impressions from the Early Eocene in southeast Queensland that may be referable to dromornithids. The most recent evidence, of Genyornis newtoni, has been found at Cuddie Springs, north central New South Wales and dated at 31,000 years old.

Discovery

The most recent species, *Genyornis newtoni*, was certainly known to Aborigines during the Late Pleistocene. Cave paintings thought to depict this bird are known, as are carved footprints larger than those considered to represent emus. At Cuddie Springs, *Genyornis* bones have been excavated in association with human artifacts. The issue of how much of an impact humans had on dromornithids and other large animals of the time is unresolved and much debated. Many scientists believe that human settlement and hunting were largely responsible for the extinction of many species of the Australian megafauna.

The first Europeans to encounter the bones of dromornithids may have been Thomas Mitchell and his team. While exploring the Wellington Caves, one of his men tied his rope to a projecting object which broke when he tried to descend down the rope. After the man had climbed back up, it was found that the projecting object was the fossilised long bone of a large bird. The first species to be described was Dromornis australis. The specimen was found in a 55 meter deep well at Peak Downs, Queensland, and subsequently described by Richard Owen in 1872.

Extensive collections of any dromornithid fossils were first made at Lake Callabonna, South Australia.

In 1892, E.C. Stirling and A.H. Zietz of the South Australian Museum received reports of large bones in a dry lake bed in the northwest of the state. Over the next years, they made several trips to the site, collecting nearly complete skeletons of several individuals. They named the newfound species Genyornis newtoni in 1896. Additional remains of *Genyornis* have been found in other parts of South Australia and in New South Wales and Victoria.

Other sites of importance were Bullock Creek and Alcoota, both in the Northern Territory. The specimen recovered there remained unstudied and unnamed until 1979, when Patricia Rich described five new species and four new genera. As of 2005, another new genus and species is under study at the Australian Museum.

Fossils

The best represented bones of dromornithids are vertebrae, long bones of the hindlimb and toe bones. Ribs and wing bones are uncommonly preserved. The rarest part of the skeleton is the skull. For many years, the only skull known was a damaged specimen of Genyornis. Early reconstructions of dromornithids made them appear like oversized emus. Peter Murray and Dirk Megirian, of the Northern Territory Museum in Australia, recovered enough skull material of Bullockornis to give a good idea of what that bird's head looked like. It is now known that Bullockornis' skull was very large, with the enormous bill making up about two-thirds of it. The bill was deep, but rather narrow. The jaws had cutting edges at the front as well as crushing surfaces at the back. There were attachments for large muscles, indicating that *Bullockornis* had a powerful bite. More fragmentary remains of the skull of Dromornis suggest that it, too, had an oversized skull.

Bones are not the only remains of dromornithids that have been found:

- The polished stones that the birds kept in their gizzards (muscular stomachs)
 occur at a number of sites. These stones, called gastroliths, played an important
 role in their digestion by breaking up coarse food or matter that was swallowed
 in large chunks.
- Series of footprints, called trackways, have been found at several sites.
 Impressions of the inside of the skull cavity (endocranial casts o
 r endocasts) have been found. Endocasts are formed when sediments fill the
 empty skull, after which the skull is destroyed. These fossils give a fairly accurate
 picture of dromornithid brains.
- Almost complete eggs have been found on occasion and eggshell fragments are common in some areas of sand dunes.

Diet

It has been generally thought that the dromornithids were plant eaters. This belief is based on:

- the lack of a hook at the end of the bill
- the lack of talons on the toes
- the association of gizzard stones (caveat: gastroliths are also found the stomachs of some carnivores, such as modern crocodiles)
- the large number of individuals occurring together, suggesting flocking behaviour.

The very large skull and deep bill of *Bullockornis*, however, are very unlike those found in large herbivorous birds such as moas. If this dromornithid ate plants, it was equipped to process very robust material that has thus far not been identified. Growing and maintaining such a large head would be detrimental and probably not occur unless it provided a substantial benefit of some sort, although it may have just been a social signal - this, however, would require a highly developed or complex social structure to evolve.

It has been suggested that, despite the indications of herbivory in some dromornithids, *Bullockornis* may have been a carnivore or possibly a scavenger. The jaws could easily cut meat and their robust structure could have resisted damage if it bit into bones. The bird could easily have fed on the carcasses of large animals.

It is, of course, not necessary that all dromornithids had the same diet. There is good evidence that *Genyornis*, at least, was a plant eater. Amino acid analysis of eggshells indicates that this species was herbivorous. *Bullockornis* and *Dromornis*, with larger heads, may have had different diets.

Locomotion

Because of their enormous size, dromornithids have been considered to have been slow lumbering creatures. Their legs are not long and slender like those of emus or ostriches, which are specialised for running. However, biomechanical analysis of the attachments and

presumed sizes of the muscles suggest that dromornithids might have been able to run much faster than originally thought, making up for their less then ideal form with brute strength.

Phylogeny

What the nearest relatives of this group are is a controversial issue. For many years it was thought that dromornithids were related to ratites, such as emus, cassowaries and ostriches. It is now believed that the similarities between these groups are the result of similar responses to the loss of flight. The latest idea on dromornithid relationships, based on details of the skull, is that they evolved early in the lineage that includes [waterfowl].

Extinction

The reasons for the extinction of this entire family along with the rest of the Australian megafauna by the end of the Pleistocene are still debated. It is hypothesized that the arrival of the first humans in Australia (around 48-60 thousand years ago) and their hunting and landscape-changing use of fire may have contributed to the disappearance of the megafauna. However, drought conditions during peak glaciation (about 18,000 years ago) are a significantly confounding factor. Recent studies (Roberts et al. 2001) appear to rule this out as the primary cause of extinction, but there is also some dispute about these studies (Wroe et al. 2002). It is likely that a combination of all of these factors contributed to the megafauna's demise. However, there is significant disagreement about the relative importance of each.

See also

- Fossil Birds
- Later Quaternary Prehistoric Birds

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Bird families - E

Bird families - F

Falconidae

Falconids

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes

Family: **Falconidae** Vigors, 1824Genera: *Daptrius, Phalcoboenus, Polyborus, Milvago,*

Herpetotheres, Micrastur, Spiziapteryx, Polihierax, Microhierax, Falco

The <u>family</u> **Falconidae** includes about 60 <u>species</u> of diurnal birds of prey, notably the <u>falcons</u> and caracaras. They differ from other Falconiformes in killing with their beaks instead of their feet. They have a "tooth" on the side of their beak for the purpose.

Species

- Genus Daptrius
 - Black Caracara, Daptrius ater
 Red-throated Caracara, Daptrius americanus
- Genus Phalcoboenus
 - Carunculated Caracara, Phalcoboenus carunculatus Mountain Caracara, Phalcoboenus megalopterus White-throated Caracara, Phalcoboenus albogularis Striated Caracara, Phalcoboenus australis
- Genus *Polyborus*
 - o Crested Caracara, *Polyborus plancus*
- Genus Milvago
 - o Yellow-headed Caracara, Milvago chimachima
 - o Chimango Caracara, *Milvago chimango*
 - Milvago alexandri (extinct)
 - Milvago readei (extinct)
- Genus *Herpetotheres*
 - o Laughing Falcon, *Herpetotheres cachinnans*
- Genus *Micrastur* (Forest falcons -- see list in that page)
- Genus *Spiziapteryx*
 - o Spot-winged Falconet, *Spiziapteryx circumcinctus*
- Genus *Polihierax*
 - o African Pygmy Falcon, *Polihierax semitorquatus*
 - o White-rumped Pygmy Falcon, *Polihierax insignis*
- Genus *Microhierax*
 - Collared Falconet, Microhierax caerulescens
 Black-thighed Falconet, Microhierax fringillarius
 White-fronted Falconet, Microhierax latifrons

NICOLAE SFETCU: THE BIRDS WORLD

Philippine Falconet, Microhierax erythrogenys Pied Falconet, Microhierax melanoleucus

- Genus *Falco* (Falcons -- see list in that page)
- Genus Pediohierax
 - o Pediohierax ramenta (extinct)
- Genus *Badiostes*
 - o Badiostes patagonicus (extinct)

Fregatidae

Frigatebirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Fregatidae** Degland & Gerbe, 1867Genus: **Fregata** Lacépède, 1799Species: *Fregata magnificens*, *Fregata aquila*, *Fregata andrewsi*, *Fregata minor*, *Fregata ariel*

There are five <u>species</u> in the family **Fregatidae**, the **frigatebirds**. They are very closely related, and are all in the single <u>genus</u> **Fregata**. Frigatebirds attack other sea birds, hence the name. They are also sometimes called Man of War birds or Pirate birds. Since they are related to the pelicans, the term "frigate pelican" is also a name applied to them.

Frigatebirds are large, with iridescent black feathers (the females have a white underbelly), with long wings (male wingspan can reach 2.3 metres) and deeply-forked tails. The males have inflatable red-coloured throat pouches, which they inflate to attract females during the mating season.

Frigatebirds are found over tropical oceans and ride warm updrafts. Therefore, they can often be spotted riding weather fronts and can signal changing weather patterns.

These birds do not swim and cannot walk well, and cannot take off from a flat surface. Having the largest wingspan to body weight ratio of any bird, they are essentially aerial, able to stay aloft for more than a week, landing only to roost or breed on trees or cliffs.

They lay one or two white eggs. Both parents take turns feeding for the first three months but then only by the mother for another eight months. It takes so long to rear a chick that frigatebirds cannot breed every year. It is typical to see juveniles as big as their parents waiting to be fed. When they sit waiting for endless hours in the hot sun, they assume an energy-efficient posture in which their head hangs down, and they sit so still that they seem dead. But when the parent returns, they will wake up, bob their head, and scream until the parent opens its mouth. The starving juvenile plunges its head down the parent's throat and feeds at last.

As members of pelecaniformes, frigatebirds have the key characteristics of all four toes being connected by the web, a gular sac (also called gular skin), and a furcula that is fused to the breastbone. Although there is definitely a web on the frigatebird foot, the webbing is reduced and part of each toe is free. Frigatebirds produce very little oil and therefore do not land in the ocean. The gular sac is used as part of a courtship display and is, perhaps, the most striking frigatebird feature.

Their feeding habits are pelagic. Frigatebirds often rob other seabirds of their catch, using their speed and manoeuvrability to outrun their victims. However, they are perfectly capable of catching fish, baby turtles and similar prey, snatching them up from flight.

Distribution and identifying characteristics differ among frigatebird species, and thus are addressed in species-specific articles.

Species

• Genus Fregata

Magnificent Frigatebird or Man O'War, Fregata magnificens.
 Ascension Frigatebird, Fregata aquila.
 Christmas Island Frigatebird, Fregata andrewsi.
 Great Frigatebird, Fregata minor.
 Lesser Frigatebird, Fregata ariel.

Bird families - G

Gastornithidae

Gastornithes

Fossil range: Late Paleocene-Eocene Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes or Gastornithiformes

Family: Gastornithidae Hébert, 1855Genera: Gastornis, Zhongyuanus, Omorhamphus

Gastornis is an extinct genus of large <u>flightless birds</u> that lived during the late Paleocene and Eocene periods of the Cenozoic. Gastornis lived in Europe, but it had an extremely close relative in North America; the North American bird is often called *Diatryma* (DIE-a-TREEma), but experts now believe they both belong in the *Gastornis* genus.

Gastornis measured on average 1.75m tall, while "Diatryma" was 2m tall. It had a remarkably huge beak, which may mean that it was carnivorous (although the beak may simply have been used for sexual display and probably was better suited for crushing than for tearing or cutting action). Similar (but unrelated) gigantic birds were the Phorusrhacoids with South American origin and the Australian Dromornithidae (Genyornis). The former were certainly and the latter possibly carnivorous.

The closest living relatives of *Gastornis* are the Anseriformes, which includes waterfowl and screamers. In fact, gastornithids might well be anseriforms themselves.

*Gastornis'*s name means 'Gaston's bird'; it is named after Gaston Planté, who discovered the first fossils at Geiseltal, Germany.

Gastornis appeared in the CGI series Walking with Beasts. It also made an appearance in the 2006 CGI family film Ice Age: The Meltdown.

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Bird families - H

Haematopodidae

Oystercatchers

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: **Haematopodidae** Bonaparte, 1838Genus: *Haematopus* Linnaeus, 1758Species: *Magellanic Oystercatcher*, *H. leucopodus, Blackish Oystercatcher*, *H. ater, American Black Oystercatcher*, *H. bachmani, American, Oystercatcher*, *H. palliatus, Canarian Black Oystercatcher*, *H. meadewaldoi, African Black Oystercatcher*, *H. moquini, Eurasian Oystercatcher*, *H., ostralegus, Australian Pied Oystercatcher*, *H. longirostris, Chatham Island Oystercatcher*, *H. chathamensis, Variable Oystercatcher*, *H. unicolor, Sooty Oystercatcher*, *H. fuliginosus*

The **Oystercatchers** are a group of <u>waders</u>; they form the <u>family</u> **Haematopodidae**, which has a single <u>genus</u>, **Haematopus**. They are large obvious and noisy plover-like <u>birds</u>, with strong bills used for smashing or prising open molluscs.

In some species, the bill shape varies according to the diet. Those birds with blade-like bill tips prise open or smash mollusc shells, and those with pointed bill tips tend to probe for annelid worms.

They are found on coasts worldwide apart from the polar regions. They are all-black, black and white or brown and white in appearance.

Their eggs are laid in a shallow scrape on shingle. Oystercatcher eggs are grey and speckled, providing camouflage against the grey rock background. They are pointed at one end. Contrary to popular belief, the purpose of this is not to provide space for the chick's long beaks (their long beaks develop after hatching). The pointed shape is thought to prevent the eggs from rolling down a steep slope.

Hydrobatidae

Storm Petrels

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Procellariiformes

Family: **Hydrobatidae** Mathews, 1912Genera: **Subfamily Oceanitinae**: *Oceanites, Garrodia, Pelagodroma, Fregetta, Nesofregatta* - **Subfamily Hydrobatinae**: *Hydrobates, Oceanodroma*

The **storm-petrels** are <u>seabirds</u> in the <u>family</u> **Hydrobatidae**, part of the order Procellariiformes. These smallest of seabirds, relatives of the petrels, feed on planktonic crustaceans and small fish picked from the surface, typically while hovering. The flight is fluttering and sometimes bat-like.

Storm-petrels have a cosmopolitan distribution, being found in all oceans. They are strictly pelagic, coming to land only when breeding. In the case of most species, little is known of their behaviour and distribution at sea, where they can be hard to find and harder to identify.

- 1 Taxonomy
- 2 Morphology and flight
- 3 Breeding
- 4 Relationship with humans
 - o 4.1 Threats and Conservation
- 5 Species
- 6 References

Taxonomy

Traditionally, two subfamilies are recognized. The **Oceanitinadae** are mostly found in southern waters (though the Wilson's Storm-petrel regularly migrates into the northern hemisphere); there are 7 species in 5 genera. The **Hydrobatinae** are the two genera Hydrobates and Oceanodroma. They are largely restricted to the northern hemisphere, although a few can visit or breed a short distance beyond the equator.

Cytochrome b DNA sequence analysis suggests that the family is paraphyletic and may be more accurately treated as distinct families.[1] The same study found that the stormpetrels are certainly ancestral to the Procellariiformes. The first split was the subfamily Hydrobatinae, with the Oceanitinadae splitting from the rest of the order at a later date.

Morphology and flight

Storm-petrels are the smallest of all the <u>seabirds</u>, ranging in size from 13-26 cm in length. There are two body shapes in the family; the Oceanitinadae have short wings, square tails,

elongated skulls, and long legs; the Hydrobatinae have longer wings, forked or wedge-shaped tails and short legs.

The <u>plumage</u> of the Oceanitinadae is dark with white underparts (with the exception of the Wilson's Storm-petrel) All but two of the Hydrobatinae are mostly dark in colour with varying amounts of white on the rump. Two species have different plumage entirely, the Hornby's Storm-petrel which has white undersides and facial markings, and the Fork-tailed Storm-petrel which has pale grey plumage. [2]

Storm-petrels use a variety of techniques to aid <u>flight</u>. Most species will occasionally feed by surface pattering, holding and moving their feet on the water's surface while holding steady above the water. They remain stationary by hovering with rapid fluttering or by using the wind to anchor themselves in place. This method of feeding flight is most commonly used by Oceanitinadae storm-petrels. The White-faced Storm-petrel possesses a unique variation on pattering, holding it's wings motionless and at an angle into the wind it pushes itself off the water's surface in a succession of bounding jumps. [4] Storm-petrels also use dynamic soaring and slope soaring to travel over the ocean surface. Dynamic soaring is used mostly by the Hydrobatinae, gliding across wave fronts gaining energy from the vertical wind gradient. Slope soaring is more straightforward and favoured by the Oceanitinadae, the storm-petrel turns to the wind, gaining height, from where it can then glide back down to the sea.

Breeding

Storm-petrels nest in colonies on remote islands. Nesting sites are attended nocturnally in order to avoid predators.[7] Storm-petrels display high levels of philopatry, returning to their natal colonies to breed. In one instance a Band-rumped Storm-petrel was caught as an adult 2m from its natal burrow.[8] Storm-petrels nest either in burrows dug into soil or sand, or in small crevices in rocks and scree. Competition for nesting sites is intense in colonies where storm-petrels compete with other burrowing petrels, with shearwaters having been recorded killing storm-petrels in order to occupy their burrows.[9] Colonies can be extremely large and dense; 840,000 pairs of White-faced Storm Petrel nest on South East Island in the Chathams in burrow densities of between 1.18 - 0.47 burrows/m²; densities as high as 8 pairs/m² for Maderian Storm-petrels in the Galapagos and colonies 3.6 million strong for Leach's Storm Petrel have been recorded.

Storm-petrels are monogamous and form long-term pair bonds that last a number of years. Studies of paternity using DNA fingerprinting have shown that unlike many other monogamous birds infidelity (extra-pair matings) is very rare.[11] As with the other Procellariiformes, a single egg is laid by a pair in a breeding season, if the egg fails then usually no attempt is made to relay (although it happens rarely). Both sexes incubate in shifts of up to six days. The egg hatches after 40 or 50 days; the young is brooded continuously for another 7 days or so before being left alone in the nest during the day and fed by regurgitation at night. Meals fed to the chick weigh around 10-20% of the parent's body weight, and consist of both prey items and stomach oil. Stomach oil is a energy rich (its calorific value is around 9600 calories per gram) oil created by partly digested prey in a part of the foregut known as the proventriculus.[12] By partly converting prey items into stomach

oil storm-petrels can maximise the amount of energy chicks receive during feed, an advantage for small seabirds that can only make a single visit to the chick during a 24 hour period (at night).[13] Chicks fledge after 50 or 70 days, depending on the species.

Relationship with humans

The name "petrel" is a diminutive form of "Peter", a reference to Saint Peter; it was given to these birds because they sometimes appear to walk across the water's surface. The more specific 'storm petrel' or 'stormy petrel' is a reference to their habit of hiding in the lee of ships during storms.[14] Early sailors named these birds "Mother Carey's Chickens" because they were thought to warn of oncoming storms; this name is based on a corrupted form of Mater Cara, a name for the Blessed Virgin Mary.

Threats and Conservation

Several species of storm-petrel are threatened by human activities. Two, the Guadalupe Storm-petrel, and the New Zealand Storm-petrel, are listed as critically endangered. The Guadalupe Storm-petrel has not been observed since 1906 and most authorities consider it extinct. The New Zealand Storm-petrel was also considered extinct for many years but was sighted again in 2003, even so the population is likely to be very small. One species (the Ashy Storm-petrel) is listed as endangered due to a 42% decline over twenty years, and two other species are also listed as near threatened or worse. In addition four species are so poorly known that they are listed as data deficient.

Storm-petrels face the same threats as other <u>seabirds</u>, in particular they are threatened by introduced species. The Guadalupe Storm-petrel was driven to extinction by <u>feral cats</u>, and introduced predators such as have also been responsible for declines in other species. Habitat degradation which limits nesting opportunities caused by introduced goats and pigs is also a problem, especially if it increases competition from more aggressive burrowing petrels.

Species

Subfamily Oceanitinae

Wilson's Storm-petrel, Oceanites oceanicus
 New Zealand Storm-petrel, Oceanites maorianus
 White-vented Storm-petrel, Oceanites gracilis
 Grey-backed Storm-petrel, Garrodia nereis
 White-faced Storm-petrel, Pelagodroma marina
 Black-bellied Storm-petrel or Gould's Storm-Petrel, Fregetta tropica

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White-bellied Storm-petrel, Fregetta grallaria Polynesian Storm-petrel, Nesofregetta fuliginosa

• Subfamily Hydrobatinae

European Storm-petrel Hydrobates pelagicus
 Leach's Storm-petrel Oceanodroma leucorhoa
 Matsudaira's Storm-petrel Oceanodroma matsudairae
 Least Storm-petrel, Oceanodroma microsoma
 Wedge-rumped Storm-petrel, Oceanodroma tethys
 Madeiran Storm-petrel, Oceanodroma castro
 Swinhoe's Storm-petrel, Oceanodroma monorhis
 Guadalupe Storm-petrel, Oceanodroma macrodactyla (extinct)
 Tristram's Storm-petrel, Oceanodroma tristrami
 Markham's Storm-petrel, Oceanodroma markhami
 Black Storm-petrel, Oceanodroma melania
 Ashy Storm-petrel, Oceanodroma homochroa
 Ringed Storm-petrel, Oceanodroma hornbyi
 Fork-tailed Storm-petrel, Oceanodroma furcata

References

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Bird families - I

Ibidorhynchidae

Ibisbill

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Ibidorhynchidae Bonaparte, 1856Genus: Ibidorhyncha

Species: *I. struthersii*

Binomial name: *Ibidorhyncha struthersii* (Vigors, 1832)

The **Ibisbill** (*Ibidorhyncha struthersii*) is a <u>bird</u> related to the <u>waders</u>, but sufficiently distinctive to merit its own family **Ibidorhynchidae**.

It lives on the shingle riverbanks of the high plateau of central Asia and the Himalayas.

This bird is quite unmistakable. The adult is grey with a white belly, red legs and long down curved bill, and a black face and black breast band. The young birds lack the black on the face and breast, and the bill is duller. The legs are bright red in the breeding adults and dull sepia in juveniles. In spite of its spectacular appearance it is inconspicuous in its stony environment.

They feed by probing under rocks or gravel on stream beds. 44

The call is a ringing *Klew-klew* similar to that of a Greenshank.

It lays four eggs in a scrape on the ground.

The taxonomy position of the family is still unclear. It may be related to both the oystercatchers and the avocets. For an alternative classification of the *Charadrijformes*.

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Bird families - L

Lovebird

Lovebirds

Scientific classification

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Psittaciformes

Family: <u>Psittacidae</u>

Genus: Agapornis

Selby, 1836

Species

Nine - see text

A **lovebird** (genus Agapornis, Greek for "lovebird") is a very social and affectionate parrot.

The name "lovebird" stems from these birds' affectionate nature. Lovebirds form very close bonds with their mates, usually lasting a lifetime. This is reflected by the lovebird's name in other languages: in German, "die Unzertrennlichen," and in French "les inséparables"- "inseparables." For this reason, many people feel strongly that lovebirds in captivity should be kept only in pairs. Others believe that lovebirds, like other parrots, are social animals who can bond with human companions when given a great deal of care and attention.

Lovebirds are about 13-17 cm in size, 40-60 grams in weight and characterized by a small, stocky build and a short, cute, blunt tail. This puts them among the smallest parrots in the world although their beak is rather large for their overall size. Many lovebirds are green, although color mutations can feature many different colors. Some lovebird species, like Fischer's, black cheeked, and the yellow collared lovebird, have a white ring around the eye. Lifespan is 10 to 15 years.

- 1 Species and habits
- 2 Agapornis as pets
 - o 2.1 Housing
 - 2.2 Food
 - o 2.3 Potential problems
- <u>3 References</u>

Species and habits

Phylogeny of the genus *Agapornis* based on existing molecular evidence.¹¹ The species with the red line is currently unplaced in the phylogeny, but does belong to this genus.

Eight of the different species come from the mainland of Africa. The ninth species, Agapornis canus, originates from Madagascar. In the wild the different species are separated geographically. Lovebirds live in small flocks and eat mainly fruit, vegetables, some grasses and seed. Black-winged lovebirds also enjoy figs.

Only some of the lovebird species are sexually dimorphic. This includes the Abyssinian lovebird, the Madagascar lovebird, and the black-collared lovebird.

There are a total of 9 different species:

Peach-faced Lovebird, Agapornis roseicollis
 Masked Lovebird, Agapornis personata
 Fischer's Lovebird, Agapornis fischeri
 Nyasa Lovebird, Agapornis lilianae
 Black-cheeked Lovebird, Agapornis nigrigeni
 Madagascar Lovebird, Agapornis canus
 Abyssinian Lovebird, Agapornis taranta
 Red-faced Lovebird, Agapornis pullarius
 Black-collared Lovebird, Agapornis swinderniana

Agapornis as pets

Like with any other pet, it is essential that one make sure the birds that one is about to buy were bred in captivity, and not wild caught. Besides conservational and ethical reasons, wild caught animals are more likely to get sick and to die. Lovebirds, especially when kept individually or brought up hand-fed, make very good pets. Lovebirds can be very interactive with humans, and when comfortable around humans, will willingly perch on human's fingers and shoulders. Lovebirds rarely talk, but there is a chance they may learn to mimic human speech if taught to at a young age.

Housing

Lovebirds are very active and require an appropriately sized cage. They require lots of toys and things to chew on and play with. Lovebirds are extremely social birds, and there is debate on whether they should be kept individually. However, the consensus seems to be that they need social interaction, be it with conspecifics or human companion, for their emotional as well as physical well-being. Without this interaction, daily exercise, a roomy cage, and many toys to play with, they may resort to feather-plucking or other behavioral problems. They love to take baths almost every day and may sun themselves after bathing in order to dry

Food

Lovebirds require a variety of food, such as pellets, fruits, seeds, and vegetables. As a regular food, pellets are recommended, as the millet food generally sold in pet stores has too much fat in it and is not very balanced. Pellets specially made for birds provide a well-balanced diet. Fresh greens, such as spinach, are also extremely beneficial if not essential.

Potential problems

Lovebirds are very vocal birds, making loud, high-pitched noises that can be a nuisance. They make noise all day, but especially during the first morning hours.

As stated above, lovebirds are also very active, and love to chew things. When they are let out of their cage, it would be wise to watch them carefully, and protect any furniture, electrical wiring or anything else that they could possibly chew on.

References

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Bird families - M

Mesitornithidae

Mesites

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes

Family: Mesitornithidae Wetmore, 1960Genera: Mesitornis, Monias

The **mesites** are a small group of <u>birds</u> of uncertain affinities often alternatively placed

with the Rallidae.

1 Description

2 Habitat and feeding

3 Species

Description

They are smallish, near flightless birds endemic to Madagascar. They are brownish birds generally with paler undersides. There are two genera, Mesitornis, the White-breasted Mesite and the Brown Mesite, and Monias, the Subdesert Mesite.

Habitat and feeding

They are forest and scrub birds which feed on insects and seeds. The Brown and White-breasted Mesites forage on the ground, gleaning insects from the leaves and under them, as well as low vegetation. The Subdesert Mesite uses its long bill to probe in the soil. Other birds such as <u>drongos</u> and flycatchers will follow mesites to catch any insects they flush and miss. Mesites are vocal birds, with calls similar to <u>passerine</u> song, used for territorial defence. The usually single white egg is laid in a nest in a bush. Two of the species (*Mesitornis*) are monogamous; the other is polygamous.

They are the only family with more than two species in which every kind is threatened; all three are listed as vulnerable and are expected to decline greatly in the next 20 years. None of the mesites have any legal protection, and none are the subject of ex-situ conservation. They are threatened by habitat loss and introduced species.

Species

 White-breasted Mesite, Mesitornis variegata Brown Mesite, Mesitornis unicolor Subdesert Mesite Monias benschi

Bird families - N

Bird families - 0

Bird families - P

Pedionomidae

Plains Wanderer

Conservation status: Endangered Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriformes

Family: Pedionomidae Bonaparte, 1856Genus: Pedionomus

Species: *P. torquatus*

Binomial name: *Pedionomus torquatus* Gould, 1841

The **Plains Wanderer**, *Pedionomus torquatus*, is a unique <u>bird</u> and is put in a family of its own. It is endemic to Australia.

It was formerly believed to be related to the buttonquails and thus placed in the gamebird order Galliformes or with the cranes and rails in Gruiformes, but DNA analysis shows it to be a <u>wader</u> related to the jacanas.

This is a quail-like ground bird, measuring 15–19 cm. The adult male is light brown above, with fawn-white underparts with black crescents. The adult female has a distinctive white-spotted black collar.

This bird is officially an endangered species. Population decline has been caused by the conversion of native grasslands to cultivation.

References

 BirdLife International (2006). <u>Pedionomus torquatus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006. Database entry includes a range map, a brief justification of why this species is endangered, and the criteria used

Phaethontidae

Tropicbirds

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: Phaethontidae Brandt, 1840Genus: Phaethon

Species: 3, see text

Tropicbirds are a group of three closely related pelagic <u>seabirds</u> of tropical oceans: The Red-billed Tropicbird, the Red-tailed Tropicbird, and the White-tailed Tropicbird.

• <u>1 Size and Appearance</u>

2 Systematics, evolution & distribution

• 3 Ecology and reproduction

4 References

Size and Appearance

Tropicbirds range in size from 76cm-102cm in length and 94cm-112cm in wingspan. Their plumage is predominately white, with elongated central tail feathers. The three species will have a different combination of black markings on the face, back, and wings. Their bills are large, powerful and slightly decurved. Their heads are large and their necks are short and thick. Tropicbird legs are very short and their feet are totipalmate.

The Tropicbirds' call is typically a loud, piercing, shrill, but grating whistle, or crackle. These are often given in a rapid series when they are in a display flight at the colony.

Systematics, evolution & distribution

Tropicbirds are currently grouped in the order Pelecaniformes, which also includes the pelicans, cormorants and shags, darters, gannets and boobies and frigatebirds; in the Sibley-Ahlquist taxonomy, the Pelecaniformes have been united with other, unrelated groups into a massively paraphyletic "Ciconiiformes".

Recent research suggests that the Pelecaniformes as traditionally defined are paraphyletic too. The tropicbirds and the related prehistoric family Prophaethontidae are probably better considered a distinct order related to the Procellariiformes (Mayr, 2003; Bourdon *et al.*, 2005) or a booby-<u>cormorant</u> lineage or placed into these groups as a superfamily **Phaetontes**.

Family Phaetontidae

• Genus Phaeton

Red-billed Tropicbird Phaethon aethereus (tropical Atlantic, eastern Pacific, and Indian oceans)
 Red-tailed Tropicbird, P. rubricauda (Indian Ocean and the western and central tropical Pacific)
 White-tailed Tropicbird, P. lepturus (widespread in tropical waters, except in the eastern Pacific)

Heliadornis is a prehistoric genus of tropicbirds described from fossils.

Ecology and reproduction

Tropicbirds frequently catch its prey by hovering and then plunge-diving, typically only into the surface-layer of the waters. They eat mostly fish, especially flying fish, and occasionally squid. Tropicbirds tend to avoid multi-species feeding flocks as opposed to their sister <u>Frigatebirds</u>.

Tropicbirds are usually solitary or in pairs away from breeding colonies. There, they engage in spectacular courtship displays. For several minutes, groups of 2–20 birds simultaneously and repeatedly fly around one another in large, vertical circles, while swinging the tail streamers from side to side. If the female likes the presentation, she will mate with the male in his prospective nest-site. Occasionally, disputes will occur between males trying to protect their mates and nesting areas.

Tropicbirds generally nest in holes or crevices on the bare ground. The female will lay one white egg, spotted brown and incubate for 40-46 days. The incubation is performed by both parents, but mostly the female, while the male brings food to feed the female. The chick hatches with grey down. It will stay alone in nest while both parents search for food, and they will feed the chick twice every three days until fledging, about 12-13 weeks after hatching. The young are not able to fly initially, they will float on the ocean for several days to lose weight before flight.

Tropicbird chicks have relatively slow growth relative to a nearshore bird and they also tend to accumulate fat deposits while young. That, along with one-egg clutches, appears to be an adaptation to a pelagic lifestyle where food is often gathered in big amounts, but may be hard to find.

References

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Phalacrocoracidae

Cormorants

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Phalacrocoracidae** Reichenbach, 1850Genera: *Nannopterum*, *Phalacrocorax*,

Leucocarbo

The **Phalacrocoracidae** family of birds is represented by 38 <u>species</u> of **cormorants** and **shags**. Several different classifications of the family have been proposed recently, but in the one most commonly used, all but three species are placed in a single <u>genus</u> *Phalacrocorax*, the exceptions being the Galapagos' Flightless Cormorant, the Kerguelen Shag and the Imperial Shag.

- 1 Names
- 2 Characteristics
- <u>3 Species</u>
- 4 Cormorants' fishing
- <u>5 Cultural references</u>
- 6 References

Names

There is no consistent distinction between cormorants and shags. The names "cormorant" and "shag" were originally the common names of the two species of the family found in Great Britain, Phalacrocorax carbo (now referred to by ornithologists as the Great Cormorant) and P. aristotelis (the Common Shag). "Shag" refers to the bird's crest, which the British forms of the Great Cormorant lack. As other species were discovered by English-speaking sailors and explorers elsewhere in the world, some were called cormorants and some shags, depending on whether they had crests or not. Sometimes the same species is called a cormorant in one part of the world and a shag in another, e.g. the Great Cormorant is called the Black Shag in New Zealand (the birds found in Australasia have a crest that is absent in European members of the species). Some modern classifications of the family have divided it into two genera and have tried to attach the name "Cormorant" to one and "Shag" to the other, but this flies in the face of common usage and has not been widely adopted.

The scientific <u>genus</u> name is latinized Ancient Greek, from phalakros (bald) and korax (raven). "Cormorant" is a contraction derived from Latin corvus marinus, "sea raven". Indeed, "sea raven" or analogous terms were the usual terms for cormorants in Germanic languages until after the Middle Ages, and the erroneous belief that these birds were related to ravens lasted at least to the 16th century:

"...le bec semblable à celuy d'un cormaran, ou autre corbeau." (...the beak similar to that of a cormorant or other corvids."; Thevet, 1558).

Characteristics

Cormorants and shags are medium-to-large <u>seabirds</u>. The majority, including all Northern Hemisphere species, have mainly dark <u>plumage</u>, but some Southern Hemisphere species are black and white, and a few (e.g. the Spotted Shag of New Zealand) are quite colourful. Many species have areas of coloured skin on the face (the lores and the gular skin) which can be bright blue, orange, red or yellow, typically becoming more brightly coloured in the breeding season. The bill is long, thin, and sharply hooked. Their feet are four-toed and webbed, a distinguishing feature among the Pelecaniformes order.

They are coastal rather than oceanic birds, and some have colonised inland waters. They range around the world, except for the central Pacific islands.

All are <u>fish</u>-eaters, dining on small eels, fish, and even water snakes. They dive from the surface, though many species make a characteristic half-jump as they dive, presumably to give themselves a more streamlined entry into the water. Under water they propel themselves with their feet. Some cormorant species have been found, using depth gauges, to dive to depths of as much as 45 metres.

After fishing, cormorants go ashore, and are frequently seen holding their wings out in the sun; it is assumed that this is to dry them. Unusually for a water bird, their <u>feathers</u> are not waterproofed. This may help them dive quickly, since their feathers do not retain air bubbles.

Cormorants are colonial nesters, using trees, rocky islets, or cliffs. The <u>eggs</u> are a chalky-blue colour. There is usually one brood a year. The young are fed through regurgitation. They typically have deep, ungainly bills which make it obvious that they are related to <u>pelicans</u>.

Species

For an alternative scientific classification, see Sibley-Ahlquist taxonomy.

- Genus *Phalacrocorax*
 - o Brandt's Cormorant, Phalacrocorax penicillatus

Double-crested Cormorant or White-crested Cormorant, Phalacrocorax auritus

Great Cormorant, Phalacrocorax carbo

Neotropic Cormorant, Phalacrocorax brasilianus

Olivaceous Cormorant or Mexican Cormorant, Phalacrocorax olivaceus

Pelagic Cormorant or Baird's Cormorant, Phalacrocorax pelagicus

Red-faced Cormorant, Phalacrocorax urile

Guanay Cormorant, Phalacrocorax bougainvillii (off Peru, guano collected from nesting colonies of this bird is used to produce internationally traded commercial fertilizer)

Little Black Cormorant, Phalacrocorax sulcirostris

Indian Cormorant, Phalacrocorax fuscicollis

Cape Cormorant, Phalacrocorax capensis

Socotran Cormorant, Phalacrocorax nigrogularis

Wahlberg's Cormorant or Bank Cormorant, Phalacrocorax neglectus

Temminck's Cormorant, Phalacrocorax capillatus

Common Shag, Phalacrocorax aristotelis

Rock Shag, Phalacrocorax magellanicus

Long-tailed Cormorant, Phalacrocorax africanus

White-breasted Cormorant, Phalacrocorax lucidus

Crowned Cormorant, Phalacrocorax coronatus

Little Cormorant, Phalacrocorax niger

Pygmy Cormorant, Phalacrocorax pygmaeus

Pitt Cormorant or Featherstone's Shag Phalacrocorax featherstoni

Pied Cormorant or Yellow-faced Cormorant, Phalacrocorax varius

King Shag, Phalacrocorax carunculatus

Black-faced Cormorant, Phalacrocorax fuscescens

Spectacled Cormorant, Phalacrocorax perspicillatus (extinct)

Red-footed Shag, Phalacrocorax gaimardi

Spotted Shag Phalacrocorax punctatus

White-bellied Shag, Phalacrocorax albiventer

Little Pied Cormorant, Phalacrocorax melanoleucos

Stewart Island Shag, Phalacrocorax chalconotus

Chatham Shag, Phalacrocorax onslowi

Auckland Shag, Phalacrocorax colensoi

Campbell Shag, Phalacrocorax campbelli

Bounty Shag, Phalacrocorax ranfurlyi

Flightless Cormorant, Phalacrocorax harrisi (previously Nannopterum

harrisi) (confined to the Galapagos Islands where, through evolution, its

wings have shrunk to the size of a penguin's flippers)

• Genus Leucocarbo

O Imperial Shag (Blue eyed Shag), Leucocarbo atriceps (Previously Antarctic, South Georgian, Heard, Crozet, and Macquarie Shags, Phalacrocorax bransfieldensis, georgianus, nivalis, melanogenis, and purpurascens.) Kerguelen Shag, Leucocarbo verrocosus (Previously P. verrocosus.)

The King Shag of New Zealand has a number of races previously considered as full species.

Cormorants' fishing

Humans have historically exploited cormorants' fishing skills, in China, Japan, and Macedonia, where they have been trained by fishermen. In Japan, traditional cormorant fishing can be seen in Gifu City, in Gifu Prefecture, where it has continued uninterrupted for 1300 years, or in the city of Inuyama, in Aichi Prefecture. In Guilin, China, cormorant birds are famous for fishing on the shallow Lijiang River. A snare is tied near the base of the bird's throat, a snare that allows the bird only to swallow small fish. When the bird captures and tries to swallow a large fish, the fish gets stuck in the bird's throat. When the bird returns to

the fisherman's raft, the fisherman helps the bird to remove the fish from its throat. The method is not as common today, since more efficient methods of catching fish have been developed.

Cultural references

- Cormorants feature quite commonly in heraldry and medieval ornamentation, usually in their "wing-drying" pose, which was seen as representing the Christian cross. The species depicted is most likely to be the Great Cormorant.
- On the other hand, in Milton's Paradise Lost, Satan takes on the form of a cormorant.
- Christopher Isherwood wrote the poem

"The common cormorant or shag Lays eggs inside a paper bag, The reason you will see no doubt It is to keep the lightning out. But what these unobservant birds Have never noticed is that herds Of wandering bears may come with buns And steal the bags to hold the crumbs."

His information about the bird's nesting habits shouldn't be relied on.

• In addition to the comic verse quoted above, the bird inspired at least one other poet, Amy Clampitt, to write the sonnet below; it is not obvious which species she was referring to, since all members of the family share the characteristic behavioural and morphological features that the poem celebrates.

The Cormorant in Its Element

That bony potbellied arrow, wing-pumping along implacably, with a ramrod's rigid adherence, airborne, to the horizontal, discloses talents one would never have guessed at. Plummeting waterward, big black feet splayed for a landing gear, slim head turning and turning, vermilionstrapped, this way and that, with a lightning glance over the shoulder, the cormorant astoundingly, in one sleek involuted arabesque, a vertical turn on a dime, goes into the inimitable vanishing-and-emerging-from-under-the-briny-deep act which, unlike the works of Homo Houdini, is performed for reasons having nothing at all to do with ego, guilt, ambition, or even money.

- Colin Meloy mentions the cormorant in the song "The Island: Come and See, The Landlord's Daughter, You'll Not Feel The Drowning" on The Crane Wife, a 2006 album by the Decemberists.
- In the video game Ace Combat Zero: The Belkan War, the Gelb Squadron is also known as "The Coupled Cormorants." The callsign of Gelb 2 (2nd Lieutenant Rainer Altman) is "Cormorant." Their squadron insignia includes a cormorant with goggles.

References

• **Thevet**, F. André (1558): [About birds of Ascension Island]. *In: Les singularitez de la France Antarctique, autrement nommee Amerique, & de plusieurs terres & isles decouvertes de nostre temps*: 39-40. Maurice de la Porte heirs, Paris. <u>Fulltext at Gallica</u>

Phasianidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes

Family: **Phasianidae** Horsfield, 1821Genera: Many, see text

The **Phasianidae** is a family of <u>birds</u> which consists of the <u>pheasants</u> and their allies (including junglefowl, quail, and peacocks). The American Ornithological Union includes Tetraonidae, Numididae, and Meleagrididae in Phasianidae as subfamilies.

These are terrestrial species, variable in size but generally plump, with broad relatively short wings. Many have a spur on their legs. Males of the larger species are often brightly coloured. The typical diet consists of seeds with some insects and berries.

This large family has several groups, some of which correspond to a <u>genus</u>, others being loose collections of not particularly closely related genera.

Genera

- Quails:
 - Genus Coturnix (9 species)

Anurophasis monorthonyx (Snow Mountain Quail)

Genus Perdicula (4 species)

Ophrysia superciliosa (Himalayan Quail)

- Partridges
- Genus Alectoris (7 species)

Genus Ammoperdix (2 species)

Genus Arborophila (Hill Partridges, 18 species)

Genus Bambusicola (Bamboo Partridges, 2 species)

Caloperdix oculea (Ferruginous Wood Partridge)

Haematortyx sanguiniceps (Crimson-headed Partridge)

Lerwa lerwa (Snow Partridge)

Margaroperdix madagascarensis (Madagascar Partridge)

Melanoperdix nigra (Black Wood-partridge)

Genus Perdix (3 species)

Ptilopachus petrosus (Stone Partridge)

Rhizothera longirostris (Long-billed Partridge)

Rollulus rouloul (Crested Wood Partridge)

Genus Xenoperdix (2 species)

- Pheasants:
- Argusianus argus (Great Argus Pheasant)

Catreus wallichi (Cheer Pheasant)

Genus Chrysolophus (2 species)

Genus Crossoptilon (Eared Pheasants, 4 species)

Ithaginis cruentus (Blood Pheasant)

Genus Lophura (10 species)

Genus Phasianus (2 species)

Genus Polyplectron (Peacock Pheasants, 7 species)

Pucrasia macrolopha (Koklass Pheasant)

Rheinartia ocellata (Crested Argus Pheasant)

Genus Syrmaticus (5 species)

- Genus *Tetraogallus* (Snowcocks, 5 species)
- Genus *Francolinus* (Francolins, 41 species)
- Genus Galloperdix (Spurfowls, 3 species)
- Genus *Tragopan* (Tragopans, 5 species)
- Genus Lophophorus (Monals, 3 species)
- Peafowl:
 - o Genus Pavo (2 species)

Afropavo congolesis: (Congo Peafowl)

• Genus *Gallus* (Junglefowls including the domestic <u>chicken</u>, 5 species)

Phorusrhacidae

Phorusrhacoids

Conservation status: Fossil

Fossil range: Paleogene-Mid Neogene Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Gruiformes

Family: Phorusrhacidae Ameghino, 1889Synonyms: Phororhacosidae, Ameghino, 1889,

Phororhacidae, Lydekker, 1893, Brontornithidae, Moreno & Mercerat, 1891,

Darwinornithidae, Moreno & Mercerat, 1891, Stereornithidae, Moreno & Mercerat, 1891, Patagornithidae, Mercerat, 1897, Devincenziidae, Kraglievich, 1932, Mesembriorniidae Kraglievich, 1932, Phorusrhacidae, Brodkorb, 1963

Phorusrhacoids, or **Terror Birds**, were large carnivorous flightless birds that were the dominant predators in South America during the Cenozoic, 62–2.5 million years ago. They were roughly 1–3 meters (3–10 feet) tall. Titanis walleri, one of the largest species, is known from North America, marking one of the comparatively rare examples where animals that evolved in South America managed to spread north after the Isthmus of Panama landbridge formed. The ancestors of T. walleri have not been found; however, it is possible that more North American species await discovery. Only a few bones of T. walleri have been discovered at scattered locations in Florida and at a site along the Texas coast. No complete skeleton exists of North America's only known phorusrhacoid.

Phorusrhacoids are colloquially known as "terror birds", because their larger species were top-level predators and among the most fearsome carnivores of their habitat. Their wings had evolved to meathook-like structures that could be outstretched like arms and were able to perform a hacking motion which apparently was helpful in bringing down prey. Most of the smaller and some of the larger species were fast runners.

Their closest modern-day relatives are the seriemas, which do not, however, belong to the same lineage.

A new (2006) specimen from Patagonia represents the largest bird skull found yet; it has not been formally described yet but might belong to a new taxon. [1]

Taxonomy

Following the revision by Alvarenga and Höfling (2003), there are now 5 <u>subfamilies</u>, containing 13 <u>genera</u> and 17 <u>species</u>:

- Subfamily **Brontornithinae** gigantic species, standing over 2 meters high
 - o Genus Brontornis
 - Brontornis burmeisteri
 - o Genus *Physornis*
 - Physornis fortis
 - Genus Paraphysornis
 - Paraphysornis brasiliensis

- Subfamily **Phorusrhacinae** gigantic species, but somewhat smaller and decidedly more nimble than the Brontornithinae
 - o Genus *Phorusrhacos*
 - Phorusrhacos longissimus
 - Genus Devincenzia
 - Devincenzia pozzi
 - o Genus Titanis
 - Titanis walleri
- Subfamily **Patagornithinae** medium-sized and very nimble species, standing around 1.5 meters high
 - o Genus Patagornis
 - Patagornis marshi
 - Genus Andrewsornis
 - Andrewsornis abbotti
 - o Genus Andalgalornis
 - Andalgalornis steulleti
- Subfamily **Psilopterinae** small species, standing 70-100 centimeters high
 - o Genus *Psilopterus*
 - Psilopterus bachmanni

Psilopterus lemoinei

Psilopterus affinis

Psilopterus colzecus

- o Genus Procariama
 - *Procariama simplex*
- o Genus *Paleopsilopterus*
 - Paleopsilopterus itaboraiensis
- Subfamily **Mesembriornithinae** medium-sized species, standing between 1 and 1.5 meters high
 - o Genus Mesembriornis
 - Mesembriornis milneedwardsi

Mesembriornis incertus

Alvarenga and Höfling do not include the Ameghinornithinae and Aenigmavis sapea from Europe in the phorusrhacoids; they conclude that the former are close relatives, and the latter is of uncertain affiliation.

References

- Alvarenga, Herculano M. F. & Höfling, Elizabeth (2003): Systematic revision of the Phorusrhacidae (Aves: Ralliformes). Papéis Avulsos de Zoologia 43(4): 55-91 PDF fulltext
- Ameghino, F. (1889): "Contribuición al conocimiento de los mamíferos fósiles de la República Argentina", *Actas Academia Nacional Ciencias de Córdoba* **6**: 1-1028.

Picidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Piciformes

Family: **Picidae** Vigors, 1825Genera: *Jynx, Picumnus, Sasia, Nesoctites, Melanerpes, Sphyrapicus, Xiphidiopicus, Dendropicos, Dendrocopos, Picoides, Veniliornis, Campethera, Geocolaptes, Dinopium, Meiglyptes, Hemicircus, Micropternus, Picus, Mulleripicus, Dryocopus, Celeus, Piculus, Colaptes, Campephilus, Chrysocolaptes, Reinwardtipicus, Blythipicus, Gecinulus, Sapheopipo*

The avian <u>family</u> **Picidae** includes the woodpeckers, piculets and wrynecks. Members of this family are found worldwide, except for Australia, Madagascar, and the extreme polar regions. Most species live in forests or woodland habitats, although a few species are known to live in desert areas.

Family Picidae is just one of the eight families in the order Piciformes. Members of the order Piciformes, such as the jacamars, puffbirds, barbets, toucans and honeyguides, have traditionally been thought to be very closely related to the woodpeckers, piculets and wrynecks. Recent molecular studies has strengthened this view.

There are about over 200 species and about 30 genera in this family (for the full species list, see Woodpecker). Many species are threatened or endangered due to loss of habitat or habitat fragmentation. Two species of woodpeckers, the Ivory-billed Woodpecker and the Imperial Woodpecker, have been considered extinct for about 30 years (there has been some controversy recently whether these species still exist).

Species of the family Picidae range in size from 8 cm to 58 cm in length. Most species possess predominantly white, black and brown feathers, although many piculets show a certain amount of gray and olive green. In woodpeckers, many species exhibit patches of red and yellow on their heads and bellies. Although the genders of a species tend to look alike, male woodpeckers will have brighter reds and yellows than the females.

Members of the family Picidae have strong bills for drilling and drumming on trees and long sticky tongues for extracting food. Woodpecker bills are typically longer, sharper and stronger than the bills of piculets and wrynecks, however their morphology is very similar. Due to their smaller bill size, many piculets and wrynecks will forage in decaying wood more often than woodpeckers. The long sticky tongues, which possess bristles, aid these birds in grabbing and extracting insects deep within a hole of a tree.

Woodpeckers, piculets and wrynecks all possess zygodactyl feet. Zygodacytl feet consist of four toes, two facing frontward and two facing back. This type of foot arrangement is good for grasping the limbs and trunks of trees. Members of this family can walk vertically up a tree trunk, which is beneficial for activities such as foraging for food or nest excavation.

The diet of these birds consists mainly of insects, such as ants and beetles, nuts, seeds, berries, some fruit and sap. Species may feed generally on all of these, or may specialize on one or two.

All members of the family Picidae nest in cavities. Woodpeckers and piculets will excavate their own nests, but wrynecks will not. The excavated nest is usually only lined from

the wood chips produced as the hole was made. Many species of woodpeckers excavate one hole per breeding season, sometimes after multiple attempts. It takes around a month to finish the job. Abandoned holes are used by many other birds and animals, such as flying squirrels.

Members of Picidae are typically monogamous. A pair will work together to help build the nest, incubate the eggs and raise their altricial young. However, in most species the male does most of the nest excavation and takes the night shift while incubating the eggs. A nest will usually consist of 2-5 round white eggs. Since these birds are cavity nesters their eggs do not need to be camouflaged and the white color helps the parents to see them in dim light. The eggs are incubated for about 11-14 days before the chicks are born. It takes about 18-30 days before the young are ready to leave the nest.

Picidae species can either be sedentary or migratory. Many species are known to stay in the same area year around while others, such as the Eurasian Wryneck and the Yellow-bellied Sapsucker, travel great distances from their breeding grounds to their wintering ground.

- 1 Systematics and evolution
 - o 1.1 Prehistoric taxa
 - o 1.2 Subfamily Jynginae: Wrynecks
 - o 1.3 Subfamily Picumninae: Piculets
 - o 1.4 Subfamily Nesoctitinae: Antillean Piculet
 - o 1.5 Subfamily Picinae: Woodpeckers
- 2 References

Systematics and evolution

The phylogeny has been updated according to new knowledge about convergence patterns and evolutionary history (Benz *et al.*, 2006; Moore *et al.*, 2006). Most notably, the relationship of the picine genera has been largely clarified, and it was determined that the Antillean Piculet is a surviving offshoot of proto-woodpeckers.

The evolutionary history of this group is not well documented, but the known fossils allow some preliminary conclusions: the earliest known modern picids were piculet-like forms of the Late Oligocene (c. 25 MYA). By that time, however, the group was already present in the Americas and Europe, and it is hypothesized that they actually evolved much earlier, maybe as early as the Early Eocene (50 MYA). The modern subfamilies appear to be rather young by comparison; until the mid-Miocene (10-15 MYA), all picids seem to have been small or mid-sized birds similar to a mixture between a piculet and a wryneck. An enigmatic form based on a coracoid found in Pliocene deposits of New Providence, Bahamas, has been described as *Bathoceleus hyphalus* and probably also is a woodpecker (Cracraft & Morony, 1969).

Prehistoric forms of the extant genera are treated in the corresponding genus articles.

Prehistoric taxa

Basal

Genus Palaeopicus (Late Oligocene of France)

Not assigned to subfamily

- Picidae gen. et sp. indet. (Middle Miocene of New Mexico, USA)
- Picidae gen. et sp. indet. (Late Miocene of Gargano Peninsula, Italy)

Subfamily Jynginae: Wrynecks

- Genus Jynx
 - Eurasian Wryneck, Jynx torquilla Rufous-necked Wryneck, Jynx ruficollis

Subfamily Picumninae: Piculets

Genus Picumnus

Speckled Piculet, Picumnus innominatus (sometimes Vivia) Bar-breasted Piculet, Picumnus aurifrons Orinoco Piculet. Picumnus pumilus Lafresnaye's Piculet, Picumnus lafresnayi Golden-spangled Piculet, Picumnus exilis Black-spotted Piculet, Picumnus nigropunctatus Ecuadorian Piculet, Picumnus sclateri Scaled Piculet, Picumnus squamulatus White-bellied Piculet, Picumnus spilogaster Guianan Piculet, Picumnus minutissimus Spotted Piculet, Picumnus pygmaeus Speckle-chested Piculet, Picumnus steindachneri Varzea Piculet, Picumnus varzeae White-barred Piculet, Picumnus cirratus Ocellated Piculet, Picumnus dorbygnianus Ochre-collared Piculet, Picumnus temminckii White-wedged Piculet, Picumnus albosquamatus Rusty-necked Piculet, Picumnus fuscus Rufous-breasted Piculet, Picumnus rufiventris Tawny Piculet, Picumnus fulvescens Ochraceous Piculet, Picumnus limae Mottled Piculet, Picumnus nebulosus Plain-breasted Piculet, Picumnus castelnau

Fine-barred Piculet, Picumnus subtilis
Olivaceous Piculet, Picumnus olivaceus
Grayish Piculet, Picumnus granadensis
Chestnut Piculet, Picumnus cinnamomeus

Genus Verreauxia (sometimes included in Sasia)

• African Piculet, Verreauxia africana

Genus Sasia

Rufous Piculet, Sasia abnormis
 White-browed Piculet, Sasia ochracea

Subfamily Nesoctitinae: Antillean Piculet

- Genus Nesoctites
 - o Antillean Piculet, Nesoctites micromegas

Subfamily Picinae: Woodpeckers

Unassigned fossil forms

- Genus *Palaeonerpes* (Ogalalla Early Pliocene of Hitchcock County, USA) possibly dendropicine
- Genus Pliopicus (Early Pliocene of Kansas, USA) possibly dendropicine
- cf. Colaptes DMNH 1262 (Early Pliocene of Ainsworth, USA) malarpicine?

Tribe Dendropicini

- Genus *Melanerpes*
 - White Woodpecker, Melanerpes candidus
 Lewis' Woodpecker, Melanerpes lewis
 Guadeloupe Woodpecker, Melanerpes herminieri
 Puerto Rican Woodpecker, Melanerpes portoricensis
 Red-headed Woodpecker, Melanerpes erythrocephalus
 Acorn Woodpecker, Melanerpes formicivorus
 Golden-naped Woodpecker, Melanerpes chrysauchen
 Black-cheeked Woodpecker, Melanerpes pucherani
 Yellow-tufted Woodpecker, Melanerpes cruentatus
 Yellow-fronted Woodpecker, Melanerpes flavifrons
 White-fronted Woodpecker, Melanerpes cactorum
 Hispaniolan Woodpecker, Melanerpes striatus
 Jamaican Woodpecker, Melanerpes radiolatus
 Golden-cheeked Woodpecker, Melanerpes chrysogenys
 Gray-breasted Woodpecker, Melanerpes hypopolius

Yucatan Woodpecker, Melanerpes pygmaeus Red-crowned Woodpecker, Melanerpes rubricapillus Hoffmann's Woodpecker, Melanerpes hoffmannii Gila Woodpecker, Melanerpes uropygialis Golden-fronted Woodpecker, Melanerpes aurifrons Red-bellied Woodpecker, Melanerpes carolinus West Indian Woodpecker, Melanerpes superciliaris

• Genus Sphyrapicus

 Williamson's Sapsucker, Sphyrapicus thyroideus Yellow-bellied Sapsucker, Sphyrapicus varius Red-naped Sapsucker, Sphyrapicus nuchalis Red-breasted Sapsucker, Sphyrapicus ruber

• Genus Xiphidiopicus

 Cuban Woodpecker, Xiphidiopicus percussus (Placement in Dendropicini tentative)

• Genus Dendropicos

Little Grey Woodpecker, Dendropicos elachus Speckle-breasted Woodpecker, Dendropicos poecilolaemus Abyssinian Woodpecker, Dendropicos abyssinicus Cardinal Woodpecker, Dendropicos fuscescens Gabon Woodpecker, Dendropicos gabonensis Melancholy Woodpecker, Dendropicos lugubris Stierling's Woodpecker, Dendropicos stierlingi Bearded Woodpecker, Dendropicos namaquus Fire-bellied Woodpecker, Dendropicos pyrrhogaster Golden-crowned Woodpecker, Dendropicos xantholophus Elliot's Woodpecker, Dendropicos elliotii Grey Woodpecker, Dendropicos goertae African Grey-headed Woodpecker, Dendropicos spodocephalus Olive Woodpecker, Dendropicos griseocephalus Brown-backed Woodpecker, Dendropicos obsoletus

• Genus *Dendrocopos*

O Sulawesi Woodpecker, Dendrocopos temminckii
Philippine Woodpecker, Dendrocopos maculatus
Brown-capped Woodpecker, Dendrocopos nanus
Sunda Woodpecker, Dendrocopos moluccensis
Grey-capped Woodpecker, Dendrocopos canicapillus
Pygmy Woodpecker, Dendrocopos kizuki
Brown-fronted Woodpecker, Dendrocopos auriceps
Fulvous-breasted Woodpecker, Dendrocopos macei
Stripe-breasted Woodpecker, Dendrocopos atratus
Yellow-crowned Woodpecker, Dendrocopos mahrattensis
Arabian Woodpecker, Dendrocopos dorae

Rufous-bellied Woodpecker, Dendrocopos hyperythrus Darieeling Woodpecker, Dendrocopos dariellensis Crimson-breasted Woodpecker, Dendrocopos cathpharius Middle Spotted Woodpecker, Dendrocopos medius White-backed Woodpecker, Dendrocopos leucotos Great Spotted Woodpecker, Dendrocopos major Syrian Woodpecker, Dendrocopos syriacus White-winged Woodpecker, Dendrocopos leucopterus Sind Woodpecker, Dendrocopos assimilis Himalayan Woodpecker, Dendrocopos himalayensis

- Genus *Picoides* this genus is in need of revision (Moore *et al.*, 2006). See the genus article for more.
 - o Small group

Lesser Spotted Woodpecker, Picoides minor - previously Dendrocopos Downy Woodpecker, Picoides pubescens Nuttall's Woodpecker, Picoides nuttallii Ladder-backed Woodpecker, Picoides scalaris Large group Red-cockaded Woodpecker, Picoides borealis Smoky-brown Woodpecker, Picoides fumigatus Hairy Woodpecker, Picoides villosus White-headed Woodpecker, Picoides albolarvatus Strickland's Woodpecker, Picoides stricklandi Arizona Woodpecker, Picoides arizonae Three-toed Eurasian Three-toed Woodpecker, Picoides tridactylus American Three-toed Woodpecker, Picoides dorsalis Black-backed Woodpecker, Picoides arcticus

Genus Veniliornis

Red-rumped Woodpecker, Veniliornis kirkii Golden-collared Woodpecker, Veniliornis cassini Choco Woodpecker, Veniliornis chocoensis Yellow-eared Woodpecker, Veniliornis maculifrons Red-stained Woodpecker, Veniliornis affinis Bar-bellied Woodpecker, Veniliornis nigriceps Scarlet-backed Woodpecker, Veniliornis callonotus Yellow-vented Woodpecker, Veniliornis dignus Little Woodpecker, Veniliornis passerinus Dot-fronted Woodpecker, Veniliornis frontalis Blood-colored Woodpecker, Veniliornis sanguineus White-spotted Woodpecker, Veniliornis spilogaster Striped Woodpecker, Veniliornis lignarius Checkered Woodpecker, Veniliornis mixtus

Tribe Malarpicini

- Genus Campethera
 - Fine-spotted Woodpecker, Campethera punctuligera Nubian Woodpecker, Campethera nubica Bennett's Woodpecker, Campethera bennettii Reichenow's Woodpecker, Campethera scriptoricauda Golden-tailed Woodpecker, Campethera abingoni Mombasa Woodpecker, Campethera mombassica Knysna Woodpecker, Campethera notata Little Green Woodpecker, Campethera maculosa Green-backed Woodpecker, Campethera cailliautii Tullberg's Woodpecker, Campethera tullbergi Buff-spotted Woodpecker, Campethera nivosa Brown-eared Woodpecker, Campethera caroli
- Genus Geocolaptes
 - o Ground Woodpecker, Geocolaptes olivaceus
- Genus Dinopium
 - Olive-backed Woodpecker, Dinopium rafflesii
 Himalayan Flameback, Dinopium shorii
 Common Flameback, Dinopium javanense
 Black-rumped Flameback, Dinopium benghalense
- Genus Meiglyptes
 - Buff-rumped Woodpecker, Meiglyptes tristis
 Black-and-buff Woodpecker, Meiglyptes jugularis
 Buff-necked Woodpecker, Meiglyptes tukki
- Genus *Hemicircus* (Placement in Malarpicini tentative)
 - Grey-and-buff Woodpecker, Hemicircus concretus Heart-spotted Woodpecker, Hemicircus canente
- Genus *Micropternus* (formerly in *Celeus*)
 - o Rufous Woodpecker, *Micropternus brachyurus*
- Genus Picus
 - Lesser Yellownape, Picus chlorolophus
 Crimson-winged Woodpecker, Picus puniceus
 Greater Yellownape, Picus flavinucha
 Checker-throated Woodpecker, Picus mentalis
 Streak-breasted Woodpecker, Picus viridanus
 Laced Woodpecker, Picus vittatus
 Streak-throated Woodpecker, Picus xanthopygaeus
 Scaly-bellied Woodpecker, Picus squamatus
 Japanese Woodpecker, Picus awokera
 Green Woodpecker, Picus viridis
 Levaillant's Woodpecker, Picus vaillantii

Red-collared Woodpecker, Picus rabieri Black-headed Woodpecker, Picus erythropygius Grey-headed Woodpecker, Picus canus

• Genus Mulleripicus

Ashy Woodpecker, Mulleripicus fulvus
 Sooty Woodpecker, Mulleripicus funebris
 Great Slaty Woodpecker, Mulleripicus pulverulentus

• Genus Dryocopus

 Helmeted Woodpecker, Dryocopus galeatus Lineated Woodpecker, Dryocopus lineatus Pileated Woodpecker, Dryocopus pileatus Black-bodied Woodpecker, Dryocopus schulzi White-bellied Woodpecker, Dryocopus javensis Andaman Woodpecker, Dryocopus hodgei Black Woodpecker, Dryocopus martius

• Genus Celeus

Cinnamon Woodpecker, Celeus loricatus
 Scaly-breasted Woodpecker, Celeus grammicus
 Waved Woodpecker, Celeus undatus
 Chestnut-colored Woodpecker, Celeus castaneus
 Chestnut Woodpecker, Celeus elegans
 Pale-crested Woodpecker, Celeus lugubris
 Blond-crested Woodpecker, Celeus flavescens
 Cream-colored Woodpecker, Celeus flavus
 Rufous-headed Woodpecker, Celeus spectabilis
 Caatinga Woodpecker, Celeus obrieni (possibly extinct)
 Ringed Woodpecker, Celeus torquatus

• Genus Piculus

 Rufous-winged Woodpecker, Piculus simplex Stripe-cheeked Woodpecker, Piculus callopterus Lita Woodpecker, Piculus litae White-throated Woodpecker, Piculus leucolaemus Yellow-throated Woodpecker, Piculus flavigula Golden-green Woodpecker, Piculus chrysochloros Yellow-browed Woodpecker, Piculus aurulentus

• Genus Colaptes

O Northern Flicker, Colaptes auratus
Gilded Flicker, Colaptes chrysoides
Fernandina's Flicker, Colaptes fernandinae
Chilean Flicker, Colaptes pitius
Andean Flicker, Colaptes rupicola
Campo Flicker, Colaptes campestris
Black-necked Woodpecker, Colaptes atricollis
Spot-breasted Woodpecker, Colaptes punctigula

Green-barred Woodpecker, Colaptes melanochloros Golden-breasted Woodpecker, Colaptes (melanochloros) melanolaimus Golden-olive Woodpecker, Colaptes rubiginosus Gray-crowned Woodpecker, Colaptes auricularis Crimson-mantled Woodpecker, Colaptes rivolii

Tribe Megapicini

- Genus Campephilus
 - Powerful Woodpecker, Campephilus pollens
 Crimson-bellied Woodpecker, Campephilus haematogaster
 Red-necked Woodpecker, Campephilus rubricollis
 Robust Woodpecker, Campephilus robustus
 Crimson-crested Woodpecker, Campephilus melanoleucos
 Guayaquil Woodpecker, Campephilus gayaquilensis
 Pale-billed Woodpecker, Campephilus guatemalensis
 Cream-backed Woodpecker, Campephilus leucopogon
 Magellanic Woodpecker, Campephilus magellanicus
 Ivory-billed Woodpecker, Campephilus principalis (possibly extinct)
 Imperial Woodpecker, Campephilus imperialis (possibly extinct)
- Genus Chrysocolaptes
 - White-naped Woodpecker, Chrysocolaptes festivus Greater Flameback, Chrysocolaptes lucidus
- Genus Reinwardtipicus
 - o Orange-backed Woodpecker, Reinwardtipicus validus
- Genus *Blvthipicus*
 - Maroon Woodpecker, Blythipicus rubiginosus Bay Woodpecker, Blythipicus pyrrhotis
- Genus *Gecinulus* (Placement in Megapicini tentative)
 - Pale-headed Woodpecker, Gecinulus grantia
 Bamboo Woodpecker, Gecinulus viridis
- Genus *Sapheopipo* (Placement in Megapicini tentative)
 - o Okinawa Woodpecker, Sapheopipo noguchii

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Plotopteridae

Plotopterids

Fossil range: Eocene - Miocene Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Plotopteridae** Howard, 1969 Genera: Plotopterum, Copepteryx, Tonsala, Phocavis

The **Plotopteridae** were a <u>family</u> of flightless <u>seabirds</u> from the order Pelecaniformes. Related to the gannets and boobies, they exhibited remarkable convergent evolution with the <u>penguins</u>, particularly with the now <u>extinct</u> giant penguins. That they lived in the North Pacific, the other side of the world from the penguins, has led to them being described at times as the Northern Hemisphere's penguins, although one novel new theory suggests that this group is a link between the penguins and the Pelecaniformes. Their fossils have been found in California, Washington and Japan. They ranged in size from that of a large cormorant (such as a Brandt's Cormorant), to being 2 m long. They had shortened wings designed for underwater wing-propelled pursuit diving (like penguins or the now extinct Great Auk), a body skeleton similar to that of the darter and the skull similar to that of a <u>sulid</u>.

The earliest known Plotopteridae species, *Phocavis maritimus* lived in the mid-Eocene, but most of the known species lived in the early and mid-Miocene, after which it appears they went extinct. That they went extinct at the same time as the giant penguins of the Southern Hemisphere, which also coincided with the radiation of the seals and dolphins, has led to speculation that the expansion of marine mammals was responsible for the extinction of the Plotopteridae.

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Pluvianellidae

Magellanic Plover

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriformes

Family: Pluvianellidae Jehl, 1975Genus: Pluvianellus

Species: *P. socialis*

Binomial name: *Pluvianellus socialis* Gray, GR, 1846

The **Magellanic Plover**, *Pluvianellus socialis*, is a rare and unique <u>wader</u> found only in southernmost South America. Its relationships with the plovers and other wader groups are uncertain, and it is often placed in its own family, Pluvianellidae. This species is not <u>migratory</u>, although some birds move further north in southern Argentina in winter.

This species is in its structure and habits much like a turnstone, but it cannot be confused with any other wader species. Its upperparts and breast are pale grey, and the rest of the underparts are white. It has short red legs, a black bill and a red eye. In young birds, the eyes and legs are yellowish in colour. The call is a <u>dovelike</u> coo.

This species breeds near water, laying two large <u>eggs</u> on the ground, although usually only one chick survives.

Magellanic Plovers feed on small invertebrates, picked from the ground, or from under pebbles, again like a turnstone.

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Podicipedidae

Grebes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Podicipediformes Fürbringer, 1888 Family: Podicipedidae Bonaparte, 1831 Genera:

Podiceps, Tachybaptus, Podilymbus, Aechmophorus, Poliocephalus, Rollandia

Grebes are members of the **Podicipediformes** <u>order</u>, a widely distributed order of freshwater diving <u>birds</u>, some of which visit the sea when <u>migrating</u> and in winter. This order contains only a single <u>family</u>, the **Podicipedidae**, containing 20 <u>species</u> in 6 <u>genera</u>.

Grebes are small to medium-large in size, have lobed toes, and are excellent swimmers and divers. However, they have their feet placed far back on the body, making them quite ungainly on land. They leave the water only to nest, walking very short distances upright like <u>penguins</u>. They can run for a short distance, but often fall over.

Grebes have narrow wings, and some species are reluctant to fly; indeed, two South American species are completely flightless. They respond to danger by diving rather than flying, and are in any case much less wary than <u>ducks</u>.

However, the North American and Eurasian species are all, of necessity, migratory over much or all of their ranges, and those species that winter at sea are also seen regularly in flight. Even the small freshwater Pied-billed Grebe of North America has occurred as a transatlantic vagrant to Europe on more than 30 occasions.

Bills vary from short and thick to long and pointed; the feet are always large, with broad lobes on the toes and small webs connecting the front three toes. The hind toe also has a small lobe. Recent experimental work has shown that these lobes work like the hydrofoil blades of a propeller. Curiously, the same mechanism seems to have evolved independently in the extinct Cretaceous-age Hesperornithiformes.

Grebes have unusual <u>plumage</u>. It is dense and waterproof, and on the underside the feathers are at right-angles to the skin, sticking straight out to begin with and curling at the tip. By pressing their feathers against the body, grebes can adjust their buoyancy. Often, they swim low in the water with just the head and neck exposed.

In the non-breeding season, grebes are plain-coloured in dark browns and whites. However, most have ornate and distinctive breeding plumages, often developing chestnut markings on the head area, and perform elaborate display rituals. The young, particularly those of the *Podiceps* genus, are often striped and retain some of their juvenile plumage even after reaching full size.

When preening, grebes eat their own feathers, and feed them to their young. The function of this behaviour is uncertain but it is believed to assist with pellet formation and to reduce their vulnerability to gastric parasites.

The grebes share anatomical characters with and are genetically most closely related to flamingos Phoenicopteridae, in spite of their superficial differences.

Species in taxonomic order

- Genus *Tachybaptus*
 - o Little Grebe, Tachybaptus ruficollis

Australasian Grebe Tachybaptus novaehollandiae

Madagascar Grebe, Tachybaptus pelzelnii

Alaotra Grebe (Rusty Grebe), Tachybaptus rufolavatus - probably extinct (late 1980s)

Least Grebe, Tachybaptus dominicus

- Genus Podilymbus
 - Pied-billed Grebe, Podilymbus podiceps
 †Atitlán Grebe, Podilymbus gigas Conservation status: Extinct (1989)
- Genus Rollandia
 - White-tufted Grebe, Rollandia rolland
 Titicaca Flightless Grebe, Rollandia microptera
- Genus *Poliocephalus*
 - Hoary-headed Grebe, Poliocephalus poliocephalus New Zealand Dabchick, Poliocephalus rufopectus
- Genus *Podiceps*
 - o Red-necked Grebe, Podiceps grisegena

Great Crested Grebe, Podiceps cristatus

Slavonian Grebe or Horned Grebe, Podiceps auritus

Black-necked Grebe or Eared Grebe, Podiceps nigricollis

†Colombian Grebe, Podiceps andinus Conservation status: Extinct (1977)

Great Grebe, Podiceps major

Silvery Grebe, Podiceps occipitalis

Junin Flightless Grebe, Podiceps taczanowskii

Hooded Grebe, Podiceps gallardoi

- Genus Aechmophorus
 - Western Grebe, Aechmophorus occidentalis Clark's Grebe, Aechmophorus clarkii

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 Grebes of our world by André Konter. Lynx Edicions. 187 pages. ISBN 84-87334-33-4

Presbyornithidae

Conservation status: Fossil

Fossil range: Late Cretaceous - Early Oligocene

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes

Family: **Presbyornithidae** Wetmore, 1926 <u>Genera</u>: see text

Presbyornithidae were a <u>family</u> of waterbirds with an apparently global distribution that lived until the Earliest Oligocene, but are now <u>extinct</u>. Initially, they were believed to present a mix of characters shown by waterbirds, shorebirds and flamingos and were used to argue for an evolutionary relationship between these groups, but they are now generally accepted to be "wading ducks", the sister taxon of the <u>Anatidae</u>, and thus essentially modern waterbirds. They were generally long-legged, long-necked birds, standing around 1 meter high, with the body of a duck, feet similar to a <u>wader</u> but webbed, and a flat ducklike bill adapted for filter feeding. Apparently, at least some species were very social birds that lived in large flocks and nested in colonies.

As the "wading duck" moniker implies, they were waterfowl whose elongated legs enabled them to live a lifestyle similar to the "proto-flamingos" (e.g. Palaelodus) - which were not really ancestors of the modern flamingos, but a group that evolved in parallel with them and in fact seems to have taken over part of the presbyornithid's ecological niche after the latter became extinct. Thus, while probably somewhat capable of swimming, they would have preferred to strain the shallow waters of their habitat for food and were also able to snatch up insects and small crustaceans on dry land, just like some species of modern ducks, e.g. the Laysan Duck, hunt for brine flies.

- 1 Significance in avian evolution
- 2 Systematics
- 3 References

Significance in avian evolution

The implication of the plethora of this and other, ecologically similar Neornithes (e.g. the wastebin taxon "Graculavidae") from the Late Cretaceous and early Palaeogene is that shore habitats offered most resources for ancestors of modern birds. The reasons seem to have been that arboreal niches were where the main radiation of the Enantiornithes had taken place some time earlier, and later on because the C-T mass extinction affected both aquatic and terrestrial habitats extensively, leading to the almost total collapse of their trophic webs. In marine habitats, the climatic changes associated with the mass extinction's cause(s) caused a wholesale die-off of oceanic phytoplankton and thus their food webs were destroyed from the bottom up. In terrestrial habitats on the other hand, apart from the loss of the primary production capacity, the keystone species, which were in almost all cases

dinosaurs, disappeared, leading the trophic webs on dry land to collapse also from the inside out.

Specialized taxa of the older bird radiations that were very well adapted to their particular ecological niche and dependent on the intactness of the trophic webs had generally no chance to survive such mass extinctions. It is now apparent that at least the main evolutionary lineages of modern bird families already existed at the end of the Cretaceous, albeit they were somewhat marginal compared to the dominant, earlier groups of birds such as Enantiornithes and Confuciornithidae. This serves to show that in evolution the possession of derived or "modern" characters can actually be a disadvantage when a species needs to compete against well-established but more "primitive" lineages, especially as it must be understood that "primitive" refers only to descendence from a lineage that had been established a longer time ago, not that these species were any more generalist or less well-adapted than "modern" forms. In fact, that there were "no" (probably rather: very few) arboreal Neornithes by the end of the Cretaceous is today believed to be because the "primitive" Enantiornithes had had more time to develop adaptations to an arboreal lifestyle and were actually able to outcompete the "modern" arboreal forms, leaving vacant only a few possibilities for early Neornithes to evolve an arboreal lifestyle.

At any rate and their evolutionary relationships nonwithstanding, most bird taxa that survived the mass extinction seem to have been living in environments where they could utilize both terrestrial as well as marine or limnic food resources (the ancestors of the Galliformes probably being the one noteworthy exception). Until the trophic webs had diversified and become complex enough again, such generalist forms were at a competitive advantage. When specialization became a feasible evolutionary strategy again, however, they were outcompeted by more advanced taxa. Note that here, too, "generalist" does not imply that these birds were competitively inferior in their *entire* ecological niche, only that whenever some form evolves specialization for living in *part* of this niche, the generalis is at a competitive disadvantage in that particular part of its niche. As time progresses and consequently opportunities for specialization accumulate, it may happen that the generalis forms are either forced to specialize themselves to maintain a competitive edge, or disappear, their niche being in effect divided up by specialist forms.

Principles in evolution as demonstrated by the Presbyornithidae

- Generalist forms which have more "fall-back" potential if part of an ecological niche gets destroyed are better adapted to survive mass extinctions than specialized forms which occupy a narrow ecological niche.
- Primitiveness in descent does not translate into "primitiveness" in morphology or adaptation. The former is an absolute value defined by when the lineage in question separated from relatives which later underwent additional radiation. The latter is dependent on when the last mass extinction created opportunities for the survivors to embark on a new adaptive journey.
- After a lineage has been able to evolve uninterrupted for a considerable amount
 of time, there is a trend for generalists to be competitively excluded from more
 and more of their niche by specialist forms, both related and unrelated, that one
 by one adapt to part of the generalist's niche.

With continuing uninterrupted evolution of a lineage, remaining plesiomorphies
are usually non-adaptive: Presbyornis was a bird which, although primitive by
descent and generalist by ecology, was uniquely and highly adapted to its
particular mode of life, in a way that is not found anymore in modern birds,
because the ecological niche to which it was most well adapted was later
partitioned away for the most part, with other opportunities for generalist forms
arising in the process.

Systematics

Four genera are unequivocally accepted to belong to the Presbyornithidae:

Presbyornis (type)
 Headonornis (disputed)
 Telmabates
 Vegavis

There is one species generally accepted in *Headonornis, Vegavis* and *Telmabates* each. *Presbyornis* contains 2 or 3 described species. *Vegavis* is known from the Late Cretaceous of Antarctica, whereas Telmabates lived in today's Patagonia during the Eocene. The genus Nautilornis is today considered a synonym of Presbyornis, which is found in a wide range of Late Paleocene to Early Oligocene deposits in North America and Europe. Additionally, most of the bones referred to Headonornis have been found to belong to Presbyornis, and the remaining coracoid may do so too (Dyke, 2001).

Apart from these unequivocal presbyornithids, there are some genera which are tentatively assigned to this family pending the discovery of more complete material. As many fossils from the Early Palaeogene show somewhat ambiguous characters, it is not easy to place these early modern birds unequivocally into one lineage or another. That they were ecologically generalized and are usually known from very few <u>fossil</u> remains only serves to worsen this situation.

Possible genera of presbyornithids include:

• Teviornis Proherodius

of which the former is known from Late Cretaceous deposits in Mongolia and the latter from the Early Eocene of England. There are some other, undescribed, presbyornithid or possible presbyornithid remains, such as the partial right scapula BMNH PAL 4989, which was considered part of *Headonornis hantoniensis*, but cannot be positively refererred to a known taxon.

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Psittacidae

Parrots

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes

Family: Psittacidae Illiger, 1811Subfamily: Loriinae, Psittacinae

The **true parrots** are about 330 species of bird belonging to the **Psittacidae**, one of the two families in the biological order Psittaciformes. The other family is the Cacatuidae (or cockatoos) which are also parrots, but not classified as true parrots.

1 Phylogeny

• <u>3 Books</u>

Phylogeny

The classification of the family is discussed in detail under Psittaciformes.

Books

• Bruce Thomas Boehner - Parrot Culture. Our 2.500-year-Long Fascination with the World's Most Talkative Bird (2004)

Pteroclididae

Sandgrouse

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pteroclidiformes

Family: Pteroclididae Bonaparte, 1831Genera: Pterocles, Syrrhaptes

The **sandgrouse** are a group of 16 near passerine <u>bird</u> species in the order **Pteroclidiformes**. They are restricted to treeless open country in the Old World, such as plains and semi-deserts.

Sandgrouse have small, pigeon like heads and necks, but sturdy compact bodies. They have long pointed wings and sometimes tails and a fast direct flight. Flocks fly to watering holes at dawn and dusk.

Legs are feathered down to the toes, and genus *Syrrhaptes* has the toes feathered as well. Two to three eggs are laid directly on the ground. They are buff or greenish with cryptic markings. Most species are resident, but Pallas's Sandgrouse is eruptive.

Sandgrouse are traditionally placed in two genera. Two central Asian species in *Syrrhaptes*, and the rest in *Pterocles*, but recent research casts some doubt on this division.

- Order Pteroclidiformes
 - o Family Pteroclididae
 - Genus Syrrhaptes
 - Tibetan Sandgrouse, S. tibetanus Pallas's Sandgrouse, S. paradoxus
 - Genus Pterocles
 - Pin-tailed Sandgrouse, P. alchata
 Namaqua Sandgrouse, P. namaqua
 Chestnut-bellied Sandgrouse, P. exustus
 Spotted Sandgrouse, P. senegallus
 Black-bellied Sandgrouse, P. orientalis
 Crowned Sandgrouse, P. coronatus
 Yellow-throated Sandgrouse, P. gutturalis
 Burchell's Sandgrouse, P. burchelli
 Masked Sandgrouse, P. personatus
 Black-faced Sandgrouse, P. decoratus
 Lichtenstein's Sandgrouse, P. lichtensteinii
 Double-banded Sandgrouse, P. bicinctus
 Painted Sandgrouse, P. indicus
 Four-banded Sandgrouse, P. quadricinctus

Bird families - R

Rallidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Gruiformes

Family: **Rallidae** Vigors, 1825Genera: Nesotrochis (extinct), Diaphorapteryx (extinct), Aphanapteryx (extinct), Sarothrura, Himantornis, Canirallus, Coturnicops, Micropygia, Rallina, Anurolimnas, Laterallus, Nesoclopeus, Gallirallus, Cabalus (extinct), Rallus, Lewinia, Dryolimnas, Crecopsis, Crex, Rougetius, Aramidopsis, Atlantisia, Aramides, Amaurolimnas, Gymnocrex, Amaurornis, Mundia (extinct), Porzana, Aenigmatolimnas, Cyanolimnas, Neocrex, Pardirallus, Eulabeornis, Habroptila, Megacrex, Gallicrex, Aphanocrex (extinct), Porphyrio, Gallinula, Fulica

The <u>family</u> **Rallidae** is a large group of small to medium-sized birds which includes the **rails**, **crakes**, **coots**, and **gallinules**. Nearly all members are associated with wetlands. There are exceptions, however, notably the Corncrake which breeds on farmland.

The most typical family members occupy dense vegetation in damp environments near lakes, swamps, or rivers. Reedbeds are a particularly favoured habitat. They are omnivorous, and those that <u>migrate</u> do so at night: most nest in dense vegetation. In general they are shy and secretive birds, difficult to observe.

Most species walk and run vigorously on strong legs, and have long toes which are well adapted to soft, uneven surfaces. They tend to have short, rounded wings and be weak fliers, although nevertheless capable of covering long distances.

Island species often become flightless, and many of them are now extinct following the introduction of terrestrial predators such as cats, rats and pigs.

Many reedbed species are secretive, apart from loud calls, and crepuscular, and have laterally flattened bodies. In the Old World, long billed species tend to be called "rails" and short billed species "crakes". North American species are normally called rails irrespective of bill length.

The larger species are also sometimes given other names. The black **coots** are more adapted to open water than their relatives, and some other large species are called **gallinules** and **swamphens**.

Taxonomy

The family Rallidae has traditionally been grouped with two families of larger birds, the cranes and bustards to make up the order Gruiformes. The alternative Sibley-Ahlquist taxonomy, which has been widely accepted in America, raises the family to ordinal level as the **Ralliformes**.

Species and genera

• Genus *Atlantisia*

- Inaccessible Island Rail, Atlantisia rogersi
 Ascension Flightless Crake, Atlantisia elpenor (extinct)
 St Helena Crake, Atlantisia podarces (extinct)
- Genus Nesotrochis (cave-rails)
 - o Antillean Cave-Rail, Nesotrochis debooyi (extinct)
- Genus *Diaphorapteryx*
 - o Hawkins' Rail, *Diaphorapteryx hawkinsi* (extinct)
- Genus *Aphanapteryx*
 - Red Rail, Aphanapteryx bonasia (extinct)
 Rodrigues Rail, Aphanapteryx leguati (extinct)
- Genus *Sarothrura* (flufftails)
 - White-spotted Flufftail, Sarothrura pulchra Buff-spotted Flufftail, Sarothrura elegans Red-chested Flufftail, Sarothrura rufa Chestnut-headed Flufftail, Sarothrura lugens Streaky-breasted Flufftail, Sarothrura boehmi Striped Flufftail, Sarothrura affinis Madagascar Flufftail, Sarothrura insularis White-winged Flufftail, Sarothrura ayresi Slender-billed Flufftail, Sarothrura watersi
- Genus *Himanthornis*
 - o Nkulengu Rail, Himantornis haematopus
- Genus Canirallus
 - Grey-throated Rail, Canirallus oculeus
 Madagascar Wood Rail, Canirallus kioloides
- Genus *Coturnicops*
 - Swinhoe's Rail, Coturnicops exquisitus
 Yellow Rail, Coturnicops noveboracensis
 Speckled Rail, Coturnicops notatus
- Genus Micropygia
 - o Ocellated Crake, Micropygia schomburgkii
- Genus Rallina
 - Chestnut Forest Rail, Rallina rubra
 White-striped Forest Rail, Rallina leucospila
 Forbes's Forest Rail, Rallina forbesi
 Mayr's Forest Rail, Rallina mayri
 Red-necked Crake, Rallina tricolor
 Andaman Crake, Rallina canningi
 Red-legged Crake, Rallina fasciata
 Slaty-legged Crake, Rallina eurizonoides
- Genus Anurolimnas
 - Chestnut-headed Crake, Anurolimnas castaneiceps Russet-crowned Crake, Anurolimnas viridis Black-banded Crake, Anurolimnas fasciatus

• Genus Laterallus

o Rufous-sided Crake, Laterallus melanophaius

Rusty-flanked Crake, Laterallus levraudi

Ruddy Crake, Laterallus ruber

White-throated Crake, Laterallus albigularis

Grey-breasted Crake, Laterallus exilis

Black Rail, Laterallus jamaicensis

Junin Rail, Laterallus tuerosi

Galapagos Rail, Laterallus spilonotus

Red-and-white Crake, Laterallus leucopyrrhus

Rufous-faced Crake, Laterallus xenopterus

Genus Nesoclopeus

o Bar-winged Rail, Nesoclopeus poecilopterus (extinct)

Woodford's Rail, Nesoclopeus woodfordi

• Genus Gallirallus

Weka, Gallirallus australis

New Caledonian Rail, Gallirallus lafresnayanus (possibly extinct)

Lord Howe Island Rail, Gallirallus sylvestris

Okinawa Rail, Gallirallus okinawae

Calayan Rail, Gallirallus calayanensis

Barred Rail, Gallirallus torquatus

New Britain Rail, Gallirallus insignis

Buff-banded Rail, Gallirallus philippensis

Roviana Rail, Gallirallus rovianae

Guam Rail, Gallirallus owstoni (extinct in the wild)

Dieffenbach's Rail, Gallirallus dieffenbachii (extinct)

Tahiti Rail, Gallirallus pacificus (extinct)

Wake Island Rail, Gallirallus wakensis (extinct)

Sharpe's Rail, Gallirallus sharpei (probably extinct)

Slaty-breasted Rail, Gallirallus striatus

- Genus Cabalus (sometimes included in Gallirallus)
 - o Chatham Rail, Cabalus modestus (extinct)
- Genus Rallus
 - o Clapper Rail, *Rallus longirostris*
 - California Clapper Rail, R. l. brownii
 - King Rail, Rallus elegans

Plain-flanked Rail, Rallus wetmorei

Virginia Rail, Rallus limicola

Bogota Rail, Rallus semiplumbeus

Austral Rail, Rallus antarcticus

Water Rail, Rallus aquaticus

African Rail, Rallus caerulescens

Madagascar Rail, Rallus madagascariensis

• Genus *Lewinia* (sometimes included in *Rallus*)

- Lewin's Rail, Lewinia pectoralis
 Brown-banded Rail, Lewinia mirifica
 Auckland Rail, Lewinia muelleri
- Genus *Dryolimnas*
 - White-throated Rail, Dryolimnas cuvieri
 Réunion Rail, Dryolimnas augusti (extinct)
- Genus *Crecopsis* (sometimes included in *Crex*)
 - o African Crake, Crecopsis egregia
- Genus Crex
 - o Corn Crake. Crex crex
- Genus Rougetius
 - o Rouget's Rail, Rougetius rougetii
- Genus *Aramidopsis*
 - o Snoring Rail, Aramidopsis plateni
- Genus Aramides
 - Red-throated Wood Rail, Aramides gutturalis (extinct, doubtful species)

Little Wood Rail, Aramides mangle

Rufous-necked Wood Rail, Aramides axillaris

Grey-necked Wood Rail, Aramides cajanea

Brown Wood Rail, Aramides wolfi

Giant Wood Rail, Aramides ypecaha

Slaty-breasted Wood Rail, Aramides saracura

Red-winged Wood Rail, Aramides calopterus

- Genus Amaurolimnas
 - o Uniform Crake, Amaurolimnas concolor
- Genus *Gymnocrex*
 - Bald-faced Rail, Gymnocrex rosenbergii
 Talaud Rail, Gymnocrex talaudensis
 Bare-eyed Rail, Gymnocrex plumbeiventris
- Genus Amaurornis
 - o Brown Crake. Amaurornis akool

Plain Bush-hen, Amaurornis olivacea

Isabelline Bush-hen, Amaurornis isabellina

Rufous-tailed Bush-hen, Amaurornis moluccana

White-breasted Waterhen, Amaurornis phoenicurus

Black Crake. Amaurornis flavirostra

Sakalava Rail, Amaurornis olivieri

Black-tailed Crake, Amaurornis bicolor

Talaud Bush-hen, Amaurornis magnirostris

- Genus *Mundia* (formerly included in *Atlantisia*)
 - Ascension Island Rail, *Mundia elpenor* (extinct)
- Genus *Porzana* (crakes)

Saint Helena Crake, Porzana astrictocarpus (extinct)

Little Crake, Porzana parva

Baillon's Crake, Porzana pusilla

Laysan Rail, Porzana palmeri (extinct)

Spotted Crake, Porzana porzana

Australian Crake, Porzana fluminea

Sora. Porzana carolina

Dot-winged Crake, Porzana spiloptera

Ash-throated Crake, Porzana albicollis

Hawaiian Rail, Porzana sandwichensis (extinct)

Ruddy-breasted Crake, Porzana fusca

Band-bellied Crake, Porzana paykullii

Spotless Crake, Porzana tabuensis

Kosrae Island Crake, Porzana monasa

Henderson Island Crake, Porzana atra

Miller's Crake, Porzana nigra (extinct, doubtful species)

Yellow-breasted Crake, Porzana flaviventer

White-browed Crake, Porzana cinerea

- Genus *Aenigmatolimnas*
 - o Striped Crake, Aenigmatolimnas marginalis
- Genus Cyanolimnas
 - o Zapata Rail, Cyanolimnas cerverai
- Genus Neocrex
 - Colombian Crake, Neocrex colombianus Paint-billed Crake, Neocrex erythrops
- Genus Pardirallus
 - Spotted Rail, Pardirallus maculatus
 Blackish Rail, Pardirallus nigricans
 Plumbeous Rail, Pardirallus sanguinolentus
- Genus Eulabeornis
 - Chestnut Rail. Eulabeornis castaneoventris
- Genus *Habroptila*
 - o Invisible Rail, *Habroptila wallacii*
- Genus Megacrex
 - o New Guinea Flightless Rail, Megacrex inepta
- Genus Gallicrex
 - o Watercock, Gallicrex cinerea
- Genus *Aphanocrex* (formerly included in *Atlantisia*)
 - o Saint Helena Swamphen, *Aphanocrex podarces* (extinct)
- Genus *Porphyrio* (swamphens and purple gallinules)
 - Réunion Swamphen or Oiseau bleu, Porphyrio coerulescens (extinct, doubtful species)

New Caledonian Swamphen, Porphyrio kukwiedei (extinct)

Purple Swamphen, Porphyrio porphyrio

Lord Howe Swamphen, Porphyrio albus (extinct)

Marquesan Swamphen, Porphyrio paepae (extinct)

North Island Takah, Porphyrio mantelli (extinct)

Takah, Porphyrio hochstetteri

Allen's Gallinule, Porphyrio alleni (sometimes placed in genus Porphyrula)

American Purple Gallinule, Porphyrio martinica (sometimes placed in genus Porphyrula)

Azure Gallinule, Porphyrio flavirostris (sometimes placed in genus Porphyrula)

African Purple Swamphen or African Purple Gallinule, Porphyrio madagascariensis (sometimes placed in genus Porphyrula)

Porphyrio mcnabi (extinct)

• Genus *Gallinula* (gallinules)

 Samoan Wood Rail, Gallinula pacifica (sometimes placed in genus Pareudiastes, possibly extinct)

Makira Wood Rail, Gallinula silvestris (sometimes placed in genus

Pareudiastes or Edithornis, possibly extinct)

Tristan Moorhen, Gallinula nesiotis (extinct)

Gough Island Moorhen, Gallinula comeri

Common Moorhen, Gallinula chloropus

Dusky Moorhen, Gallinula tenebrosa

Lesser Moorhen, Gallinula angulata

Spot-flanked Gallinule, Gallinula melanops

Black-tailed Native-hen, Gallinula ventralis

Tasmanian Native-hen. Gallinula mortierii

• Genus *Fulica* (coots)

Mascarene Coot, Fulica newtoni (extinct)

Red-knobbed Coot, Fulica cristata

Eurasian Coot or Common Coot, Fulica atra

Hawaiian Coot, Fulica alai

American Coot, Fulica americana

Caribbean Coot, Fulica caribaea

White-winged Coot, Fulica leucoptera

Andean Coot, Fulica ardesiaca

Red-gartered Coot, Fulica armillata

Red-fronted Coot, Fulica rufifrons

Giant Coot, Fulica gigantea

Horned Coot Fulica cornuta

Additionally, there are many species only known from <u>fossil</u> or subfossil remains that have not been listed here, such as the Ibiza Rail (*Rallus eivissensis*). See <u>Late Quaternary prehistoric birds</u> for these species.

Raphidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Columbiformes

Family: **Raphidae** Poche, 1904Genera: *Pezophaps (extinct), Raphus (extinct)*

The **Raphidae** is a family of extinct flightless birds, part of the order Columbiformes, comprising the genera Pezophaps and Raphus. The former comprised the species Pezophaps solitaria (the Rodrigues Solitaire); the latter Raphus cucullatus (the Dodo). Recent genetic evidence tends to support the submergence of the family within the Columbidae.

Both were native to the Mascarene Islands, Indian Ocean, and become extinct through human hunting and predation by introduced non-native predators following Western colonisation in the 1600s.

The Réunion Sacred Ibis, until recently considered a third extinct member of the Raphidae, has now been reclassified as belonging to the order Ciconiiformes.

Rostratulidae

Painted Snipes

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Rostratulidae Ridgway, 1919

Species

- Rostralata benghalensis
- Rostratula australis
- Nycticryptes semicollaris

Painted snipe are three distinctive <u>wader species</u> placed together in their own <u>family</u> Rostratulidae. They are short-legged, long-billed <u>birds</u> similar in shape to the true snipes, but much more brightly coloured.

The female is brighter than the male and takes the lead in courtship. The male incubates the <u>eggs</u>, usually four, in a nest on the ground or floating for about 20 days.

All three species live in reedy swamps, and their diet consists of annelid worms and other invertebrates, which they find with their long bills.

Species of Painted Snipe

The **Greater Painted Snipe** (*Rostralata benghalensis*) is found in marshes in Africa, India and South-east Asia.

The **Australian Painted Snipe** (*Rostratula australia*) is a rare, nomadic and declining species found only in Australia (Lane & Rogers 2000)

The **Lesser Painted Snipe** (*Nycticryptes semicollaris*), inhabits grassy marshland in southern South America.

References

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Bird families - S

Scolopacidae

Typical waders

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: **Scolopacidae** Vigors, 1825 <u>Genera</u>: Actitis, Aphriza, Arenaria, Bartramia, Calidris, Catoptrophorus, Coenocorypha, Eurynorhynchus, Gallinago, Heterosceles, Limicola, Limnodromus, Limosa, Limnocryptes, Numenius, Steganopus, Phalaropus, Philomachus, Prosobonia, Scolopax, Tringa, Tryngites, Xenus

The **Scolopacidae** are a large family of <u>waders</u>, (known as shorebirds in North America). The majority of species eat small invertebrates picked out of the mud or soil. Different lengths of bills enable different species to feed in the same habitat, particularly on the coast, without direct competition for food.

Many of the smaller species found in coastal habitats, particularly but not exclusively the calidrids, are often named as "Sandpipers", but this term does not have a strict meaning, since the Upland Sandpiper is a grassland species.

This large family is often further subdivided into groups of similar birds. These groups do not necessarily consist of a single genus. The groups are

• Godwits (4, all genus Limosa)

Curlews (8, all genus Numenius)

Upland Sandpiper (1 genus Bartramia)

Shanks and tattlers (16)

Polynesian sandpipers (1 extant, 1-3 extinct, all genus Prosobonia)

Turnstones (2, both genus Arenaria)

Phalaropes (3, all genus Phalaropus)

Woodcocks (6, all genus Scolopax)

Snipe (16)

Dowitchers (3, all genus Limnodromus)

Calidrids and allies (25, of which 21 in genus Calidris)

See also

<u>list of birds</u>

Spheniscidae

Penguins

Fossil range: Paleocene-Recent Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: **Sphenisciformes** Sharpe, 1891 Family: **Spheniscidae** Bonaparte, 1831 Modern Genera:

Aptenodytes, Eudyptes, Eudyptula, Megadyptes, Pygoscelis, Spheniscus

Penguins (order **Sphenisciformes**, family **Spheniscidae**) are an order of aquatic, <u>flightless birds</u> living exclusively in the Southern Hemisphere.

- 1 Species and habitats
- <u>2 Evolution</u>
 - o <u>2.1 Systematics</u>
- 3 Anatomy
- 4 Mating habits
 - o 4.1 Male bonding behaviour
- 5 Name
- <u>6 Penguins in popular culture</u>
 - o 6.1 Penguins and polar bears
- 8 References

Species and habitats

The number of penguin species has been and still is a matter of debate. The numbers of penguin species listed in the literature varies between 16 and 19 species. Some sources consider the White-Flippered Penguin a separate Eudyptula species, although today it is generally considered a subspecies of the Little Penguin (e.g. Williams, 1995; Davis & Renner, 2003). Similarly, it is still unclear whether the Royal Penguin is merely a color morph of the Macaroni penguin. Also possibly eligible to be treated as a separate species is the Northern population of Rockhopper penguins (Davis & Renner, 2003). Although all penguin species are native to the southern hemisphere, they are not, contrary to popular belief, found only in cold climates, such as Antarctica. In fact, only a few species of penguin actually live so far south. Three species live in the tropics; one lives as far north as the Galápagos Islands (the Galápagos Penguin).

The largest living species is the Emperor Penguin (Aptenodytes forsteri): adults average about 1.1 m (3 ft 7 in) tall and weigh 35 kg (75 lb) or more. The smallest penguin species is the Little Blue Penguin (also known as the Fairy Penguin), which stands around 40 cm tall (16 in) and weighs 1 kg (2.2 lb). Generally larger penguins retain heat better, and thus inhabit colder regions, while smaller penguins are found in temperate or even tropical climates (see

also Bergmann's Rule). Some prehistoric species attained enormous sizes, becoming as high as an adult human; see below for more.

Most penguins feed on krill, fish, squid, and other forms of sealife caught while swimming underwater. They spend half of their life on land and half in the oceans.

When mothers lose a chick, they sometimes attempt to steal another mother's chick, usually unsuccessfully as other females in the vicinity assist the defending mother in keeping her chick.

Penguins seem to have no fear of humans and have approached groups of explorers without hesitation. This is probably on account of there being no land predators in Antarctica or the nearby offshore islands that prey on or attack penguins. Instead, penguins are at risk at sea from such predators as the leopard seal.

Evolution

The evolutionary history of penguins is poorly understood, as penguin fossils are rare. The oldest known fossil penguin species are the Waimanu, which lived in the early Paleocene epoch of New Zealand, about 62 million years ago. While they were not as well adapted to aquatic life as modern penguins (which first emerged in the Eocene epoch 40 million years ago), Waimanu were flightless and loon-like, with short wings adapted for deep diving. These fossils prove that prehistoric penguins were already flightless and seagoing, so their origins probably reach as far back as 65 million years ago, before the extinction of the dinosaurs. Penguin ancestry beyond Waimanu is not well known, though some scientists (Mayr, 2005) think the penguin-like plotopterids (usually considered relatives of anhingas and cormorants) may actually be an early sister group of the penguins, and that penguins may have ultimately shared a common ancestor with the Pelecaniformes.

During the Late Eocene and the Early Oligocene (40-30 MYA), some lineages of gigantic penguins existed. Nordenskjoeld's Giant Penguin was the tallest, growing nearly 1.80 meters (6 feet) tall. The heaviest known species was with at least 80 kg the New Zealand Giant Penguin. Both were found on New Zealand, the former also in the Antarctic.

Palaeeudyptines

Traditionally, most extinct species of penguins, giant or small, have been placed in the paraphyletic sub-family called Palaeeudyptinae. More recently, it is becoming accepted that there were at least 2 major extinct lineages, one or two closely related ones from Patagonia and at least one other with pan-Antarctic and subantarctic distribution. For a complete list of these generarations, see below.

Systematics

(updated after Marples, 1962, and Acosta Hospitaleche, 2004)

ORDER SPHENISCIFORMES

Waimanu

- Family Spheniscidae
 - o Subfamily Palaeeudyptinae (Giant penguins, fossil)
- Palaeeudyptes

Archaeospheniscus

- Anthropornis
 - Nordenskjoeld's Giant Penguin, Anthropornis nordenskjoeldi
- Crossvallia (tentatively assigned to this subfamily)

Delphinornis

Pachydyptes

Platydyptes

Anthropodyptes (tentatively assigned to this subfamily)

- o **Subfamily Paraptenodytinae** (Patagonian stout-legged penguins, <u>fossil</u>)
 - Paraptenodytes Arthrodytes
- Subfamily Palaeospheniscinae (Patagonian slender-legged penguins, fossil)
 - Palaeospheniscus includes Chubutodyptes
 - o **Subfamily Spheniscinae** (modern penguins)
 - Aptenodytes
 - King Penguin, Aptenodytes patagonicus
 Emperor Penguin, Aptenodytes forsteri
 Ridgen's Penguin, Aptenodytes ridgeni (fossil)
 - Pygoscelis
 - Gentoo Penguin, Pygoscelis papua

Tyree's Penguin, Pygoscelis tyreei (fossil)

Adelie Penguin, Pygoscelis adeliae

Chinstrap Penguin, Pygoscelis antarctica

Pygoscelis grandis (fossil)

?Pygoscelis small sp. (fossil, may be different genus)

- Eudyptes
 - Rockhopper Penguin, Eudyptes chrysocome

Fiordland Penguin, Eudyptes pachyrhynchus

Snares Penguin, Eudyptes robustus

Royal Penguin, Eudyptes schlegeli

Erect-crested Penguin, Eudyptes sclateri

Macaroni Penguin, Eudyptes chrysolophus

Chatham Islands Penguin, Eudyptes sp. (prehistoric?)

- Megadyptes
 - Yellow-eyed Penguin, Megadyptes antipodes
- Eudyptula
 - Little Penguin (Blue or Fairy Penguin), Eudyptula minor White-Flippered Penguin, Eudyptula albosignata
- Spheniscus

Spheniscus predemersus (fossil)

African Penguin (Jackass or Blackfooted Penguin), Spheniscus demersus

Spheniscus chilensis (fossil)

Spheniscus megaramphus (fossil)

Spheniscus urbinai (fossil)

Magellanic Penguin, Spheniscus magellanicus

Humboldt Penguin, Spheniscus humboldti

Galápagos Penguin, Spheniscus mendiculus

o Not asssigned to a subfamily (all fossil)

Dege

Duntroonornis

Eretiscus

Insuza

Korora

Marplesornis

Marambiornis

Mesetaornis

Nucleornis

Pseudaptenodytes

Tonniornis

Wimanornis

Anatomy

Penguins are superbly adapted to an aquatic life. Their wings have become flippers, useless for flight in the air. In the water, however, penguins are astonishingly agile. Within the smooth <u>plumage</u> a layer of air is preserved, ensuring buoyancy. The air layer also helps insulate the birds in cold waters. On land, penguins use their tails and wings to maintain balance for their upright stance.

All penguins are countershaded - that is, they have a white underside and a dark (mostly black) upperside. This is for camouflage. A predator looking up from below (such as an orca or a leopard seal) has difficulty distinguishing between a white penguin belly and the reflective water surface. The dark plumage on their backs camouflages them from above.

Diving penguins reach 6 to 12 km/h (3.7 to 7.5 mph), though there are reports of velocities of 27 km/h (17 mph) (which are more realistic in the case of startled flight). The small penguins do not usually dive deep; they catch their prey near the surface in dives that normally last only one or two minutes. Larger penguins can dive deep in case of need. Dives of the large Emperor Penguin have been recorded which reach a depth of 565 m (1870 ft) and last up to 20 minutes.

Penguins either waddle on their feet or slide on their bellies across the snow, a movement called "tobogganing", which allows them to conserve energy and move relatively fast at the same time.

Penguins have an excellent sense of hearing. Their eyes are adapted for underwater vision, and are their primary means of locating prey and avoiding predators; in air, conversely, they are nearsighted. Their sense of smell has not been researched so far.

They are able to drink salt water safely because their supraorbital gland filters excess salt from the bloodstream. [1][2][3] The salt is excreted in a concentrated fluid from the nasal passages.

Mating habits

Some penguins mate for life, while others for just one season. They generally raise a small brood, and the parents cooperate in caring for the clutch and for the young. During the cold season on the other hand the mates separate for several months to protect the egg. The male stays with the egg and keeps it warm, and the female goes out to sea and finds food so that when it comes home, the baby will have food to eat. Once the female comes back, they switch.

Male bonding behaviour

In early February 2004 the New York Times reported a male pair of Chinstrap penguins in the Central Park Zoo in New York City were partnered, and when given an egg which needed incubation, successfully hatched it. Other penguins in New York have also been reported to be forming same-sex pairs.[4]

This was the basis for the children's picture book And Tango Makes Three. The couple about whom the book was based, Roy and Silo, would see further interesting developments in their relationship when in September 2005, Silo left Roy for a female penguin, only to come back to Roy in a few weeks.

Zoos in Japan and Germany have also documented male penguin couples.[5] The couples have been shown to build nests together and use a stone to replace an egg in the nest. Researchers at Rikkyo University in Tokyo, found twenty such pairs at sixteen major aquariums and zoos in Japan. Bremerhaven Zoo in Germany attempted to break up the male couples by importing female penguins from Sweden and separating the male couples; they were unsuccessful. The zoo director stated the relationships were too strong between the older couples.

Name

Penguin is thought by some to derive from the Welsh words pen (head) and gwyn (white), applied to the Great Auk, which had a conspicuous white patch between the bill and the eye (although its head was black), or from an island off Newfoundland known as "White Head" due to a large white rock. This may be, however, a false etymology created by Dr. John Dee in his book on Prince Madoc of Wales, supposedly one of the discoverers of America. By this Dee hoped to cement Queen Elizabeth I's claim, as a Tudor, to the New World. Penguins live

nowhere near Newfoundland, nor do they generally have white heads, however Great Auks did look remarkably like penguins. According to another theory, the original name was penwing, with reference to the rudimentary wings of both Great Auks and penguins. A third theory is that penguin comes from the Latin pinguis (fat). This has added credibility because in two other Germanic languages, Dutch 'pinguïn' and German, 'Pinguin' both have the 'i' vowel too. While it has been replaced by an 'e' in the English spelling, it can still be heard. By simply looking at the word's pronunciation and comparing that to the Dutch and German words, one could assume a common Latin root - after the first Germanic sound shift (500-200 BC) that makes a PIE 'p' into a 'f', of course. However, a Welsh 'i' is often mutated to an 'e' in the English language so the Welsh origin is still arguable..

Penguins in popular culture

Penguins are popular around the world primarily for their unusually upright, waddling pace and (compared to other birds) lack of fear towards humans. Their striking black and white plumage is often likened to a tuxedo suit and generates humorous remarks about the bird being "well dressed".

Perhaps in reaction to this cutesy stereotype, fictional penguins are occasionally presented as grouchy or even sinister. The popular Sanrio character Badtz Maru is an example, being cute yet somewhat surly. One of the best known penguins in childrens' TV is Pingu, characterised by his red scarf and bundle on a stick over his shoulder. The 1960s television cartoon character Tennessee Tuxedo would often escape the confines of his zoo with his partner. Chumley the walrus, Also, the webcomic Fluble features an enormous penguin conspiracy run by numerous diabolical, if often inept, penguins. In the children's movie Madagascar, the penguins are cast as spies. In the animated series "Wallace and Gromit" a penguin called Feathers McGraw disguises himself as a chicken with a red rubber glove. In the animated "Toy Story 2" a rubber penguin named Wheezy also featured-and once again was a sweet and friendly character. Penguins are often portrayed as friendly and smart as well. Another example is in the anime Neon Genesis Evangelion, which features a warmwater hot springs penguin named Pen Pen. Tux the penguin is the official mascot for Linux. Also, in Avatar: The Last Airbender, a popular sport is penguin sledding, which is catching a penguin and using it like a tobbogan. There was also a film that came out in 1988 called "Scamper The Penguin," directed by G.A. Sokoljishij and Jim Terry, featuring Virginia Masters, David Miles Monson, and others as the voices of the animated characters who execute an elaborate escape plan. There is also the classic Woody the Woodpecker show, with Chilly Willy.

The Penguin is also the name of a villain in the comic series Batman and its TV show and movie spinoffs, and is usually seen wearing a tuxedo type outfit in order to fit the name.

Opus, a character from the Comic strips Bloom County, Outland, and *Opus* was a popular penguin from the 80's on, typically seen with a rather un-penguinlike nose.

Penguins also appear regularly in Steve Bell's "If" comic strip in England's Guardian newspaper, wherein they tend to be somewhat anarchic and poorly behaved (by human standards).

The documentary March of the Penguins (2005) details a year in the life of a colony of Emperor Penguins mating, giving birth, and hunting for food in the harsh continent of Antarctica. It won the 2005 Academy Award for Documentary Feature.

The old Budweiser ice commercials starred a Penguin, with the catchphrase "Doo bee doobee dooo," signaling his arrival, and the eventual stealing of the Bud ice. [6]

The Little America hotels used a penguin as their logo for many years.

In the upcoming Pokemon Diamond and Pearl video game for the Nintendo DS, the water starter is a penguin.

Penguins and polar bears

Despite what commercials and other sources may show, the likelihood of a meeting between a penguin and a polar bear without human intervention is vanishingly small. This is because the two species are found on opposite hemispheres. Polar bears inhabit the northern hemisphere, while penguins mainly inhabit the southern hemisphere. This is a misconception that is fueled by popular culture such as movies and television. A prominent example of this takes place in a holiday 2005 ad campaign by Coca-Cola featuring the partying penguins and the polar bears watching from afar.

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Strigidae

Typical owls

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: **Strigiformes**

Family: **Strigidae** Vigors, 1825 <u>Genera</u>: Aegolius: saw-whet owls, Asio: eared owls, Athene, Bubo: horned owls, Ciccaba, Glaucidium: pygmy owls, Jubula, Lophostrix, Micrathene: elf owls, Mimizuku, Nesasio, Ninox, Otus: scops owls, Pseudoscops, Pulsatrix, Pyrroglaux: palau owls, Sceloglaux, Scotopelia, Speotyto, Strix: earless owls, Surnia: hawk owls, Uroglaux, Xenoglaux

Typical owls (<u>family</u> **Strigidae**) are one of the two generally accepted families of <u>owls</u>, the other being the <u>barn owls</u> (family **Tytonidae**).

The nearly 200 species are, in taxonomic order:

White-fronted Scops Owl, Otus sagittatus

Andaman Scops Owl, Otus balli

Reddish Scops Owl, Otus rufescens

Serendib Scops Owl, Otus thilohoffmanni

Sandy Scops Owl, Otus icterorhynchus

Sokoke Scops Owl, Otus ireneae

Flores Scops Owl, Otus alfredi

Mountain Scops Owl, Otus spilocephalus

Rajah Scops Owl, Otus brookii

Iavan Scops Owl. Otus angelinae

Mentawai Scops Owl, Otus mentawi

Indian Scops Owl, Otus bakkamoena

Collared Scops Owl, Otus (bakkamoena) lettia

Sunda Scops Owl, Otus lempiji

Japanese Scops Owl, Otus semitorques

Wallace's Scops Owl, Otus silvicola

Palawan Scops Owl, Otus fuliginosus

Philippine Scops Owl, Otus megalotis

Mindanao Scops Owl, Otus mirus

Luzon Scops Owl, Otus longicornis

Mindoro Scops Owl, Otus mindorensis

Pallid Scops Owl, Otus brucei

African Scops Owl, Otus senegalensis

European Scops Owl, Otus scops

Oriental Scops Owl, Otus sunia

Flammulated Owl, Otus flammeolus

Moluccan Scops Owl, Otus magicus

Mantanani Scops Owl, Otus mantananensis

Ryukyu Scops Owl, Otus elegans

Sulawesi Scops Owl, Otus manadensis

Sangihe Scops Owl, Otus collari Biak Scops Owl, Otus beccarii Seychelles Scops Owl, Otus insularis Simeulue Scops Owl, Otus umbra Enggano Scops Owl, Otus enganensis Nicobar Scops Owl, Otus alius Pemba Scops Owl. Otus pembaensis Comoro Scops Owl, Otus pauliani Anjouan Scops Owl, Otus capnodes Moheli Scops Owl, Otus moheliensis Mayotte Scops Owl, Otus mayottensis Malagasy Scops Owl, Otus rutilus Torotoroka Scops Owl, Otus madagascariensis Sao Tome Scops Owl, Otus hartlaubi Western Screech Owl, Otus kennicottii Balsas Screech Owl, Otus seductus Pacific Screech Owl. Otus cooperi Whiskered Screech Owl, Otus trichopsis Eastern Screech Owl, Otus asio Tropical Screech Owl, Otus choliba Koepcke's Screech Owl, Otus koepckeae West Peruvian Screech Owl. Otus roboratus Bare-shanked Screech Owl, Otus clarkii Bearded Screech Owl, Otus barbarus Rufescent Screech Owl, Otus ingens Colombian Screech Owl, Otus colombianus Cinnamon Screech Owl, Otus petersoni Cloud-forest Screech Owl, Otus marshalli Tawny-bellied Screech Owl, Otus watsonii Guatemalan Screech Owl, Otus guatemalae Vermiculated Screech Owl, Otus vermiculatus Hoy's Screech Owl, Otus hoyi Variable Screech Owl, Otus atricapillus Long-tufted Screech Owl, Otus sanctaecatarinae Puerto Rican Screech Owl, Otus nudipes White-throated Screech Owl. Otus albogularis Palau Owl, Pyrroglaux podarginus Cuban Screech Owl, Gymnoglaux lawrencii Northern White-faced Owl, Ptilopsis leucotis Southern White-faced Owl, Ptilopsis granti Mindanao Eagle Owl, Mimizuku gurneyi See horned owl for more on the following horned and eagle owls.

Great Horned Owl, Bubo virginianus

Magellanic Horned Owl, Bubo magellanicus

Eurasian Eagle Owl, Bubo bubo Rock Eagle Owl, Bubo bengalensis Pharaoh Eagle Owl, Bubo ascalaphus Cape Eagle Owl, Bubo capensis Spotted Eagle Owl, Bubo africanus Grayish Eagle Owl, Bubo cinerascens Fraser's Eagle Owl. Bubo poensis Usambara Eagle Owl, Bubo vosseleri Spot-bellied Eagle Owl, Bubo nipalensis Barred Eagle Owl, Bubo sumatranus Shelley's Eagle Owl, Bubo shelleyi Verreaux's Eagle Owl, Bubo lacteus Dusky Eagle Owl, Bubo coromandus Akun Eagle Owl, Bubo leucostictus Philippine Eagle Owl, Bubo philippensis Blakiston's Fish Owl, Bubo blakistoni Brown Fish Owl, Bubo zeylonensis Tawny Fish Owl, Bubo flavipes Buffy Fish Owl, Bubo ketupu Snowy Owl, Bubo scandiaca Pel's Fishing Owl, Scotopelia peli Rufous Fishing Owl, Scotopelia ussheri Vermiculated Fishing Owl, Scotopelia bouvieri

Spotted Wood Owl, Strix seloputo Mottled Wood Owl, Strix ocellata Brown Wood Owl, Strix leptogrammica Tawny Owl, Strix aluco Hume's Owl, Strix butleri Spotted Owl, Strix occidentalis Barred Owl, Strix varia Fulvous Owl, Strix fulvescens Rusty-barred Owl, Strix hylophila Rufous-legged Owl, Strix rufipes Chaco Owl, Strix chacoensis Ural Owl. Strix uralensis Pere David's Owl, Strix davidi Great Grev Owl, Strix nebulosa African Wood Owl, Strix woodfordii Mottled Owl, Ciccaba virgata Black-and-white Owl, Ciccaba nigrolineata Black-banded Owl, Ciccaba huhula Rufous-banded Owl, Ciccaba albitarsis Crested Owl, Lophostrix cristata Maned Owl. Iubula lettii

Spectacled Owl, Pulsatrix perspicillata Tawny-browed Owl, Pulsatrix koeniswaldiana Band-bellied Owl, Pulsatrix melanota Northern Hawk Owl, Surnia ulula Eurasian Pygmy Owl, Glaucidium passerinum Collared Owlet, Glaucidium brodiei Pearl-spotted Owlet, Glaucidium perlatum Northern Pygmy Owl, Glaucidium californicum Mountain Pygmy Owl, Glaucidium gnoma Guatemalan Pygmy Owl, Glaucidium cobanense Cape Pygmy Owl, Glaucidium hoskinsii Costa Rican Pygmy Owl, Glaucidium costaricanum Cloud-forest Pygmy Owl, Glaucidium nubicola Andean Pygmy Owl, Glaucidium jardinii Colima Pygmy Owl, Glaucidium palmarum Tamaulipas Pygmy Owl, Glaucidium sanchezi Central American Pygmy Owl, Glaucidium griseiceps Subtropical Pygmy Owl, Glaucidium parkeri Yungas Pygmy Owl, Glaucidium bolivianum Amazonian Pygmy Owl, Glaucidium hardyi Least Pygmy Owl, Glaucidium minutissimum Ferruginous Pygmy Owl, Glaucidium brasilianum Tucuman Pygmy Owl, Glaucidium tucumanum Peruvian Pygmy Owl, Glaucidium peruanum Austral Pygmy Owl, Glaucidium nanum Cuban Pygmy Owl, Glaucidium siju Red-chested Owlet, Glaucidium tephronotum Sjostedt's Owlet, Glaucidium sjostedti Asian Barred Owlet, Glaucidium cuculoides Iavan Owlet, Glaucidium castanopterum Jungle Owlet, Glaucidium radiatum Chestnut-backed Owlet, Glaucidium castanonotum African Barred Owlet, Glaucidium capense Chestnut Owlet, Glaucidium castaneum Albertine Owlet, Glaucidium albertinum Long-whiskered Owlet, Xenoglaux loweryi Elf Owl, Micrathene whitneyi Burrowing Owl, Athene cunicularia Spotted Owlet, Athene brama Forest Owlet, Athene blewitti Little Owl. Athene noctua Tengmalm's Owl or Boreal Owl, Aegolius funereus Northern Saw-whet Owl, Aegolius acadicus Unspotted Saw-whet Owl, Aegolius ridgwayi Buff-fronted Owl, Aegolius harrisii

Rufous Owl, Ninox rufa

Powerful Owl, Ninox strenua

Barking Owl, Ninox connivens

Sumba Boobook, Ninox rudolfi

Southern Boobook, Ninox novaeseelandiae, sometimes split as

Morepork, Ninox novaeseelandiae,

Southern Boobook, Ninox boobook

Andaman Hawk Owl, Ninox affinis

Brown Hawk Owl, Ninox scutulata

White-browed Owl, Ninox superciliaris

Philippine Hawk Owl, Ninox philippensis

Ochre-bellied Hawk Owl, Ninox ochracea

Cinnabar Hawk Owl, Ninox ios

Moluccan Hawk Owl, Ninox squamipila

Christmas Island Hawk Owl, Ninox natalis

Jungle Hawk Owl, Ninox theomacha

Manus Hawk Owl, Ninox meeki

Speckled Hawk Owl, Ninox punctulata

Bismarck Hawk Owl, Ninox variegata

New Britain Hawk Owl, Ninox odiosa

Solomon Hawk Owl, Ninox jacquinoti

Papuan Hawk Owl, Uroglaux dimorpha

Jamaican Owl, Pseudoscops grammicus

Striped Owl, Pseudoscops clamator

Stygian Owl, Asio stygius

Long-eared Owl, Asio otus

African Long-eared Owl, Asio abyssinicus

Madagascar Long-eared Owl, Asio madagascariensis

Short-eared Owl, Asio flammeus

Marsh Owl, Asio capensis

Fearful Owl, Nesasio solomonensis

Sulidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Sulidae** Reichenbach, 1849Genera: *Morus*, *Sula*, *Papasula*

The <u>bird</u> family **Sulidae** comprises the <u>gannets</u> and boobies. Both groups are mediumlarge coastal <u>seabirds</u> that plunge-dive for fish. The species in this family are often considered congeneric, placing all in the genus Sula. However, bones of Sula (boobies) and Morus (gannets) at least can in most cases be readily distinguished, and Abbot's Booby has traits of morphology and behavior not found in any other species.

Systematics and evolution

The <u>fossil</u> record of sulids is quite extensive due to the many Miocene/Pliocene forms that have been recovered. The initial radiation formed a number of genera which are now completely extinct, such as the freshwater Masillastega or the bizarre Rhamphastosula which had a bill shaped like an Aracari's; the modern genera are (as with most genera of extant birds) documented from the Miocene onwards.

Family Sulidae

- Genus *Masillastega* (<u>fossil</u>; Middle Eocene of Messel, Germany)
- Genus *Eostega* (fossil; Middle/Late Eocene of Cluj-Manastur, Romania)
- Genus *Empheresula* (<u>fossil</u>; Late Oligocene of Gannat, France Middle Miocene of Steinheimer Becken, Germany)
- Genus *Microsula* (<u>fossil</u>; Lower Miocene of Léognan Grund Middle Miocene of Austria)
- Genus Sarmatosula (fossil; Middle Miocene of Credinca, Romania)
- Genus *Rhamphastosula* (fossil; Pisco Early Pliocene of SC Peru)
- Genus Miosula (fossil)
- Genus *Palaeosula* (fossil)
- Sulidae gen. et sp. indet. (<u>fossil</u>; Thalberg Late Oligocene of Germany)
- Genus *Morus* gannets
- Genus Sula boobies
 - Genus *Papasula* **Abbott's Booby**

For prehistoric species of the extant genera, see the genus articles.

Sylviornithidae

Sylviornis

Conservation status: Prehistoric Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes

Family: **Sylviornithidae** Mourer-Chauviré & Balouet, 2005 Genus: **Sylviornis** Poplin, 1980 Species: **S.**

neocaledoniae

Binomial name: *Sylviornis neocaledoniae* Poplin, 1980

Sylviornis is an <u>extinct</u> genus of galliform bird containing a single species, *S. neocaledoniae*, the **Sylviornis** or **New Caledonian Giant Megapode**. Technically, however, it has recently been found not to be a megapode, but the sole known member of its own <u>family</u>, the Sylviornithidae; at the time of its description, it was believed to be a <u>ratite</u>. The Sylviornis was never encountered alive by scientists, but it is known from many thousands of subfossil bones found in deposits, some of them from the Holocene, on New Caledonia and the adjacent Île des Pins.

The Sylviornis was a huge, flightless bird, 1.70 meters long altogether, and weighing around 30 kg. It had a large skull with a high and laterally compressed beak surmounted by a bony knob. Its legs were rather short, but had strong toes with long nails. The skeleton has a number of peculiarities and differences that make the Sylviornis stand apart from all other known birds: the clavicles were not fused to a furcula, the number of caudal vertebrae was very high, and the ribcage and pelvis were almost dinosaurian in appearance. The wings were reduced to small stubs.

A large proportion - up to 50% in some deposits - of the remains found were from juvenile animals. Thus, it has been theorized that the Sylviornis had a clutch of at least two, more probably closer to 10 eggs, and that the average lifespan was not much more than 5-7 years, which would be extremely low for such a large bird. Apparently, the bird did not incubate its eggs but built a mound similar to the megapodes. Tumuli on the Île des Pins which were initially believed to be graves were found to contain no human remains or grave goods, and it has been hypothesized that they were in reality the incubation mounts of Sylviornis. As these mounds are up to 5 m high and 50 m wide even after nearly 4 millennia, they seem too large to have been made by the Giant Scrubfowl, an extinct New Caledonian species of megapode.

Little can be said about the Sylviornis' lifestyle. It was probably a slow-moving browser, and the structure of the bill and feet suggest that roots and tubers it dug up formed a major part of its diet.

Extinction

The bird was hunted to extinction by the Lapita ancestors of the Kanak people, who settled New Caledonia around 1500 BC. Predation by feral dogs and pigs probably also

played a part. The legacy of the Sylviornis persists in Kanak oral history in the form of stories giving a rough description of the bird and some of its habits. A native name was du.

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Bird families - T

Teratornithidae

Conservation status: Fossil Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: **Teratornithidae** L. H. Miller, 1909

Teratorns were very large birds of prey who lived in North and South America from Miocene to Pleistocene. They were somewhat close to modern condors and as such, they are more closely related to storks rather than Accipitridae which includes most other diurnal predatory birds, including Old World vultures; however, Rhys (1980) put the family Teratornithidae in the order Accipitriformes. They include some of the largest known flying birds. So far, four species have been identified:

- *Teratornis merriami* (Miller, 1909). This is by far the best-known species. Over a hundred specimens have been found, mostly from La Brea Tar Pits. It stood about 75 cm (29.5 in) tall with estimated wingspan of perhaps 3.5 to 3.8 metres (11.5 to 12.5 ft), and weighed about 15 kg (33 lbs); making it slightly bigger than extant condors. It became extinct at the end of Pleistocene, some 10 000 years ago. Teratornis is Greek for "monster bird".
- *Aiolornis incredibilis* (Howard, 1952), previously known as *Teratornis incredibilis*. This species is fairly poorly known, finds from Nevada and California include several wing bones and part of the beak. They show remarkable similarity with *merriami* but are uniformly about 40% larger: this would translate to wingspan of about 5 metres (16.5 ft) for *incredibilis*. The finds are dated from Pliocene to late Pleistocene which is considerable chronological spread, and thus it is uncertain whether they actually represent the same species.
- *Cathartornis gracilis* (Miller, 1910). This species is known only from a couple of leg bones found from La Brea Ranch. Compared to *T. merriami*, remains are slightly shorter and clearly more slender, indicating more gracile body build.
- Argentavis magnificens (Campbell & Tonni, 1980). A partial skeleton of this enormous teratorn was found from La Pampa, Argentina. It is the oldest known teratorn, dating to late Miocene, about 6 to 8 million years ago, and one of the very few teratorn finds in South America. Initial discovery included portions of the skull, incomplete humerus and several other wing bones. Even conservative estimates put its wingspan at 6 meters and up (some 20 ft), and it may have been as much as 8 metres (26 ft). Weight of the bird was estimated to have been around 80 kg (176 lbs). Estimated weight and wing area rival those of the largest pterosaurs.

Another form, "Teratornis" olsoni, was described from the Pleistocene of Cuba, but its exact affinities are not completely resolved; it might not be a teratorn at all. There are also undescribed fossils from southwestern Ecuador, but apart from these forms, teratorns were restricted to North America (Campbell & Tonni, 1983).

Description and ecology

Despite their size, there is little doubt that even the largest teratorns could fly. Visible marks of the attachments of contour feathers can be seen on *Argentavis* wing bones. This defies some earlier theories that modern birds like condors, <u>swans</u>, and bustards represent the ultimate size limit for flying birds. Wing loading of Argentavis was relatively low for its size, a bit more than a turkey (Campbell & Tonni, 1983), and if there were any significant wind present, the bird could probably get airborne merely by spreading its wings, just like modern <u>Albatrosses</u>. It is noteworthy that South America during Miocene probably featured strong and steady westerly winds, as the Andes were still forming and not yet very high.

T. merriami was small enough to take off with a simple jump and a few flaps. The fingerbones are mostly fused as in all birds, but the former index finger has partially evolved into a wide shelf at least in T. merriami, and as condors have a similar adaptation, probably other species, too. Wing length estimates vary considerably but more likely than not were on the upper end of the range, because this bone structure serves to bear the load of the massive primaries

Traditionally, teratorns have been described as large scavengers, very much like oversized condors, owing to considerable similarity with condors. However, the long beaks and wide gapes of teratorns are more like the beaks of <u>eagles</u> and other actively predatory birds, rather than vultures. Most likely teratorns swallowed their prey whole; *Argentavis* could technically swallow up to hare-sized animals in a single piece. Although they undoubtely engaged in opportunistic scavenging, they seem to have been active predators most of the time (Campbell & Tonni, 1983). It is noteworthy that teratorns have relatively longer and stouter legs than Old World vultures, thus it seems possible that teratorns would stalk their prey on the ground, and take off only to fly to another feeding ground, or their nests; especially *Cathartornis* seems well-adapted for such a lifestyle. *Argentavis* may have been an exception, as its sheer bulk would have made it a less effective hunter, but better adapted to taking over other predators' kills. As teratorns were not habitual scavengers, they most likely had completely feathered heads, unlike <u>vultures</u>.

As with other large birds, a clutch probably had only one or two eggs; the young would be cared for for more than half a year, and take several years to reach maturity, probably up to a dozen in *Argentavis* (Palqvist & Vizcaíno, 2003).

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Tetraonidae

Grouse

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes

Family: **Tetraonidae** Vigors, 1825Genera: *Tetrao*, *Lagopus*, *Falcipennis*, *Centrocercus*,

Bonasa, Dendrapagus, Tympanuchus

Grouse are from the order Galliformes which inhabit temperate and subarctic regions of the northern hemisphere. They are game and are sometimes hunted for food.

Males are often polygamous, and many species have elaborate courtship displays. These heavily built birds have legs <u>feathered</u> to the toes. Most species are year-round residents, and do not <u>migrate</u>.

These birds feed mainly on vegetable food, but will also feed on insects, especially when feeding young.

Species

- Siberian Grouse, Falcipennis falcipennis Spruce Grouse, Falcipennis canadensis
- Blue Grouse now split into two species:
 - Dusky Grouse, Dendragapus obscurus Sooty Grouse, Dendragapus fuliginosus
- Willow Grouse (Willow Ptarmigan in North America), Lagopus lagopus

Ptarmigan (Rock Ptarmigan in North America), Lagopus mutus

White-tailed Ptarmigan, Lagopus leucurus

Eurasian Black Grouse, Tetrao tetrix

Caucasian Black Grouse, Tetrao mlokosiewiczi

Capercaillie, Tetrao urogallus

Black-billed Capercaillie, Tetrao parvirostris

Hazel Grouse, Bonasa bonasia

Severtzov's Grouse. Bonasa sewerzowi

Ruffed Grouse, Bonasa umbellus

Greater Sage-Grouse, Centrocercus urophasianus

Gunnison Sage-Grouse, Centrocercus minimus

Sharp-tailed Grouse, Tympanuchus phasianellus

- Greater Prairie-Chicken, Tympanuchus cupido
 - o Heath Hen, T. c. cupido (extinct, 1932) possibly a distinct species
- Lesser Prairie-Chicken Tympanuchus pallidicinctus

Threskiornithidae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: Threskiornithidae Richmond, 1917 Subfamilies: Threskionithinae (ibises), Plateinae

(spoonbills)

The <u>family</u> **Threskiornithidae** includes 36 <u>species</u> of large terrestrial and wading <u>birds</u>, falling into two subfamilies, the <u>ibises</u> and the **spoonbills**. It was formerly known as Plataleidae. The spoonbills and ibises are related to other groups of long-legged wading birds in the order Ciconiiformes, including the <u>storks</u>, the herons, and the bitterns.

Members of the family have long, broad wings with 11 primary <u>feathers</u> and about 20 secondaries. They are strong fliers and, rather surprisingly, given their size and weight, very capable soarers. The body tends to be elongated, the neck more so, with rather long legs. The bill is also long, decurved in the case of the ibises, straight and distinctively flattened in the spoonbills.

They are distributed almost worldwide, being found near almost any area of standing or slow-flowing fresh or brackish water. Ibises are also found in drier areas, including city rubbish tips. All are diurnal; spending the day feeding on a wide range of invertebrates and small vertebrates: ibises by probing in soft earth or mud, spoonbills by swinging the bill from side to side in shallow water. At night, they roost in trees near water. They are gregarious, feeding, roosting, and flying together, often in formation.

Nesting is colonial in ibises, more often in small groups or singly in spoonbills, nearly always in trees overhanging water, but sometimes on islands or small islands in swamps. Generally, the female builds a large structure out of reeds and sticks brought by the male. Typical clutch size is 2 to 5; hatching is asynchronic. Both sexes incubate in shifts, and after hatching feed the young by partial regurgitation. Two or three weeks after hatching, the young no longer need to be brooded continuously and may leave the nest, often forming creches but returning to be fed by the parents.

Trochilidae

Hummingbird

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Apodiformes

Family: **Trochilidae** Vigors, 1825 Subfamilies: *Phaethornithinae, Trochilinae*

Hummingbirds are small <u>birds</u> in the <u>family</u> **Trochilidae**. They are known for their ability to hover in mid-air by rapidly flapping their wings, 15 to 80 times per second (depending on the species). Capable of sustained hovering, the hummingbird has the ability to fly deliberately backwards or vertically, and to maintain position while drinking from flower blossoms. They are named for the characteristic hum made by their wings.

Hummingbirds are attracted to many flowering plants—shrimp plants, Heliconia, bromeliads, verbenas, fuchsias, many penstemons—especially those with red flowers. They feed on the nectar of these plants and are important pollinators, especially of deep-throated flowers. Most species of hummingbird also take insects, especially when feeding young.

The Bee Hummingbird (Mellisuga helenae) is the smallest bird in the world, weighing 1.8 grams. A more typical hummingbird, such as the Rufous Hummingbird (*Selasphorus rufus*), weighs approximately 3 g and has a length of 10-12 cm (3.5-4 inches). The largest hummingbird is the Giant Hummingbird (*Patagona gigas*), with some individuals weighing as much as 24 grams.

Most male hummingbirds take no part in nesting. Most species make a neatly woven cup in a tree branch. Two white eggs are laid, which despite being the smallest of all bird eggs, are in fact large relative to the hummingbird's adult size. Incubation is typically 14-19 days.

- <u>1 Appearance</u>
- 2 Aerodynamics of hummingbird flight
- 3 Metabolism
- 4 Range
- 5 Systematics and evolution
- 6 Hummingbirds and humans
 - o 6.1 Hummingbird feeders and nectar
 - o 6.2 Hummingbirds in myth and culture
- 7 References
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Appearance

Hummingbirds bear the most glittering <u>plumage</u> and some of the most elegant adornments in the bird world. Male hummingbirds are usually brightly coloured. The females of most species are duller.

The names that admiring naturalists have given to hummingbirds suggest exquisite, fairylike grace and gemlike brilliance. Fiery-tailed Awlbill, Ruby-topaz Hummingbird, Glittering-bellied Emerald, Brazilian Ruby, Green-crowned Brilliant, Festive Coquette, Shining Sunbeam, and Amethyst-throated Sunangel are some of the names applied to birds in this group.

Aerodynamics of hummingbird flight

Hummingbird flight has been studied intensively from an aerodynamic perspective: Hovering hummingbirds may be filmed using high-speed video cameras.

Writing in Nature, biophysicist Douglas Warrick and coworkers studied the Rufous Hummingbird, Selasphorus rufus, in a wind tunnel using particle image velocimetry techniques and investigated the lift generated on the bird's upstroke and downstroke.

They concluded that their subjects produced 75% of their weight support during the downstroke and 25% during the upstroke: many earlier studies had assumed (implicitly or explicitly) that lift was generated equally during the two phases of the wingbeat cycle. This finding shows that hummingbirds' hovering is similar to, but distinct from, that of hovering insects such as the hawk moths. The differences result from an inherently dissimilar avian body plan (Warrick *et al.*, 2005).

Metabolism

With the exception of insects, hummingbirds while in flight have the highest metabolism of all animals, a necessity in order to support the rapid beating of their wings. Their heartbeat can reach as high as 1260 beats per minute, a rate once measured in a Blue-throated hummingbird [1]. They also typically consume more than their own weight in food each day, and to do that they have to visit hundreds of flowers daily. At any given moment, they are only hours away from starving. However, they are capable of slowing down their metabolism at night, or any other time food is not readily available. They enter a hibernation-like state known as torpor. During torpor, the heartrate and rate of breathing are both slowed dramatically (the heartrate to roughly 50-180 beats per minute), reducing their need for food.

Studies of hummingbirds' metabolism are highly relevant to the question of whether a migrating Ruby-throated Hummingbird can cross 800 km (500 miles) of the Gulf of Mexico on a nonstop flight, as field observations suggest it does. This hummingbird, like other birds preparing to migrate, stores up fat to serve as fuel, thereby augmenting its weight by as much as 40 to 50 percent and hence increasing the bird's potential flying time. (Skutch, 1973)

Range

Hummingbirds are found only in the Americas, from southern Alaska and Canada to Tierra del Fuego, including the West Indies. The majority of species occur in tropical Central and South America, but several species also breed in temperate areas. Excluding vagrants, sometimes from Cuba or the Bahamas, only the migratory Ruby-throated Hummingbird breeds in eastern North America. The Black-chinned Hummingbird, its close relative and another migrant, is the most widespread and common species in the western United States and Canada.

Most hummingbirds of the U.S. and Canada and southern migrate to warmer climates in the northern winter, though some remain in the warmest coastal regions. Some southern South American forms also move to the tropics.

The Rufous Hummingbird shows an increasing trend to migrate east to winter in the eastern United States, rather than south to Central America, as a result of increasing survival prospects provided by artificial feeders in gardens. In the past, individuals that migrated east would usually die, but now many survive, and their changed migration direction is inherited by their offspring. Provided sufficient food and shelter is available, they are surprisingly hardy, able to tolerate temperatures down to at least -20°C.

Systematics and evolution

Traditionally, hummingbirds were placed in the order Apodiformes, which also contains the <u>swifts</u>. In the Sibley-Ahlquist taxonomy, hummingbirds are separated as a new order, Trochiliformes, but this is not well supported by additional evidence.

There are between 325 and 340 species of hummingbird, depending on taxonomic viewpoint, divided into two subfamilies, the **hermits** (subfamily **Phaethornithinae**, 34 species in six genera), and the **typical hummingbirds** (subfamily **Trochilinae**, all the others). This arrangement has been extensively verified (see review in Gerwin & Zink, 1998).

The modern diversity of hummingbirds is thought by evolutionary biologists to have evolved in South America, as the great majority of the species are found there. All of the most common North American species are thought to be of relatively recent origin, and are therefore (following the usual procedure of lists starting with more 'ancestral' species and ending with the most recent) listed close to the end of the list. However, as seen below, the actual origin of the hummingbird lineage now seems to have been parts of Europe to what is southern Russia today.

Genetic analysis has indicated that the hummingbird lineage diverged from their closest relatives some 35 million years ago, in the Late Eocene, but fossil evidence has proved quite elusive. Fossil hummingbirds are known from the Pleistocene of Brazil and the Bahamas neither of which has been scientifically described -, and there are fossils and subfossils of a few extant species known, but until recently, older fossils had not been securely identifiable as hummingbirds.

Then, in 2004, Dr. Gerald Mayr of the Senckenberg Museum in Frankfurt am Main identified two 30-million-year-old hummingbird fossils and published his results in Nature. The fossils of this primitive hummingbird species, named Eurotrochilus inexpectatus ("unexpected European hummingbird"), had been sitting in a museum drawer in Stuttgart; they had been unearthed in a clay pit at Wiesloch-Frauenweiler, south of Heidelberg, Germany and because it was assumed that hummingbirds never occurred outside the Americas were never believed to be hummingbirds until Mayr took a closer look at them.

Fossils of birds not clearly assignable to either hummingbirds or a related, extinct family, the Jungornithidae, have been found at the Messel pit and in the Caucasus, dating from 40-35 mya, proving that the split between these two lineages indeed occurred at that date. The areas where these early fossils have been found had a climate quite similar to the northern Caribbean or southernmost China during that time. The biggest remaining mystery at the present time is what happened to hummingbirds in the roughly 25 million years between the primitive Eurotrochilus and the modern fossils. The astounding morphological adaptations, the decrease in size and the dispersal to the Americas and extinction in Eurasia all occurred during in this timespan. DNA-DNA hybridization results (Bleiweiss et al, 1994) suggest that the main radiation of South American hummingbirds at least partly took place in the Miocene, some 12-13 mya, during the uplifting of the northern Andes.

Hummingbirds and humans

Hummingbirds sometimes fly into garages and become trapped. It is widely believed that this is because they mistake the hanging (usually red-color) door-release handle for a flower, although hummingbirds can also get trapped in enclosures that do not contain anything red. Once inside, they may be unable to escape because their natural instinct when threatened or trapped is to fly upward. This is a life-threatening situation for hummingbirds, as they can become exhausted and die in a relatively short period of time, possibly as little as an hour. If a trapped hummingbird is within reach, it can often be caught gently and released outdoors. It will lie quietly in the space between cupped hands until released.

Hummingbird feeders and nectar

The diet of hummingbirds requires an energy source (typically nectar) and a protein source (typically small insects). For nectar, hummingbirds will happily take artificial nectar from man-made feeders. Such feeders allow people to observe and enjoy hummingbirds upclose while providing the hummingbirds with a reliable supply of nectar, especially when flower blossoms are less abundant. The feeders can be placed as high as 60 meters maximum. Homemade nectar can be made from **1 part white, granulated table sugar** to **4 parts water**, boiled to make it easier to dissolve the sugar and to purify the solution so that it will stay fresh longer. The cooled nectar is then poured into the feeder. Honey should not be used because it is prone to culture a bacterium that is dangerous to hummingbirds. Diet

sweeteners should also be avoided because, though the hummingbirds will drink it, they will be starved of the calories they need to sustain their metabolism.

Some commercial hummingbird foods contain red dyes and preservatives which are unnecessary and have not been studied for long-term effects on hummingbirds. While it is true that bright colors (especially red) attract hummingbirds, it is better to use a feeder that has some red on it, rather than coloring the water. There are suggestions that red dye is harmful to hummingbirds [2]. Yellow dyes also cannot be used, as it has been known to attract bees and wasps. Commercial nectar mixes may contain small amounts of mineral nutrients which *are* useful to hummingbirds, but hummingbirds get all the nutrients they need from the insects they eat, not from nectar, so the added nutrients are also unnecessary. Authorities on hummingbirds recommend just plain sugar and water (Shackelford *et al.*, 2005).

A hummingbird feeder should be easy to refill and clean. Prepared nectar can be refrigerated for 1 to 2 weeks before being used, but once placed outdoors it will only remain fresh for 2-4 days in hot weather or 4-6 days in moderate weather before turning cloudy or developing mold. Hummingbirds can be seriously harmed if they sip from a feeder with nectar that has gone bad. When changing the nectar, the feeder should be rinsed thoroughly with warm tap water, flushing the reservoir and ports to remove any contamination or sugar build-up. If dish soap is used, it needs extra rinsing so that no residue is left behind. The feeder can be soaked in dilute chlorine bleach if black specks of mold appear.

Other animals are also attracted to hummingbird feeders. It is a good idea to get a feeder that has very narrow ports, or ports with mesh-like "wasp guards", to prevent bees and wasps from getting inside where they get trapped. Orioles are known to drink from hummingbird feeders, sometimes tipping them and draining the liquid. If this becomes a problem, it is possible to buy feeders which are specifically designed to support their extra weight and which hummingbirds will use too. If ants find your hummingbird feeder, one solution is to install an "ant moat", which is available at specialty garden stores and online.

Hummingbirds in myth and culture

The Aztec god Huitzilopochtli is often depicted as a hummingbird.
 One of the Nazca Lines depicts a hummingbird.
 The Ohlone tells the story of how a Hummingbird brought fire to the world. See an article at the National Parks Conservation Association's website for a recounting.

Trinidad and Tobago is known as "The land of the hummingbird," and a hummingbird can be seen on that nation's 1 cent coin. Many popular songs have been written under the title "Hummingbird", including separate works by B.B. King, Wilco, Leon Russell, John Mayer, Frankie Laine, Cat Stevens, Seals and Crofts, Merzbow and Yuki.

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Footnotes

1. <u>^</u>

http://faq.gardenweb.com/faq/lists/hummingbird/2003021845028716.html

2. <u>http://www.hummingbirds.net/dye.html</u>

Tytonidae

Barn-owls

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Strigiformes

Family: **Tytonidae** Ridgway, 1914 Genera: *Tyto, Phodilus*

For fossil genera, see article.

Barn-owls (family **Tytonidae**) are one of the two generally accepted families of owls, the other being the <u>typical owls</u>, Strigidae. They are medium to large sized owls with large heads and characteristic heart-shaped faces. They have long strong legs with powerful talons. The barn owls comprise two extant sub-families: the Tytoninae or Tyto owls (including the Common Barn Owl) and the Phodilinae or bay-owls.

The barn owls are a wide ranging family, absent only from northern North America, Saharan Africa and large areas of Asia. They live in a wide range of habitats from deserts to forests, and from temperate latitudes to the tropics. The majority of the 16 living species of barn owls are poorly known, some, like the Madagascar Red Owl, have barely been seen or studied since their discovery, in contrast to the Common Barn Owl, which is one of the best known owl species in the world. However, some sub-species of the Common Barn Owl possible deserve to be a species, and are very poorly known.

5 species of barn-owl are threatened, and some island species have gone <u>extinct</u> during the Holocene or earlier (e.g. Tyto pollens, known from the fossil record of Andros Island, and possibly the basis for the Chickcharnie). The barn-owls are mostly nocturnal, and generally non-<u>migratory</u>, living in pairs or singly.

- <u>1 Description</u>
- 2 Species
- <u>3 References</u>

Description

The barn-owls main characteristic is the heart-shaped facial disc, formed by stiff <u>feathers</u> which serve to amplify and locate the source of sounds when hunting. Further adaptations in the wing feathers eliminate sound caused by flying, aiding both the hearing of the owl listening for hidden prey and keeping the prey unaware of the owl. Barn-owls overall are darker on the back than the front, usually an orange-brown colour, the front being a paler version of the back or mottled, although there is considerable variation even amongst species. The bay-owls closely resemble the *Tyto* owls but have a divided facial disc, ear tufts, and tend to be smaller.

Species

The fossil record of the barn-owls goes back to the Eocene, with the family eventually losing ground to the true owls after the radiation of rodents and owls during the Neogene epoch . Two subfamilies are only known from the fossil record, the *Necrobyinae* and the *Selenornithinae*. Numerous extinct species of *Tyto* have been described; see the genus page for more information.

Genus Tyto

- Greater Sooty-owl, T. tenebricosa
 Lesser Sooty-owl, T. multipunctata
 Australian Masked-owl, T. novaehollandiae
 Golden Masked-owl, T. aurantia
- Lesser Masked-owl, T. sororcula
 - o Buru Masked-owl, T. (sororcula) cayelii (possibly extinct)
- Manus Masked-owl, T. manusi
 - Taliabu Masked-owl, T. nigrobrunnea
 - Minahassa Masked-owl, T. inexspectata
 - Sulawesi Owl, T. rosenbergii
- Barn Owl, *T. alba*
 - o Eastern Barn Owl, T. (alba) delicatula
- Ashy-faced Owl, T. glaucops
 - Madagascar Red Owl T. soumagnei
 - African Grass-owl T. capensis
 - Australasian Grass-owl T. longimembris

Genus Phodilus

- Oriental Bay-owl *P. badius*
 - o Samar Bay-owl *P. (badius) riverae* (probably extinct)
- Congo Bay-owl, *P. prigoginei* sometimes placed in *Tyto*

Fossil genera

• Necrobyas (Late Eocene/Early Oligocene - Early Miocene of France)

Prosybris (Early Miocene of France)

Nocturnavis

Palaeobyas

Palaeotyto

Selenornis

The presumed "Easter Island Barn-owl", based on subfossil bones found on Rapa Nui, has turned out to be some procellarid (Steadman, 2006).

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Bird families - V

Bird families - W

Subfamilies of birds

Anatinae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u>

Subfamily: Anatinae Leach, 1820

Genera

Dabbling ducks

o Amazonetta

Aix

Anas

Cairina

Callonetta

Chenonetta

Nettapus

Pteronetta

moa-nalos

Chelychelynechen

Thambetochen

Ptaiochen

Diving ducks

Marmaronetta

Netta

Avthva

The **Anatinae** is one of the subfamilies of the family <u>Anatidae</u>, which includes the <u>swans</u>, <u>geese</u> and <u>ducks</u>.

The Anatinae subfamily contains three groups of ducks:

- The dabbling duck group, of worldwide distribution, include usually 8 genera and some 50-60 living species. Salvadori's Teal and the Crested Duck are sometimes separated from Anas in monotypic genera.
- The 3 known genera and 4 known species of moa-nalos are all extinct. They
 formerly occurred on the Hawaiian Islands and were derived from dabbling
 ducks.
- 16 living or recently extinct species of diving ducks, of worldwide distribution, in presently 3 genera; Marmaronetta was formerly included with the dabbling ducks but is now treated here. Phylogenetic analysis of the probably extinct Pinkheaded Duck, previously treated separately in *Rhodonessa*, has suggested that it belongs into *Netta* (Livezey, 1998), but this approach has been questioned (Collar *et al.*, 2001). Molecular studies, which would probably resolve this question, have not been conducted to date.

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Anserinae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u>

Subfamily: Anserinae Vigors, 1825

Genera

Cygnus (including Olor)
 Coscoroba
 Sarcidiornis (extinct)

- Anser
- Chen
- Branta
- Cereopsis

Cnemiornis (extinct)

The **Anserinae** is a subfamily of the waterfowl family <u>Anatidae</u>. It includes the <u>swans</u> and <u>geese</u>; this article deals with the swans and true geese in the subfamily **Anserinae**. See <u>swan</u> and <u>goose</u>, and the individual species, for more details. A number of other waterbirds, mainly related to the shelducks, have "goose" as part of their name; see the family page at <u>Anatidae</u> for these and others.

Species of swan and goose:

- Genus *Cyanus* swans
 - o Tundra Swan Cygnus columbianus. Arctic North America, Europe and Asia, wintering further south.

Bewick's Swan, Cygnus bewickii. Siberia, wintering on the coasts of the North, Caspian and Yellow Seas and Japan. Often considered a subspecies of *C.* columbianus.

Whooper Swan Cygnus cygnus. Subarctic Europe and Asia, wintering further south.

Trumpeter Swan Cygnus buccinator. Subarctic North America, wintering further south.

Mute Swan Cygnus olor. Temperate Europe and Asia, mainly resident.

- o Black Swan Cygnus atratus. Australia, resident or nomadic.
 - New Zealand Swan, Cygnus atratus sumnerensis. New Zealand, possibly Chatham Islands, resident. Conservation status: Prehistoric
- o Black-necked Swan Cygnus melanocoryphus. Southern South America, wintering further north.
- Genus Coscoroba

 Coscoroba Swan Coscoroba coscoroba. Southern South America, wintering further north.

• Genus Sarcidiornis

 Mascarene Swan, Sarcidiornis mauritania (mauritianus) an extinct species which lived in the Mascarene Islands, last observed in Mauritius in 1668 [1].

• Genus *Anser* - grey geese

o Greylag Goose Anser anser. Temperate Europe and Asia.

White-fronted Goose Anser albifrons. Arctic North America, Europe and Asia, wintering further south.

Lesser White-fronted Goose Anser erythropus. Subarctic Europe and Asia, wintering further south.

Bean Goose Anser fabalis. Arctic and subarctic Europe and Asia, wintering further south.

Pink-footed Goose Anser brachyrhynchus. Arctic Atlantic Ocean shores, wintering further south in western Europe.

Bar-headed Goose Anser indicus. Mountains of temperate central Asia, wintering further south in India.

Swan Goose Anser cygnoides. Temperate eastern Asia, wintering further south.

• Genus <u>Chen</u> - white geese (sometimes merged into Anser)

 Snow Goose Chen caerulescens or Anser caerulescens. Arctic and subarctic North America, wintering further south.

Ross's Goose Chen rossii or Anser rossii. Arctic North America, wintering further south.

Emperor Goose Chen canagica or Anser canagicus. Arctic Pacific Ocean shores, wintering a short distance further south.

• Genus **Branta** - black geese

 Barnacle Goose Branta leucopsis. Arctic Atlantic Ocean shores, wintering further south in western Europe.

Canada Goose Branta canadensis. Arctic to temperate North America, wintering further south or resident.

Cackling Goose Branta hutchinsii. Arctic to temperate North America, wintering further south or resident.

Hawaiian Goose or Nn, Branta sandvicensis. Hawaii, resident.

Nn-nui, Branta hylobadistes. Hawaii, resident. Conservation status:

Prehistoric

Brent Goose Branta bernicla.

Red-breasted Goose Branta ruficollis. Arctic Asia, wintering further in southeast Europe.

• Genus *Cereopsis*

 Cape Barren Goose Cereopsis novaehollandiae. Southern Australia, resident or nomadic. Distinct from other geese and often placed in a subfamily of its own.

- Genus *Cnemiornis* New Zealand geese Conservation status: Prehistoric
- South Island Goose Cnemiornis calcitrans. New Zealand, South Island, resident. Conservation status: Prehistoric North Island Goose Cnemiornis gracilis. New Zealand, North Island, resident. Conservation status: Prehistoric

Bucorvinae

Ground-hornbillKingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Coraciiformes Family: Bucerotidae Subfamily: **Bucorvinae**

Genus: *Bucorvus* Lesson, 1830Species: *Bucorvus leadbeateri, Bucorvus abyssinicus*

The **Ground-hornbills** (Bucorvinae) are a subfamily of the <u>hornbill</u> family Bucerotidae, with a single genus *Bucorvus* and two extant species:

• Abyssinian Ground-hornbill Bucorvus abyssinicus (also known as Northern Ground-hornbill)

Southern Ground-hornbill Bucorvus leadbeateri

The subfamily is endemic to sub-Saharan Africa - Abyssinian Ground-hornbill being found in a belt from Senegal east to Ethiopia, with Southern Ground-hornbill occurring in the south and east of the continent.

A prehistoric ground-hornbill, *Bucorvus brailloni*, has been described from <u>fossil</u> bones.

Ground hornbills are large, with adults around a metre tall. Both species are ground-dwelling, unlike other hornbills. Some ornithologists raise the Ground-hornbills to family level on account of this and other distinctive features.

Buteoninae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u> Subfamily: **Buteoninae** Genera: *See article text*

Buteoninae is a <u>bird of prey</u> subfamily which consists of medium to large broad-winged species.

They have large powerful hooked <u>beaks</u> for tearing flesh from their prey, strong legs and powerful talons. They also have extremely keen eyesight to enable them to spot potential prey from a distance.

This subfamily contains the buzzards and true eagles.

Species

SUBFAMILY BUTEONINAE

- Genus Geranoaetus
 - o Black-chested Buzzard-eagle, Geranoaetus melanoleucus
- Genus Buteo
 - Common Buzzard, Buteo buteo Red-tailed Hawk, Buteo jamaicensis Long-legged Buzzard, Buteo rufinus Rough-legged Buzzard, Buteo lagopus Ferruginous Hawk, Buteo regalis Red-shouldered Hawk, Buteo lineatus Broad-winged Hawk, Buteo platypterus Swainson's Hawk, Buteo swainsoni Roadside Hawk, Buteo magnirostris Ridgway's Hawk, Buteo ridgwayi White-rumped Hawk, Buteo leucorrhous Short-tailed Hawk, Buteo brachyurus White-throated Hawk, Buteo albigula White-tailed Hawk, Buteo albicaudatus Galápagos Hawk, Buteo galapagoensis Red-backed Hawk, Buteo polyosoma Puna Hawk, Buteo poecilochrous Gray Hawk, Buteo nitidus Zone-tailed Hawk, Buteo albonotatus Hawaiian Hawk, Buteo solitarius Rufous-tailed Hawk, Buteo ventralis

Mountain Buzzard, Buteo oreophilus Madagascar Buzzard, Buteo brachypterus Upland Buzzard, Buteo hemilasius Red-necked Buzzard, Buteo auguralis Augur Buzzard, Buteo augur Archer's Buzzard, Buteo archeri Jackal Buzzard, Buteo rufofuscus

- Genus *Parabuteo*
 - o Harris' Hawk, Parabuteo unicinctus
- Genus Buteogallus
 - Common Black Hawk, Buteogallus anthracinus Mangrove Black Hawk, Buteogallus subtilis Great Black Hawk, Buteogallus urubitinga Rufous crab Hawk, Buteogallus aequinoctialis Savanna Hawk, Buteogallus meridionalis
- Genus Busarellus
 - o Black-collared Hawk, Busarellus nigricollis
- Genus Leucopternis
 - Plumbeous Hawk, Leucopternis plumbea
 Slate-coloured Hawk, Leucopternis schistacea
 Barred Hawk, Leucopternis princeps
 Black-faced Hawk, Leucopternis melanops
 White-browed Hawk, Leucopternis kuhli
 White-necked Hawk, Leucopternis lacernulata
 Semiplumbeous Hawk, Leucopternis semiplumbea
 White Hawk, Leucopternis albicollis
 Grey-backed Hawk, Leucopternis occidentalis
 Mantled Hawk, Leucopternis polionota
- Genus *Kaupifalco*
 - o Lizard Buzzard, Kaupifalco monogrammicus
- Genus Butastur
 - Grasshopper Buzzard, Butastur rufipennis White-eyed Buzzard, Butastur teesa Rufous-winged Buzzard, Butastur liventer Grey-faced Buzzard, Butastur indicus
- Genus *Harpyhaliaetus*
 - Crowned Solitary Eagle, Harpyhaliaetus coronatus Solitary Eagle, Harpyhaliaetus solitarius
- Genus *Morphnus*
 - o Crested Eagle, Morphnus guianensis
- Genus Harpia
 - o Harpy Eagle, Harpia harpyja
- Genus Pithecophaga
 - o Philippine Eagle, Pithecophaga jefferyi

- Genus *Harpyopsis*
 - o New Guinea Eagle, *Harpyopsis novaeguineae*
- Genus Oroaetus
 - o Black-and-chestnut Eagle, Oroaetus isidori
- Genus Spizastur
 - o Black-and-white Hawk-eagle, Spizastur melanoleucus
- Genus Spizaetus
 - Cassin's Hawk-eagle, Spizaetus africanus Changeable Hawk-eagle, Spizaetus cirrhatus Mountain Hawk-eagle, Spizaetus nipalensis Blyth's Hawk-eagle, Spizaetus alboniger Javan Hawk-eagle, Spizaetus bartelsi Sulawesi Hawk-eagle, Spizaetus lanceolatus Philippine Hawk-eagle, Spizaetus philippensis Wallace's Hawk-eagle, Spizaetus nanus Black Hawk-eagle, Spizaetus tyrannus Ornate Hawk-eagle, Spizaetus ornatus
- Genus Lophaetus
 - o Long-crested Eagle, Lophaetus occipitalis possibly belongs into Ictinaetus
- Genus Stephanoaetus
 - o Crowned Hawk-eagle, Stephanoaetus coronatus
- Genus Polemaetus
 - o Martial Eagle, Polemaetus bellicosus
- Genus *Hieraaetus*
 - Little Eagle, Hieraaetus morphnoides
 Ayres' Hawk-eagle, Hieraaetus ayresii
 Rufous-bellied Hawk-eagle, Hieraaetus kienerii
- Genus Aquila
 - Bonelli's Eagle, Aquila fasciata formerly Hieraaetus fasciatus
 Booted Eagle, Aquila pennata formerly Hieraaetus pennatus
 African Hawk-eagle, Aquila spilogastra formerly Hieraaetus spilogaster
 Golden Eagle, Aquila chrysaetos

Eastern Imperial Eagle, Aquila heliaca

Spanish Imperial Eagle Aquila adalberti

Steppe Eagle, Aquila nipalensis

Tawny Eagle, Aquila rapax

Greater Spotted Eagle, Aquila clanga - to be moved to Lophaetus or Ictinaetus

Lesser Spotted Eagle, Aquila pomarina - to be moved to Lophaetus or Ictinaetus

Verreaux's Eagle, Aquila verreauxii Gurney's Eagle, Aquila gurneyi Wahlberg's Eagle, Aquila wahlbergi Wedge-tailed Eagle, Aquila audax

- Genus Ictinaetus
 - o Black Eagle, Ictinaetus malayensis
- Genus Haliaeetus
 - White-tailed Eagle, Haliaeetus albicilla
 Bald Eagle, Haliaeetus leucocephalus
 Steller's Sea-eagle, Haliaeetus pelagicus
 African Fish-eagle, Haliaeetus vocifer
 White-bellied Sea-eagle, Haliaeetus leucogaster
 Sanford's Fish-eagle, Haliaeetus sanfordi
 Madagascar Fish-eagle, Haliaeetus vociferoides
 Pallas' Sea-eagle, Haliaeetus leucoryphus
- Genus Ichthyophaga
 - Lesser Fish-eagle, Ichthyophaga humilis
 Grey-headed Fish-eagle, Ichthyophaga ichthyaetus

Chordeilinae

Nighthawk

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Caprimulgiformes Family: <u>Caprimulgidae</u> Subfamily: **Chordeilinae**

Genera: Nyctiprogne, Podager, Lurocalis, Chordeiles

Nighthawks are <u>birds</u> of the <u>nightjar</u> family in the New World subfamily **Chordeilinae**.

They are medium-sized nocturnal birds with long wings, short legs and very short bills that usually nest on the ground and catch flying insects. Nightjars are sometimes referred to as goatsuckers from the mistaken belief that they suck milk from goats (the Latin for goatsucker is *Caprimulgus*).

Nighthawks have small feet, of little use for walking, and long pointed wings. Their soft plumage is crypically coloured to resemble bark or leaves. Some species, unusual for birds, perch along a branch, rather than across it. This helps to conceal them during the day. They lay two patterned eggs directly onto bare ground.

They are mostly active in the late evening and early morning or at night, and feed predominantly on moths and other large flying insects.

Nighthawks are similar in most respects to the nightjars of the Old World, but have shorter bills and less soft plumage. Nighthawks are less strictly nocturnal than many Old World nightjars, and may be seen hunting when there is still light in the sky.

Species

 Band-tailed Nighthawk, Nyctiprogne leucopyga Nacunda Nighthawk, Podager nacunda Rufous-bellied Nighthawk Lurocalis rufiventris Short-tailed Nighthawk, Lurocalis semitorquatus Antillean Nighthawk, Chordeiles gundlachii Lesser Nighthawk, Chordeiles acutipennis Common Nighthawk, Chordeiles minor Least Nighthawk, Chordeiles pusillus Sand-colored Nighthawk, Chordeiles rupestris

Mancallinae

Mancalla

Conservation status: Fossil

Fossil range: Late Miocene - Early Pleistocene

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Alcidae

Subfamily: Mancallinae Lucas, 1901Genera: Alcodes, Praemancalla, Mancalla

The *Mancallinae* were a sub-family of prehistoric flightless <u>auks</u> that lived on the Pacific coast of today's California and Mexico from the late Miocene Epoch to the Early Pleistocene. They are sometimes collectively referred to as Lucas auks after the scientist who described the first species, Frederic Augustus Lucas.

They had evolved along somewhat similar lines as the Great Auk, their North Atlantic ecological counterpart, but their decidedly stubbier wings were in some aspects more convergent with <u>penguins</u>.

Compared with the subarctic Great Auk, they were also smaller (see also: Bergmann's Rule): *Praemancalla* species have been estimated to have weighed about 3 kg. Most *Mancalla* forms weighed somewhat less (about 2.4 kg), with *M. milleri* being a smaller (1.65 kg) and *M. emlongi* a much larger bird (3.8 kg) than the rest (Livezey, 1988). The last species thus stood around 55-60 cm high in life.

Evolution and systematics

- Family Alcidae
 - Subfamily Mancallinae
- Genus Alcodes
 - Alcodes ulnulus
- Genus **Praemancalla**
 - *Praemancalla lagunensis* (Howard, 1966)
 - Praemancalla wetmorei (Howard, 1976)
- Genus Mancalla
 - Mancalla californiensis (Lucas, 1901)
 - Mancalla diegense (Miller, 1937)
 - Mancalla milleri (Howard, 1970)
 - Mancalla cedrosensis (Howard, 1971)
 - Mancalla emlongi (Olson, 1981)

There seems to exist a further, undescribed species which differs somewhat from the others in the proportion of the wing bones (Livezey, 1988).

The mancallines probably evolved from proto-<u>puffins</u> (Livezey, 1988), which must have been birds not dissimilar to the Rhinoceros Auklet. Accordingly, their status as a subfamily has been questioned as this would make the Alcinae (true auks) paraphyletic. However, the

mancallines were a very distinct and unique evolutionary lineage and are thus usually retained as a subfamily. They must have diverged from flying ancestors during the mid-Miocene, roughly 15 mya.

Alcodes is known from a single ulna found in Late Miocene (Clarendonian, 9-12 mya) deposits at Laguna Hills, California. While assignment of such a fragmentary fossil is always problematical, the ulna is a fairly distinctive bone and that of Alcodes is quite peculiar. However, it is more allied with the Mancallines as a matter of convenience; additional material would be needed to confirm this relationship (Olson, 1985). From the bone's measurements, it seems probable that this species was flightless (Livezey, 1988) and judging from its age, it either represents an earlier development parallelling Mancalla, or a third lineage of flightless auks.

Praemancalla is known from Clarendonian to Early Pliocene remains. It is similar to Mancalla, but less extreme in its adaptations and it is quite possibly that the latter genus evolved from one of the 2 known species. Mancalla was a common species throughout the Pliocene, appearing in the Hemphillian stage of the Late Miocene (5-9 mya), and spreading in the Pliocene, with 4 species apparently coexisting at one time on the coast of southern California (Olson, 1985).

As with many marine birds, the mancalline auks were much affected by the extinction crisis in the late Pliocene oceans. This cocincided with the diversification of marine mammals, but may ultimately have been caused by increased supernova activity in the vicinity of the solar system (Comins & Kaufmann). Despite their apparent awkwardness, they seem to have been quite well adapted for flightless birds, with the fossil record suggesting that the last remnants did not disappear until the Early Pleistocene (c. 7 mya), some time after the ecological changes had passed their peak.

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Merginae

Sea Ducks

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u> Subfamily: **Merginae**

Genera: Chendytes (extinct), Polysticta, Somateria, Histrionicus, Camptorhynchus (extinct),

Melanitta, Clangula, Bucephala, Mergellus, Lophodytes, Mergus

The **seaducks**, **Merginae**, form a <u>subfamily</u> of the <u>duck</u>, <u>goose</u> and <u>swan</u> family of <u>birds</u>, Anatidae.

As the name implies, most but not all, are essentially marine outside the breeding season. Many species have developed specialized salt glands to allow them to tolerate salt water, but these have not yet developed in young birds. Some of the mergansers prefer riverine habitats.

All but two of the 20 species in this group occupy habitats in far northern latitudes.

The fish-eating members of this group, such as the mergansers and Smew, have serrated edges to their bills to help them grip their prey. These are therefore often known as "sawbills".

Other seaducks take molluscs or crustaceans from the sea floor.

There are twenty living species in ten extant genera.

Subfamily Merginae

- Genus Chendytes, the diving-geese. These birds became extinct in prehistoric times. They were large, goose-like ducks with reduced wings which were unfit for flying, but could assist in diving as in the Great Auk. At least one species survived to the Holocene.
 - o Law's Diving-goose *Chendytes lawi*
- Genus Polysticta
 - o Steller's Eider *Polysticta stelleri*
- Genus Somateria, the eiders. These are large marine ducks The drakes have body
 plumage showing varying amounts of black and white, and distinctive head
 patterns. Females are brown.
 - Common Eider Somateria mollissima Spectacled Eider Somateria fischeri King Eider Somateria spectabilis
- Genus Histrionicus
 - o Harlequin Duck *Histrionicus histrionicus*
- Genus *Camptorhynchus*
 - o Labrador Duck Camptorhynchus labradorius

- Genus *Melanitta*, the scoters. These are stocky marine ducks. The drakes are mostly black and have swollen bills. Females are brown.
 - Common Scoter Melanitta nigra
 Black Scoter or American Scoter Melanitta americana (sometimes considered a subspecies of M. nigra)

Velvet Scoter Melanitta fusca

White-winged Scoter Melanitta deglandi (sometimes considered a subspecies of M. fusca)

Surf Scoter Melanitta perspicillata

- Genus Clangula
 - o Long-tailed Duck or **Oldsquaw** *Clangula hyemalis*
- Genus *Bucephala*, the goldeneyes. These are less marine than some species in this group, and will winter on fresh water. Drakes have white bodies with black backs and distinctive head markings. Females are grey with chestnut heads.
 - Common Goldeneye Bucephala clangula Barrow's Goldeneye Bucephala islandica Bufflehead Bucephala albeola
- Genus *Mergellus* (sometimes included in *Mergus*)
 - o Smew Mergellus albellus
- Genus *Lophodytes* (sometimes included in *Mergus*)
 - o Hooded Merganser Lophodytes cucullatus
- Genus *Mergus*, the typical mergansers. These are the least marine of this group, only Red-breasted being common on the sea. These are large saw-billed ducks which dive for fish.
 - Brazilian Merganser Mergus octosetaceus
 Auckland Islands Merganser Mergus australis
 Red-breasted Merganser Mergus serrator
 Common Merganser or Goosander Mergus merganser
 Chinese Merganser Mergus squamatus

Palaeeudyptinae

Conservation status: Fossil

Fossil range: Middle/Late Eocene -? Middle Miocene

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Sphenisciformes Family: Spheniscidae

Subfamily: Palaeeudyptinae Simpson, 1946Genera: Palaeeudyptes, Archaeospheniscus,

Anthropornis, Pachydyptes, Platydyptes

and see article text

Synonyms: Anthropornithidae Simpson, 1946

The **New Zealand Giant Penguins**, *Palaeeudyptinae*, are an <u>extinct</u> subfamily of <u>penguins</u>. It includes several <u>genera</u> of medium-sized to very large species - including Palaeeudyptes marplesi and Anthropornis nordenskjoeldi which grew 150 centimeters tall or even larger, and the massive Pachydyptes ponderosus which weighed at least as much as an adult human male.

They belonged to an evolutionary lineage more primitive than modern penguins. In some taxa at least, the wing, while already having lost the avian feathering, had not yet transformed into the semi-rigid flipper found in modern penguin species: While the ulna and the radius were already flattened to increase propelling capacity, the elbow and wrist joints still retained a higher degree of flexibility than the more rigidly lockable structure found in modern genera. The decline and eventual disappearance of this subfamily seems to be connected by increased competition as mammal groups such as cetaceans and pinnipeds became better-adapted to a marine lifestyle in the Oligocene and Miocene.

The members of this subfamily are known from fossils found in New Zealand, Antarctica, and possibly Australia, dating from the Middle or Late Eocene to the Late Oligocene; the Australian Middle Miocene genus Anthropodyptes is also often assigned to this subfamily, as are the remaining genera of primitive penguins except those from Patagonia. Indeed, it was long assumed that all prehistoric penguins which cannot be assigned to extant genera belonged into the Palaeeudyptinae; this view is generally considered obsolete today. It is likely that some of the unassigned New Zealand/Antarctican/Australian genera like Delphinornis do indeed belong into this subfamily, but it is just as probable that others, such as Duntroonornis and Korora, represent another, smaller and possibly somewhat more advanced lineage.

The Palaeeudyptinae as originally defined (Simpson, 1946) contained only the namesake genus, the remainder being placed in the Anthropornithidae. The arrangement followed here is based on the review of Marples (1962) who synonymized the two, with updates to incorporate more current findings.

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Phaethornithinae

Hermit

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Apodiformes Family: Trochilidae

Subfamily: Phaethornithinae Jardine, 1833Genera: Ramphodon, Eutoxeres, Glaucis, Threnetes,

Anopetia, Phaethornis

The **Hermits** are tropical <u>hummingbirds</u> in the subfamily *Phaethornithinae*, comprising about 34 species in six genera.

Their plumage typically involves greens, browns, rufous or grey. They lack the iridescent plumage of many other hummingbird species, and the male and female plumages of hermits are often very similar, only a few species showing the strong sexual dimorphism usually associated with hummingbirds.

Hermits in the main genus, *Phaethornis*, have a long decurved bill with a red or yellow base to the lower mandible, and their two central tail feathers are elongated and tipped with white. The crown of the head is flat, and two pale facial stripes enclose a dusky mask.

Hermits usually form leks and congregate on traditional display grounds, where females visit to choose a mate. However, male hermits are less aggressively territorial than other male hummingbirds.

Hermits are closely associated with heliconias. The flowers are an important food source accessible to the long decurved bill typical of this group of forest hummingbirds. Many species, including the Rufous-breasted Hermit, also use the plant for nesting, attaching their conical nest to the underside of one of the plant's broad leaves.

Species

- Genus Ramphodon
 - o Saw-billed Hermit, Ramphodon naevius
- Genus Eutoxeres
 - White-tipped Sicklebill, Eutoxeres aquila Buff-tailed Sicklebill, Eutoxeres condamini
- Genus Glaucis
 - Hook-billed Hermit, Glaucis dohrnii
 Rufous-breasted Hermit, Glaucis hirsuta
 Bronzy Hermit, Glaucis aenea
- Genus Threnetes
 - Band-tailed Barbthroat, Threnetes ruckeri
 Pale-tailed Barbthroat, Threnetes niger
- Genus Anopetia
 - o Broad-tipped Hermit, Anopetia gounellei
- Genus Phaethornis

- White-whiskered Hermit, Phaethornis yaruqui Green Hermit, Phaethornis guy White-bearded Hermit, Phaethornis hispidus
- o Long-billed Hermit, *Phaethornis longirostris*
 - Mexican Hermit, Phaethornis (longirostris) mexicanus
 - Baron's Hermit, Phaethornis (longirostris) baroni
- Long-tailed Hermit, Phaethornis superciliosus Great-billed Hermit, Phaethornis malaris Tawny-bellied Hermit, Phaethornis syrmatophorus Koepcke's Hermit, Phaethornis koepckeae Needle-billed Hermit, Phaethornis philippii Straight-billed Hermit, Phaethornis bourcieri Pale-bellied Hermit, Phaethornis anthophilus Scale-throated Hermit, Phaethornis eurynome Planalto Hermit, Phaethornis pretrei Sooty-capped Hermit, Phaethornis augusti Buff-bellied Hermit. Phaethornis subochraceus Dusky-throated Hermit, Phaethornis squalidus Streak-throated Hermit, Phaethornis rupurumii Little Hermit, Phaethornis longuemareus Minute Hermit, Phaethornis idaliae Cinnamon-throated Hermit. Phaethornis nattereri Reddish Hermit, Phaethornis ruber White-browed Hermit, Phaethornis stuarti Black-throated Hermit, Phaethornis atrimentalis
- o Stripe-throated Hermit, *Phaethornis striigularis*
 - Dusky Hermit, Phaethornis (striigularis) saturatus
- o Gray-chinned Hermit, Phaethornis griseogularis

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Tadorninae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: Anatidae

Subfamily: Tadorninae

Genera: Sarkidiornis, Pachyanas (extinct), Tadorna, Malacorhynchus, Centrornis (extinct), Cyanochen, Chloephaga, Neochen, Alopochen, Hymenolaimus, Merganetta, Tachyeres

The **Tadorninae** is a <u>subfamily</u> of the <u>Anatidae</u>, the biological <u>family</u> that includes the <u>ducks</u> and most duck-like waterfowl such as the (<u>geese</u> and <u>swans</u>).

This subfamily includes the shelducks, sheldgeese and steamer-ducks. This group of larger, often semi-terrestrial waterfowl can be seen as intermediate between geese (Anserinae) and ducks.

This group is largely tropical or Southern Hemisphere in distribution, with only two species, the common Shelduck and the Ruddy Shelduck breeding in northern temperate regions, though the Crested Shelduck (presumed extinct) was also a northern species.

Most of these species have a distinctive plumage, but there is no pattern as to whether the sexes are alike, even within a single genus.

There are 10 extant genera and 23 living species (one is probably extinct):

- Sarkidiornis (South America, Africa, India)
 - o Comb Duck Sarkidiornis melanotos
- Pachyanas (Chatham Islands, extinct)
 - o Chatham Island Duck Pachyanas chathamica
- Tadorna, shelducks (Europe, Africa, Australasia, 7 species)
 - o Ruddy Shelduck Tadorna ferruginea

Cape Shelduck Tadorna cana

Australian Shelduck Tadorna tadornoides

Paradise Shelduck Tadorna variegata

Crested Shelduck Tadorna cristata

Common Shelduck Tadorna tadorna

Radjah Shelduck Tadorna radjah

- *Malacorhynchus* (Australia, 1 living species, 1 extinct)
 - Pink-eared Duck Malacorhynchus membranaceus Scarlett's Duck Malacorhynchus scarletti
- *Centrornis* (Madagascar, extinct)
 - o Madagascar Sheldgoose Centrornis majori
- Alopochen (Africa, 1 living species, 2-3 extinct)
 - Egyptian Goose Alopochen aegyptiacus Réunion Shelduck Alopochen kervazoi Mauritius Shelduck Alopochen mauritianus

Madagascar Shelduck Alopochen sirabensis (may be the same as A. mauritianus)

- *Neochen* (South America)
 - o Orinoco Goose Neochen jubata
- *Chloephaga*, sheldgeese (South America, 5 species)
 - Andean Goose Chloephaga melanoptera
 Magellan Goose Chloephaga picta
 Kelp Goose Chloephaga hybrida
 Ashy-headed Goose Chloephaga poliocephala
 Ruddy-headed Goose Chloephaga rubidiceps
- *Cyanochen* (Ethiopia)
 - o Blue-winged Goose Cyanochen cyanopterus
- Hymenolaimus (New Zealand)
 - o Blue Duck Hymenolaimus malacorhynchos
- Merganetta (Andes Mts., South America)
 - o Torrent Duck Merganetta armata
- Tachyeres, steamer ducks (South America, 4 species).
 - Flying Steamer Duck Tachyeres patachonicus
 Magellanic Flightless Steamer Duck Tachyeres pteneres
 White-headed Flightless Steamer Duck Tachyeres leucocephalus
 Falkland Flightless Steamer Duck Tachyeres brachypterus

Vanellinae

Lapwings

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes Family: <u>Charadriidae</u>

Subfamily: Vanellinae Bonaparte, 1842Genera: Erthrogonys, Vanellus

Lapwings are medium-sized wading <u>birds</u> belonging to the subfamily **Vanellinae** of the <u>family Charadriidae</u>, which also includes the plovers and dotterels. A lapwing can be thought of as a larger plover.

The traditional terms *plover*, *lapwing*, and *dotterel* were coined long before modern understandings of the relationships between different groups of birds emerged: in consequence, several of the lapwings (subfamily Vanellinae) are still called "plovers", and the reverse also applies.

While authorities are generally agreed that there about 24 species of lapwing, classifications within the subfamily remain confused. At one extreme, Peters recognised no less than 19 different genera; other workers have gone as far as to group all the lapwings into the single genus, *Vanellus*. Current opinion appears to be that a more moderate position is appropriate.

These long-legged <u>waders</u> mostly have strongly patterned plumage. Although the most familiar northern hemisphere lapwing, Northern Lapwing, has a wispy crest, only two other species do so. Red or yellow facial wattles are a more typical decoration.

A group of lapwings is called a "deceit".

List of species in taxonomic order

• Red-kneed Dotterel, Erythrogonys cinctus

Northern Lapwing, Vanellus vanellus

White-headed Plover, Vanellus albiceps

Southern Lapwing, Vanellus chilensis

Grey-headed Lapwing, Vanellus cinereus

Crowned Lapwing, Vanellus coronatus

Long-toed Lapwing, Vanellus crassirostris

River Lapwing or Spur-winged Lapwing, Vanellus duvaucelii

Red-wattled Lapwing, Vanellus indicus

Masked Lapwing, Vanellus miles

Spur-winged Lapwing or Spur-winged Plover, Vanellus spinosus

Banded Lapwing, Vanellus tricolor

Blacksmith Lapwing, Vanellus armatus

Black-headed Lapwing, Vanellus tectus

Yellow-wattled Lapwing, Vanellus malabaricus

Senegal Lapwing, Vanellus lugubris

Black-winged Lapwing, Vanellus melanopterus
African Wattled Lapwing, Vanellus senegallus
Spot-breasted Lapwing, Vanellus melanocephalus
Brown-chested Lapwing, Vanellus superciliosus
Javanese Wattled Lapwing, Vanellus macropterus
Sociable Lapwing, Vanellus gregarius
White-tailed Lapwing, Vanellus leucurus
Pied Lapwing, Vanellus cayanus
Andean Lapwing, Vanellus resplendens

Only Northern, Sociable, White-tailed Lapwing, Grey-headed and Brown-chested Lapwings are migratory species.

Spur-winged, Blacksmith, River, Southern, Andean and Pied Lapwings are boldly patterned, red-eyed species with a spurred carpal joint.

Many species have wattles which can be small (Black-headed, Spot-breasted, Redwattled and Banded Lapwings) or large (White-headed Plover, African Wattled, Yellow-wattled, Javanese Wattled, or Masked Lapwings).

Tribes of birds

Nestorini

Nestor

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Subfamily: **Nestorinae**

Genus: Nestor Lesson, 1830 Species: N. notabilis, N. meridionalis, N. productus

The genus Nestor, the only genus of the Nestorinae subfamily, contains two parrot species from New Zealand and one species from Norfolk Island, Australia. The Norfolk Island Kk is extinct.

- Kea, Nestor notabilis
- Kk, Nestor meridionalis
 - o North Island Kk, Nestor meridionalis septentrionalis
 - o South Island Kk, Nestor meridionalis meridionalis
- Norfolk Island Kk, *Nestor productus* (extinct)

Platycercini

Platycercinae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: Psittacidae Subfamily: Psittacinae Tribe: **Platycercini**

Genera: Prosopeia, Eunymphicus, Cyanoramphus, Platycercus, Barnardius, Purpureicephalus, Lathamus, Northiella, Psephotus, Neopsephotus, Neophema, Melopsittacus, Pezoporus

A **broad-tailed parrot** is any of about 35-40 <u>species</u> belonging to the tribe **Platycercini**, sometimes considered a subfamily (**Platycercinae**). The members of the subfamily are small to medium in size, and all are native to Australasia, Australia in particular, but also New Zealand, New Caledonia, and nearby islands.

TRIBE PLATYCERCINI

• Genus Prosopeia

 Crimson Shining Parrot, Prosopeia splendens Masked Shining Parrot, Prosopeia personata Red Shining Parrot, Prosopeia tabuensis

• Genus Eunymphicus

 Horned Parakeet, Eunymphicus cornutus Uvea Parakeet, Eunymphicus uvaeensis

• Genus Cvanoramphus

- Black-fronted Parakeet, Cyanoramphus zealandicus (extinct, c.1850)
 Society Parakeet, Cyanoramphus ulietanus (extinct, late 18th century)
 Antipodes Parakeet, Cyanoramphus unicolor
 Red-crowned Parakeet, Cyanoramphus novaezelandiae
- Subantarctic Red-crowned Parakeet, Cyanoramphus erythrotis
 - Reischek's Parakeet, Cyanoramphus (erythrotis) hochstetteri
- Yellow-fronted Parakeet, Cyanoramphus auriceps Chatham Parakeet, Cyanoramphus forbesi Malherbe's Parakeet, Cyanoramphus malherbi

• Genus Platycercus

- o Western Rosella, *Platycercus icterotis*
- Crimson Rosella, Platycercus elegans
 - Adelaide Rosella, Platycercus (elegans) adelaidae Yellow Rosella, Platycercus (elegans) flaveolus
- Green Rosella, Platycercus caledonicus
- o Pale-headed Rosella, Platycercus adscitus

- Eastern Rosella, *Platycercus (adscitus) eximius*
- o Northern Rosella, Platycercus venustus
- Genus Barnardius sometimes included in Platycercus
 - Australian Ringneck, Barnardius zonarius (includes Port Lincoln, Mallee Ringneck, Cloncurry and Twenty Eight parakeets)

• Genus Purpureicephalus

o Red-capped Parrot, Purpureicephalus spurius

• Genus Lathamus

- o Swift Parrot, Lathamus discolor
- **Genus** *Northiella* often included in *Psephotus*
 - o Blue Bonnet, Northiella haematogaster

Genus Psephotus

Red-rumped Parrot, Psephotus haematonotus
 Mulga Parrot, Psephotus varius
 Golden-shouldered Parrot, Psephotus chrysoptergius
 Hooded Parrot, Psephotus dissimilis
 Paradise Parrot, Psephotus pulcherrimus (extinct, late 1920s)

• Genus Melopsittacus

- o <u>Budgerigar</u>, *Melopsittacus undulatus*
- **Genus** *Neopsephotus* sometimes included in *Neophema*
 - o Bourke's Parrot, Neopsephotus bourkii

• Genus Neophema

Blue-winged Parrot, Neophema chrysostoma
 Elegant Parrot, Neophema elegans
 Rock Parrot, Neophema petrophilla
 Orange-bellied Parrot, Neophema chrysogaster
 Turquoise Parrot, Neophema pulchella
 Scarlet-chested Parrot, Neophema splendida

• Genus Pezoporus

Ground Parrot, Pezoporus wallicus
 Night Parrot, Pezoporus occidentalis - formerly Geopsittacus

Passeriformes

Passerines

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes Linnaeus, 1758Suborders: Tyranni, Passeri

A **passerine** is a <u>bird</u> of the giant <u>order</u> **Passeriformes**. More than half of all species of bird are passerines. Sometimes known as **perching birds** or, less accurately, as *songbirds*, the passerines are one of the most spectacularly successful vertebrate orders: with around 5,400 species, they are roughly twice as diverse as the largest of the mammal orders, the Rodentia.

The group gets its name from the Latin name for the House Sparrow (Passer domesticus).

- <u>1 Characteristics</u>
- <u>2 Origin</u>
- <u>3 Taxonomy of passerines</u>
- 4 See also

Characteristics

Many passerines are songbirds and have complex muscles to control their syrinx; many gape in the nest as infants to beg for food.

The order is divided into two suborders, Tyranni, and Passeri (oscines). Oscines have the most control of their syrinx muscles and are true <u>songbirds</u> (though some of them, such as the crows, do not sound like it).

Most passerines are smaller than typical members of other avian orders. The largest passerine is the Thick-billed Raven (although the Lyrebird is longer).

The foot of a passerine has three toes directed forward without any webbing or joining, and one toe directed backward. The hind toe joins the leg at the same level as the front toes. In other orders of birds the toe arrangement is different.

Most passerines lay coloured eggs, in contrast to non-passerines, where the colour is white except in some ground nesting groups such as Charadriiformes and nightjars, where camouflage is necessary, and some parasitic cuckoos which have to match the passerine host's egg.

Origin

The evolutionary history of and relationships among the passerine families remained rather mysterious until around the end of the 20th century. Many passerine families were grouped together on the basis of morphological similarities that, it is now believed, are the result of convergent evolution, not a close genetic relationship. For example, the "wrens" of

the northern hemisphere, of Australia, and of New Zealand all look very similar and behave in similar ways, and yet belong to three far-flung branches of the passerine family tree: they are as unrelated as it is possible to be while yet remaining Passeriformes.

Much research remains to be done, but a series of biochemical studies are gradually revealing a clearer picture of passerine origins and evolution. It is now thought that the early passerines evolved in Gondwana at about the time that the southern supercontinent was breaking up. This led to the Tyranni and, a little later, to a great radiation of forms in Australia-New Guinea (the Passeri or songbirds). A major branch of the passerine tree, the Passerida (or sparrow-like forms), emerged either as the sister group to the basal lineages ("Corvida"), or more likely as a subgroup of it, and reached the northern hemisphere, where there was a further explosive radiation of new species. Since then, there has been extensive mixing, with northern forms returning to the south, southern forms moving north, and so on.

Taxonomy of passerines

This list is in taxonomic order, placing related species/groups next to each other. For missing families.

Note that as of 2006, several studies have appeared which if validated will revolutionize the phylogeny presented here. For example, the Corvida as presented here are as far as anyone can tell a rather arbitrary assemblage of early and minor lineages of passeriform birds of Old World origin.

ORDER PASSERIFORMES

Suborder Tyranni

Tyrannidae: tyrant flycatchers

Pittidae: pittas

Eurylaimidae: broadbills

Furnariidae: ovenbirds and woodcreepers

Thamnophilidae: antbirds

Formicariidae: antpittas and antthrushes

Conopophagidae: gnateaters Rhinocryptidae: tapaculos

Cotingidae: cotingas Pipridae: manakins Philepittidae: asities

Acanthisittidae: New Zealand wrens

• Suborder Passeri (Corvida)

Menuridae: lyrebirds

Atrichornithidae: scrub birds

Climacteridae: Australian treecreepers

Maluridae: fairy-wrens, emu-wrens and grasswrens

Meliphagidae: honeyeaters and chats

Promeropidae: sugarbirds

Pardalotidae: pardalotes, scrubwrens, thornbills, and gerygones

Petroicidae: Australian robins

Orthonychidae: logrunners

Pomatostomidae: Australasian babblers Cinclosomatidae: whipbirds and allies

Neosittidae: sittellas

Pachycephalidae: whistlers, shrike-thrushes, pitohuis and allies

Dicruridae: monarch flycatchers and allies Campephagidae: cuckoo shrikes and trillers

Oriolidae: orioles and Figbird

Artamidae: wood swallows, butcherbirds, currawongs and Australian

Magpie

Paradisaeidae: birds of paradise Corvidae: crows, ravens and jays

Corcoracidae: White-winged Chough and Apostlebird

Irenidae: fairy-bluebirds

Laniidae: shrikes

Prionopidae: helmetshrikes.

Malaconotidae: puffback shrikes, bush shrikes, tchagras and boubous

Vireonidae: vireos Vangidae: vangas

Ptilonorhynchidae: bowerbirds

Turnagridae: Piopio

Callaeidae: New Zealand wattlebirds
• Suborder Passeri (Passerida)

Alaudidae: larks

Chloropseidae: leafbirds Aegithinidae: ioras Picathartidae: rockfowl

Bombycillidae: waxwings and allies

Dulidae: palmchat

Ptilogonatidae: silky flycatchers

Cinclidae: dippers

Motacillidae: wagtails and pipits

Prunellidae: accentor

Melanocharitidae: berrypeckers and longbills

Paramythiidae: tit berrypecker and crested berrypeckers

Passeridae: true sparrows

Urocynchramidae: Przewalski's Finch

Estrildidae: estrildid finches (waxbills, munias, etc)

Parulidae: New World warblers Thraupidae: tanagers and allies Peucedramidae: Olive Warbler

Fringillidae: true finches Cardinalidae: cardinals Ploceidae: weavers

Drepanididae: Hawaiian honeycreepers

Emberizidae: buntings and American sparrows

Nectariniidae: sunbirds Dicaeidae: flowerpeckers

Mimidae: mockingbirds and thrashers

Sittidae: nuthatches Certhiidae: treecreepers

Rhabdornithidae: Philippine creepers

Troglodytidae: wrens Polioptilidae: gnatcatchers

Paridae: tits, chickadees and titmice

Aegithalidae: long-tailed tits Remizidae: penduline tits

Hirundinidae: swallows and martins

Regulidae: kinglets Pycnonotidae: bulbuls Coerebidae: Bananaquit Sylviidae: Old World warblers Hypocoliidae: Hypocolius

Icteridae: grackles, New World blackbirds, and New World orioles

Cisticolidae: cisticolas and allies

Zosteropidae: White-eyes Paradoxornithidae: Parrotbills

Timaliidae: babblers

Muscicapidae: Old World flycatchers and chats Platysteiridae: wattle-eyes or puffback flycatchers

Turdidae: thrushes and allies

Sturnidae: starlings

See also

list of birds

Carinatae

In phylogenetic taxonomy, the **Carinatae** are considered the last common ancestor of Neornithes (living <u>birds</u>) and Ichthyornis (an extinct seabird of the Cretaceous). Defined in this way, the group includes all living <u>birds</u>, including <u>ratites</u> (<u>ostrich</u>, <u>emu</u>, etc.), as well as neognathous birds and a few Mesozoic forms.

Traditionally, Carinatae were defined as all birds having a keeled sternum. The carina or "keel" referred to a strong median ridge running down the length of the sternum, or breast bone. This is an important area for the attachment of flight muscles. Thus, all flying birds have a pronounced carina. Ratites, all of whom are flightless, lack a strong carina. Thus, living birds were divided into carinates and ratites. The difficulty with this scheme was that there have been (and still are) any number of flightless birds, without strong carinae, but which are descended directly from ordinary flying birds with carinae. Examples include the turkey, a galliform (chicken-like) bird, and the dodo, a columbiform (the <u>pigeon</u> family). None of these birds are ratites. Thus, this supposedly distinctive feature was easy to use, but had nothing to do with actual phylogenic relationship.

Unfortunately, the use of this term to describe the Ichthyornis-Neornithine group turned out to be equally inapt. Various dinosaurs -- apparently, remote ancestors and cousins of the Carinatae -- **do** possess a keeled sternum. So, evidently the presence of this structure does not necessarily imply its use in flight. This sort of definitional problem is one reason why the use of physical characteristics to define or name taxonomic groups is now discouraged.

The characteristics that actually are unique to the Carinatae have little to do with the sternum. Rather, carinates are unique in having, for example, a globe-shaped, convex head on the humerus and fully fused bones in the lower leg and outer arm.

Birds by geography

Endemism in birds

This article is a parent page for a series of articles providing information about endemism among birds in the World's various zoogeographic zones.

The term **endemic**, in the context of bird endemism, refers to any species found only in a specific area. There is no upper size limit for the geographical area. It would not be incorrect to refer to all bird species as endemic to Earth; in practice, however, the largest areas for which the term is in common use are countries (e.g. New Zealand endemics) or zoogeographical regions and subregions (West Indies endemics).

Birdlife International has defined the term **restricted-range endemic** as any species whose historical range is less than 50,000km².

Patterns of endemism

Endemism is particularly notable when not just a particular species is confined to given areas, but a whole higher-level taxon (e.g. genus, family or even order).

Almost all orders are represented on at least two continents. The orders with the most-restricted range are the mousebirds (Coliiformes), found only in sub-Saharan Africa and the tinamous, found only in South and Central America.

At the level of family, endemism is exhibited widely. Examples include:

 The Kagu, a monotypic family found only on New Caledonia in the south Pacific Ocean

The Palmchat, another monotypic family, found only on the island of Hispaniola in the Caribbean The kiwis, a family of five species found only in New Zealand

The kiwis, a family of five species found only in New Zealand The todies, a family of five species found only on the Greater Antilles The Hawaiian honeycreepers, a family found only on the Hawaiian islands - see Endemism in the Hawaiian Islands and Endemic birds of Hawaii Australia has many endemic families - see Endemic birds of Australia Madagascar has a number of endemic families (plus others found only on Madagascar and nearby island groups) - see Endemic birds of Madagascar and western Indian Ocean islands

Endemic Bird Areas

Birdlife International has defined the concept of an Endemic Bird Area (EBA). This is a region of the world which contains two or more restricted range species.

To support this, they have also introduced the Secondary Area concept, for areas which contain one or more restricted-range species.

Publications in Bird Endemism

Birdlife International has produced two publications on endemism in birds:

- Putting biodiversity on the map: priority areas for global conservation C. J. Bibby, N. J. Collar, M. J. Crosby, M.F. Heath, Ch. Imboden, T. H. Johnson, A. J. Long, A. J. Stattersfield and S. J. Thirgood (1992) ISBN 0-946888-24-8
- Endemic Bird Areas of the World: Priorities for Biodiversity Conservation Alison J. Stattersfield, Michael J. Crosby, Adrian J. Long and David C. Wege (1998) ISBN 0-946888-33-7

Birds of Africa

This **list of African birds** is a listing of all the bird species known from the continent of Africa.

- 1 Notes
- <u>2 Ostrich</u>
- <u>3 Penguins</u>
- 4 Loons
- <u>5 Grebes</u>
- <u>6 Albatrosses</u>
- 7 Shearwaters and petrels
- 8 Storm-petrels
- <u>9 Tropicbirds</u>
- 10 Pelicans
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- <u>12 Cormorants</u>
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- <u>14 Frigatebirds</u>
- <u>15 Herons, egrets, and bitterns</u>
- 16 Hamerkop
- <u>17 Storks</u>
- <u>18 Shoebill</u>
- 19 Ibises and spoonbills
- 20 Flamingos
- 21 Ducks, geese, and swans
- <u>22 Osprey</u>
- 23 Hawks, eagles, and kites
- <u>24 Secretary-bird</u>
- <u>25 Falcons</u>
- 26 Pheasants and partridges
- 27 Guineafowl
- <u>28 Buttonguails</u>
- 29 Cranes
- 30 Rails, gallinules, and coots
- 31 Finfoot
- 32 Bustards
- <u>33 Jacanas</u>
- <u>34 Painted Snipe</u>
- 35 Crab Plover
- <u>36 Oystercatchers</u>
- 37 Avocets and stilts
- 38 Thick-knees
- 39 Pratincoles and coursers

- 40 Lapwings and plovers
- 41 Sandpipers
- <u>42 Sheathbill</u>
- 43 Skuas and jaegers
- <u>44 Gulls</u>
- 45 Terns
- 46 Skimmer
- 47 Auks, murres, and puffins
- <u>48 Sandgrouse</u>
- 49 Pigeons and doves
- <u>50 Parrots</u>
- <u>51 Turacos</u>
- 52 Cuckoos
- <u>53 Barn-Owls</u>
- 54 Owls
- <u>55 Nightjars</u>
- <u>56 Swifts</u>
- <u>57 Mousebirds</u>
- <u>58 Trogons</u>
- <u>59 Kingfishers</u>
- 60 Bee-eaters
- <u>61 Rollers</u>
- 62 Hoopoe
- 63 Woodhoopoes
- 64 Hornbills
- 65 Barbets
- 66 Honeyguides
- <u>67 Woodpeckers and allies</u>
- 68 Broadbills
- 69 Pittas
- <u>70 Larks</u>
- 71 Swallows
- 72 Wagtails and pipits
- <u>73 Cuckoo-shrikes</u>
- <u>74 Bulbuls</u>
- <u>75 Kinglets</u>
- 76 Waxwing
- <u>77 Hypocolius</u>
- <u>78 Dipper</u>
- <u>79 Wren</u>
- <u>80 Accentors</u>
- <u>81 Thrushes</u>
- 82 Cisticolas and allies

- 83 Old World warblers
- 84 Old World flycatchers
- 85 Wattle-eyes
- 86 Monarch flycatchers
- 87 Rockfowl
- <u>88 Babblers</u>
- 89 Parrotbill
- 90 Long-tailed tit
- 91 Tits
- 92 Nuthatches
- 93 Wallcreeper
- 94 Creepers
- 95 Penduline tits
- 96 Sunbirds
- 97 White-eyes
- 98 Sugarbirds
- 99 Old World orioles
- 100 Shrikes
- <u>101 Bushshrikes</u>
- 102 Helmetshrikes
- 103 Drongos
- <u>104 Crows, jays, and magpies</u>
- 105 Starlings
- 106 Old World sparrows
- 107 Weavers
- 108 Waxbills
- 109 Indigobirds
- 110 Finches
- 111 Buntings and sparrows
- 112 See also
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Notes

The taxonomy of this list adheres to James Clements' Birds of the World: A Checklist, and reflects all changes to that work until July, 2005. Taxonomic changes are on-going. As more research is gathered from studies of distribution, behavior, and DNA, the order and number of families and species may change. Furthermore, different approaches to ornithological nomenclature have led to concurrent systems of classification (see Sibley-Ahlquist taxonomy).

The area covered by this list is the same as the Africa region defined by the American Birding Association's listing rules[1]. It includes Socotra in the Arabian Sea, Sao Tome and

Annobon in the Gulf of Guinea, and the Canary Islands, but excludes Madeira. The region does not include Madagascar or the Comoro Islands.

Ostrich

Order: Struthioniformes Family: Struthionidae

• Ostrich, Struthio camelus

Penguins

Order: Sphenisciformes **Family**: Spheniscidae

 King Penguin, Aptenodytes patagonicus Gentoo Penguin, Pygoscelis papua Rockhopper Penguin, Eudyptes chrysocome Macaroni Penguin, Eudyptes chrysolophus Jackass Penguin, Spheniscus demersus

Loons

Order: Gaviiformes Family: Gaviidae

 Red-throated Loon, Gavia stellata Arctic Loon, Gavia arctica Common Loon, Gavia immer

Grebes

Order: Podicipediformes **Family**: Podicipedidae

Little Grebe, Tachybaptus ruficollis
 Pied-billed Grebe, Podilymbus podiceps
 Red-necked Grebe, Podiceps grisegena
 Great Crested Grebe, Podiceps cristatus
 Horned Grebe, Podiceps auritus
 Eared Grebe, Podiceps nigricollis

Albatrosses

Order: Procellariiformes **Family**: Diomedeidae

 Wandering Albatross, Diomedea exulans Royal Albatross, Diomedea epomophora Laysan Albatross, Phoebastria immutabilis Grey-headed Albatross, Thalassarche chrysostoma Black-browed Albatross, Thalassarche melanophris Buller's Albatross, Thalassarche bulleri Shy Albatross, Thalassarche cauta Yellow-nosed Albatross, Thalassarche chlororhynchos Sooty Albatross, Phoebetria fusca Light-mantled Albatross, Phoebetria palpebrata

Shearwaters and petrels

Order: Procellariiformes Family: Procellariidae

Antarctic Giant Petrel, Macronectes giganteus Hall's Giant Petrel, Macronectes halli Northern Fulmar, Fulmarus glacialis Southern Fulmar, Fulmarus glacialoides Antarctic Petrel, Thalassoica antarctica Cape Petrel, Daption capense Great-winged Petrel, Pterodroma macroptera White-headed Petrel. Pterodroma lessonii Atlantic Petrel, Pterodroma incerta Soft-plumaged Petrel, Pterodroma mollis Cape Verde Petrel, Pterodroma feae Blue Petrel, Halobaena caerulea Broad-billed Prion, Pachyptila vittata Salvin's Prion, Pachyptila salvini Antarctic Prion, Pachyptila desolata Slender-billed Prion, Pachyptila belcheri Fairy Prion, Pachyptila turtur Bulwer's Petrel, Bulweria bulwerii Iouanin's Petrel, Bulweria fallax Grey Petrel, Procellaria cinerea White-chinned Petrel. Procellaria aequinoctialis Kerguelen Petrel, Aphrodroma brevirostris Streaked Shearwater, Calonectris leucomelas Cory's Shearwater, Calonectris diomedea Cape Verde Shearwater, Calonectris edwardsii Flesh-footed Shearwater, Puffinus carneipes Greater Shearwater, Puffinus gravis Wedge-tailed Shearwater, Puffinus pacificus Sooty Shearwater, Puffinus griseus Manx Shearwater, Puffinus puffinus Balearic Shearwater, Puffinus mauretanicus Levantine Shearwater, Puffinus yelkouan Little Shearwater, Puffinus assimilis

Audubon's Shearwater, Puffinus Iherminieri Persian Shearwater, Puffinus persicus Mascarene Shearwater, Puffinus atrodorsalis

Storm-petrels

Order: Procellariiformes Family: Hydrobatidae

Wilson's Storm-petrel, Oceanites oceanicus
 White-faced Storm-petrel, Pelagodroma marina
 Black-bellied Storm-petrel, Fregetta tropica
 White-bellied Storm-petrel, Fregetta grallaria
 European Storm-petrel, Hydrobates pelagicus
 Band-rumped Storm-petrel, Oceanodroma castro
 Leach's Storm-petrel, Oceanodroma leucorhoa
 Swinhoe's Storm-petrel, Oceanodroma monorhis
 Matsudaira's Storm-petrel, Oceanodroma matsudairae

Tropicbirds

Order: Pelecaniformes Family: Phaethontidae

 Red-billed Tropicbird, Phaethon aethereus Red-tailed Tropicbird, Phaethon rubricauda White-tailed Tropicbird, Phaethon lepturus

Pelicans

Order: Pelecaniformes Family: Pelecanidae

 Great White Pelican, Pelecanus onocrotalus Pink-backed Pelican, Pelecanus rufescens Dalmatian Pelican, Pelecanus crispus

Gannets and boobies

Order: Pelecaniformes Family: Sulidae

 Northern Gannet, Morus bassanus Cape Gannet, Morus capensis Australian Gannet, Morus serrator Masked Booby, Sula dactylatra Red-footed Booby, Sula sula Brown Booby, Sula leucogaster

Cormorants

Order: Pelecaniformes Family: Phalacrocoracidae

Great Cormorant, Phalacrocorax carbo
 Cape Cormorant, Phalacrocorax capensis
 Socotra Cormorant, Phalacrocorax nigrogularis
 Bank Cormorant, Phalacrocorax neglectus
 European Shag, Phalacrocorax aristotelis
 Long-tailed Cormorant, Phalacrocorax africanus
 Crowned Cormorant, Phalacrocorax coronatus
 Pygmy Cormorant, Phalacrocorax pygmaeus

Darter

Order: Pelecaniformes Family: Anhingidae

• <u>Darter</u>, Anhinga melanogaster

Frigatebirds

Order: Pelecaniformes Family: Fregatidae

 Magnificent Frigatebird, Fregata magnificens Great Frigatebird, Fregata minor Lesser Frigatebird, Fregata ariel

Herons, egrets, and bitterns

Order: Ciconiiformes **Family**: Ardeidae

Grey Heron, Ardea cinerea
 Great Blue Heron, Ardea herodias
 Black-headed Heron, Ardea melanocephala
 Goliath Heron, Ardea goliath
 Purple Heron, Ardea purpurea
 Great Egret, Ardea alba
 Slaty Egret, Egretta vinaceigula
 Black Heron, Egretta ardesiaca
 Intermediate Egret, Egretta intermedia
 Little Blue Heron, Egretta caerulea
 Little Egret, Egretta garzetta
 Western Reef Heron, Egretta gularis
 Squacco Heron, Ardeola ralloides
 Indian Pond Heron, Ardeola grayii

Madagascar Pond Heron, Ardeola idae Rufous-bellied Heron, Ardeola rufiventris Cattle Egret, Bubulcus ibis Striated Heron, Butorides striata Black-crowned Night Heron, Nycticorax nycticorax White-backed Night Heron, Gorsachius leuconotus White-crested Bittern, Tigriornis leucolopha Little Bittern, Ixobrychus minutus Dwarf Bittern, Ixobrychus sturmii American Bittern, Botaurus lentiginosus Great Bittern, Botaurus stellaris

Hamerkop

Order: Ciconiiformes Family: ScopidaeHamerkop, Scopus umbretta

Storks

Order: Ciconiiformes Family: Ciconiidae
 Yellow-billed Stork, Mycteria ibis
 African Openbill, Anastomus lamelligerus
 Black Stork, Ciconia nigra
 Abdim's Stork, Ciconia abdimii
 Woolly-necked Stork, Ciconia episcopus
 White Stork, Ciconia ciconia
 Saddle-billed Stork, Ephippiorhynchus senegalensis
 Marabou Stork, Leptoptilos crumeniferus

Shoebill

Order: Ciconiiformes **Family**: Balaenicipitidae

• Shoebill, Balaeniceps rex

<u>Ibises</u> and spoonbills

Order: Ciconiiformes Family: Threskiornithidae

 Sacred Ibis, Threskiornis aethiopicus Waldrapp, Geronticus eremita Bald Ibis, Geronticus calvus Olive Ibis, Bostrychia olivacea Spot-breasted Ibis, Bostrychia rara Hadada Ibis, Bostrychia hagedash Wattled Ibis, Bostrychia carunculata Glossy Ibis, Plegadis falcinellus Eurasian Spoonbill, Platalea leucorodia African Spoonbill, Platalea alba

Flamingos

Order: Phoenicopteriformes Family: Phoenicopteridae

 Greater Flamingo, Phoenicopterus roseus Lesser Flamingo, Phoenicopterus minor

Ducks, geese, and swans

Order: Anseriformes Family: Anatidae

Fulvous Whistling Duck, Dendrocygna bicolor White-faced Whistling Duck, Dendrocygna viduata White-backed Duck, Thalassornis leuconotus Mute Swan, Cygnus olor Whooper Swan, Cygnus cygnus Tundra Swan, Cygnus columbianus Bean Goose, Anser fabalis Pink-footed Goose, Anser brachyrhynchus Greater White-fronted Goose, Anser albifrons Lesser White-fronted Goose, Anser erythropus Greylag Goose, Anser anser Snow Goose, Chen caerulescens Barnacle Goose, Branta leucopsis Brent Goose, Branta bernicla Red-breasted Goose, Branta ruficollis Blue-winged Goose, Cyanochen cyanoptera Egyptian Goose, Alopochen aegyptiaca Ruddy Shelduck, Tadorna ferruginea South African Shelduck, Tadorna cana Common Shelduck, Tadorna tadorna Spur-winged Goose, Plectropterus gambensis Comb Duck, Sarkidiornis melanotos Hartlaub's Duck, Pteronetta hartlaubii Cotton Pygmy-goose, Nettapus coromandelianus African Pygmy-goose, Nettapus auritus Wood Duck, Aix sponsa

Mandarin Duck, Aix galericulata

African Black Duck, Anas sparsa Eurasian Wigeon, Anas penelope American Wigeon, Anas americana Gadwall, Anas strepera Green-winged Teal, Anas carolinensis Eurasian Teal, Anas crecca Cape Teal, Anas capensis Mallard, Anas platyrhynchos Yellow-billed Duck, Anas undulata Northern Pintail, Anas acuta Red-billed Duck, Anas erythrorhyncha Hottentot Teal. Anas hottentota Garganey, Anas querquedula Blue-winged Teal, Anas discors Cape Shoveler, Anas smithii Northern Shoveler, Anas clypeata Marbled Teal. Marmaronetta angustirostris Red-crested Pochard, Netta rufina Southern Pochard, Netta erythrophthalma Common Pochard, Aythya ferina Ring-necked Duck, Aythya collaris Ferruginous Pochard, Aythya nyroca Tufted Duck, Aythya fuligula Greater Scaup, Aythya marila Lesser Scaup, Aythya affinis Black Scoter, Melanitta nigra White-winged Scoter, Melanitta fusca Common Goldeneye, Bucephala clangula Smew, Mergellus albellus Red-breasted Merganser, Mergus serrator Common Merganser, Mergus merganser Ruddy Duck, Oxyura jamaicensis White-headed Duck, Oxyura leucocephala Maccoa Duck, Oxyura maccoa

Osprey

Order: Falconiformes Family: Pandionidae

• Osprey, Pandion haliaetus

Hawks, eagles, and kites

Order: Falconiformes Family: Accipitridae

African Cuckoo Hawk, Aviceda cuculoides European Honey Buzzard, Pernis apivorus Oriental Honey Buzzard, Pernis ptilorhynchus Bat Hawk, Macheiramphus alcinus Black-shouldered Kite, Elanus caeruleus Scissor-tailed Kite, Chelictinia riocourii Red Kite, Milvus milvus Black Kite, Milvus migrans African Fish Eagle, Haliaeetus vocifer White-tailed Eagle, Haliaeetus albicilla Palm-nut Vulture, Gypohierax angolensis Hooded Vulture, Necrosyrtes monachus Lammergeier, Gypaetus barbatus Egyptian Vulture, Neophron percnopterus White-backed Vulture, Gyps africanus Rueppell's Griffon, Gyps rueppellii Eurasian Griffon, Gyps fulvus Cape Griffon, Gyps coprotheres Cinereous Vulture, Aegypius monachus Lappet-faced Vulture, Torgos tracheliotus White-headed Vulture, Trigonoceps occipitalis Short-toed Eagle, Circaetus gallicus Beaudouin's Snake Eagle, Circaetus beaudouini Black-breasted Snake Eagle, Circaetus pectoralis Brown Snake Eagle, Circaetus cinereus Fasciated Snake Eagle, Circaetus fasciolatus Banded Snake Eagle, Circaetus cinerascens Bateleur, Terathopius ecaudatus Congo Serpent Eagle, Dryotriorchis spectabilis Western Marsh Harrier, Circus aeruginosus African Marsh Harrier, Circus ranivorus Black Harrier, Circus maurus Northern Harrier, Circus cyaneus Pallid Harrier, Circus macrourus Montagu's Harrier, Circus pygargus African Harrier Hawk, Polyboroides typus Lizard Buzzard, Kaupifalco monogrammicus Dark Chanting Goshawk, Melierax metabates Eastern Chanting Goshawk, Melierax poliopterus Pale Chanting Goshawk, Melierax canorus Gabar Goshawk, Micronisus gabar Red-chested Goshawk, Accipiter toussenelii African Goshawk, Accipiter tachiro Chestnut-flanked Sparrowhawk, Accipiter castanilius

Shikra, Accipiter badius Levant Sparrowhawk, Accipiter brevipes Red-thighed Sparrowhawk, Accipiter erythropus Little Sparrowhawk, Accipiter minullus Ovampo Sparrowhawk, Accipiter ovampensis Eurasian Sparrowhawk, Accipiter nisus Rufous-chested Sparrowhawk, Accipiter rufiventris Black Goshawk, Accipiter melanoleucus Northern Goshawk, Accipiter gentilis Long-tailed Hawk, Urotriorchis macrourus Grasshopper Buzzard, Butastur rufipennis Eurasian Buzzard, Buteo buteo Mountain Buzzard, Buteo oreophilus Long-legged Buzzard, Buteo rufinus Rough-legged Hawk, Buteo lagopus Red-necked Buzzard, Buteo auguralis Augur Buzzard, Buteo augur Archer's Buzzard, Buteo archeri Jackal Buzzard, Buteo rufofuscus Lesser Spotted Eagle, Aquila pomarina Greater Spotted Eagle, Aquila clanga Tawny Eagle, Aquila rapax Steppe Eagle, Aquila nipalensis Spanish Eagle, Aquila adalberti Imperial Eagle, Aquila heliaca Wahlberg's Eagle, Aquila wahlbergi Golden Eagle, Aquila chrysaetos Verreaux's Eagle, Aquila verreauxii Bonelli's Eagle, Aquila fasciatus African Hawk Eagle, Aquila spilogaster Booted Eagle, Aquila pennatus Ayres' Hawk Eagle, Aquila ayresii Martial Eagle, Polemaetus bellicosus Long-crested Eagle, Lophaetus occipitalis Cassin's Hawk Eagle, Spizaetus africanus Crowned Hawk Eagle, Stephanoaetus coronatus

Secretary-bird

Order: Falconiformes Family: Sagittariidae

• Secretary-bird, Sagittarius serpentarius

Falcons

Order: Falconiformes Family: Falconidae

Pygmy Falcon, Polihierax semitorquatus Lesser Kestrel, Falco naumanni Eurasian Kestrel, Falco tinnunculus Greater Kestrel, Falco rupicoloides Fox Kestrel, Falco alopex Grey Kestrel, Falco ardosiaceus Dickinson's Kestrel, Falco dickinsoni Red-necked Falcon, Falco chicquera Red-footed Falcon, Falco vespertinus Amur Falcon, Falco amurensis Eleonora's Falcon, Falco eleonorae Sooty Falcon, Falco concolor Merlin, Falco columbarius Eurasian Hobby, Falco subbuteo African Hobby, Falco cuvierii Lanner Falcon. Falco biarmicus Saker Falcon, Falco cherrug Barbary Falcon, Falco pelegrinoides Taita Falcon, Falco fasciinucha Peregrine Falcon, Falco peregrinus

Pheasants and partridges

Order: Galliformes Family: Phasianidae

Chukar. Alectoris chukar Barbary Partridge, Alectoris barbara Red-legged Partridge, Alectoris rufa Sand Partridge, Ammoperdix hevi Coqui Francolin, Francolinus coqui White-throated Francolin, Francolinus albogularis Schlegel's Francolin, Francolinus schlegelii Forest Francolin, Francolinus lathami Crested Francolin, Francolinus sephaena Ring-necked Francolin, Francolinus streptophorus Finsch's Francolin, Francolinus finschi Red-winged Francolin, Francolinus levaillantii Grey-winged Francolin, Francolinus africanus Moorland Francolin, Francolinus psilolaemus Shelley's Francolin, Francolinus shelleyi Orange River Francolin, Francolinus levaillantoides

Scaly Francolin, Francolinus squamatus Ahanta Francolin, Francolinus ahantensis Grey-striped Francolin, Francolinus griseostriatus Nahan's Francolin, Francolinus nahani Hartlaub's Francolin, Francolinus hartlaubi Double-spurred Francolin, Francolinus bicalcaratus Heuglin's Francolin. Francolinus icterorhynchus Clapperton's Francolin, Francolinus clappertoni Harwood's Francolin, Francolinus harwoodi Red-billed Francolin, Francolinus adspersus Cape Francolin, Francolinus capensis Natal Francolin. Francolinus natalensis Hildebrandt's Francolin, Francolinus hildebrandti Yellow-necked Francolin, Francolinus leucoscepus Grey-breasted Francolin, Francolinus rufopictus Red-necked Francolin, Francolinus afer Swainson's Francolin. Francolinus swainsonii Jackson's Francolin, Francolinus jacksoni Handsome Francolin, Francolinus nobilis Cameroon Francolin, Francolinus camerunensis Swierstra's Francolin, Francolinus swierstrai Chestnut-naped Francolin, Francolinus castaneicollis Erckel's Francolin, Francolinus erckelii Diibouti Francolin, Francolinus ochropectus Common Quail, Coturnix coturnix Harlequin Quail, Coturnix delegorguei Blue Quail, Coturnix adansonii Udzungwa Partridge, Xenoperdix udzungwensis Stone Partridge, Ptilopachus petrosus Ring-necked Pheasant, Phasianus colchicus Congo Peacock, Afropavo congensis

Guineafowl

Order: Galliformes Family: Numididae

 White-breasted Guineafowl, Agelastes meleagrides Black Guineafowl, Agelastes niger Helmeted Guineafowl, Numida meleagris Plumed Guineafowl, Guttera plumifera Crested Guineafowl, Guttera pucherani Vulturine Guineafowl, Acryllium vulturinum

Buttonquails

Order: Gruiformes Family: Turnicidae

Small Buttonquail, Turnix sylvaticus
 Hottentot Buttonquail, Turnix hottentottus
 Quail-plover, Ortyxelos meiffrenii

Cranes

Order: Gruiformes Family: Gruidae

 Grey Crowned Crane, Balearica regulorum Black Crowned Crane, Balearica pavonina Demoiselle Crane, Anthropoides virgo Blue Crane, Anthropoides paradiseus Wattled Crane, Bugeranus carunculatus Common Crane, Grus grus

Rails, gallinules, and coots

Order: Gruiformes **Family**: Rallidae

White-spotted Flufftail, Sarothrura pulchra Buff-spotted Flufftail, Sarothrura elegans Red-chested Flufftail, Sarothrura rufa Chestnut-headed Flufftail, Sarothrura lugens Streaky-breasted Flufftail, Sarothrura boehmi Striped Flufftail, Sarothrura affinis White-winged Flufftail, Sarothrura avresi Nkulengu Rail, Himantornis haematopus Grey-throated Rail, Canirallus oculeus Water Rail, Rallus aquaticus African Rail, Rallus caerulescens African Crake, Crecopsis egregia Corn Crake, Crex crex Rouget's Rail, Rougetius rougetii Black Crake, Amaurornis flavirostra Little Crake, Porzana parva Baillon's Crake, Porzana pusilla Spotted Crake, Porzana porzana Sora, Porzana carolina Striped Crake, Aenigmatolimnas marginalis Purple Swamphen, Porphyrio porphyrio Allen's Gallinule, Porphyrio alleni

Purple Gallinule, Porphyrio martinica Common Moorhen, Gallinula chloropus Lesser Moorhen, Gallinula angulata Red-knobbed Coot, Fulica cristata Eurasian Coot, Fulica atra

Finfoot

Order: Gruiformes Family: Heliornithidae

• African Finfoot, Podica senegalensis

Bustards

Order: Gruiformes Family: Otididae

Great Bustard, Otis tarda Arabian Bustard, Ardeotis arabs Kori Bustard, Ardeotis kori Houbara Bustard, Chlamydotis undulata Macqueen's Bustard, Chlamydotis macqueenii Ludwig's Bustard, Neotis ludwigii Stanley Bustard, Neotis denhami Heuglin's Bustard, Neotis heuglinii Nubian Bustard, Neotis nuba White-bellied Bustard, Eupodotis senegalensis Blue Bustard, Eupodotis caerulescens Karoo Bustard, Eupodotis vigorsii Rueppell's Bustard, Eupodotis rueppellii Little Brown Bustard, Eupodotis humilis Savile's Bustard, Eupodotis savilei Buff-crested Bustard, Eupodotis gindiana Red-crested Bustard, Eupodotis ruficrista Black Bustard, Eupodotis afra White-quilled Bustard, Eupodotis afraoides Black-bellied Bustard, Lissotis melanogaster Hartlaub's Bustard, Lissotis hartlaubii Little Bustard, Tetrax tetrax

Jacanas

Order: Charadriiformes Family: Jacanidae

Lesser Jacana, Microparra capensis
 African Jacana, Actophilornis africanus
 Pheasant-tailed Jacana, Hydrophasianus chirurgus

Painted Snipe

Order: Charadriiformes Family: Rostratulidae

• Greater Painted Snipe, Rostratula benghalensis

Crab Plover

Order: Charadriiformes Family: Dromadidae

• Crab Plover, Dromas ardeola

Oystercatchers

Order: Charadriiformes **Family**: Haematopodidae

• African Oystercatcher, Haematopus moquini Eurasian Oystercatcher, Haematopus ostralegus

Avocets and stilts

Order: Charadriiformes Family: Recurvirostridae

• Black-winged Stilt, Himantopus himantopus Pied Avocet, Recurvirostra avosetta

Thick-knees

Order: Charadriiformes Family: Burhinidae

 Water Thick-knee, Burhinus vermiculatus Eurasian Thick-knee, Burhinus oedicnemus Senegal Thick-knee, Burhinus senegalensis Spotted Thick-knee, Burhinus capensis

Pratincoles and coursers

Order: Charadriiformes Family: Glareolidae

 Egyptian Plover, Pluvianus aegyptius Cream-colored Courser, Cursorius cursor Burchell's Courser, Cursorius rufus
Temminck's Courser, Cursorius temminckii
Double-banded Courser, Smutsornis africanus
Three-banded Courser, Rhinoptilus cinctus
Bronze-winged Courser, Rhinoptilus chalcopterus
Collared Pratincole, Glareola pratincola
Oriental Pratincole, Glareola maldivarum
Black-winged Pratincole, Glareola nordmanni
Madagascar Pratincole, Glareola ocularis
Rock Pratincole, Glareola nuchalis
Grey Pratincole, Glareola cinerea

Lapwings and plovers

Order: Charadriiformes Family: Charadriidae

Northern Lapwing, Vanellus vanellus Long-toed Lapwing, Vanellus crassirostris Blacksmith Plover, Vanellus armatus Spur-winged Plover, Vanellus spinosus Black-headed Lapwing, Vanellus tectus White-headed Lapwing, Vanellus albiceps Senegal Lapwing, Vanellus lugubris Black-winged Lapwing, Vanellus melanopterus Crowned Lapwing, Vanellus coronatus Wattled Lapwing, Vanellus senegallus Spot-breasted Lapwing, Vanellus melanocephalus Brown-chested Lapwing, Vanellus superciliosus Sociable Lapwing, Vanellus gregarius White-tailed Lapwing, Vanellus leucurus Pacific Golden Plover, Pluvialis fulva American Golden Plover, Pluvialis dominica Eurasian Golden Plover, Pluvialis apricaria Black-bellied Plover, Pluvialis squatarola Common Ringed Plover, Charadrius hiaticula Little Ringed Plover, Charadrius dubius Kittlitz's Plover, Charadrius pecuarius Three-banded Ployer. Charadrius tricollaris Forbes' Plover, Charadrius forbesi White-fronted Plover, Charadrius marginatus Chestnut-banded Plover, Charadrius pallidus Snowy Plover, Charadrius alexandrinus Lesser Sandplover, Charadrius mongolus Greater Sandplover, Charadrius leschenaultii

Caspian Plover, Charadrius asiaticus Eurasian Dotterel, Charadrius morinellus

Sandpipers

Order: Charadriiformes **Family**: Scolopacidae

Eurasian Woodcock, Scolopax rusticola Jack Snipe, Lymnocryptes minimus Pintail Snipe, Gallinago stenura African Snipe, Gallinago nigripennis Great Snipe, Gallinago media Common Snipe, Gallinago gallinago Short-billed Dowitcher, Limnodromus griseus Long-billed Dowitcher, Limnodromus scolopaceus Black-tailed Godwit, Limosa limosa Hudsonian Godwit, Limosa haemastica Bar-tailed Godwit, Limosa lapponica Whimbrel, Numenius phaeopus Slender-billed Curlew. Numenius tenuirostris Eurasian Curlew, Numenius arquata Upland Sandpiper, Bartramia longicauda Spotted Redshank, Tringa erythropus Common Redshank, Tringa totanus Marsh Sandpiper, Tringa stagnatilis Common Greenshank, Tringa nebularia Lesser Yellowlegs, Tringa flavipes Green Sandpiper, Tringa ochropus Solitary Sandpiper, Tringa solitaria Wood Sandpiper, Tringa glareola Terek Sandpiper, Xenus cinereus Common Sandpiper, Actitis hypoleucos Spotted Sandpiper, Actitis macularius Ruddy Turnstone, Arenaria interpres Great Knot, Calidris tenuirostris Red Knot, Calidris canutus Sanderling, Calidris alba Semipalmated Sandpiper, Calidris pusilla Western Sandpiper, Calidris mauri Red-necked Stint, Calidris ruficollis Little Stint, Calidris minuta Temminck's Stint, Calidris temminckii Long-toed Stint, Calidris subminuta White-rumped Sandpiper, Calidris fuscicollis

Baird's Sandpiper, Calidris bairdii

Pectoral Sandpiper, Calidris melanotos
Curlew Sandpiper, Calidris ferruginea
Dunlin, Calidris alpina
Purple Sandpiper, Calidris maritima
Stilt Sandpiper, Calidris himantopus
Broad-billed Sandpiper, Limicola falcinellus
Buff-breasted Sandpiper, Tryngites subruficollis
Ruff, Philomachus pugnax
Wilson's Phalarope, Phalaropus tricolor
Red-necked Phalarope, Phalaropus lobatus
Red Phalarope, Phalaropus fulicarius

Sheathbill

Order: Charadriiformes Family: Chionididae

• Snowy Sheathbill, Chionis albus

Skuas and jaegers

Order: Charadriiformes Family: Stercorariidae

South Polar Skua, Stercorarius maccormicki
 Brown Skua, Stercorarius antarcticus
 Great Skua, Stercorarius skua
 Pomarine Jaeger, Stercorarius pomarinus (Pomarine Skua)
 Parasitic Jaeger, Stercorarius parasiticus (Arctic Skua)
 Long-tailed Jaeger, Stercorarius longicaudus (Long-tailed Skua)

Gulls

Order: Charadriiformes Family: Laridae

 White-eyed Gull, Larus leucophthalmus Sooty Gull, Larus hemprichii Mew Gull, Larus canus Audouin's Gull, Larus audouinii Ring-billed Gull, Larus delawarensis Kelp Gull, Larus dominicanus Great Black-backed Gull, Larus marinus Glaucous-winged Gull, Larus glaucescens Glaucous Gull, Larus hyperboreus Iceland Gull, Larus glaucoides European Herring Gull, Larus argentatus Lesser Black-backed Gull, Larus fuscus

Heuglin's Gull, Larus heuglini Caspian Gull, Larus cachinnans Armenian Gull, Larus armenicus Steppe Gull, Larus barabensis Yellow-legged Gull, Larus michahellis Great Black-headed Gull, Larus ichthyaetus Grey-headed Gull, Larus cirrocephalus Hartlaub's Gull, Larus hartlaubii Black-headed Gull. Larus ridibundus Slender-billed Gull, Larus genei Bonaparte's Gull, Larus philadelphia Mediterranean Gull, Larus melanocephalus Laughing Gull, Larus atricilla Franklin's Gull, Larus pipixcan Little Gull, Larus minutus Sabine's Gull, Xema sabini Black-legged Kittiwake, Rissa tridactyla

Terns

Order: Charadriiformes Family: Sternidae

Gull-billed Tern, Gelochelidon nilotica Caspian Tern, Hydroprogne caspia Lesser Crested Tern, Sterna bengalensis Sandwich Tern, Sterna sandvicensis Royal Tern, Sterna maxima Great Crested Tern, Sterna bergii Roseate Tern, Sterna dougallii Black-naped Tern, Sterna sumatrana Common Tern, Sterna hirundo Arctic Tern, Sterna paradisaea Antarctic Tern. Sterna vittata Damara Tern, Sterna balaenarum White-cheeked Tern, Sterna repressa Little Tern, Sternula albifrons Saunders' Tern, Sternula saundersi Bridled Tern, Onychoprion anaethetus Sooty Tern, Onychoprion fuscata Whiskered Tern, Chlidonias hybrida White-winged Tern, Chlidonias leucopterus Black Tern, Chlidonias niger Lesser Noddy, Anous tenuirostris Black Noddy, Anous minutus Brown Noddy, Anous stolidus

Skimmer

Order: Charadriiformes Family: Rynchopidae

• African Skimmer, Rynchops flavirostris

Auks, murres, and puffins

Order: Charadriiformes Family: Alcidae

 Dovekie, Alle alle Common Murre, Uria aalge Razorbill, Alca torda Atlantic Puffin, Fratercula arctica

Sandgrouse

Order: Pterocliformes Family: Pteroclididae

Pin-tailed Sandgrouse, Pterocles alchata
 Namaqua Sandgrouse, Pterocles namaqua
 Chestnut-bellied Sandgrouse, Pterocles exustus
 Spotted Sandgrouse, Pterocles senegallus
 Black-bellied Sandgrouse, Pterocles orientalis
 Yellow-throated Sandgrouse, Pterocles gutturalis
 Crowned Sandgrouse, Pterocles coronatus
 Black-faced Sandgrouse, Pterocles decoratus
 Lichtenstein's Sandgrouse, Pterocles lichtensteinii
 Double-banded Sandgrouse, Pterocles bicinctus
 Four-banded Sandgrouse, Pterocles quadricinctus
 Burchell's Sandgrouse, Pterocles burchelli

Pigeons and doves

Order: Columbiformes **Family**: Columbidae

Rock Pigeon, Columba livia
 Speckled Pigeon, Columba guinea
 White-collared Pigeon, Columba albitorques
 Stock Dove, Columba oenas
 Somali Pigeon, Columba oliviae
 Common Wood Pigeon, Columba palumbus
 Bolle's Pigeon, Columba bollii
 Afep Pigeon, Columba unicincta

Laurel Pigeon, Columba junoniae Rameron Pigeon, Columba arquatrix Cameroon Pigeon, Columba sjostedti Maroon Pigeon, Columba thomensis White-naped Pigeon, Columba albinucha Delegorgue's Pigeon, Columba delegorguei Bronze-naped Pigeon, Columba iriditorques Sao Tome Pigeon, Columba malherbii Lemon Dove, Columba larvata Forest Dove, Columba simplex Eurasian Turtle Dove, Streptopelia turtur Dusky Turtle Dove, Streptopelia lugens Adamawa Turtle Dove, Streptopelia hypopyrrha Eurasian Collared Dove, Streptopelia decaocto African Collared Dove, Streptopelia roseogrisea White-winged Collared Dove, Streptopelia reichenowi African Mourning Dove, Streptopelia decipiens Red-eyed Dove, Streptopelia semitorquata Ring-necked Dove, Streptopelia capicola Vinaceous Dove, Streptopelia vinacea Laughing Dove, Streptopelia senegalensis Emerald-spotted Wood Dove, Turtur chalcospilos Black-billed Wood Dove, Turtur abyssinicus Blue-spotted Wood Dove, Turtur afer Tambourine Dove, Turtur tympanistria Blue-headed Wood Dove, Turtur brehmeri Namagua Dove, Oena capensis Bruce's Green Pigeon, Treron waalia Pemba Green Pigeon, Treron pembaensis Sao Tome Green Pigeon, Treron sanctithomae African Green Pigeon, Treron calvus

Parrots

Order: Psittaciformes Family: Psittacidae

Rose-ringed Parakeet, Psittacula krameri
Red-headed Lovebird, Agapornis pullarius
Black-winged Lovebird, Agapornis taranta
Black-collared Lovebird, Agapornis swindernianus
Rosy-faced Lovebird, Agapornis roseicollis
Fischer's Lovebird, Agapornis fischeri
Yellow-collared Lovebird, Agapornis personatus
Lilian's Lovebird, Agapornis lilianae
Black-cheeked Lovebird, Agapornis nigrigenis

Grey Parrot, Psittacus erithacus
Brown-necked Parrot, Poicephalus robustus
Red-fronted Parrot, Poicephalus gulielmi
Meyer's Parrot, Poicephalus meyeri
Rueppell's Parrot, Poicephalus rueppellii
Brown-headed Parrot, Poicephalus cryptoxanthus
Niam-Niam Parrot, Poicephalus crassus
Red-bellied Parrot, Poicephalus rufiventris
Senegal Parrot, Poicephalus senegalus
Yellow-fronted Parrot, Poicephalus flavifrons

Turacos

Order: Cuculiformes Family: Musophagidae

Great Blue Turaco, Corythaeola cristata Guinea Turaco, Tauraco persa Livingstone's Turaco, Tauraco livingstonii Schalow's Turaco, Tauraco schalowi Knysna Turaco, Tauraco corythaix Black-billed Turaco, Tauraco schuettii White-crested Turaco, Tauraco leucolophus Fischer's Turaco, Tauraco fischeri Yellow-billed Turaco, Tauraco macrorhynchus Bannerman's Turaco, Tauraco bannermani Red-crested Turaco, Tauraco erythrolophus Hartlaub's Turaco, Tauraco hartlaubi White-cheeked Turaco, Tauraco leucotis Prince Ruspoli's Turaco, Tauraco ruspolii Purple-crested Turaco, Tauraco porphyreolophus Ruwenzori Turaco, Ruwenzorornis johnstoni Violet Turaco, Musophaga violacea Ross' Turaco, Musophaga rossae Bare-faced Go-away-bird, Corythaixoides personatus Grev Go-away-bird, Corythaixoides concolor White-bellied Go-away-bird, Corythaixoides leucogaster Western Plantain-eater, Crinifer piscator Eastern Plantain-eater. Crinifer zonurus

Cuckoos

Order: Cuculiformes Family: Cuculidae

 Pied Cuckoo, Clamator jacobinus Levaillant's Cuckoo, Clamator levaillantii

Great Spotted Cuckoo, Clamator glandarius Thick-billed Cuckoo, Pachycoccyx audeberti Red-chested Cuckoo, Cuculus solitarius Black Cuckoo, Cuculus clamosus Common Cuckoo, Cuculus canorus African Cuckoo, Cuculus gularis Lesser Cuckoo, Cuculus poliocephalus Madagascar Cuckoo, Cuculus rochii Dusky Long-tailed Cuckoo, Cercococcyx mechowi Olive Long-tailed Cuckoo, Cercococcyx olivinus Barred Long-tailed Cuckoo, Cercococcyx montanus Yellow-throated Cuckoo, Chrysococcyx flavigularis Klaas' Cuckoo, Chrysococcyx klaas African Emerald Cuckoo, Chrysococcyx cupreus Dideric Cuckoo, Chrysococcyx caprius Yellowbill, Ceuthmochares aereus Black Coucal, Centropus grillii Black-throated Coucal, Centropus leucogaster Gabon Coucal, Centropus anselli Blue-headed Coucal, Centropus monachus Coppery-tailed Coucal, Centropus cupreicaudus Senegal Coucal, Centropus senegalensis White-browed Coucal, Centropus superciliosus Yellow-billed Cuckoo, Coccyzus americanus

Barn-Owls

Order: Strigiformes **Family**: <u>Tytonidae</u>

 African Grass Owl, Tyto capensis Barn Owl, Tyto alba

Owls

Order: Strigiformes Family: Strigidae

Congo Bay Owl, Phodilus prigoginei
 Sandy Scops Owl, Otus icterorhynchus
 Sokoke Scops Owl, Otus ireneae
 Pallid Scops Owl, Otus brucei
 African Scops Owl, Otus senegalensis
 European Scops Owl, Otus scops
 Pemba Scops Owl, Otus pembaensis
 Sao Tome Scops Owl, Otus hartlaubi
 Northern White-faced Owl, Ptilopsis leucotis

Southern White-faced Owl, Ptilopsis granti Eurasian Eagle Owl, Bubo bubo Pharaoh Eagle Owl, Bubo ascalaphus Cape Eagle Owl, Bubo capensis Spotted Eagle Owl, Bubo africanus Greyish Eagle Owl, Bubo cinerascens Fraser's Eagle Owl. Bubo poensis Usambara Eagle Owl, Bubo vosseleri Shelley's Eagle Owl, Bubo shelleyi Verreaux's Eagle Owl, Bubo lacteus Akun Eagle Owl, Bubo leucostictus Pel's Fishing Owl, Scotopelia peli Rufous Fishing Owl, Scotopelia ussheri Vermiculated Fishing Owl, Scotopelia bouvieri Tawny Owl, Strix aluco Hume's Owl, Strix butleri African Wood Owl, Strix woodfordii Maned Owl, Jubula lettii Northern Hawk Owl, Surnia ulula Pearl-spotted Owlet, Glaucidium perlatum Red-chested Owlet, Glaucidium tephronotum Sjostedt's Owlet, Glaucidium sjostedti African Barred Owlet, Glaucidium capense Chestnut Owlet, Glaucidium castaneum Albertine Owlet, Glaucidium albertinum Little Owl, Athene noctua Northern Long-eared Owl, Asio otus African Long-eared Owl, Asio abyssinicus Short-eared Owl, Asio flammeus Marsh Owl, Asio capensis

Nightjars

Order: Caprimulgiformes Family: Caprimulgidae

Brown Nightjar, Caprimulgus binotatus
 Red-necked Nightjar, Caprimulgus ruficollis
 Eurasian Nightjar, Caprimulgus europaeus
 Sombre Nightjar, Caprimulgus fraenatus
 Rufous-cheeked Nightjar, Caprimulgus rufigena
 Egyptian Nightjar, Caprimulgus aegyptius
 Nubian Nightjar, Caprimulgus nubicus
 Golden Nightjar, Caprimulgus eximius
 Donaldson-Smith's Nightjar, Caprimulgus donaldsoni
 Black-shouldered Nightjar, Caprimulgus nigriscapularis

Fiery-necked Nightjar, Caprimulgus pectoralis
Abyssinian Nightjar, Caprimulgus poliocephalus
Montane Nightjar, Caprimulgus ruwenzorii
Swamp Nightjar, Caprimulgus natalensis
Plain Nightjar, Caprimulgus inornatus
Star-spotted Nightjar, Caprimulgus stellatus
Nechisar Nightjar, Caprimulgus solala
Freckled Nightjar, Caprimulgus tristigma
Itombwe Nightjar, Caprimulgus prigoginei
Bates' Nightjar, Caprimulgus patesi
Long-tailed Nightjar, Caprimulgus climacurus
Slender-tailed Nightjar, Caprimulgus clarus
Square-tailed Nightjar, Caprimulgus fossii
Pennant-winged Nightjar, Macrodipteryx vexillarius
Standard-winged Nightjar, Macrodipteryx longipennis

Swifts

Order: Apodiformes Family: Apodidae

Scarce Swift, Schoutedenapus myoptilus Schouteden's Swift, Schoutedenapus schoutedeni Sao Tome Spinetail, Zoonavena thomensis Mottled Spinetail, Telacanthura ussheri Black Spinetail, Telacanthura melanopygia Sabine's Spinetail, Rhaphidura sabini Cassin's Spinetail, Neafrapus cassini Bat-like Spinetail, Neafrapus boehmi Chimney Swift, Chaetura pelagica African Palm Swift, Cypsiurus parvus Alpine Swift, Tachymarptis melba Mottled Swift, Tachymarptis aequatorialis Common Swift, Apus apus Plain Swift, Apus unicolor Nyanza Swift, Apus niansae Pallid Swift, Apus pallidus African Swift, Apus barbatus Forbes-Watson's Swift, Apus berliozi Bradfield's Swift, Apus bradfieldi Little Swift, Apus affinis Horus Swift, Apus horus White-rumped Swift, Apus caffer Bates' Swift, Apus batesi

Mousebirds

Order: Coliiformes Family: Coliidae

Speckled Mousebird, Colius striatus
 White-headed Mousebird, Colius leucocephalus
 Red-backed Mousebird, Colius castanotus
 White-backed Mousebird, Colius colius
 Blue-naped Mousebird, Urocolius macrourus
 Red-faced Mousebird, Urocolius indicus

Trogons

Order: Trogoniformes **Family**: Trogonidae

Narina Trogon, Apaloderma narina
 Bare-cheeked Trogon, Apaloderma aequatoriale
 Bar-tailed Trogon, Apaloderma vittatum

Kingfishers

Order: Coraciiformes Family: Alcedinidae

Common Kingfisher, Alcedo atthis Half-collared Kingfisher, Alcedo semitorquata Shining-blue Kingfisher, Alcedo quadribrachys Malachite Kingfisher, Alcedo cristata White-bellied Kingfisher, Alcedo leucogaster African Pygmy Kingfisher, Ispidina picta Dwarf Kingfisher, Ispidina lecontei Chocolate-backed Kingfisher, Halcyon badia White-throated Kingfisher, Halcyon smyrnensis Grey-headed Kingfisher, Halcyon leucocephala Woodland Kingfisher, Halcyon senegalensis Mangrove Kingfisher, Halcyon senegaloides Blue-breasted Kingfisher, Halcyon malimbica Brown-hooded Kingfisher, Halcyon albiventris Striped Kingfisher, Halcyon chelicuti Collared Kingfisher, Todiramphus chloris Giant Kingfisher, Megaceryle maximus Pied Kingfisher, Ceryle rudis

Bee-eaters

Order: Coraciiformes Family: Meropidae

Black Bee-eater, Merops gularis Blue-headed Bee-eater, Merops muelleri Red-throated Bee-eater, Merops bulocki White-fronted Bee-eater, Merops bullockoides Little Bee-eater, Merops pusillus Blue-breasted Bee-eater, Merops variegatus Cinnamon-chested Bee-eater, Merops oreobates Swallow-tailed Bee-eater, Merops hirundineus Black-headed Bee-eater, Merops breweri Somali Bee-eater, Merops revoilii White-throated Bee-eater, Merops albicollis Green Bee-eater, Merops orientalis Boehm's Bee-eater, Merops boehmi Blue-cheeked Bee-eater, Merops persicus Madagascar Bee-eater, Merops superciliosus European Bee-eater, Merops apiaster Rosy Bee-eater, Merops malimbicus Northern Carmine Bee-eater, Merops nubicus Southern Carmine Bee-eater, Merops nubicoides

Rollers

Order: Coraciiformes **Family**: Coraciidae

European Roller, Coracias garrulus
 Abyssinian Roller, Coracias abyssinicus
 Lilac-breasted Roller, Coracias caudatus
 Racket-tailed Roller, Coracias spatulatus
 Rufous-crowned Roller, Coracias noevius
 Indian Roller, Coracias benghalensis
 Blue-bellied Roller, Coracias cyanogaster
 Broad-billed Roller, Eurystomus glaucurus
 Blue-throated Roller, Eurystomus gularis

Hoopoe

Order: Coraciiformes **Family**: Upupidae

• Eurasian Hoopoe, *Upupa epops*

Woodhoopoes

Order: Coraciiformes **Family**: Phoeniculidae

Green Woodhoopoe, Phoeniculus purpureus
 Violet Woodhoopoe, Phoeniculus damarensis
 Black-billed Woodhoopoe, Phoeniculus somaliensis
 White-headed Woodhoopoe, Phoeniculus bollei
 Forest Woodhoopoe, Phoeniculus castaneiceps
 Black Scimitar-bill, Rhinopomastus aterrimus
 Common Scimitar-bill, Rhinopomastus cyanomelas
 Abyssinian Scimitar-bill, Rhinopomastus minor

Hornbills

Order: Coraciiformes Family: Bucerotidae

White-crested Hornbill, Tockus albocristatus Black Dwarf Hornbill, Tockus hartlaubi Red-billed Dwarf Hornbill, Tockus camurus Monteiro's Hornbill, Tockus monteiri Red-billed Hornbill, Tockus erythrorhynchus Eastern Yellow-billed Hornbill, Tockus flavirostris Southern Yellow-billed Hornbill, Tockus leucomelas Jackson's Hornbill, Tockus jacksoni Von der Decken's Hornbill, Tockus deckeni Crowned Hornbill, Tockus alboterminatus Bradfield's Hornbill, Tockus bradfieldi African Pied Hornbill, Tockus fasciatus Hemprich's Hornbill. Tockus hemprichii African Grey Hornbill, Tockus nasutus Pale-billed Hornbill, Tockus pallidirostris Trumpeter Hornbill, Ceratogymna bucinator Piping Hornbill, Ceratogymna fistulator Silvery-cheeked Hornbill, Ceratogymna brevis Black-and-white-casqued Hornbill, Ceratogymna subcylindrica Brown-cheeked Hornbill, Ceratogymna cylindrica White-thighed Hornbill, Ceratogymna albotibialis Black-casqued Hornbill, Ceratogymna atrata Yellow-casqued Hornbill, Ceratogymna elata Abyssinian Ground Hornbill, Bucorvus abyssinicus Southern Ground Hornbill, Bucorvus leadbeateri

Barbets

Order: Piciformes Family: Capitonidae

 Naked-faced Barbet, Gymnobucco calvus Bristle-nosed Barbet, Gymnobucco peli

Sladen's Barbet, Gymnobucco sladeni

Grev-throated Barbet, Gymnobucco bonapartei

White-eared Barbet, Stactolaema leucotis

Anchieta's Barbet, Stactolaema anchietae

Whyte's Barbet, Stactolaema whytii

Green Barbet, Stactolaema olivacea

Speckled Tinkerbird, Pogoniulus scolopaceus

Western Tinkerbird, Pogoniulus coryphaeus

Moustached Tinkerbird, Pogoniulus leucomystax

Green Tinkerbird, Pogoniulus simplex

Red-rumped Tinkerbird, Pogoniulus atroflavus

Yellow-throated Tinkerbird, Pogoniulus subsulphureus

Yellow-rumped Tinkerbird, Pogoniulus bilineatus

Yellow-fronted Tinkerbird, Pogoniulus chrysoconus

Red-fronted Tinkerbird, Pogoniulus pusillus

Yellow-spotted Barbet, Buccanodon duchaillui

Hairy-breasted Barbet, Tricholaema hirsuta

Red-fronted Barbet, Tricholaema diademata

Miombo Barbet, Tricholaema frontata

Pied Barbet, Tricholaema leucomelas

Spot-flanked Barbet, Tricholaema lachrymosa

Black-throated Barbet, Tricholaema melanocephala

Banded Barbet, Lybius undatus

Vieillot's Barbet, Lybius vieilloti

White-headed Barbet, Lybius leucocephalus

Chaplin's Barbet, Lybius chaplini

Red-faced Barbet, Lybius rubrifacies

Black-billed Barbet, Lybius guifsobalito

Black-collared Barbet, Lybius torquatus

Brown-breasted Barbet, Lybius melanopterus

Black-backed Barbet, Lybius minor

Double-toothed Barbet, Lybius bidentatus

Bearded Barbet, Lybius dubius

Black-breasted Barbet, Lybius rolleti

Yellow-billed Barbet, Trachyphonus purpuratus

Crested Barbet, Trachyphonus vaillantii

Yellow-breasted Barbet, Trachyphonus margaritatus

Red-and-yellow Barbet, Trachyphonus erythrocephalus

D'Arnaud's Barbet, Trachyphonus darnaudii

Honeyguides

Order: Piciformes Family: Indicatoridae

Spotted Honeyguide, Indicator maculatus Scaly-throated Honeyguide, Indicator variegatus Greater Honeyguide, Indicator indicator Lesser Honeyguide, Indicator minor Thick-billed Honeyguide, Indicator conirostris Willcock's Honeyguide, Indicator willcocksi Least Honeyguide, Indicator exilis Dwarf Honeyguide, Indicator pumilio Pallid Honeyguide, Indicator meliphilus Lyre-tailed Honeyguide, Melichneutes robustus Yellow-footed Honeyguide, Melignomon eisentrauti Zenker's Honeyguide, Prodotiscus insignis Green-backed Honeyguide, Prodotiscus zambesiae Wahlberg's Honeyguide, Prodotiscus regulus

Woodpeckers and allies

Order: Piciformes Family: Picidae

Eurasian Wryneck, Jynx torquilla Rufous-necked Wryneck, Jynx ruficollis African Piculet, Sasia africana Fine-spotted Woodpecker, Campethera punctuligera Nubian Woodpecker, Campethera nubica Bennett's Woodpecker, Campethera bennettii Reichenow's Woodpecker, Campethera scriptoricauda Golden-tailed Woodpecker, Campethera abingoni Mombasa Woodpecker, Campethera mombassica Knysna Woodpecker, Campethera notata Little Green Woodpecker, Campethera maculosa Green-backed Woodpecker, Campethera cailliautii Tullberg's Woodpecker, Campethera tullbergi Buff-spotted Woodpecker, Campethera nivosa Brown-eared Woodpecker, Campethera caroli Ground Woodpecker, Geocolaptes olivaceus Little Grey Woodpecker, Dendropicos elachus Speckle-breasted Woodpecker, Dendropicos poecilolaemus Abyssinian Woodpecker, Dendropicos abyssinicus Cardinal Woodpecker, Dendropicos fuscescens

Gabon Woodpecker, Dendropicos gabonensis
Melancholy Woodpecker, Dendropicos lugubris
Stierling's Woodpecker, Dendropicos stierlingi
Bearded Woodpecker, Dendropicos namaquus
Fire-bellied Woodpecker, Dendropicos pyrrhogaster
Golden-crowned Woodpecker, Dendropicos xantholophus
Elliot's Woodpecker, Dendropicos elliotii
Grey Woodpecker, Dendropicos goertae
Grey-headed Woodpecker, Dendropicos spodocephalus
Olive Woodpecker, Dendropicos griseocephalus
Brown-backed Woodpecker, Dendropicos obsoletus
Lesser Spotted Woodpecker, Dendrocopos minor
Great Spotted Woodpecker, Dendrocopos major
Syrian Woodpecker, Dendrocopos syriacus
Levaillant's Woodpecker, Picus vaillantii

Broadbills

Order: Passeriformes Family: Eurylaimidae

African Broadbill, Smithornis capensis
 Grey-headed Broadbill, Smithornis sharpei
 Rufous-sided Broadbill, Smithornis rufolateralis
 Grauer's Broadbill, Pseudocalyptomena graueri

Pittas

Order: Passeriformes Family: Pittidae

African Pitta, Pitta angolensis
 Green-breasted Pitta, Pitta reichenowi

Larks

Order: Passeriformes Family: Alaudidae

 Monotonous Lark, Mirafra passerina Singing Bushlark, Mirafra cantillans Latakoo Lark, Mirafra cheniana White-tailed Lark, Mirafra albicauda Kordofan Lark, Mirafra cordofanica Williams' Lark, Mirafra williamsi Friedmann's Lark, Mirafra pulpa Red-winged Lark, Mirafra hypermetra Somali Long-billed Lark, Mirafra somalica

Ash's Lark, Mirafra ashi

Angola Lark, Mirafra angolensis

Rufous-naped Lark, Mirafra africana

Flappet Lark, Mirafra rufocinnamomea

Cape Clapper Lark, Mirafra apiata

Eastern Clapper Lark, Mirafra fasciolata

Collared Lark, Mirafra collaris

Gillett's Lark, Mirafra gilletti

Degodi Lark, Mirafra degodiensis

Rusty Lark, Mirafra rufa

Fawn-colored Lark, Calendulauda africanoides

Foxy Lark, Calendulauda alopex

Pink-breasted Lark, Calendulauda poecilosterna

Dune Lark, Calendulauda erythrochlamys

Karoo Lark, Calendulauda albescens

Barlow's Lark, Calendulauda barlowi

Ferruginous Lark, Calendulauda burra

Sabota Lark, Calendulauda sabota

Rufous-rumped Lark, Pinarocorys erythropygia

Dusky Lark, Pinarocorys nigricans

Archer's Lark, Heteromirafra archeri

Sidamo Lark, Heteromirafra sidamoensis

Rudd's Lark, Heteromirafra ruddi

Cape Lark, Certhilauda curvirostris

Algulhas Lark, Certhilauda brevirostris

Eastern Long-billed Lark, Certhilauda semitorquata

Karoo Long-billed Lark, Certhilauda subcoronata

Benguela Lark, Certhilauda benguelensis

Short-clawed Lark, Certhilauda chuana

Spike-heeled Lark, Chersomanes albofasciata

Beesley's Lark, Chersomanes beesleyi

Black-eared Sparrow Lark, Eremopterix australis

Chestnut-backed Sparrow Lark, Eremopterix leucotis

Black-crowned Sparrow Lark, Eremopterix nigriceps

Grey-backed Sparrow Lark, Eremopterix verticalis

Chestnut-headed Sparrow Lark, Eremopterix signatus

Fischer's Sparrow Lark, Eremopterix leucopareia

Bar-tailed Lark, Ammomanes cinctura

Desert Lark, Ammomanes deserti

Gray's Lark, Ammomanopsis grayi

Greater Hoopoe Lark, Alaemon alaudipes

Lesser Hoopoe Lark, Alaemon hamertoni

Thick-billed Lark, Ramphocoris clotbey

Calandra Lark, Melanocorypha calandra

Bimaculated Lark, Melanocorypha bimaculata

Greater Short-toed Lark, Calandrella brachydactyla Blanford's Lark, Calandrella blanfordi Erlanger's Lark, Calandrella erlangeri Lesser Short-toed Lark, Calandrella rufescens Red-capped Lark, Calandrella cinerea Somali Short-toed Lark, Calandrella somalica Pink-billed Lark, Spizocorys conirostris Stark's Lark, Spizocorys starki Botha's Lark, Spizocorys fringillaris Sclater's Lark, Spizocorys sclateri Obbia Lark, Spizocorys obbiensis Masked Lark, Spizocorys personata Dunn's Lark, Eremalauda dunni Dupont's Lark, Chersophilus duponti Crested Lark, Galerida cristata Thekla Lark, Galerida theklae Sun Lark, Galerida modesta Large-billed Lark, Galerida magnirostris Short-tailed Lark, Pseudalaemon fremantlii Wood Lark, Lullula arborea Sky Lark, Alauda arvensis Oriental Skylark, Alauda gulgula Horned Lark, Eremophila alpestris Temminck's Lark, Eremophila bilopha

Swallows

Order: Passeriformes Family: Hirundinidae

African River Martin, Pseudochelidon eurystomina Bank Swallow, Riparia riparia Plain Martin, Riparia paludicola Congo Martin, Riparia congica Banded Martin, Riparia cincta Mascarene Martin, Phedina borbonica Brazza's Martin, Phedina brazzae Red Sea Swallow, Petrochelidon perdita Preuss' Swallow, Petrochelidon preussi Red-throated Swallow, Petrochelidon rufigula South African Swallow, Petrochelidon spilodera Forest Swallow, Petrochelidon fuliginosa Grey-rumped Swallow, Pseudhirundo griseopyga Eurasian Crag Martin, Ptyonoprogne rupestris Rock Martin, Ptyonoprogne fuligula Barn Swallow, Hirundo rustica

Red-chested Swallow, Hirundo lucida Ethiopian Swallow, Hirundo aethiopica Angola Swallow, Hirundo angolensis White-throated Swallow, Hirundo albigularis Wire-tailed Swallow, Hirundo smithii White-throated Blue Swallow, Hirundo nigrita Black-and-rufous Swallow. Hirundo nigrorufa Blue Swallow, Hirundo atrocaerulea Pied-winged Swallow, Hirundo leucosoma White-tailed Swallow, Hirundo megaensis Pearl-breasted Swallow, Hirundo dimidiata Greater Striped Swallow, Cecropis cucullata Lesser Striped Swallow, Cecropis abyssinica Rufous-chested Swallow, Cecropis semirufa Mosque Swallow, Cecropis senegalensis Red-rumped Swallow, Cecropis daurica House Martin. Delichon urbicum Square-tailed Sawwing, Psalidoprocne nitens Mountain Sawwing, Psalidoprocne fuliginosa White-headed Sawwing, Psalidoprocne albiceps Black Sawwing, Psalidoprocne pristoptera Fanti Sawwing, Psalidoprocne obscura

Wagtails and pipits

Order: Passeriformes Family: Motacillidae

• White Wagtail, Motacilla alba African Pied Wagtail, Motacilla aguimp Cape Wagtail, Motacilla capensis Citrine Wagtail, Motacilla citreola Yellow Wagtail, Motacilla flava Grev Wagtail, Motacilla cinerea Mountain Wagtail, Motacilla clara Golden Pipit, Tmetothylacus tenellus Yellow-throated Longclaw, Macronyx croceus Fuelleborn's Longclaw, Macronyx fuelleborni Abyssinian Longclaw, Macronyx flavicollis Orange-throated Longclaw, Macronyx capensis Rosy-throated Longclaw, Macronyx ameliae Pangani Longclaw, Macronyx aurantiigula Grimwood's Longclaw, Macronyx grimwoodi Sharpe's Longclaw, Hemimacronyx sharpei Yellow-breasted Pipit, Hemimacronyx chloris Striped Pipit, Anthus lineiventris

Yellow-tufted Pipit, Anthus crenatus Mountain Pipit, Anthus hoeschi Jackson's Pipit, Anthus latistriatus Plain-backed Pipit, Anthus leucophrys Long-tailed Pipit, Anthus longicaudatus Richard's Pipit, Anthus richardi Buffy Pipit, Anthus vaalensis African Pipit, Anthus cinnamomeus Long-legged Pipit, Anthus pallidiventris Malindi Pipit, Anthus melindae Kimberley Pipit, Anthus pseudosimilis Tawny Pipit, Anthus campestris Long-billed Pipit, Anthus similis Woodland Pipit, Anthus nyassae Berthelot's Pipit, Anthus berthelotii Short-tailed Pipit, Anthus brachyurus Bush Pipit, Anthus caffer Sokoke Pipit, Anthus sokokensis Tree Pipit, Anthus trivialis Olive-backed Pipit, Anthus hodgsoni Meadow Pipit, Anthus pratensis Red-throated Pipit, Anthus cervinus Rock Pipit, Anthus petrosus Water Pipit, Anthus spinoletta American Pipit, Anthus rubescens

Cuckoo-shrikes

Order: Passeriformes Family: Campephagidae

White-breasted Cuckoo-shrike, Coracina pectoralis
 Blue Cuckoo-shrike, Coracina azurea
 Grey Cuckoo-shrike, Coracina caesia
 Grauer's Cuckoo-shrike, Coracina graueri
 Petit's Cuckoo-shrike, Campephaga petiti
 Black Cuckoo-shrike, Campephaga flava
 Red-shouldered Cuckoo-shrike, Campephaga phoenicea
 Purple-throated Cuckoo-shrike, Campephaga quiscalina
 Ghana Cuckoo-shrike, Campephaga lobata
 Oriole Cuckoo-shrike, Campephaga oriolina

Bulbuls

Order: Passeriformes Family: Pycnonotidae

Common Bulbul, Pycnonotus barbatus Black-fronted Bulbul, Pycnonotus nigricans Cape Bulbul, Pycnonotus capensis White-spectacled Bulbul, Pycnonotus xanthopygos Cameroon Mountain Greenbul, Andropadus montanus Shelley's Greenbul, Andropadus masukuensis Little Greenbul, Andropadus virens Grey Greenbul, Andropadus gracilis Ansorge's Greenbul, Andropadus ansorgei Plain Greenbul, Andropadus curvirostris Slender-billed Greenbul, Andropadus gracilirostris Sombre Greenbul, Andropadus importunus Yellow-whiskered Bulbul, Andropadus latirostris Western Mountain Greenbul, Andropadus tephrolaemus Eastern Mountain Greenbul, Andropadus nigriceps Stripe-cheeked Bulbul, Andropadus milanjensis Golden Greenbul, Calyptocichla serina Honeyguide Greenbul, Baeopogon indicator Sjostedt's Greenbul, Baeopogon clamans Spotted Greenbul, Ixonotus guttatus Simple Greenbul, Chlorocichla simplex Yellow-throated Greenbul, Chlorocichla flavicollis Yellow-necked Greenbul, Chlorocichla falkensteini Yellow-bellied Greenbul, Chlorocichla flaviventris Joyful Greenbul, Chlorocichla laetissima Prigogine's Greenbul, Chlorocichla prigoginei Swamp Greenbul, Thescelocichla leucopleura Leaf-love, Phyllastrephus scandens Cabanis' Greenbul, Phyllastrephus cabanisi Fischer's Greenbul, Phyllastrephus fischeri Terrestrial Brownbul, Phyllastrephus terrestris Northern Brownbul, Phyllastrephus strepitans Pale-olive Greenbul, Phyllastrephus fulviventris Grey-olive Greenbul, Phyllastrephus cerviniventris Baumann's Greenbul, Phyllastrephus baumanni Toro Olive Greenbul, Phyllastrephus hypochloris Cameroon Olive Greenbul, Phyllastrephus poensis Sassi's Greenbul, Phyllastrephus lorenzi Yellow-streaked Bulbul, Phyllastrephus flavostriatus Grey-headed Greenbul, Phyllastrephus poliocephalus Tiny Greenbul, Phyllastrephus debilis White-throated Greenbul, Phyllastrephus albigularis Icterine Greenbul, Phyllastrephus icterinus Liberian Greenbul. Phyllastrephus leucolepis

Xavier's Greenbul, Phyllastrephus xavieri
Common Bristlebill, Bleda syndactylus
Green-tailed Bristlebill, Bleda eximius
Lesser Bristlebill, Bleda notatus
Grey-headed Bristlebill, Bleda canicapillus
Yellow-spotted Nicator, Nicator chloris
Eastern Nicator, Nicator gularis
Yellow-throated Nicator, Nicator vireo
Red-tailed Greenbul, Criniger calurus
Western Bearded Greenbul, Criniger barbatus
Eastern Bearded Greenbul, Criniger olivaceus
White-bearded Greenbul, Criniger ndussumensis
Black-collared Bulbul, Neolestes torquatus

Kinglets

Order: Passeriformes Family: Regulidae

Goldcrest, Regulus regulus
 Canary Islands Kinglet, Regulus teneriffae
 Firecrest, Regulus ignicapilla

Waxwing

Order: Passeriformes Family: Bombycillidae

• Bohemian Waxwing, Bombycilla garrulus

Hypocolius

Order: Passeriformes Family: Hypocoliidae

• <u>Hypocolius</u>, *Hypocolius* ampelinus

Dipper

Order: Passeriformes Family: Cinclidae

• White-throated Dipper, Cinclus cinclus

Wren

Order: <u>Passeriformes</u> Family: <u>Troglodytidae</u>
 Winter Wren, *Troglodytes troglodytes*

Accentors

Order: Passeriformes Family: Prunellidae

- Alpine Accentor, Prunella collaris
- Dunnock, Prunella modularis

Thrushes

Order: Passeriformes Family: Turdidae

Rufous Flycatcher Thrush, Neocossyphus fraseri Finsch's Flycatcher Thrush, Neocossyphus finschii Red-tailed Ant Thrush, Neocossyphus rufus White-tailed Ant Thrush, Neocossyphus poensis Cape Rock Thrush, Monticola rupestris Sentinel Rock Thrush, Monticola explorator Short-toed Rock Thrush, Monticola brevipes Miombo Rock Thrush, Monticola angolensis Rufous-tailed Rock Thrush, Monticola saxatilis Little Rock Thrush, Monticola rufocinereus Blue Rock Thrush, Monticola solitarius Abyssinian Ground Thrush, Zoothera piaggiae Kivu Ground Thrush, Zoothera tanganjicae Crossley's Ground Thrush, Zoothera crossleyi Orange Ground Thrush, Zoothera gurnevi Black-eared Ground Thrush, Zoothera cameronensis Grey Ground Thrush, Zoothera princei Oberlaender's Ground Thrush, Zoothera oberlaenderi Spotted Ground Thrush, Zoothera guttata Groundscraper Thrush, Psophocichla litsipsirupa Olive Thrush, Turdus olivaceus Olivaceous Thrush, Turdus olivaceofuscus Kurrichane Thrush, Turdus libonyanus African Thrush, Turdus pelios African Bare-eyed Thrush, Turdus tephronotus Ring Ouzel, Turdus torquatus Eurasian Blackbird, Turdus merula Dark-throated Thrush, Turdus ruficollis

Fieldfare, Turdus pilaris
Redwing, Turdus iliacus
Song Thrush, Turdus philomelos
Mistle Thrush, Turdus viscivorus
Brown-chested Alethe, Alethe poliocephala
Red-throated Alethe, Alethe poliophrys
Cholo Alethe, Alethe choloensis
White-chested Alethe, Alethe fuelleborni
Fire-crested Alethe, Alethe diademata

Cisticolas and allies

Order: Passeriformes Family: Cisticolidae

• Red-faced Cisticola, Cisticola erythrops Singing Cisticola, Cisticola cantans Whistling Cisticola, Cisticola lateralis Chattering Cisticola, Cisticola anonymus Trilling Cisticola, Cisticola woosnami Bubbling Cisticola, Cisticola bulliens Chubb's Cisticola, Cisticola chubbi Hunter's Cisticola, Cisticola hunteri Black-lored Cisticola, Cisticola nigriloris Rock-loving Cisticola, Cisticola aberrans Boran Cisticola, Cisticola bodessa Rattling Cisticola, Cisticola chiniana Ashy Cisticola, Cisticola cinereolus Red-pate Cisticola, Cisticola ruficeps Dorst's Cisticola, Cisticola dorsti Grev Cisticola, Cisticola rufilatus Red-headed Cisticola, Cisticola subruficapilla Wailing Cisticola, Cisticola lais Tana River Cisticola, Cisticola restrictus Churring Cisticola, Cisticola njombe Winding Cisticola, Cisticola galactotes Chirping Cisticola, Cisticola pipiens Carruthers' Cisticola, Cisticola carruthersi Tinkling Cisticola, Cisticola tinniens Stout Cisticola, Cisticola robustus Croaking Cisticola, Cisticola natalensis Piping Cisticola, Cisticola fulvicapilla Aberdare Cisticola, Cisticola aberdare Tabora Cisticola, Cisticola angusticauda Slender-tailed Cisticola, Cisticola melanurus Siffling Cisticola, Cisticola brachypterus

Rufous Cisticola, Cisticola rufus Foxy Cisticola, Cisticola troglodytes Tiny Cisticola, Cisticola nanus Zitting Cisticola, Cisticola juncidis Socotra Cisticola, Cisticola haesitatus Desert Cisticola, Cisticola aridulus Cloud Cisticola, Cisticola textrix Black-necked Cisticola, Cisticola eximius Cloud-scraping Cisticola, Cisticola dambo Pectoral-patch Cisticola, Cisticola brunnescens Pale-crowned Cisticola, Cisticola cinnamomeus Wing-snapping Cisticola, Cisticola ayresii Socotra Warbler, Incana incanus Streaked Scrub Warbler, Scotocerca inquieta Graceful Prinia, Prinia gracilis Tawny-flanked Prinia, Prinia subflava Pale Prinia. Prinia somalica River Prinia, Prinia fluviatilis Black-chested Prinia, Prinia flavicans Karoo Prinia, Prinia maculosa Drakensberg Prinia, Prinia hypoxantha Namagua Prinia, Prinia substriata Sao Tome Prinia, Prinia molleri Roberts' Prinia, Prinia robertsi Banded Prinia, Prinia bairdii Red-winged Prinia, Prinia erythroptera Sierra Leone Prinia, Schistolais leontica White-chinned Prinia, Schistolais leucopogon Rufous-eared Warbler, Malcorus pectoralis Red-winged Grey Warbler, Drymocichla incana Green Longtail, Urolais epichlorus Cricket Longtail, Spiloptila clamans Black-collared Apalis, Apalis pulchra Ruwenzori Apalis, Apalis ruwenzorii Bar-throated Apalis, Apalis thoracica Black-capped Apalis, Apalis nigriceps Black-throated Apalis, Apalis jacksoni White-winged Apalis, Apalis chariessa Masked Apalis, Apalis binotata Black-faced Apalis, Apalis personata Yellow-breasted Apalis, Apalis flavida Rudd's Apalis, Apalis ruddi Sharpe's Apalis, Apalis sharpii Buff-throated Apalis, Apalis rufogularis Bamenda Apalis, Apalis bamendae

Gosling's Apalis, Apalis goslingi Chestnut-throated Apalis, Apalis porphyrolaema Chapin's Apalis, Apalis chapini Black-headed Apalis, Apalis melanocephala Chirinda Apalis, Apalis chirindensis Grey Apalis, Apalis cinerea Brown-headed Apalis, Apalis alticola Karamoja Apalis, Apalis karamojae Red-fronted Warbler, Urorhipis rufifrons Oriole Warbler, Hypergerus atriceps Grey-capped Warbler, Eminia lepida Green-backed Camaroptera, Camaroptera brachyura Yellow-browed Camaroptera, Camaroptera superciliaris Olive-green Camaroptera, Camaroptera chloronota Miombo Wren Warbler, Calamonastes undosus Grey Wren Warbler, Calamonastes simplex Barred Wren Warbler, Calamonastes fasciolatus Kopje Warbler, Euryptila subcinnamomea

Old World warblers

Order: Passeriformes Family: Sylviidae

• Cetti's Warbler, Cettia cetti

African Bush Warbler, Bradypterus baboecala Ja River Scrub Warbler, Bradypterus grandis White-winged Scrub Warbler, Bradypterus carpalis Grauer's Scrub Warbler, Bradypterus graueri Bamboo Scrub Warbler, Bradypterus alfredi Knysna Scrub Warbler, Bradypterus sylvaticus Cameroon Scrub Warbler, Bradypterus lopezi African Scrub Warbler, Bradypterus barratti Bangwa Scrub Warbler, Bradypterus bangwaensis Cinnamon Bracken Warbler, Bradypterus cinnamomeus Victorin's Scrub Warbler, Bradypterus victorini Black-capped Rufous Warbler, Bathmocercus cerviniventris Black-faced Rufous Warbler, Bathmocercus rufus Mrs. Moreau's Warbler, Sceptomycter winifredae Moustached Grass Warbler, Melocichla mentalis Cape Grassbird, Sphenoeacus afer Grasshopper Warbler, Locustella naevia Eurasian River Warbler, Locustella fluviatilis Savi's Warbler, Locustella luscinioides Moustached Warbler, Acrocephalus melanopogon Aquatic Warbler, Acrocephalus paludicola

Sedge Warbler, Acrocephalus schoenobaenus Eurasian Reed Warbler, Acrocephalus scirpaceus African Reed Warbler, Acrocephalus baeticatus Marsh Warbler, Acrocephalus palustris Great Reed Warbler, Acrocephalus arundinaceus Clamorous Reed Warbler, Acrocephalus stentoreus Basra Reed Warbler, Acrocephalus griseldis Greater Swamp Warbler, Acrocephalus rufescens Lesser Swamp Warbler, Acrocephalus gracilirostris Thick-billed Warbler, Acrocephalus aedon Booted Warbler, Hippolais caligata Eastern Olivaceous Warbler, Hippolais pallida Western Olivaceous Warbler, Hippolais opaca Upcher's Warbler, Hippolais languida Olive-tree Warbler, Hippolais olivetorum Melodious Warbler, Hippolais polyglotta Icterine Warbler, Hippolais icterina African Yellow Warbler, Chloropeta natalensis Mountain Yellow Warbler, Chloropeta similis Papyrus Yellow Warbler, Chloropeta gracilirostris Buff-bellied Warbler, Phyllolais pulchella African Tailorbird, Orthotomus metopias Long-billed Tailorbird, Orthotomus moreaui White-tailed Warbler, Poliolais lopezi Grauer's Warbler, Graueria vittata Salvadori's Eremomela, Eremomela salvadorii Yellow-vented Eremomela, Eremomela flavicrissalis Yellow-bellied Eremomela, Eremomela icteropygialis Senegal Eremomela, Eremomela pusilla Green-backed Eremomela, Eremomela canescens Greencap Eremomela, Eremomela scotops Yellow-rumped Eremomela, Eremomela gregalis Rufous-crowned Eremomela, Eremomela badiceps Turner's Eremomela, Eremomela turneri Black-necked Eremomela, Eremomela atricollis Burnt-neck Eremomela. Eremomela usticollis Green Crombec, Sylvietta virens Lemon-bellied Crombec, Sylvietta denti White-browed Crombec, Sylvietta leucophrys Northern Crombec, Sylvietta brachyura Short-billed Crombec, Sylvietta philippae Red-capped Crombec, Sylvietta ruficapilla Red-faced Crombec, Sylvietta whytii Somali Crombec, Sylvietta isabellina Cape Crombec, Sylvietta rufescens

Neumann's Warbler, Hemitesia neumanni

Kemp's Longbill, Macrosphenus kempi

Yellow Longbill, Macrosphenus flavicans

Grey Longbill, Macrosphenus concolor

Pulitzer's Longbill, Macrosphenus pulitzeri

Kretschmer's Longbill, Macrosphenus kretschmeri

Bocage's Longbill or São Tomé Short-tail, Amaurocichla bocagei

Green Hylia, Hylia prasina

Red-faced Woodland Warbler, Phylloscopus laetus

Laura's Wood Warbler, Phylloscopus laurae

Yellow-throated Wood Warbler, Phylloscopus ruficapilla

Uganda Wood Warbler, Phylloscopus budongoensis

Brown Woodland Warbler, Phylloscopus umbrovirens

Black-capped Woodland Warbler, Phylloscopus herberti

Willow Warbler, Phylloscopus trochilus

Canary Islands Chiffchaff, Phylloscopus canariensis

Common Chiffchaff, Phylloscopus collybita

Iberian Chiffchaff, Phylloscopus ibericus

Western Bonelli's Warbler, Phylloscopus bonelli

Eastern Bonelli's Warbler, Phylloscopus orientalis

Wood Warbler, Phylloscopus sibilatrix

Dusky Warbler, Phylloscopus fuscatus

Lemon-rumped Warbler, Phylloscopus proregulus

Yellow-browed Warbler, Phylloscopus inornatus

Hume's Warbler, Phylloscopus humei

Yellow-bellied Hyliota, Hyliota flavigaster

Southern Hyliota, Hyliota australis

Usambara Hyliota, Hyliota usambarae

Violet-backed Hyliota, Hyliota violacea

Fan-tailed Grassbird, Schoenicola brevirostris

Blackcap, Sylvia atricapilla

Garden Warbler, Sylvia borin

Greater Whitethroat, Sylvia communis

Lesser Whitethroat, Sylvia curruca

Asian Desert Warbler, Sylvia nana

African Desert Warbler, Sylvia deserti

Barred Warbler, Sylvia nisoria

Western Orphean Warbler, Sylvia hortensis

Eastern Orphean Warbler, Sylvia crassirostris

Red Sea Warbler, Sylvia leucomelaena

Rueppell's Warbler, Sylvia rueppelli

Subalpine Warbler, Sylvia cantillans

Sardinian Warbler, Sylvia melanocephala

Cyprus Warbler, Sylvia melanothorax

Menetries' Warbler, Sylvia mystacea

Spectacled Warbler, Sylvia conspicillata
Tristram's Warbler, Sylvia deserticola
Dartford Warbler, Sylvia undata
Marmora's Warbler, Sylvia sarda
Layard's Warbler, Parisoma layardi
Rufous-vented Warbler, Parisoma subcaeruleum
Brown Warbler, Parisoma lugens
Banded Warbler, Parisoma boehmi

Old World flycatchers

Order: Passeriformes Family: Muscicapidae

Silverbird, Empidornis semipartitus Pale Flycatcher, Bradornis pallidus Chat Flycatcher, Bradornis infuscatus Marigua Flycatcher, Bradornis mariguensis African Grey Flycatcher, Bradornis microrhynchus Angola Slaty Flycatcher, Melaenornis brunneus White-eved Slaty Flycatcher, Melaenornis fischeri Abyssinian Slaty Flycatcher, Melaenornis chocolatinus Northern Black Flycatcher, Melaenornis edolioides Southern Black Flycatcher, Melaenornis pammelaina Yellow-eyed Black Flycatcher, Melaenornis ardesiacus Nimba Flycatcher, Melaenornis annamarulae African Forest Flycatcher, Fraseria ocreata White-browed Forest Flycatcher, Fraseria cinerascens Fiscal Flycatcher, Sigelus silens Spotted Flycatcher, Muscicapa striata Gambaga Flycatcher, Muscicapa gambagae Ussher's Flycatcher, Muscicapa ussheri Sooty Flycatcher, Muscicapa infuscata Boehm's Flycatcher, Muscicapa boehmi Swamp Flycatcher, Muscicapa aquatica Olivaceous Flycatcher, Muscicapa olivascens Chapin's Flycatcher, Muscicapa lendu African Dusky Flycatcher, Muscicapa adusta Little Grey Flycatcher, Muscicapa epulata Yellow-footed Flycatcher, Muscicapa sethsmithi Dusky-blue Flycatcher, Muscicapa comitata Tessmann's Flycatcher, Muscicapa tessmanni Cassin's Flycatcher, Muscicapa cassini Ashy Flycatcher, Muscicapa caerulescens Grey-throated Tit Flycatcher, Myioparus griseigularis Grev Tit Flycatcher, Myioparus plumbeus

Fairy Flycatcher, Stenostira scita European Pied Flycatcher, Ficedula hypoleuca Atlas Flycatcher, Ficedula speculigera Collared Flycatcher, Ficedula albicollis Semicollared Flycatcher, Ficedula semitorquata Red-breasted Flycatcher, Ficedula parva Taiga Flycatcher, Ficedula albicilla Dohrn's Flycatcher, Horizorhinus dohrni White-starred Robin, Pogonocichla stellata Swynnerton's Robin, Swynnertonia swynnertoni Forest Robin, Stiphrornis erythrothorax Bocage's Akalat, Sheppardia bocagei Lowland Akalat, Sheppardia cyornithopsis Equatorial Akalat, Sheppardia aequatorialis Sharpe's Akalat, Sheppardia sharpei East Coast Akalat, Sheppardia gunningi Gabela Akalat, Sheppardia gabela Usambara Akalat, Sheppardia montana Iringa Akalat, Sheppardia lowei Rubeho Akalat, Sheppardia aurantiithorax European Robin, Erithacus rubecula Thrush Nightingale, Luscinia luscinia Common Nightingale, Luscinia megarhynchos Siberian Rubythroat, Luscinia calliope Bluethroat, Luscinia svecica White-throated Robin, Irania gutturalis White-bellied Robin Chat, Cossyphicula roberti Mountain Robin Chat, Cossypha isabellae Archer's Robin Chat, Cossypha archeri Olive-flanked Robin Chat, Cossypha anomala Cape Robin Chat, Cossypha caffra White-throated Robin Chat, Cossypha humeralis Blue-shouldered Robin Chat, Cossypha cyanocampter Grey-winged Robin Chat, Cossypha polioptera Rueppell's Robin Chat, Cossypha semirufa White-browed Robin Chat, Cossypha heuglini Red-capped Robin Chat, Cossypha natalensis Chorister Robin Chat, Cossypha dichroa White-headed Robin Chat, Cossypha heinrichi Snowy-crowned Robin Chat, Cossypha niveicapilla White-crowned Robin Chat, Cossypha albicapilla Angola Cave Chat, Xenocopsychus ansorgei Collared Palm Thrush, Cichladusa arquata Rufous-tailed Palm Thrush, Cichladusa ruficauda Spotted Morning Thrush, Cichladusa guttata

Forest Scrub Robin, Cercotrichas leucosticta Bearded Scrub Robin, Cercotrichas quadrivirgata Miombo Scrub Robin, Cercotrichas barbata Brown Scrub Robin, Cercotrichas signata Brown-backed Scrub Robin, Cercotrichas hartlaubi Red-backed Scrub Robin, Cercotrichas leucophrys Rufous-tailed Scrub Robin, Cercotrichas galactotes Kalahari Scrub Robin, Cercotrichas paena African Scrub Robin, Cercotrichas minor Karoo Scrub Robin, Cercotrichas coryphaeus Black Scrub Robin, Cercotrichas podobe Herero Chat. Namibornis herero Black Redstart, Phoenicurus ochruros Common Redstart, Phoenicurus phoenicurus Moussier's Redstart, Phoenicurus moussieri White-winged Redstart, Phoenicurus erythrogastrus Whinchat, Saxicola rubetra Canary Island Stonechat, Saxicola dacotiae European Stonechat, Saxicola rubicola African Stonechat, Saxicola torquatus Buff-streaked Bushchat, Saxicola bifasciatus White-tailed Wheatear, Oenanthe leucopyga Hooded Wheatear, Oenanthe monacha Black Wheatear, Oenanthe leucura Mountain Wheatear, Oenanthe monticola Somali Wheatear, Oenanthe phillipsi Northern Wheatear, Oenanthe oenanthe Mourning Wheatear, Oenanthe lugens Finsch's Wheatear, Oenanthe finschii Red-rumped Wheatear, Oenanthe moesta Pied Wheatear, Oenanthe pleschanka Cyprus Wheatear, Oenanthe cypriaca Black-eared Wheatear, Oenanthe hispanica Red-tailed Wheatear, Oenanthe xanthoprymna Desert Wheatear, Oenanthe deserti Capped Wheatear, Oenanthe pileata Isabelline Wheatear, Oenanthe isabellina Red-breasted Wheatear. Oenanthe bottae Heuglin's Wheatear, Oenanthe heuglini Sicklewing Chat, Cercomela sinuata Karoo Chat, Cercomela schlegelii Tractrac Chat, Cercomela tractrac Familiar Chat. Cercomela familiaris Brown-tailed Chat, Cercomela scotocerca Sombre Chat, Cercomela dubia

Blackstart, Cercomela melanura
Moorland Chat, Cercomela sordida
Congo Moorchat, Myrmecocichla tholloni
Northern Anteater Chat, Myrmecocichla aethiops
Southern Anteater Chat, Myrmecocichla formicivora
Sooty Chat, Myrmecocichla nigra
Rueppell's Chat, Myrmecocichla melaena
White-fronted Black Chat, Myrmecocichla albifrons
White-headed Black Chat, Myrmecocichla arnotti
Mocking Cliff Chat, Thamnolaea cinnamomeiventris
White-winged Cliff Chat, Thamnolaea semirufa
Boulder Chat, Pinarornis plumosus

Wattle-eyes

Order: Passeriformes Family: Platysteiridae

• African Shrike-flycatcher, Megabyas flammulatus Black-and-white Shrike-flycatcher, Bias musicus Brown-throated Wattle-eve. Platvsteira cvanea White-fronted Wattle-eye, Platysteira albifrons Black-throated Wattle-eve, Platysteira peltata Banded Wattle-eye, Platysteira laticincta Chestnut Wattle-eye, Platysteira castanea White-spotted Wattle-eye, Platysteira tonsa Red-cheeked Wattle-eye, Platysteira blissetti Black-necked Wattle-eye, Platysteira chalybea Jameson's Wattle-eye, Platysteira jamesoni Yellow-bellied Wattle-eye, Platysteira concreta Boulton's Batis, Batis margaritae Short-tailed Batis, Batis mixta Ruwenzori Batis, Batis diops Cape Batis. Batis capensis Woodward's Batis, Batis fratrum Chinspot Batis, Batis molitor Pale Batis, Batis soror Pririt Batis, Batis pririt Senegal Batis, Batis senegalensis Grey-headed Batis, Batis orientalis Black-headed Batis, Batis minor Pygmy Batis, Batis perkeo Verreaux's Batis, Batis minima Ituri Batis, Batis ituriensis Fernando Po Batis, Batis poensis West African Batis, Batis occulta

Angola Batis, Batis minulla White-tailed Shrike, Lanioturdus torquatus

Monarch flycatchers

Order: Passeriformes Family: Monarchidae

Chestnut-capped Flycatcher, Erythrocercus mccallii Yellow Flycatcher, Erythrocercus holochlorus Livingstone's Flycatcher, Erythrocercus livingstonei African Blue Flycatcher, Elminia longicauda White-tailed Blue Flycatcher, Elminia albicauda Dusky Crested Flycatcher, Elminia nigromitrata White-bellied Crested Flycatcher, Elminia albiventris White-tailed Crested Flycatcher, Elminia albonotata Blue-headed Crested Flycatcher, Trochocercus nitens African Crested Flycatcher, Trochocercus cyanomelas Black-headed Paradise Flycatcher, Terpsiphone rufiventer Bedford's Paradise Flycatcher, Terpsiphone bedfordi Rufous-vented Paradise Flycatcher, Terpsiphone rufocinerea Bates' Paradise Flycatcher, Terpsiphone batesi African Paradise Flycatcher, Terpsiphone viridis Sao Tome Paradise Flycatcher, Terpsiphone atrochalybeia

Rockfowl

Order: Passeriformes Family: Picathartidae

 White-necked Rockfowl, Picathartes gymnocephalus Grey-necked Rockfowl, Picathartes oreas

Babblers

Order: Passeriformes Family: Timaliidae

Spot-throat, Modulatrix stictigula
 Dapple-throat, Arcanator orostruthus
 Damara Rockjumper, Chaetops pycnopygius
 Rufous Rockjumper, Chaetops frenatus
 Orange-breasted Rockjumper, Chaetops aurantius
 Blackcap Illadopsis, Illadopsis cleaveri
 Scaly-breasted Illadopsis, Illadopsis albipectus
 Rufous-winged Illadopsis, Illadopsis rufescens
 Puvel's Illadopsis, Illadopsis puveli
 Pale-breasted Illadopsis, Illadopsis rufipennis

Brown Illadopsis, Illadopsis fulvescens Mountain Illadopsis, Illadopsis pyrrhoptera African Hill Babbler, Pseudoalcippe abyssinica Grev-chested Illadopsis, Kakamega poliothorax Thrush Babbler, Ptyrticus turdinus Arabian Babbler, Turdoides squamiceps Fulvous Chatterer, Turdoides fulva Scaly Chatterer, Turdoides aylmeri Rufous Chatterer, Turdoides rubiginosa Blackcap Babbler, Turdoides reinwardtii Dusky Babbler, Turdoides tenebrosa Black-faced Babbler, Turdoides melanops Black-lored Babbler, Turdoides sharpei Scaly Babbler, Turdoides squamulata White-rumped Babbler, Turdoides leucopygia Hartlaub's Babbler, Turdoides hartlaubii Southern Pied Babbler, Turdoides bicolor Northern Pied Babbler, Turdoides hypoleuca Hinde's Pied Babbler, Turdoides hindei Cretzschmar's Babbler, Turdoides leucocephala Brown Babbler, Turdoides plebejus Arrow-marked Babbler, Turdoides jardineii Bare-cheeked Babbler, Turdoides gymnogenys Bush Blackcap, Lioptilus nigricapillus White-throated Mountain Babbler, Kupeornis gilberti Red-collared Mountain Babbler, Kupeornis rufocinctus Chapin's Mountain Babbler, Kupeornis chapini Abyssinian Catbird, Parophasma galinieri Capuchin Babbler, Phyllanthus atripennis

Parrotbill

Order: Passeriformes Family: Paradoxornithidae

• Bearded Reedling, Panurus biarmicus

Long-tailed tit

Order: Passeriformes Family: Aegithalidae

• Long-tailed Tit, Aegithalos caudatus

Tits

Order: Passeriformes Family: Paridae

Coal Tit, Periparus ater

Crested Tit, Lophophanes cristatus

White-winged Black Tit, Melaniparus leucomelas

White-shouldered Black Tit, Melaniparus guineensis

Southern Black Tit, Melaniparus niger

Carp's Tit, Melaniparus carpi

White-bellied Tit, Melaniparus albiventris

White-backed Black Tit, Melaniparus leuconotus

Rufous-bellied Tit, Melaniparus rufiventris

Dusky Tit, Melaniparus funereus

Red-throated Tit, Melaniparus fringillinus

Stripe-breasted Tit, Melaniparus fasciiventer

Somali Tit, Melaniparus thruppi

Miombo Tit, Melaniparus griseiventris

Ashy Tit, Melaniparus cinerascens

Grey Tit, Melaniparus afer

Great Tit, Parus major

African Blue Tit, Cyanistes teneriffae

Nuthatches

Order: Passeriformes Family: Sittidae

 Eurasian Nuthatch, Algerian Nuthatch, Sitta ledanti Sitta europaea

Wallcreeper

Order: Passeriformes Family: Tichodromidae

• Wallcreeper, Tichodroma muraria

Creepers

Order: Passeriformes Family: Certhiidae

• Short-toed Treecreeper, Certhia brachydactyla Spotted Creeper, Salpornis spilonotus

Penduline tits

Order: Passeriformes Family: Remizidae

Eurasian Penduline Tit, Remiz pendulinus
 Sennar Penduline Tit, Anthoscopus punctifrons
 Mouse-colored Penduline Tit, Anthoscopus musculus
 Yellow Penduline Tit, Anthoscopus parvulus
 Forest Penduline Tit, Anthoscopus flavifrons
 African Penduline Tit, Anthoscopus caroli
 Southern Penduline Tit, Anthoscopus minutus
 Tit-hylia, Pholidornis rushiae

Sunbirds

Order: Passeriformes Family: Nectarinidae

Scarlet-tufted Sunbird, Deleornis fraseri Grey-headed Sunbird, Deleornis axillaris Plain-backed Sunbird, Anthreptes reichenowi Anchieta's Sunbird, Anthreptes anchietae Mouse-brown Sunbird, Anthreptes gabonicus Western Violet-backed Sunbird, Anthreptes longuemarei Kenya Violet-backed Sunbird, Anthreptes orientalis Uluguru Violet-backed Sunbird, Anthreptes neglectus Violet-tailed Sunbird, Anthreptes aurantium Little Green Sunbird, Anthreptes seimundi Green Sunbird, Anthreptes rectirostris Banded Sunbird, Anthreptes rubritorques Collared Sunbird, Hedydipna collaris Pygmy Sunbird, Hedydipna platura Nile Valley Sunbird, Hedydipna metallica Amani Sunbird, Hedydipna pallidigaster Reichenbach's Sunbird, Anabathmis reichenbachii Principe Sunbird, Anabathmis hartlaubii Newton's Sunbird, Anabathmis newtonii Sao Tome Sunbird, Dreptes thomensis Orange-breasted Sunbird, Anthobaphes violacea Green-headed Sunbird, Cyanomitra verticalis Blue-throated Brown Sunbird, Cyanomitra cyanolaema Blue-headed Sunbird, Cyanomitra alinae Cameroon Sunbird, Cyanomitra oritis Bannerman's Sunbird, Cyanomitra bannermani Eastern Olive Sunbird, Cyanomitra olivacea Western Olive Sunbird, Cyanomitra obscura

Mouse-colored Sunbird, Cyanomitra veroxii

Buff-throated Sunbird, Chalcomitra adelberti

Carmelite Sunbird, Chalcomitra fuliginosa

Green-throated Sunbird, Chalcomitra rubescens

Amethyst Sunbird, Chalcomitra amethystina

Scarlet-chested Sunbird, Chalcomitra senegalensis

Hunter's Sunbird, Chalcomitra hunteri

Socotra Sunbird, Chalcomitra balfouri

Bocage's Sunbird, Nectarinia bocagii

Purple-breasted Sunbird, Nectarinia purpureiventris

Tacazze Sunbird, Nectarinia tacazze

Bronze Sunbird, Nectarinia kilimensis

Red-tufted Sunbird, Nectarinia johnstoni

Malachite Sunbird, Nectarinia famosa

Golden-winged Sunbird, Drepanorhynchus reichenowi

Olive-bellied Sunbird, Cinnyris chloropygius

Tiny Sunbird, Cinnyris minullus

Miombo Sunbird, Cinnyris manoensis

Southern Double-collared Sunbird, Cinnyris chalybeus

Neergaard's Sunbird, Cinnyris neergaardi

Stuhlmann's Sunbird, Cinnyris stuhlmanni

Prigogine's Sunbird, Cinnyris prigoginei

Montane Double-collared Sunbird, Cinnyris ludovicensis

Northern Double-collared Sunbird, Cinnvris reichenowi

Greater Double-collared Sunbird, Cinnyris afer

Regal Sunbird, Cinnyris regius

Rockefeller's Sunbird, Cinnyris rockefelleri

Eastern Double-collared Sunbird, Cinnyris mediocris

Moreau's Sunbird, Cinnyris moreaui

Beautiful Sunbird, Cinnyris pulchellus

Loveridge's Sunbird, Cinnyris loveridgei

Marigua Sunbird, Cinnyris mariguensis

Shelley's Sunbird, Cinnyris shelleyi

Congo Sunbird, Cinnyris congensis

Red-chested Sunbird, Cinnyris erythrocercus

Black-bellied Sunbird, Cinnyris nectarinioides

Purple-banded Sunbird, Cinnyris bifasciatus

Tsavo Sunbird, Cinnyris tsavoensis

Violet-breasted Sunbird, Cinnyris chalcomelas

Pemba Sunbird, Cinnyris pembae

Orange-tufted Sunbird, Cinnyris bouvieri

Palestine Sunbird, Cinnyris osea

Shining Sunbird, Cinnyris habessinicus

Splendid Sunbird, Cinnyris coccinigastrus

Johanna's Sunbird, Cinnyris johannae

Superb Sunbird, Cinnyris superbus
Rufous-winged Sunbird, Cinnyris rufipennis
Oustalet's Sunbird, Cinnyris oustaleti
White-breasted Sunbird, Cinnyris talatala
Variable Sunbird, Cinnyris venustus
Dusky Sunbird, Cinnyris fuscus
Ursula's Sunbird, Cinnyris ursulae
Bates' Sunbird, Cinnyris batesi
Copper Sunbird, Cinnyris cupreus

White-eyes

Order: Passeriformes Family: Zosteropidae

Black-capped Speirops, Speirops lugubris
 Cameroon Speirops, Speirops melanocephalus
 Fernando Po Speirops, Speirops brunneus
 Principe Speirops, Speirops leucophoeus
 African Yellow White-eye, Zosterops senegalensis
 Broad-ringed White-eye, Zosterops poliogastrus
 White-breasted White-eye, Zosterops abyssinicus
 Cape White-eye, Zosterops pallidus
 Pemba White-eye, Zosterops vaughani
 Sao Tome White-eye, Zosterops ficedulinus
 Annobon White-eye, Zosterops griseovirescens

Sugarbirds

Order: Passeriformes Family: Promeropidae

• Gurney's Sugarbird, Promerops gurneyi Cape Sugarbird, Promerops cafer

Old World orioles

Order: Passeriformes Family: Oriolidae

Eurasian Golden Oriole, Oriolus oriolus
 African Golden Oriole, Oriolus auratus
 Green-headed Oriole, Oriolus chlorocephalus
 Sao Tome Oriole, Oriolus crassirostris
 Western Black-headed Oriole, Oriolus brachyrhynchus
 Dark-headed Oriole, Oriolus monacha
 African Black-headed Oriole, Oriolus larvatus

Black-tailed Oriole, Oriolus percivali Black-winged Oriole, Oriolus nigripennis

Shrikes

Order: Passeriformes Family: Laniidae

Red-backed Shrike, Lanius collurio Rufous-tailed Shrike. Lanius isabellinus Emin's Shrike, Lanius gubernator Souza's Shrike, Lanius souzae Northern Shrike, Lanius excubitor Southern Grey Shrike, Lanius meridionalis Lesser Grey Shrike, Lanius minor Grey-backed Fiscal, Lanius excubitoroides Long-tailed Fiscal, Lanius cabanisi Taita Fiscal, Lanius dorsalis Somali Fiscal. Lanius somalicus Mackinnon's Shrike, Lanius mackinnoni Common Fiscal. Lanius collaris Newton's Fiscal, Lanius newtoni Masked Shrike, Lanius nubicus Woodchat Shrike. Lanius senator Yellow-billed Shrike, Corvinella corvina Magpie Shrike, Corvinella melanoleuca White-rumped Shrike, Eurocephalus rueppelli White-crowned Shrike, Eurocephalus anguitimens

Bushshrikes

Order: Passeriformes Family: Malaconotidae

Brubru, Nilaus afer
Northern Puffback, Dryoscopus gambensis
Pringle's Puffback, Dryoscopus pringlii
Black-backed Puffback, Dryoscopus cubla
Red-eyed Puffback, Dryoscopus senegalensis
Pink-footed Puffback, Dryoscopus angolensis
Large-billed Puffback, Dryoscopus sabini
Marsh Tchagra, Tchagra minutus
Black-crowned Tchagra, Tchagra senegalus
Brown-crowned Tchagra, Tchagra australis
Three-streaked Tchagra, Tchagra jamesi
Southern Tchagra, Tchagra tchagra
Red-naped Bushshrike, Laniarius ruficeps

Luehder's Bushshrike, Laniarius luehderi Braun's Bushshrike, Laniarius brauni Gabela Bushshrike, Laniarius amboimensis Bulo Burti Boubou, Laniarius liberatus Turati's Boubou, Laniarius turatii Tropical Boubou, Laniarius aethiopicus Gabon Boubou, Laniarius bicolor Southern Boubou, Laniarius ferrugineus Common Gonolek, Laniarius barbarus Black-headed Gonolek, Laniarius erythrogaster Crimson-breasted Gonolek, Laniarius atrococcineus Papyrus Gonolek, Laniarius mufumbiri Yellow-breasted Boubou, Laniarius atroflavus Slate-colored Boubou, Laniarius funebris Sooty Boubou, Laniarius leucorhynchus Fuelleborn's Boubou, Laniarius fuelleborni Mountain Sooty Boubou, Laniarius poensis Rosy-patched Bushshrike, Rhodophoneus cruentus Bokmakierie, Telophorus zeylonus Grey-green Bushshrike, Telophorus bocagei Sulphur-breasted Bushshrike, Telophorus sulfureopectus Olive Bushshrike, Telophorus olivaceus Many-colored Bushshrike, Telophorus multicolor Black-fronted Bushshrike, Telophorus nigrifrons Mt. Kupe Bushshrike, Telophorus kupeensis Four-colored Bushshrike, Telophorus viridis Doherty's Bushshrike, Telophorus dohertyi Fiery-breasted Bushshrike, Malaconotus cruentus Lagden's Bushshrike, Malaconotus lagdeni Green-breasted Bushshrike, Malaconotus gladiator Grey-headed Bushshrike, Malaconotus blanchoti Monteiro's Bushshrike, Malaconotus monteiri Uluguru Bushshrike, Malaconotus alius

Helmetshrikes

Order: Passeriformes Family: Prionopidae

 White Helmetshrike, Prionops plumatus Grey-crested Helmetshrike, Prionops poliolophus Yellow-crested Helmetshrike, Prionops alberti Chestnut-bellied Helmetshrike, Prionops caniceps Rufous-bellied Helmetshrike, Prionops rufiventris Retz's Helmetshrike, Prionops retzii Angola Helmetshrike, Prionops gabela Chestnut-fronted Helmetshrike, Prionops scopifrons

Drongos

Order: Passeriformes Family: Dicruridae

 Square-tailed Drongo, Dicrurus ludwigii Shining Drongo, Dicrurus atripennis Fork-tailed Drongo, Dicrurus adsimilis Velvet-mantled Drongo, Dicrurus modestus

Crows, jays, and magpies

Order: Passeriformes Family: Corvidae

Eurasian Jay, Garrulus glandarius Eurasian Magpie, Pica pica Stresemann's Bush Crow, Zavattariornis stresemanni Red-billed Chough, Pyrrhocorax pyrrhocorax Yellow-billed Chough, Pyrrhocorax graculus Piapiac, Ptilostomus afer Eurasian Jackdaw, Corvus monedula House Crow, Corvus splendens Cape Crow, Corvus capensis Rook, Corvus frugilegus Carrion Crow, Corvus corone Hooded Crow, Corvus cornix Pied Crow, Corvus albus Brown-necked Raven. Corvus ruficollis Somali Crow, Corvus edithae Fan-tailed Raven, Corvus rhipidurus White-necked Raven, Corvus albicollis Thick-billed Raven, Corvus crassirostris Common Raven, Corvus corax

Starlings

Order: Passeriformes Family: Sturnidae

Common Myna, Acridotheres tristis
 Rosy Starling, Pastor roseus
 European Starling, Sturnus vulgaris
 Spotless Starling, Sturnus unicolor
 Wattled Starling, Creatophora cinerea

Cape Glossy Starling, Lamprotornis nitens Greater Blue-eared Glossy Starling, Lamprotornis chalybaeus Lesser Blue-eared Glossy Starling, Lamprotornis chloropterus Bronze-tailed Glossy Starling, Lamprotornis chalcurus Splendid Glossy Starling, Lamprotornis splendidus Principe Glossy Starling, Lamprotornis ornatus Emerald Starling, Lamprotornis iris Purple Glossy Starling, Lamprotornis purpureus Rueppell's Glossy Starling, Lamprotornis purpuroptera Long-tailed Glossy Starling, Lamprotornis caudatus Golden-breasted Starling, Lamprotornis regius Meves' Glossy Starling, Lamprotornis mevesii Burchell's Glossy Starling, Lamprotornis australis Sharp-tailed Glossy Starling, Lamprotornis acuticaudus Black-bellied Glossy Starling, Lamprotornis corruscus Superb Starling, Lamprotornis superbus Hildebrandt's Starling, Lamprotornis hildebrandti Shelley's Starling, Lamprotornis shellevi Chestnut-bellied Starling, Lamprotornis pulcher Purple-headed Glossy Starling, Lamprotornis purpureiceps Copper-tailed Glossy Starling, Lamprotornis cupreocauda Violet-backed Starling, Cinnyricinclus leucogaster African Pied Starling, Spreo bicolor Fischer's Starling, Spreo fischeri Ashy Starling, Spreo unicolor White-crowned Starling, Spreo albicapillus Red-winged Starling, Onychognathus morio Slender-billed Starling, Onychognathus tenuirostris Chestnut-winged Starling, Onychognathus fulgidus Waller's Starling, Onychognathus walleri Somali Starling, Onychognathus blythii Socotra Starling, Onychognathus frater Tristram's Starling, Onychognathus tristramii Pale-winged Starling, Onychognathus nabouroup Bristle-crowned Starling, Onychognathus salvadorii White-billed Starling, Onychognathus albirostris Neumann's Starling, Onychognathus neumanni Narrow-tailed Starling, Poeoptera lugubris Stuhlmann's Starling, Poeoptera stuhlmanni Kenrick's Starling, Poeoptera kenricki Sharpe's Starling, Pholia sharpii Abbott's Starling, Pholia femoralis White-collared Starling, Grafisia torquata Magpie Starling, Speculipastor bicolor Babbling Starling, Neocichla gutturalis

Red-billed Oxpecker, Buphagus erythrorhynchus Yellow-billed Oxpecker, Buphagus africanus

Old World sparrows

Order: Passeriformes Family: Passeridae

House Sparrow, Passer domesticus Spanish Sparrow, Passer hispaniolensis Somali Sparrow, Passer castanopterus Dead Sea Sparrow, Passer moabiticus Cape Verde Sparrow, Passer iagoensis Socotra Sparrow, Passer insularis Great Rufous Sparrow, Passer motitensis Kenya Rufous Sparrow, Passer rufocinctus Shelley's Rufous Sparrow, Passer shelleyi Kordofan Rufous Sparrow, Passer cordofanicus Cape Sparrow, Passer melanurus Grey-headed Sparrow, Passer griseus Swainson's Sparrow, Passer swainsonii Parrot-billed Sparrow, Passer gongonensis Swahili Sparrow, Passer suahelicus Southern Grey-headed Sparrow, Passer diffusus Desert Sparrow, Passer simplex Eurasian Tree Sparrow, Passer montanus Sudan Golden Sparrow, Passer luteus Arabian Golden Sparrow, Passer euchlorus Chestnut Sparrow, Passer eminibey Yellow-spotted Petronia, Petronia pyrgita Yellow-throated Petronia, Petronia superciliaris Bush Petronia, Petronia dentata Rock Petronia, Petronia petronia Pale Rockfinch, Carpospiza brachydactyla White-winged Snowfinch, Montifringilla nivalis

Weavers

Order: Passeriformes Family: Ploceidae

 White-billed Buffalo Weaver, Bubalornis albirostris Red-billed Buffalo Weaver, Bubalornis niger White-headed Buffalo Weaver, Dinemellia dinemelli Speckle-fronted Weaver, Sporopipes frontalis Scaly Weaver, Sporopipes squamifrons White-browed Sparrow Weaver, Plocepasser mahali

Chestnut-crowned Sparrow Weaver, Plocepasser superciliosus

Chestnut-backed Sparrow Weaver, Plocepasser rufoscapulatus

Donaldson-Smith's Sparrow Weaver, Plocepasser donaldsoni

Rufous-tailed Weaver, Histurgops ruficauda

Grey-headed Social Weaver, Pseudonigrita arnaudi

Black-capped Social Weaver, Pseudonigrita cabanisi

Social Weaver, Philetairus socius

Bannerman's Weaver, Ploceus bannermani

Bates' Weaver, Ploceus batesi

Black-chinned Weaver, Ploceus nigrimentus

Baglafecht Weaver, Ploceus baglafecht

Bertram's Weaver, Ploceus bertrandi

Slender-billed Weaver, Ploceus pelzelni

Loango Weaver, Ploceus subpersonatus

Little Weaver, Ploceus luteolus

Lesser Masked Weaver, Ploceus intermedius

Spectacled Weaver, Ploceus ocularis

Black-necked Weaver, Ploceus nigricollis

Black-billed Weaver, Ploceus melanogaster

Strange Weaver, Ploceus alienus

Bocage's Weaver, Ploceus temporalis

Cape Weaver, Ploceus capensis

African Golden Weaver, Ploceus subaureus

Holub's Golden Weaver, Ploceus xanthops

Principe Golden Weaver, Ploceus princeps

Orange Weaver, Ploceus aurantius

Golden Palm Weaver, Ploceus bojeri

Taveta Golden Weaver, Ploceus castaneiceps

Southern Brown-throated Weaver, Ploceus xanthopterus

Northern Brown-throated Weaver, Ploceus castanops

Kilombero Weaver, Ploceus burnieri

Rueppell's Weaver, Ploceus galbula

Heuglin's Masked Weaver, Ploceus heuglini

Northern Masked Weaver, Ploceus taeniopterus

Southern Masked Weaver, Ploceus velatus

Vitelline Masked Weaver, Ploceus vitellinus

Tanganyika Masked Weaver, Ploceus reichardi

Katanga Masked Weaver, Ploceus katangae

Lake Lufira Weaver, Ploceus ruweti

Village Weaver, Ploceus cucullatus

Giant Weaver. Ploceus grandis

Speke's Weaver, Ploceus spekei

Fox's Weaver, Ploceus spekeoides

Vieillot's Weaver, Ploceus nigerrimus

Weyns' Weaver, Ploceus weynsi

Clarke's Weaver, Ploceus golandi Black-headed Weaver, Ploceus melanocephalus Salvadori's Weaver, Ploceus dichrocephalus Golden-backed Weaver, Ploceus jacksoni Cinnamon Weaver, Ploceus badius Chestnut Weaver, Ploceus rubiginosus Golden-naped Weaver, Ploceus aureonucha Yellow-mantled Weaver, Ploceus tricolor Maxwell's Black Weaver, Ploceus albinucha Forest Weaver, Ploceus bicolor Preuss' Weaver, Ploceus preussi Yellow-capped Weaver, Ploceus dorsomaculatus Usambara Weaver, Ploceus nicolli Olive-headed Weaver, Ploceus olivaceiceps Brown-capped Weaver, Ploceus insignis Bar-winged Weaver, Ploceus angolensis Sao Tome Weaver, Ploceus sanctithomae Yellow-legged Weaver, Ploceus flavipes Compact Weaver, Pachyphantes superciliosus Red-crowned Malimbe, Malimbus coronatus Black-throated Malimbe, Malimbus cassini Ballman's Malimbe, Malimbus ballmanni Rachel's Malimbe, Malimbus racheliae Red-vented Malimbe, Malimbus scutatus Ibadan Malimbe, Malimbus ibadanensis Red-bellied Malimbe, Malimbus erythrogaster Grey's Malimbe, Malimbus nitens Crested Malimbe, Malimbus malimbicus Red-headed Malimbe, Malimbus rubricollis Red-headed Weaver, Anaplectes rubriceps Bob-tailed Weaver, Brachycope anomala Cardinal Quelea, Quelea cardinalis Red-headed Quelea, Quelea erythrops Red-billed Quelea, Quelea quelea Yellow-crowned Bishop, Euplectes afer Fire-fronted Bishop, Euplectes diadematus Black Bishop, Euplectes gierowii Black-winged Bishop, Euplectes hordeaceus Orange Bishop, Euplectes franciscanus Red Bishop, Euplectes orix Zanzibar Bishop, Euplectes nigroventris Golden-backed Bishop, Euplectes aureus Yellow Bishop, Euplectes capensis Fan-tailed Widowbird, Euplectes axillaris Yellow-shouldered Widowbird, Euplectes macroura White-winged Widowbird, Euplectes albonotatus
Red-collared Widowbird, Euplectes ardens
Marsh Widowbird, Euplectes hartlaubi
Buff-shouldered Widowbird, Euplectes psammocromius
Long-tailed Widowbird, Euplectes progne
Jackson's Widowbird, Euplectes jacksoni
Grosbeak Weaver, Amblyospiza albifrons

Waxbills

Order: Passeriformes Family: Estrildidae

Red-fronted Antpecker, Parmoptila rubrifrons Jameson's Antpecker, Parmoptila jamesoni Woodhouse's Antpecker, Parmoptila woodhousei White-breasted Negrofinch, Nigrita fusconotus Chestnut-breasted Negrofinch, Nigrita bicolor Pale-fronted Negrofinch, Nigrita luteifrons Grey-headed Negrofinch, Nigrita canicapillus White-collared Oliveback, Nesocharis ansorgei Fernando Po Oliveback, Nesocharis shelleyi Grev-headed Oliveback, Nesocharis capistrata Orange-winged Pytilia, Pytilia afra Red-winged Pytilia, Pytilia phoenicoptera Red-billed Pytilia, Pytilia lineata Green-winged Pytilia, Pytilia melba Red-faced Pytilia, Pytilia hypogrammica Green-backed Twinspot, Mandingoa nitidula Red-faced Crimson-wing, Cryptospiza reichenovii Abyssinian Crimson-wing, Cryptospiza salvadorii Dusky Crimson-wing, Cryptospiza jacksoni Shelley's Crimson-wing, Cryptospiza shelleyi Crimson Seedcracker, Pyrenestes sanguineus Black-bellied Seedcracker, Pyrenestes ostrinus Lesser Seedcracker, Pyrenestes minor Grant's Bluebill, Spermophaga poliogenys Western Bluebill, Spermophaga haematina Red-headed Bluebill, Spermophaga ruficapilla Brown Twinspot, Clytospiza monteiri Peters' Twinspot, Hypargos niveoguttatus Pink-throated Twinspot, Hypargos margaritatus Dybowski's Twinspot, Euschistospiza dybowskii Dusky Twinspot, Euschistospiza cinereovinacea Bar-breasted Firefinch, Lagonosticta rufopicta Brown Firefinch, Lagonosticta nitidula

Red-billed Firefinch, Lagonosticta senegala Black-bellied Firefinch, Lagonosticta rara African Firefinch, Lagonosticta rubricata Pale-billed Firefinch, Lagonosticta landanae Jameson's Firefinch, Lagonosticta rhodopareia Mali Firefinch, Lagonosticta virata Rock Firefinch, Lagonosticta sanguinodorsalis Black-faced Firefinch, Lagonosticta larvata Reichenow's Firefinch, Lagonosticta umbrinodorsalis African Quailfinch, Lagonosticta fuscocrissa Black-faced Quailfinch, Lagonosticta atricollis Blue-breasted Cordonbleu, Uraeginthus angolensis Red-cheeked Cordonbleu, Uraeginthus bengalus Blue-capped Cordonbleu, Uraeginthus cyanocephalus Purple Grenadier, Granatina ianthinogaster Violet-eared Waxbill, Granatina granatinus Lavender Waxbill, Estrilda caerulescens Black-tailed Waxbill, Estrilda perreini Cinderella Waxbill, Estrilda thomensis Fawn-breasted Waxbill, Estrilda paludicola Anambra Waxbill, Estrilda poliopareia Orange-cheeked Waxbill, Estrilda melpoda Crimson-rumped Waxbill, Estrilda rhodopyga Black-rumped Waxbill, Estrilda troglodytes Common Waxbill, Estrilda astrild Black-faced Waxbill, Estrilda nigriloris Black-crowned Waxbill, Estrilda nonnula Black-headed Waxbill, Estrilda atricapilla Kandt's Waxbill, Estrilda kandti Black-cheeked Waxbill, Estrilda erythronotos Red-rumped Waxbill, Estrilda charmosyna Yellow-bellied Waxbill, Coccopygia quartinia Swee Waxbill. Coccopygia melanotis Red Avadavat, Amandava amandava Zebra Waxbill, Sporaeginthus subflavus Red-billed Quailfinch, Ortygospiza gabonensis Locustfinch, Paludipasser locustella African Silverbill. Euodice cantans Bronze Mannikin, Spermestes cucullatus Black-and-white Mannikin, Spermestes bicolor Magpie Mannikin, Spermestes fringilloides Grey-headed Silverbill, Odontospiza griseicapilla Java Sparrow, Padda oryzivora Cut-throat, Amadina fasciata Red-headed Finch, Amadina erythrocephala

Indigobirds

Order: Passeriformes Family: Viduidae

• Village Indigobird, Vidua chalybeata Jambandu Indigobird, Vidua raricola Baka Indigobird, Vidua larvaticola Jos Plateau Indigobird, Vidua maryae Quailfinch Indigobird, Vidua nigeriae Variable Indigobird, Vidua funerea Green Indigobird, Vidua codringtoni Purple Indigobird, Vidua purpurascens Pale-winged Indigobird, Vidua wilsoni Cameroon Indigobird, Vidua camerunensis Steel-blue Whydah, Vidua hypocherina Straw-tailed Whydah, Vidua fischeri Shaft-tailed Whydah, Vidua regia Pin-tailed Whydah, Vidua macroura Togo Paradise Whydah, Vidua togoensis Long-tailed Paradise Whydah, Vidua interjecta Eastern Paradise Whydah, Vidua paradisaea Northern Paradise Whydah, Vidua orientalis Broad-tailed Paradise Whydah, Vidua obtusa Parasitic Weaver, Anomalospiza imberbis

Finches

Order: Passeriformes Family: Fringillidae

Chaffinch, Fringilla coelebs
 Blue Chaffinch, Fringilla teydea
 Brambling, Fringilla montifringilla
 Sao Tome Grosbeak, Neospiza concolor
 Oriole Finch, Linurgus olivaceus
 Golden-winged Grosbeak, Rhynchostruthus socotranus
 Somali Grosbeak, Rhynchostruthus louisae
 Common Rosefinch, Carpodacus erythrinus
 Pale Rosefinch, Carpodacus synoicus
 Red Crossbill, Loxia curvirostra
 European Greenfinch, Carduelis chloris
 Common Redpoll, Carduelis flammea
 Eurasian Siskin, Carduelis spinus
 European Goldfinch, Carduelis carduelis
 Eurasian Linnet, Carduelis cannabina

Warsangli Linnet, Carduelis johannis Ankober Serin. Carduelis ankoberensis Fire-fronted Serin, Serinus pusillus European Serin, Serinus serinus Syrian Serin, Serinus syriacus Island Canary, Serinus canaria Citril Finch. Serinus citrinella Cape Canary, Serinus canicollis Yellow-crowned Canary, Serinus flavivertex Abyssinian Siskin, Serinus nigriceps African Citril, Serinus citrinelloides Western Citril. Serinus frontalis Southern Citril, Serinus hyposticutus Black-faced Canary, Serinus capistratus Papyrus Canary, Serinus koliensis Forest Canary, Serinus scotops White-rumped Seedeater, Serinus leucopygius Yellow-throated Serin, Serinus flavigula Salvadori's Serin, Serinus xantholaemus Black-throated Canary, Serinus atrogularis Reichenow's Seedeater, Serinus reichenowi Yellow-rumped Serin, Serinus xanthopygius Lemon-breasted Seedeater, Serinus citrinipectus Yellow-fronted Canary, Serinus mozambicus Northern Grosbeak Canary, Serinus donaldsoni Southern Grosbeak Canary, Serinus buchanani White-bellied Canary, Serinus dorsostriatus Yellow Canary, Serinus flaviventris Brimstone Canary, Serinus sulphuratus Reichard's Seedeater, Serinus reichardi White-throated Canary, Serinus albogularis Streaky-headed Seedeater, Serinus gularis Black-eared Seedeater. Serinus mennelli Brown-rumped Seedeater, Serinus tristriatus Streaky Seedeater, Serinus striolatus Yellow-browed Seedeater. Serinus whytii Thick-billed Seedeater, Serinus burtoni Tanzania Seedeater. Serinus melanochrous Principe Seedeater, Serinus rufobrunneus Protea Canary, Serinus leucopterus Black-headed Canary, Alario alario Damara Canary, Alario leucolaemus Cape Siskin, Pseudochloroptila totta Drakensberg Siskin, Pseudochloroptila symonsi Eurasian Bullfinch, Pyrrhula pyrrhula

Hawfinch, Coccothraustes coccothraustes Crimson-winged Finch, Rhodopechys sanguineus Trumpeter Finch, Bucanetes githagineus Desert Finch, Rhodospiza obsoletus

Buntings and sparrows

Order: Passeriformes Family: Emberizidae

• Yellowhammer, Emberiza citrinella Cirl Bunting, Emberiza cirlus Rock Bunting, Emberiza cia Cinereous Bunting, Emberiza cineracea Ortolan Bunting, Emberiza hortulana Cretzschmar's Bunting, Emberiza caesia House Bunting, Emberiza striolata Lark-like Bunting, Emberiza impetuani Cinnamon-breasted Bunting, Emberiza tahapisi Socotra Bunting, Emberiza socotrana Cape Bunting, Emberiza capensis Vincent's Bunting, Emberiza vincenti Little Bunting, Emberiza pusilla Rustic Bunting, Emberiza rustica Yellow-breasted Bunting, Emberiza aureola Golden-breasted Bunting, Emberiza flaviventris Somali Bunting, Emberiza poliopleura Brown-rumped Bunting, Emberiza affinis Cabanis' Bunting, Emberiza cabanisi Black-headed Bunting, Emberiza melanocephala Reed Bunting, Emberiza schoeniclus Corn Bunting, Emberiza calandra

See also

• <u>List of birds</u>

References

- *Birds of the World: A Checklist*, fifth edition and supplements, by James F. Clements, ISBN 0-934797-16-1, Ibis Publishing, 2000 (supplements up to July, 2005).
 - '<u>Description of the ABA Listing Areas and Regions</u> from the American Birding Association.

• Splitting headaches? Recent taxonomic changes affecting the British and Western Palaearctic lists - Martin Collinson, British Birds vol 99 (June 2006), 306-323

Birds of Asia

This **list of Asian birds** is a listing of all the bird species known from the continent of Asia.

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Notes

The taxonomy of this list adheres to James Clements' Birds of the World: A Checklist, and reflects all changes to that work until July, 2005. Taxonomic changes are on-going. As more research is gathered from studies of distribution, behavior, and DNA, the order and number of families and species may change. Furthermore, different approaches to ornithological nomenclature have led to concurrent systems of classification (see Sibley-Ahlquist taxonomy).

The area covered by this list corresponds with the Asian listing area as defined by the American Birding Association[1]. The area includes Russia east of the Ural River and Ural Mountains and the Russian Arctic islands east of but not including Novaya Zemlya, as well as Kazakhstan, Georgia, Azerbaijan, Turkey (except for the portion north of the Bosporus, Sea of Marmara, and the Dardanelles), and Cyprus. The area is separated from Africa by the Suez Canal. In the Indian Ocean it includes Sri Lanka, Lakshadweep (the Laccadive Islands), the Andaman and Nicobar Islands, but does not include Socotra (Africa), the Maldives, the Chagos Archipelago, and Christmas Island (all Indian Ocean). It includes the Russian islands in the Bering Sea and North Pacific. Japan, the Izu Islands (except Nampo Shoto and the Daito Islands), the Ryukyu Islands, Taiwan, the Philippines, Malaysia, and most of Indonesia. In Indonesia the dividing line between Asia and Australasia runs through the Banda and Molucca Seas with Sulawesi, Banggai and Talaud on the Asian side, and the islands of Kai, Ceram, Buru, the Sula Group, and Morotai on the Australasian side.

Ostrich

Order: Struthioniformes **Family**: Struthionidae

• Ostrich, Struthio camelus

Loons

Order: Gaviiformes Family: Gaviidae

 Red-throated Loon, Gavia stellata Arctic Loon, Gavia arctica Pacific Loon, Gavia pacifica Common Loon, Gavia immer Yellow-billed Loon, Gavia adamsii

Grebes

Order: Podicipediformes **Family**: Podicipedidae

Little Grebe, Tachybaptus ruficollis
 Australasian Grebe, Tachybaptus novaehollandiae

Red-necked Grebe, Podiceps grisegena Great Crested Grebe, Podiceps cristatus Horned Grebe, Podiceps auritus Eared Grebe, Podiceps nigricollis

Albatrosses

Order: Procellariiformes **Family**: Diomedeidae

 Wandering Albatross, Diomedea exulans Short-tailed Albatross, Phoebastria albatrus Laysan Albatross, Phoebastria immutabilis Black-footed Albatross, Phoebastria nigripes Shy Albatross, Thalassarche cauta

Shearwaters and petrels

Order: Procellariiformes Family: Procellariidae

Northern Fulmar, Fulmarus glacialis Cape Petrel, Daption capense Tahiti Petrel. Pterodroma rostrata Atlantic Petrel, Pterodroma incerta Mottled Petrel, Pterodroma inexpectata Providence Petrel. Pterodroma solandri Kermadec Petrel, Pterodroma neglecta Soft-plumaged Petrel, Pterodroma mollis Barau's Petrel, Pterodroma baraui Galapagos Petrel, Pterodroma phaeopygia Hawaiian Petrel, Pterodroma sandwichensis Juan Fernandez Petrel, Pterodroma externa Bonin Petrel, Pterodroma hypoleuca Black-winged Petrel, Pterodroma nigripennis Stejneger's Petrel, Pterodroma longirostris Antarctic Prion, Pachyptila desolata Bulwer's Petrel, Bulweria bulwerii Jouanin's Petrel, Bulweria fallax Streaked Shearwater, Calonectris leucomelas Cory's Shearwater, Calonectris diomedea Flesh-footed Shearwater, Puffinus carneipes Greater Shearwater, Puffinus gravis Wedge-tailed Shearwater, Puffinus pacificus Buller's Shearwater, Puffinus bulleri Sooty Shearwater, Puffinus griseus Short-tailed Shearwater, Puffinus tenuirostris Manx Shearwater, Puffinus puffinus Balearic Shearwater, Puffinus mauretanicus Levantine Shearwater, Puffinus yelkouan Little Shearwater, Puffinus assimilis Audubon's Shearwater, Puffinus lherminieri Persian Shearwater, Puffinus persicus Mascarene Shearwater, Puffinus atrodorsalis

Storm-petrels

Order: Procellariiformes Family: Hydrobatidae

Wilson's Storm-petrel, Oceanites oceanicus
 White-faced Storm-petrel, Pelagodroma marina
 Black-bellied Storm-petrel, Fregetta tropica
 European Storm-petrel, Hydrobates pelagicus
 Band-rumped Storm-petrel, Oceanodroma castro
 Leach's Storm-petrel, Oceanodroma leucorhoa
 Swinhoe's Storm-petrel, Oceanodroma monorhis
 Tristram's Storm-petrel, Oceanodroma tristrami
 Matsudaira's Storm-petrel, Oceanodroma matsudairae
 Fork-tailed Storm-petrel, Oceanodroma furcata

Tropicbirds

Order: Pelecaniformes Family: Phaethontidae

 Red-billed Tropicbird, Phaethon aethereus Red-tailed Tropicbird, Phaethon rubricauda White-tailed Tropicbird, Phaethon lepturus

Pelicans

Order: Pelecaniformes **Family**: Pelecanidae

 Great White Pelican, Pelecanus onocrotalus Pink-backed Pelican, Pelecanus rufescens Spot-billed Pelican, Pelecanus philippensis Dalmatian Pelican, Pelecanus crispus Australian Pelican, Pelecanus conspicillatus

Gannets and boobies

Order: Pelecaniformes Family: Sulidae

 Northern Gannet, Morus bassanus Abbott's Booby, Sula abbotti Masked Booby, Sula dactylatra Red-footed Booby, Sula sula Brown Booby, Sula leucogaster

Cormorants

Order: Pelecaniformes Family: Phalacrocoracidae

Little Black Cormorant, Phalacrocorax sulcirostris
 Indian Cormorant, Phalacrocorax fuscicollis
 Great Cormorant, Phalacrocorax carbo
 Socotra Cormorant, Phalacrocorax nigrogularis
 Japanese Cormorant, Phalacrocorax capillatus
 European Shag, Phalacrocorax aristotelis
 Pelagic Cormorant, Phalacrocorax pelagicus
 Red-faced Cormorant, Phalacrocorax urile
 Little Pied Cormorant, Phalacrocorax melanoleucos
 Little Cormorant, Phalacrocorax niger
 Pygmy Cormorant, Phalacrocorax pygmaeus

Darter

Order: Pelecaniformes Family: Anhingidae

<u>Darter</u>, Anhinga melanogaster

Frigatebirds

Order: Pelecaniformes **Family**: Fregatidae

 Christmas Island Frigatebird, Fregata andrewsi Great Frigatebird, Fregata minor Lesser Frigatebird, Fregata ariel

Herons, egrets, and bitterns

Order: Ciconiiformes Family: Ardeidae

Grey Heron, Ardea cinerea
 Black-headed Heron, Ardea melanocephala
 White-bellied Heron, Ardea insignis
 Great-billed Heron, Ardea sumatrana
 Goliath Heron, Ardea goliath

Purple Heron, Ardea purpurea Great Egret, Ardea alba Pied Heron, Egretta picata Black Heron, Egretta ardesiaca Intermediate Egret, Egretta intermedia White-faced Heron, Egretta novaehollandiae Little Egret, Egretta garzetta Western Reef Heron, Egretta gularis Chinese Egret, Egretta eulophotes Pacific Reef Heron, Egretta sacra Squacco Heron, Ardeola ralloides Indian Pond Heron, Ardeola gravii Chinese Pond Heron, Ardeola bacchus Iavan Pond Heron, Ardeola speciosa Cattle Egret, Bubulcus ibis Striated Heron, Butorides striata Black-crowned Night Heron, Nycticorax nycticorax Rufous Night Heron, Nycticorax caledonicus White-eared Night Heron, Gorsachius magnificus Japanese Night Heron, Gorsachius goisagi Malayan Night Heron, Gorsachius melanolophus Yellow Bittern, Ixobrychus sinensis Little Bittern, Ixobrychus minutus Schrenck's Bittern, Ixobrychus eurhythmus Cinnamon Bittern, Ixobrychus cinnamomeus Black Bittern, Ixobrychus flavicollis Great Bittern. Botaurus stellaris

Hamerkop

Order: Ciconiiformes Family: ScopidaeHamerkop, Scopus umbretta

Storks

Order: Ciconiiformes Family: Ciconiidae

 Milky Stork, Mycteria cinerea Yellow-billed Stork, Mycteria ibis Painted Stork, Mycteria leucocephala Asian Openbill, Anastomus oscitans Black Stork, Ciconia nigra Abdim's Stork, Ciconia abdimii Woolly-necked Stork, Ciconia episcopus

Storm's Stork, Ciconia stormi
White Stork, Ciconia ciconia
Oriental Stork, Ciconia boyciana
Black-necked Stork, Ephippiorhynchus asiaticus
Lesser Adjutant, Leptoptilos javanicus
Marabou Stork, Leptoptilos crumeniferus
Greater Adjutant, Leptoptilos dubius

Ibises and spoonbills

Order: Ciconiiformes Family: Threskiornithidae

Sacred Ibis, Threskiornis aethiopicus
 Black-headed Ibis, Threskiornis melanocephalus
 Red-naped Ibis, Pseudibis papillosa
 White-shouldered Ibis, Pseudibis davisoni
 Giant Ibis, Pseudibis gigantea
 Waldrapp, Geronticus eremita
 Crested Ibis, Nipponia nippon
 Glossy Ibis, Plegadis falcinellus
 Eurasian Spoonbill, Platalea leucorodia
 Royal Spoonbill, Platalea alba
 Black-faced Spoonbill, Platalea minor

Flamingos

Order: Phoenicopteriformes **Family**: Phoenicopteridae

 Greater Flamingo, Phoenicopterus roseus Lesser Flamingo, Phoenicopterus minor

Ducks, geese, and swans

Order: Anseriformes Family: Anatidae

Spotted Whistling Duck, Dendrocygna guttata
 Fulvous Whistling Duck, Dendrocygna bicolor
 Wandering Whistling Duck, Dendrocygna arcuata
 Lesser Whistling Duck, Dendrocygna javanica
 Mute Swan, Cygnus olor
 Trumpeter Swan, Cygnus buccinator
 Whooper Swan, Cygnus cygnus
 Tundra Swan, Cygnus columbianus
 Swan Goose, Anser cygnoides

Bean Goose, Anser fabalis

Greater White-fronted Goose, Anser albifrons

Lesser White-fronted Goose, Anser erythropus

Greylag Goose, Anser anser

Bar-headed Goose, Anser indicus

Snow Goose, Chen caerulescens

Emperor Goose, Chen canagica

Canada Goose, Branta canadensis

Cackling Goose, Branta hutchinsii

Brent Goose, Branta bernicla

Red-breasted Goose, Branta ruficollis

Egyptian Goose, Alopochen aegyptiaca

Ruddy Shelduck, Tadorna ferruginea

Common Shelduck, Tadorna tadorna

Radjah Shelduck, Tadorna radjah

White-winged Duck, Cairina scutulata

Comb Duck, Sarkidiornis melanotos

Cotton Pygmy-goose, Nettapus coromandelianus

Mandarin Duck, Aix galericulata

Eurasian Wigeon, Anas penelope

American Wigeon, Anas americana

Falcated Duck, Anas falcata

Gadwall, Anas strepera

Baikal Teal, Anas formosa

Green-winged Teal, Anas carolinensis

Common Teal, Anas crecca

Cape Teal, Anas capensis

Sunda Teal, Anas gibberifrons

Andaman Teal, Anas albogularis

Mallard, Anas platyrhynchos

Spot-billed Duck, Anas poecilorhyncha

Pacific Black Duck, Anas superciliosa

Philippine Duck, Anas luzonica

Northern Pintail, Anas acuta

Red-billed Duck, Anas erythrorhyncha

Garganey, Anas querquedula

Blue-winged Teal, Anas discors

Northern Shoveler, Anas clypeata

Marbled Teal, Marmaronetta angustirostris

Red-crested Pochard, Netta rufina

Southern Pochard, Netta erythrophthalma

Common Pochard, Aythya ferina

Canvasback, Aythya valisineria

Redhead (duck), Aythya americana

Ring-necked Duck, Aythya collaris

Ferruginous Pochard, Aythya nyroca Baer's Pochard, Aythya baeri White-eyed Duck, Aythya australis Tufted Duck, Aythya fuligula Greater Scaup, Aythya marila Lesser Scaup, Aythya affinis Common Eider, Somateria mollissima King Eider, Somateria spectabilis Spectacled Eider, Somateria fischeri Steller's Eider, Polysticta stelleri Harlequin Duck, Histrionicus histrionicus Long-tailed Duck, Clangula hyemalis Black Scoter, Melanitta nigra Surf Scoter, Melanitta perspicillata White-winged Scoter, Melanitta fusca Common Goldeneye, Bucephala clangula Bufflehead, Bucephala albeola Smew, Mergellus albellus Red-breasted Merganser, Mergus serrator Common Merganser, Mergus merganser Scaly-sided Merganser, Mergus squamatus White-headed Duck, Oxyura leucocephala

Osprey

Order: Falconiformes Family: Pandionidae

• Osprey, Pandion haliaetus

Hawks, eagles, and kites

Order: Falconiformes Family: Accipitridae

Jerdon's Baza, Aviceda jerdoni
 Pacific Baza, Aviceda subcristata
 Black Baza, Aviceda leuphotes
 European Honey Buzzard, Pernis apivorus
 Barred Honey Buzzard, Pernis celebensis
 Oriental Honey Buzzard, Pernis ptilorhynchus
 Bat Hawk, Macheiramphus alcinus
 Black-shouldered Kite, Elanus caeruleus
 Scissor-tailed Kite, Chelictinia riocourii
 Red Kite, Milvus milvus
 Black Kite, Milvus migrans
 Brahminy Kite, Haliastur indus

White-bellied Sea Eagle, Haliaeetus leucogaster Pallas' Fish Eagle, Haliaeetus leucoryphus White-tailed Eagle, Haliaeetus albicilla Bald Eagle, Haliaeetus leucocephalus Steller's Sea Eagle, Haliaeetus pelagicus Lesser Fish Eagle, Ichthyophaga humilis Grey-headed Fish Eagle, Ichthyophaga ichthyaetus Lammergeier, Gypaetus barbatus Egyptian Vulture, Neophron percnopterus White-rumped Vulture, Gyps bengalensis Indian Vulture, Gyps indicus Slender-billed Vulture, Gyps tenuirostris Rüppell's Vulture, Gyps rueppellii Himalayan Griffon Vulture, Gyps himalayensis Griffon Vulture, Gyps fulvus Cinereous Vulture, Aegypius monachus Lappet-faced Vulture, Torgos tracheliotus Red-headed Vulture, Sarcogyps calvus Short-toed Eagle, Circaetus gallicus Bateleur, Terathopius ecaudatus Nicobar Serpent Eagle, Spilornis klossi Sulawesi Serpent Eagle, Spilornis rufipectus Mountain Serpent Eagle, Spilornis kinabaluensis Crested Serpent Eagle, Spilornis cheela Philippine Serpent Eagle, Spilornis holospilus Andaman Serpent Eagle, Spilornis elgini Western Marsh Harrier, Circus aeruginosus Eastern Marsh Harrier, Circus spilonotus Spotted Harrier, Circus assimilis Northern Harrier, Circus cyaneus Pallid Harrier, Circus macrourus Pied Harrier, Circus melanoleucos Montagu's Harrier, Circus pygargus Dark Chanting Goshawk, Melierax metabates Gabar Goshawk, Micronisus gabar Crested Goshawk, Accipiter trivirgatus Sulawesi Goshawk, Accipiter griseiceps Shikra, Accipiter badius Nicobar Sparrowhawk, Accipiter butleri Levant Sparrowhawk, Accipiter brevipes Chinese Goshawk, Accipiter soloensis Spot-tailed Goshawk, Accipiter trinotatus Brown Goshawk, Accipiter fasciatus Japanese Sparrowhawk, Accipiter gularis Small Sparrowhawk, Accipiter nanus

Besra, Accipiter virgatus Vinous-breasted Sparrowhawk, Accipiter rhodogaster Eurasian Sparrowhawk, Accipiter nisus Northern Goshawk, Accipiter gentilis Grasshopper Buzzard, Butastur rufipennis White-eyed Buzzard, Butastur teesa Rufous-winged Buzzard, Butastur liventer Grey-faced Buzzard, Butastur indicus Eurasian Buzzard, Buteo buteo Long-legged Buzzard, Buteo rufinus Upland Buzzard, Buteo hemilasius Rough-legged Hawk, Buteo lagopus Great Philippine Eagle, Pithecophaga jefferyi Black Eagle, Ictinaetus malayensis Lesser Spotted Eagle, Aquila pomarina Indian Spotted Eagle, Aquila hastata Greater Spotted Eagle, Aquila clanga Tawny Eagle, Aquila rapax Steppe Eagle, Aquila nipalensis Imperial Eagle, Aquila heliaca Golden Eagle, Aquila chrysaetos Verreaux's Eagle, Aquila verreauxii Bonelli's Eagle, Aquila fasciatus Booted Eagle, Aquila pennatus Rufous-bellied Eagle, Aquila kienerii Changeable Hawk Eagle, Spizaetus cirrhatus Mountain Hawk Eagle, Spizaetus nipalensis Blyth's Hawk Eagle, Spizaetus alboniger Javan Hawk Eagle, Spizaetus bartelsi Sulawesi Hawk Eagle, Spizaetus lanceolatus Philippine Hawk Eagle, Spizaetus philippensis Wallace's Hawk Eagle, Spizaetus nanus

Falcons

Order: Falconiformes Family: Falconidae

White-rumped Falcon, Polihierax insignis
 Collared Falconet, Microhierax caerulescens
 Black-thighed Falconet, Microhierax fringillarius
 White-fronted Falconet, Microhierax latifrons
 Philippine Falconet, Microhierax erythrogenys
 Pied Falconet, Microhierax melanoleucos
 Lesser Kestrel, Falco naumanni
 Eurasian Kestrel, Falco tinnunculus

Spotted Kestrel, Falco moluccensis Australian Kestrel, Falco cenchroides Red-necked Falcon, Falco chicquera Red-footed Falcon, Falco vespertinus Amur Falcon, Falco amurensis Eleonora's Falcon, Falco eleonorae Sooty Falcon, Falco concolor Merlin, Falco columbarius Eurasian Hobby, Falco subbuteo Oriental Hobby, Falco severus Australian Hobby, Falco longipennis Lanner Falcon. Falco biarmicus Laggar Falcon, Falco jugger Saker Falcon, Falco cherrug Gyrfalcon, Falco rusticolus Barbary Falcon, Falco pelegrinoides Peregrine Falcon, Falco peregrinus (State bird and Millitary ensign of Pakistan Air Force)

Megapodes

Order: Galliformes Family: Megapodiidae

Maleo, Macrocephalon maleo
 Nicobar Scrubfowl, Megapodius nicobariensis
 Tabon Scrubfowl, Megapodius cumingii
 Sula Scrubfowl, Megapodius bernsteinii
 Orange-footed Scrubfowl, Megapodius reinwardt

Grouse

Order: Galliformes Family: Tetraonidae

Siberian Grouse, Dendragapus falcipennis
 Willow Ptarmigan, Lagopus lagopus
 Rock Ptarmigan, Lagopus muta
 Black-billed Capercaillie, Tetrao parvirostris
 Capercaillie, Tetrao urogallus
 Black Grouse, Tetrao tetrix
 Caucasian Grouse, Tetrao mlokosiewiczi
 Hazel Grouse, Bonasa bonasia
 Severtzov's Grouse, Bonasa sewerzowi

Pheasants and partridges

Order: Galliformes Family: Phasianidae

Snow Partridge, Lerwa lerwa

Verreaux's Partridge, Tetraophasis obscurus Szechenyi's Partridge, Tetraophasis szechenyii Caucasian Snowcock, Tetraogallus caucasicus Caspian Snowcock, Tetraogallus caspius Altai Snowcock, Tetraogallus altaicus Tibetan Snowcock, Tetraogallus tibetanus Himalayan Snowcock, Tetraogallus himalayensis Chukar, Alectoris chukar (National bird of Pakistan) Philby's Partridge, Alectoris philbyi Przevalski's Partridge, Alectoris magna Arabian Partridge, Alectoris melanocephala See-see Partridge, Ammoperdix griseogularis Sand Partridge, Ammoperdix heyi Black Francolin. Francolinus francolinus Painted Francolin, Francolinus pictus Chinese Francolin, Francolinus pintadeanus Grev Francolin, Francolinus pondicerianus Swamp Francolin, Francolinus gularis Grey Partridge, Perdix perdix Daurian Partridge, Perdix dauurica Tibetan Partridge, Perdix hodgsoniae Long-billed Partridge, Rhizothera longirostris Black Partridge, Melanoperdix niger Japanese Quail, Coturnix japonica Common Quail, Coturnix coturnix Harlequin Quail, Coturnix delegorguei Rain Quail, Coturnix coromandelica Brown Quail, Coturnix ypsilophora Blue-breasted Quail, Coturnix chinensis Jungle Bush Quail, Perdicula asiatica Rock Bush Quail, Perdicula argoondah Painted Bush Quail, Perdicula erythrorhyncha Manipur Bush Quail, Perdicula manipurensis Hill Partridge, Arborophila torqueola Sichuan Partridge, Arborophila rufipectus Chestnut-breasted Partridge, Arborophila mandellii White-necklaced Partridge, Arborophila gingica Rufous-throated Partridge, Arborophila rufogularis White-cheeked Partridge, Arborophila atrogularis

Taiwan Partridge, Arborophila crudigularis

Hainan Partridge, Arborophila ardens Chestnut-bellied Partridge, Arborophila javanica Grey-breasted Partridge, Arborophila orientalis Bar-backed Partridge, Arborophila brunneopectus Orange-necked Partridge, Arborophila davidi Chestnut-headed Partridge, Arborophila cambodiana Red-breasted Partridge, Arborophila hyperythra Red-billed Partridge, Arborophila rubrirostris Scaly-breasted Partridge, Arborophila chloropus Vietnam Partridge, Arborophila merlini Chestnut-necklaced Partridge, Arborophila charltonii Ferruginous Partridge, Caloperdix oculeus Crimson-headed Partridge, Haematortyx sanguiniceps Crested Partridge, Rollulus rouloul Mountain Bamboo Partridge, Bambusicola fytchii Chinese Bamboo Partridge, Bambusicola thoracicus Red Spurfowl, Galloperdix spadicea Painted Spurfowl, Galloperdix lunulata Ceylon Spurfowl, Galloperdix bicalcarata Blood Pheasant, Ithaginis cruentus Western Tragopan, Tragopan melanocephalus Satyr Tragopan, Tragopan satyra Blyth's Tragopan, Tragopan blythii Temminck's Tragopan, Tragopan temminckii Cabot's Tragopan, Tragopan caboti Koklass Pheasant, Pucrasia macrolopha Himalayan Monal, Lophophorus impejanus Sclater's Monal, Lophophorus sclateri Chinese Monal, Lophophorus lhuysii Red Junglefowl, Gallus gallus Grey Junglefowl, Gallus sonneratii Ceylon Junglefowl, Gallus lafayetii Green Junglefowl, Gallus varius Kalij Pheasant, Lophura leucomelanos Imperial Pheasant, Lophura imperialis Edwards' Pheasant, Lophura edwardsi Vietnamese Fireback, Lophura hatinhensis Swinhoe's Pheasant, Lophura swinhoii Salvadori's Pheasant, Lophura inornata Silver Pheasant, Lophura nycthemera Crestless Fireback, Lophura erythrophthalma Crested Fireback, Lophura ignita Siamese Fireback, Lophura diardi Bulwer's Pheasant, Lophura bulweri White Eared Pheasant, Crossoptilon crossoptilon

Brown Eared Pheasant, Crossoptilon mantchuricum Blue Eared Pheasant, Crossoptilon auritum Cheer Pheasant, Catreus wallichi Elliot's Pheasant, Syrmaticus ellioti Hume's Pheasant, Syrmaticus humiae Mikado Pheasant, Syrmaticus mikado Copper Pheasant, Syrmaticus soemmerringii Reeves' Pheasant, Syrmaticus reevesii Ring-necked Pheasant, Phasianus colchicus Green Pheasant, Phasianus versicolor Golden Pheasant, Chrysolophus pictus Lady Amherst's Pheasant, Chrysolophus amherstiae Bronze-tailed Peacock Pheasant, Polyplectron chalcurum Mountain Peacock Pheasant, Polyplectron inopinatum Germain's Peacock Pheasant, Polyplectron germaini Grey Peacock Pheasant, Polyplectron bicalcaratum Malayan Peacock Pheasant, Polyplectron malacense Bornean Peacock Pheasant, Polyplectron schleiermacheri Palawan Peacock Pheasant, Polyplectron napoleonis Crested Argus, Rheinardia ocellata Great Argus, Argusianus argus Indian Peafowl. Pavo cristatus Green Peafowl, Pavo muticus

Guineafowl

Order: Galliformes Family: Numididae

• Helmeted Guineafowl, *Numida meleagris*

Buttonquails

Order: Gruiformes **Family**: Turnicidae

 Small Buttonquail, Turnix sylvaticus Red-backed Buttonquail, Turnix maculosus Yellow-legged Buttonquail, Turnix tanki Spotted Buttonquail, Turnix ocellatus Barred Buttonquail, Turnix suscitator Luzon Buttonquail, Turnix worcesteri

Cranes

Order: Gruiformes **Family**: Gruidae

 Demoiselle Crane, Anthropoides virgo Siberian Crane, Grus leucogeranus Sandhill Crane, Grus canadensis Sarus Crane, Grus antigone White-naped Crane, Grus vipio Common Crane, Grus grus Hooded Crane, Grus monacha Black-necked Crane, Grus nigricollis Red-crowned Crane, Grus japonensis

Rails, gallinules, and coots

Order: Gruiformes Family: Rallidae

Swinhoe's Rail, Coturnicops exquisitus Andaman Crake, Rallina canningi Red-legged Crake, Rallina fasciata Slaty-legged Crake, Rallina eurizonoides Okinawa Rail, Gallirallus okinawae Buff-banded Rail, Gallirallus philippensis Barred Rail, Gallirallus torquatus Calayan Rail, Gallirallus calayanensis Slaty-breasted Rail, Gallirallus striatus Virginia Rail, Rallus limicola Water Rail, Rallus aquaticus Luzon Rail, Lewinia mirificus Corn Crake, Crex crex Platen's Rail, Aramidopsis plateni Bare-faced Rail, Gymnocrex rosenbergii Talaud Rail, Gymnocrex talaudensis Brown Crake, Amaurornis akool Isabelline Bush-hen, Amaurornis isabellina Plain Bush-hen. Amaurornis olivacea Rufous-tailed Bush-hen, Amaurornis moluccana White-breasted Waterhen, Amaurornis phoenicurus Black-tailed Crake, Amaurornis bicolor Little Crake, Porzana parva Baillon's Crake, Porzana pusilla Spotted Crake, Porzana porzana Ruddy-breasted Crake, Porzana fusca Band-bellied Crake, Porzana paykullii Spotless Crake, Porzana tabuensis White-browed Crake, Porzana cinerea

Watercock, Gallicrex cinerea

Purple Swamphen, Porphyrio porphyrio Allen's Gallinule, Porphyrio alleni Common Moorhen, Gallinula chloropus Dusky Moorhen, Gallinula tenebrosa Lesser Moorhen, Gallinula angulata Red-knobbed Coot, Fulica cristata Eurasian Coot, Fulica atra

Finfoot

Order: Gruiformes Family: Heliornithidae

• Masked Finfoot, *Heliopais personatus*

Bustards

Order: Gruiformes Family: Otididae

Great Bustard, Otis tarda
 Arabian Bustard, Ardeotis arabs
 Indian Bustard, Ardeotis nigriceps
 Houbara Bustard, Chlamydotis undulata
 Macqueen's Bustard, Chlamydotis macqueenii
 Bengal Florican, Houbaropsis bengalensis
 Lesser Florican, Sypheotides indicus
 Little Bustard, Tetrax tetrax

Jacanas

Order: Charadriiformes Family: Jacanidae

Comb-crested Jacana, Irediparra gallinacea
 Pheasant-tailed Jacana, Hydrophasianus chirurgus
 Bronze-winged Jacana, Metopidius indicus

Painted Snipe

Order: Charadriiformes Family: Rostratulidae

• Greater Painted Snipe, Rostratula benghalensis

Crab Plover

Order: Charadriiformes Family: Dromadidae

• Crab Plover, Dromas ardeola

Oystercatchers

Order: Charadriiformes Family: Haematopodidae

 Eurasian Oystercatcher, Haematopus ostralegus Sooty Oystercatcher, Haematopus fuliginosus

Ibisbill

Order: Charadriiformes Family: Ibidorhynchidae

• <u>Ibisbill</u>, *Ibidorhyncha struthersii*

Avocets and stilts

Order: Charadriiformes **Family**: Recurvirostridae

 Black-winged Stilt, Himantopus himantopus Pied Stilt, Himantopus leucocephalus Pied Avocet, Recurvirostra avosetta

Thick-knees

Order: Charadriiformes Family: Burhinidae

 Eurasian Thick-knee, Burhinus oedicnemus Senegal Thick-knee, Burhinus senegalensis Spotted Thick-knee, Burhinus capensis Great Thick-knee, Burhinus recurvirostris Beach Thick-knee, Burhinus magnirostris

Pratincoles and coursers

Order: Charadriiformes **Family**: Glareolidae

 Cream-colored Courser, Cursorius cursor Indian Courser, Cursorius coromandelicus Jerdon's Courser, Rhinoptilus bitorquatus Australian Pratincole, Stiltia isabella Collared Pratincole, Glareola pratincola Oriental Pratincole, Glareola maldivarum Black-winged Pratincole, Glareola nordmanni Small Pratincole, Glareola lactea

<u>Lapwings</u> and plovers

Order: Charadriiformes Family: Charadriidae

Northern Lapwing, Vanellus vanellus Spur-winged Plover, Vanellus spinosus River Lapwing, Vanellus duvaucelii Yellow-wattled Lapwing, Vanellus malabaricus Black-headed Lapwing, Vanellus tectus Grey-headed Lapwing, Vanellus cinereus Red-wattled Lapwing, Vanellus indicus Sunda Lapwing, Vanellus macropterus Sociable Lapwing, Vanellus gregarius White-tailed Lapwing, Vanellus leucurus Pacific Golden Plover, Pluvialis fulva American Golden Plover, Pluvialis dominica Eurasian Golden Plover, Pluvialis apricaria Black-bellied Plover, Pluvialis squatarola Common Ringed Plover, Charadrius hiaticula Long-billed Plover, Charadrius placidus Little Ringed Plover, Charadrius dubius Kittlitz's Plover, Charadrius pecuarius Snowy Plover, Charadrius alexandrinus Javan Plover, Charadrius javanicus Red-capped Plover, Charadrius ruficapillus Malaysian Plover, Charadrius peronii Lesser Sandplover, Charadrius mongolus Greater Sandplover, Charadrius leschenaultii Caspian Plover, Charadrius asiaticus Oriental Plover, Charadrius veredus Eurasian Dotterel, Charadrius morinellus Black-fronted Dotterel, Elseyornis melanops

Sandpipers

Order: Charadriiformes **Family**: Scolopacidae

 Eurasian Woodcock, Scolopax rusticola Amami Woodcock, Scolopax mira Bukidnon Woodcock, Scolopax bukidnonensis Dusky Woodcock, Scolopax saturata Sulawesi Woodcock, Scolopax celebensis Jack Snipe, Lymnocryptes minimus Solitary Snipe, Gallinago solitaria

Latham's Snipe, Gallinago hardwickii Wood Snipe, Gallinago nemoricola Pintail Snipe, Gallinago stenura Swinhoe's Snipe, Gallinago megala Great Snipe, Gallinago media Common Snipe, Gallinago gallinago Short-billed Dowitcher, Limnodromus griseus Long-billed Dowitcher, Limnodromus scolopaceus Asian Dowitcher, Limnodromus semipalmatus Black-tailed Godwit, Limosa limosa Bar-tailed Godwit, Limosa lapponica Eskimo Curlew. Numenius borealis Little Curlew, Numenius minutus Whimbrel, Numenius phaeopus Bristle-thighed Curlew, Numenius tahitiensis Slender-billed Curlew, Numenius tenuirostris Eurasian Curlew, Numenius arquata Far Eastern Curlew, Numenius madagascariensis Spotted Redshank, Tringa erythropus Common Redshank, Tringa totanus Marsh Sandpiper, Tringa stagnatilis Common Greenshank, Tringa nebularia Nordmann's Greenshank, Tringa guttifer Greater Yellowlegs, Tringa melanoleuca Lesser Yellowlegs, Tringa flavipes Green Sandpiper, Tringa ochropus Wood Sandpiper, Tringa glareola Terek Sandpiper, Xenus cinereus Common Sandpiper, Actitis hypoleucos Spotted Sandpiper, Actitis macularius Grey-tailed Tattler, Heterosceles brevipes Wandering Tattler, Heterosceles incanus Ruddy Turnstone, Arenaria interpres Black Turnstone, Arenaria melanocephala Great Knot, Calidris tenuirostris Red Knot, Calidris canutus Sanderling, Calidris alba Semipalmated Sandpiper, Calidris pusilla Western Sandpiper, Calidris mauri Red-necked Stint, Calidris ruficollis Little Stint. Calidris minuta Temminck's Stint, Calidris temminckii Long-toed Stint, Calidris subminuta Least Sandpiper, Calidris minutilla White-rumped Sandpiper, Calidris fuscicollis

Baird's Sandpiper, Calidris bairdii
Pectoral Sandpiper, Calidris melanotos
Sharp-tailed Sandpiper, Calidris acuminata
Curlew Sandpiper, Calidris ferruginea
Dunlin, Calidris alpina
Purple Sandpiper, Calidris maritima
Rock Sandpiper, Calidris ptilocnemis
Stilt Sandpiper, Calidris himantopus
Spoon-billed Sandpiper, Eurynorhynchus pygmeus
Broad-billed Sandpiper, Limicola falcinellus
Buff-breasted Sandpiper, Tryngites subruficollis
Ruff, Philomachus pugnax
Wilson's Phalarope, Phalaropus tricolor
Red-necked Phalarope, Phalaropus lobatus
Red Phalarope, Phalaropus fulicarius

Skuas and jaegers

Order: Charadriiformes Family: Stercorariidae

South Polar Skua, Stercorarius maccormicki
Brown Skua, Stercorarius antarcticus
Great Skua, Stercorarius skua
Pomarine Jaeger, Stercorarius pomarinus (Pomarine Skua)
Parasitic Jaeger, Stercorarius parasiticus (Arctic Skua)
Long-tailed Jaeger, Stercorarius longicaudus (Long-tailed Skua)

Gulls

Order: Charadriiformes Family: Laridae

Black-tailed Gull, Larus crassirostris
 White-eyed Gull, Larus leucophthalmus
 Sooty Gull, Larus hemprichii
 Mew Gull, Larus canus
 Audouin's Gull, Larus audouinii
 Ring-billed Gull, Larus delawarensis
 Great Black-backed Gull, Larus marinus
 Glaucous-winged Gull, Larus glaucescens
 Glaucous Gull, Larus hyperboreus
 Iceland Gull, Larus glaucoides
 Thayer's Gull, Larus thayeri
 Lesser Black-backed Gull, Larus fuscus
 Heuglin's Gull, Larus heuglini
 East Siberian Gull, Larus vegae

American Herring Gull, Larus smithsonianus Caspian Gull, Larus cachinnans Armenian Gull, Larus armenicus Steppe Gull, Larus barabensis Yellow-legged Gull, Larus michahellis Great Black-headed Gull, Larus ichthyaetus Slaty-backed Gull, Larus schistisagus Brown-headed Gull, Larus brunnicephalus Grey-headed Gull, Larus cirrocephalus Black-headed Gull, Larus ridibundus Slender-billed Gull, Larus genei Bonaparte's Gull, Larus philadelphia Saunders' Gull, Larus saundersi Mediterranean Gull, Larus melanocephalus Relict Gull, Larus relictus Laughing Gull, Larus atricilla Franklin's Gull, Larus pipixcan Little Gull, Larus minutus Ivory Gull, Pagophila eburnea Ross's Gull. Rhodostethia rosea Sabine's Gull, Xema sabini Red-legged Kittiwake, Rissa brevirostris Black-legged Kittiwake, Rissa tridactyla

Terns

Order: Charadriiformes Family: Sternidae

Gull-billed Tern, Gelochelidon nilotica Caspian Tern, Hydroprogne caspia Lesser Crested Tern, Sterna bengalensis Sandwich Tern, Sterna sandvicensis Chinese Crested Tern. Sterna bernsteini Great Crested Tern, Sterna bergii River Tern, Sterna aurantia Roseate Tern, Sterna dougallii Black-naped Tern, Sterna sumatrana Common Tern. Sterna hirundo Arctic Tern, Sterna paradisaea White-cheeked Tern, Sterna repressa Black-bellied Tern, Sterna acuticauda Little Tern, Sternula albifrons Saunders' Tern, Sternula saundersi Yellow-billed Tern, Sternula superciliaris Aleutian Tern, Onychoprion aleutica

Grey-backed Tern, Onychoprion lunata
Bridled Tern, Onychoprion anaethetus
Sooty Tern, Onychoprion fuscata
Whiskered Tern, Chlidonias hybrida
White-winged Tern, Chlidonias leucopterus
Black Tern, Chlidonias niger
Lesser Noddy, Anous tenuirostris
Black Noddy, Anous minutus
Brown Noddy, Anous stolidus
Blue Noddy, Procelsterna cerulea
White Tern, Gygis alba

Skimmers

Order: Charadriiformes Family: Rynchopidae

 African Skimmer, Rynchops flavirostris Indian Skimmer, Rynchops albicollis

Auks, murres, and puffins

Order: Charadriiformes Family: Alcidae

Dovekie, Alle alle Common Murre, Uria aalge Thick-billed Murre, Uria lomvia Black Guillemot, Cepphus grylle Pigeon Guillemot, Cepphus columba Spectacled Guillemot, Cepphus carbo Marbled Murrelet, Brachyramphus marmoratus Long-billed Murrelet, Brachyramphus perdix Kittlitz's Murrelet, Brachyramphus brevirostris Ancient Murrelet, Synthliboramphus antiquus Japanese Murrelet, Synthliboramphus wumizusume Parakeet Auklet, Aethia psittacula Crested Auklet, Aethia cristatella Whiskered Auklet, Aethia pygmaea Least Auklet, Aethia pusilla Rhinoceros Auklet, Cerorhinca monocerata Horned Puffin. Fratercula corniculata Tufted Puffin, Fratercula cirrhata

Sandgrouse

Order: Pterocliformes Family: Pteroclididae

Tibetan Sandgrouse, Syrrhaptes tibetanus
 Pallas's Sandgrouse, Syrrhaptes paradoxus
 Pin-tailed Sandgrouse, Pterocles alchata
 Chestnut-bellied Sandgrouse, Pterocles exustus
 Spotted Sandgrouse, Pterocles senegallus
 Black-bellied Sandgrouse, Pterocles orientalis
 Crowned Sandgrouse, Pterocles coronatus
 Lichtenstein's Sandgrouse, Pterocles lichtensteinii
 Painted Sandgrouse, Pterocles indicus

Pigeons and doves

Order: Columbiformes **Family**: Columbidae

Rock Pigeon, Columba livia Hill Pigeon, Columba rupestris Snow Pigeon, Columba leuconota Stock Dove, Columba oenas Pale-backed Pigeon, Columba eversmanni Common Wood Pigeon, Columba palumbus Rameron Pigeon, Columba arquatrix Speckled Wood Pigeon, Columba hodgsonii Ashy Wood Pigeon, Columba pulchricollis Nilgiri Wood Pigeon, Columba elphinstonii Ceylon Wood Pigeon, Columba torringtoni Pale-capped Pigeon, Columba punicea Silvery Wood Pigeon, Columba argentina Andaman Wood Pigeon, Columba palumboides Japanese Wood Pigeon, Columba janthina Metallic Pigeon, Columba vitiensis Eurasian Turtle Dove, Streptopelia turtur Dusky Turtle Dove, Streptopelia lugens Oriental Turtle Dove, Streptopelia orientalis Island Collared Dove, Streptopelia bitorquata Eurasian Collared Dove, Streptopelia decaocto African Collared Dove, Streptopelia roseogrisea Red-eyed Dove, Streptopelia semitorquata Red Collared Dove, Streptopelia tranquebarica Spotted Dove, Streptopelia chinensis Laughing Dove, Streptopelia senegalensis Barred Cuckoo Dove, Macropygia unchall

Dusky Cuckoo Dove, Macropygia magna Slender-billed Cuckoo Dove, Macropygia amboinensis Andaman Cuckoo Dove, Macropygia rufipennis Philippine Cuckoo Dove, Macropygia tenuirostris Ruddy Cuckoo Dove, Macropygia emiliana Little Cuckoo Dove, Macropygia ruficeps White-faced Cuckoo Dove, Turacoena manadensis Slaty Cuckoo Dove, Turacoena modesta Namagua Dove, Oena capensis Emerald Dove, Chalcophaps indica Stephan's Dove, Chalcophaps stephani Zebra Dove, Geopelia striata Barred Dove, Geopelia maugei Nicobar Pigeon, Caloenas nicobarica Luzon Bleeding-heart, Gallicolumba luzonica Mindanao Bleeding-heart, Gallicolumba crinigera Mindoro Bleeding-heart, Gallicolumba platenae Negros Bleeding-heart, Gallicolumba keayi Sulu Bleeding-heart, Gallicolumba menagei Sulawesi Ground Dove, Gallicolumba tristigmata Wetar Ground Dove, Gallicolumba hoedtii White-eared Dove, Phapitreron leucotis Amethyst Dove, Phapitreron amethystinus Dark-eared Dove, Phapitreron cinereiceps Little Green Pigeon, Treron olax Pink-necked Pigeon, Treron vernans Cinnamon-headed Pigeon, Treron fulvicollis Orange-breasted Pigeon, Treron bicinctus Pompadour Green Pigeon, Treron pompadora Thick-billed Pigeon, Treron curvirostra Grey-cheeked Pigeon, Treron griseicauda Timor Green Pigeon, Treron psittaceus Large Green Pigeon, Treron capellei Yellow-footed Pigeon, Treron phoenicopterus Bruce's Green Pigeon, Treron waalia Yellow-vented Pigeon, Treron seimundi Pin-tailed Pigeon, Treron apicauda Green-spectacled Pigeon, Treron oxyurus Wedge-tailed Pigeon, Treron sphenurus White-bellied Pigeon, Treron sieboldii Whistling Green Pigeon, Treron formosae Black-backed Fruit Dove, Ptilinopus cinctus Pink-headed Fruit Dove, Ptilinopus porphyreus Yellow-breasted Fruit Dove, Ptilinopus occipitalis Flame-breasted Fruit Dove, Ptilinopus marchei

Cream-breasted Fruit Dove, Ptilinopus merrilli Red-eared Fruit Dove, Ptilinopus fischeri Jambu Fruit Dove, Ptilinopus jambu Maroon-chinned Fruit Dove, Ptilinopus subgularis Black-chinned Fruit Dove, Ptilinopus leclancheri Superb Fruit Dove, Ptilinopus superbus Rose-crowned Fruit Dove, Ptilinopus regina Black-naped Fruit Dove, Ptilinopus melanospilus Negros Fruit Dove, Ptilinopus arcanus Pink-bellied Imperial Pigeon, Ducula poliocephala White-bellied Imperial Pigeon, Ducula forsteni Mindoro Imperial Pigeon, Ducula mindorensis Grey-headed Imperial Pigeon, Ducula radiata Spotted Imperial Pigeon, Ducula carola Green Imperial Pigeon, Ducula aenea Elegant Imperial Pigeon, Ducula concinna Pink-headed Imperial Pigeon, Ducula rosacea Grey Imperial Pigeon, Ducula pickeringii Mountain Imperial Pigeon, Ducula badia Dark-backed Imperial Pigeon, Ducula lacernulata Timor Imperial Pigeon, Ducula cineracea Pied Imperial Pigeon, Ducula bicolor White Imperial Pigeon, Ducula luctuosa Sombre Pigeon, Cryptophaps poecilorrhoa

Cockatoos

Order: Psittaciformes **Family**: Cacatuidae

Tanimbar Corella, Cacatua goffiniana
 Philippine Cockatoo, Cacatua haematuropygia
 Yellow-crested Cockatoo, Cacatua sulphurea

Parrots

Order: Psittaciformes Family: Psittacidae

Red-and-blue Lory, Eos histrio
 Ornate Lorikeet, Trichoglossus ornatus
 Rainbow Lorikeet, Trichoglossus haematodus
 Olive-headed Lorikeet, Trichoglossus euteles
 Yellow-and-green Lorikeet, Trichoglossus flavoviridis
 Mindanao Lorikeet, Trichoglossus johnstoniae
 Iris Lorikeet, Psitteuteles iris
 Guaiabero, Bolbopsittacus lunulatus

Blue-rumped Parrot, Psittinus cyanurus Red-cheeked Parrot, Geoffroyus geoffroyi Luzon Racquet-tail, Prioniturus montanus Mindanao Racquet-tail, Prioniturus waterstradti Blue-headed Racquet-tail, Prioniturus platenae Green Racquet-tail, Prioniturus luconensis Blue-crowned Racquet-tail, Prioniturus discurus Blue-winged Racquet-tail, Prioniturus verticalis Yellowish-breasted Racquet-tail, Prioniturus flavicans Golden-mantled Racquet-tail, Prioniturus platurus Great-billed Parrot, Tanygnathus megalorynchos Blue-naped Parrot, Tanygnathus lucionensis Azure-rumped Parrot, Tanygnathus sumatranus Moluccan King Parrot, Alisterus amboinensis Olive-shouldered Parrot, Aprosmictus jonguillaceus Alexandrine Parakeet, Psittacula eupatria Rose-ringed Parakeet, Psittacula krameri Slaty-headed Parakeet, Psittacula himalayana Grey-headed Parakeet, Psittacula finschii Plum-headed Parakeet, Psittacula cyanocephala Blossom-headed Parakeet, Psittacula roseata Malabar Parakeet, Psittacula columboides Layard's Parakeet, Psittacula calthropae Derbyan Parakeet, Psittacula derbiana Red-breasted Parakeet, Psittacula alexandri Nicobar Parakeet, Psittacula caniceps Long-tailed Parakeet, Psittacula longicauda Vernal Hanging Parrot, Loriculus vernalis Ceylon Hanging Parrot, Loriculus beryllinus Philippine Hanging Parrot, Loriculus philippensis Blue-crowned Hanging Parrot, Loriculus galgulus Sulawesi Hanging Parrot, Loriculus stigmatus Sula Hanging Parrot, Loriculus sclateri Sangihe Hanging Parrot, Loriculus catamene Pygmy Hanging Parrot, Loriculus exilis Yellow-throated Hanging Parrot, Loriculus pusillus

Cuckoos

Order: Cuculiformes Family: Cuculidae

 Pied Cuckoo, Clamator jacobinus Chestnut-winged Cuckoo, Clamator coromandus Great Spotted Cuckoo, Clamator glandarius Sulawesi Hawk Cuckoo, Cuculus crassirostris

Large Hawk Cuckoo, Cuculus sparverioides Common Hawk Cuckoo, Cuculus varius Moustached Hawk Cuckoo, Cuculus vagans Hodgson's Hawk Cuckoo, Cuculus nisicolor Northern Hawk Cuckoo, Cuculus hyperythrus Malaysian Hawk Cuckoo, Cuculus fugax Philippine Hawk Cuckoo, Cuculus pectoralis Indian Cuckoo, Cuculus micropterus Common Cuckoo, Cuculus canorus Oriental Cuckoo, Cuculus saturatus Horsfield's Cuckoo, Cuculus horsfieldi Lesser Cuckoo, Cuculus poliocephalus Pallid Cuckoo, Cuculus pallidus Banded Bay Cuckoo, Cacomantis sonneratii Plaintive Cuckoo, Cacomantis merulinus Brush Cuckoo, Cacomantis variolosus Horsfield's Bronze Cuckoo, Chrysococcyx basalis Little Bronze Cuckoo, Chrysococcyx minutillus Asian Emerald Cuckoo, Chrysococcyx maculatus Violet Cuckoo, Chrysococcyx xanthorhynchus Klaas' Cuckoo, Chrysococcyx klaas Dideric Cuckoo, Chrysococcyx caprius Asian Drongo Cuckoo, Surniculus lugubris Philippine Drongo Cuckoo, Surniculus velutinus Black-billed Koel, Eudynamys melanorhynchus Asian Koel, Eudynamys scolopaceus Australian Koel, Eudynamys cyanocephalus Channel-billed Cuckoo, Scythrops novaehollandiae Black-bellied Malkoha, Phaenicophaeus diardi Chestnut-bellied Malkoha, Phaenicophaeus sumatranus Blue-faced Malkoha, Phaenicophaeus viridirostris Green-billed Malkoha, Phaenicophaeus tristis Sirkeer Malkoha, Phaenicophaeus leschenaultii Raffles' Malkoha, Phaenicophaeus chlorophaeus Red-billed Malkoha, Phaenicophaeus javanicus Yellow-billed Malkoha. Phaenicophaeus calvorhynchus Chestnut-breasted Malkoha, Phaenicophaeus curvirostris Red-faced Malkoha, Phaenicophaeus pyrrhocephalus Red-crested Malkoha, Phaenicophaeus superciliosus Scale-feathered Malkoha, Phaenicophaeus cumingi Sumatran Ground Cuckoo, Carpococcyx viridis Bornean Ground Cuckoo, Carpococcyx radiatus Coral-billed Ground Cuckoo, Carpococcyx renauldi Bay Coucal, Centropus celebensis Rufous Coucal, Centropus unirufus

Black-faced Coucal, Centropus melanops
Sunda Coucal, Centropus nigrorufus
Pheasant Coucal, Centropus phasianinus
Short-toed Coucal, Centropus rectunguis
Black-hooded Coucal, Centropus steerii
Greater Coucal, Centropus sinensis
Andaman Coucal, Centropus andamanensis
Philippine Coucal, Centropus viridis
Green-billed Coucal, Centropus chlororhynchus
Lesser Coucal, Centropus bengalensis
White-browed Coucal, Centropus superciliosus

Barn-Owls

Order: Strigiformes Family: Tytonidae

 Minahassa Owl, Tyto inexspectata Sulawesi Owl, Tyto rosenbergii Australasian Grass Owl, Tyto longimembris Barn Owl, Tyto alba

Owls

Order: Strigiformes **Family**: Strigidae

Oriental Bay Owl, Phodilus badius White-fronted Scops Owl, Otus sagittatus Andaman Scops Owl, Otus balli Reddish Scops Owl, Otus rufescens Serendib Scops Owl, Otus thilohoffmanni Mountain Scops Owl, Otus spilocephalus Rajah Scops Owl, Otus brookii Javan Scops Owl, Otus angelinae Mentawai Scops Owl, Otus mentawi Indian Scops Owl, Otus bakkamoena Collared Scops Owl, Otus lettia Sunda Scops Owl, Otus lempiji Japanese Scops Owl, Otus semitorques Palawan Scops Owl, Otus fuliginosus Philippine Scops Owl, Otus megalotis Mindanao Scops Owl, Otus mirus Luzon Scops Owl, Otus longicornis Mindoro Scops Owl, Otus mindorensis Pallid Scops Owl, Otus brucei African Scops Owl, Otus senegalensis

European Scops Owl, Otus scops

Oriental Scops Owl, Otus sunia

Moluccan Scops Owl, Otus magicus

Mantanani Scops Owl, Otus mantananensis

Ryukyu Scops Owl, Otus elegans

Sulawesi Scops Owl, Otus manadensis

Sangihe Scops Owl. Otus collari

Simeulue Scops Owl, Otus umbra

Enggano Scops Owl, Otus enganensis

Nicobar Scops Owl, Otus alius

Mindanao Eagle Owl, Mimizuku gurneyi

Eurasian Eagle Owl, Bubo bubo

Rock Eagle Owl, Bubo bengalensis

Pharaoh Eagle Owl, Bubo ascalaphus

Spotted Eagle Owl, Bubo africanus

Spot-bellied Eagle Owl, Bubo nipalensis

Barred Eagle Owl, Bubo sumatranus

Dusky Eagle Owl, Bubo coromandus

Philippine Eagle Owl, Bubo philippensis

Snowy Owl, Bubo scandiacus

Blakiston's Fish Owl, Ketupa blakistoni

Brown Fish Owl, Ketupa zeylonensis

Tawny Fish Owl, Ketupa flavipes

Buffy Fish Owl, Ketupa ketupu

Spotted Wood Owl, Strix seloputo

Mottled Wood Owl, Strix ocellata

Brown Wood Owl, Strix leptogrammica

Tawny Owl, Strix aluco

Hume's Owl, Strix butleri

Ural Owl, Strix uralensis

Pere David's Owl, Strix davidi

Great Grey Owl, Strix nebulosa

Northern Hawk Owl. Surnia ulula

Eurasian Pygmy Owl, Glaucidium passerinum

Collared Owlet, Glaucidium brodiei

Asian Barred Owlet, Glaucidium cuculoides

Javan Owlet, Glaucidium castanopterum

Jungle Owlet, Glaucidium radiatum

Chestnut-backed Owlet, Glaucidium castanonotum

Spotted Owlet, Athene brama

Forest Owlet. Athene blewitti

Little Owl, Athene noctua

Boreal Owl, Aegolius funereus

Morepork, Ninox novaeseelandiae

Andaman Hawk Owl, Ninox affinis

Brown Hawk Owl, Ninox scutulata
Northern Boobook, Ninox japonica
Chocolate Boobook, Ninox randi
Philippine Hawk Owl, Ninox philippensis
Ochre-bellied Hawk Owl, Ninox ochracea
Togian Hawk Owl, Ninox burhani
Cinnabar Hawk Owl, Ninox ios
Speckled Hawk Owl, Ninox punctulata
Northern Long-eared Owl, Asio otus
Short-eared Owl, Asio flammeus

Frogmouths

Order: Caprimulgiformes Family: Podargidae

Large Frogmouth, Batrachostomus auritus
 Dulit Frogmouth, Batrachostomus harterti
 Philippine Frogmouth, Batrachostomus septimus
 Gould's Frogmouth, Batrachostomus stellatus
 Ceylon Frogmouth, Batrachostomus moniliger
 Hodgson's Frogmouth, Batrachostomus hodgsoni
 Short-tailed Frogmouth, Batrachostomus poliolophus
 Javan Frogmouth, Batrachostomus javensis
 Sunda Frogmouth, Batrachostomus cornutus

Nightjars

Order: Caprimulgiformes **Family**: Caprimulgidae

Diabolical Nightjar, Eurostopodus diabolicus Malaysian Nightjar, Eurostopodus temminckii Great Eared Nightjar, Eurostopodus macrotis Grev Nightjar, Caprimulgus indicus Eurasian Nightjar, Caprimulgus europaeus Egyptian Nightjar, Caprimulgus aegyptius Nubian Nightjar, Caprimulgus nubicus Sykes' Nightjar, Caprimulgus mahrattensis Vaurie's Nightiar, Caprimulgus centralasicus Large-tailed Nightjar, Caprimulgus macrurus Andaman Nightjar, Caprimulgus andamanicus Jerdon's Nightjar, Caprimulgus atripennis Philippine Nightjar, Caprimulgus manillensis Sulawesi Nightjar, Caprimulgus celebensis Indian Nightjar, Caprimulgus asiaticus Plain Nightjar, Caprimulgus inornatus

Savanna Nightjar, Caprimulgus affinis Bonaparte's Nightjar, Caprimulgus concretus Salvadori's Nightjar, Caprimulgus pulchellus

Swifts

Order: Apodiformes Family: Apodidae

• Waterfall Swift, Hydrochous gigas Glossy Swiftlet, Collocalia esculenta Cave Swiftlet, Collocalia linchi Pygmy Swiftlet, Collocalia troglodytes Indian Swiftlet, Aerodramus unicolor Moluccan Swiftlet, Aerodramus infuscatus Philippine Swiftlet, Aerodramus mearnsi Himalayan Swiftlet, Aerodramus brevirostris Indochinese Swiftlet, Aerodramus rogersi Volcano Swiftlet, Aerodramus vulcanorum Whitehead's Swiftlet, Aerodramus whiteheadi Palawan Swiftlet, Aerodramus palawanensis Uniform Swiftlet, Aerodramus vanikorensis Mossy-nest Swiftlet, Aerodramus salangana Black-nest Swiftlet, Aerodramus maximus Edible-nest Swiftlet, Aerodramus fuciphagus German's Swiftlet, Aerodramus germani Philippine Needletail, Mearnsia picina White-rumped Needletail, Zoonavena sylvatica Silver-rumped Needletail, Rhaphidura leucopygialis White-throated Needletail, Hirundapus caudacutus Silver-backed Needletail, Hirundapus cochinchinensis Brown-backed Needletail, Hirundapus giganteus Purple Needletail, Hirundapus celebensis Asian Palm Swift, Cypsiurus balasiensis African Palm Swift, Cypsiurus parvus Alpine Swift, Tachymarptis melba Common Swift, Apus apus Pallid Swift, Apus pallidus Fork-tailed Swift, Apus pacificus Dark-rumped Swift, Apus acuticauda Little Swift, Apus affinis House Swift, Apus nipalensis

White-rumped Swift, Apus caffer

Treeswifts

Order: Apodiformes Family: Hemiprocnidae

Crested Treeswift, Hemiprocne coronata
 Grey-rumped Treeswift, Hemiprocne longipennis
 Whiskered Treeswift, Hemiprocne comata

Trogons

Order: Trogoniformes Family: Trogonidae

Javan Trogon, Harpactes reinwardtii
 Sumatran Trogon, Harpactes mackloti
 Malabar Trogon, Harpactes fasciatus
 Red-naped Trogon, Harpactes kasumba
 Diard's Trogon, Harpactes diardii
 Philippine Trogon, Harpactes ardens
 Whitehead's Trogon, Harpactes whiteheadi
 Cinnamon-rumped Trogon, Harpactes orrhophaeus
 Scarlet-rumped Trogon, Harpactes duvaucelii
 Red-headed Trogon, Harpactes erythrocephalus
 Orange-breasted Trogon, Harpactes oreskios
 Ward's Trogon, Harpactes wardi

Kingfishers

Order: Coraciiformes Family: Alcedinidae

Blyth's Kingfisher, Alcedo hercules Common Kingfisher, Alcedo atthis Blue-eared Kingfisher, Alcedo meninting Blue-banded Kingfisher, Alcedo euryzona Indigo-banded Kingfisher, Alcedo cyanopectus Silvery Kingfisher, Alcedo argentata Small Blue Kingfisher, Alcedo coerulescens Black-backed Kingfisher, Ceyx erithaca Philippine Kingfisher, Ceyx melanurus Sulawesi Kingfisher, Ceyx fallax Rufous-backed Kingfisher, Cevx rufidorsa Variable Kingfisher, Ceyx lepidus Banded Kingfisher, Lacedo pulchella Lilac Kingfisher, Cittura cyanotis Brown-winged Kingfisher, Pelargopsis amauroptera Stork-billed Kingfisher, Pelargopsis capensis

Black-billed Kingfisher, Pelargopsis melanorhyncha Ruddy Kingfisher, Halcyon coromanda White-throated Kingfisher, Halcyon smyrnensis Grev-headed Kingfisher, Halcvon leucocephala Black-capped Kingfisher, Halcyon pileata Javan Kingfisher, Halcyon cyanoventris Rufous-lored Kingfisher, Todiramphus winchelli Collared Kingfisher, Todiramphus chloris Talaud Kingfisher, Todiramphus enigma Cinnamon-banded Kingfisher, Todiramphus australasia Sacred Kingfisher, Todiramphus sanctus Rufous-collared Kingfisher, Actenoides concretus Spotted Kingfisher, Actenoides lindsayi Blue-capped Kingfisher, Actenoides hombroni Green-backed Kingfisher, Actenoides monachus Scaly Kingfisher, Actenoides princeps Crested Kingfisher, Megaceryle lugubris Pied Kingfisher, Ceryle rudis

Bee-eaters

Order: Coraciiformes Family: Meropidae

Red-bearded Bee-eater, Nyctyornis amictus
 Blue-bearded Bee-eater, Nyctyornis athertoni
 Purple-bearded Bee-eater, Meropogon forsteni
 Little Bee-eater, Merops pusillus
 Somali Bee-eater, Merops revoilii
 White-throated Bee-eater, Merops albicollis
 Green Bee-eater, Merops orientalis
 Blue-throated Bee-eater, Merops viridis
 Blue-theeked Bee-eater, Merops persicus
 Blue-tailed Bee-eater, Merops philippinus
 Rainbow Bee-eater, Merops ornatus
 European Bee-eater, Merops apiaster
 Chestnut-headed Bee-eater, Merops leschenaulti

Rollers

Order: Coraciiformes Family: Coraciidae

European Roller, Coracias garrulus
 Abyssinian Roller, Coracias abyssinicus
 Rufous-crowned Roller, Coracias noevius
 Indian Roller, Coracias benghalensis

Purple-winged Roller, Coracias temminckii Dollarbird, Eurystomus orientalis

Hoopoe

Order: Coraciiformes Family: Upupidae

• Eurasian Hoopoe, Upupa epops

Hornbills

Order: Coraciiformes **Family**: Bucerotidae

African Grev Hornbill, Tockus nasutus Malabar Grey Hornbill, Ocyceros griseus Ceylon Grey Hornbill, Ocyceros gingalensis Indian Grev Hornbill, Ocyceros birostris Malabar Pied Hornbill, Anthracoceros coronatus Oriental Pied Hornbill, Anthracoceros albirostris Black Hornbill, Anthracoceros malayanus Palawan Hornbill, Anthracoceros marchei Sulu Hornbill. Anthracoceros montani Rhinoceros Hornbill, Buceros rhinoceros Great Hornbill, Buceros bicornis Rufous Hornbill, Buceros hydrocorax Helmeted Hornbill, Buceros vigil Brown Hornbill, Anorrhinus austeni Rusty-cheeked Hornbill, Anorrhinus tickelli Bushy-crested Hornbill, Anorrhinus galeritus Luzon Hornbill, Penelopides manillae Mindoro Hornbill, Penelopides mindorensis Tarictic Hornbill, Penelopides panini Samar Hornbill, Penelopides samarensis Mindanao Hornbill, Penelopides affinis Sulawesi Hornbill, Penelopides exarhatus White-crowned Hornbill, Aceros comatus Rufous-necked Hornbill, Aceros nipalensis Wrinkled Hornbill, Aceros corrugatus Writhe-billed Hornbill, Aceros waldeni Writhed Hornbill, Aceros leucocephalus Knobbed Hornbill, Aceros cassidix Wreathed Hornbill. Aceros undulatus Narcondam Hornbill, Aceros narcondami Plain-pouched Hornbill, Aceros subruficollis

Barbets

Order: Piciformes Family: Capitonidae

Fire-tufted Barbet, Psilopogon pyrolophus Great Barbet, Megalaima virens Red-vented Barbet, Megalaima lagrandieri Brown-headed Barbet, Megalaima zeylanica Lineated Barbet, Megalaima lineata White-cheeked Barbet, Megalaima viridis Green-eared Barbet, Megalaima faiostricta Brown-throated Barbet, Megalaima corvina Gold-whiskered Barbet, Megalaima chrysopogon Red-crowned Barbet, Megalaima rafflesii Red-throated Barbet, Megalaima mystacophanos Black-banded Barbet, Megalaima javensis Yellow-fronted Barbet, Megalaima flavifrons Golden-throated Barbet, Megalaima franklinii Black-browed Barbet, Megalaima oorti Blue-throated Barbet, Megalaima asiatica Mountain Barbet, Megalaima monticola Moustached Barbet, Megalaima incognita Yellow-crowned Barbet, Megalaima henricii Flame-fronted Barbet, Megalaima armillaris Golden-naped Barbet, Megalaima pulcherrima Blue-eared Barbet, Megalaima australis Bornean Barbet, Megalaima eximia Crimson-fronted Barbet, Megalaima rubricapillus Coppersmith Barbet, Megalaima haemacephala Brown Barbet, Calorhamphus fuliginosus

Honeyguides

Order: Piciformes Family: Indicatoridae

 Malaysian Honeyguide, Indicator archipelagicus Yellow-rumped Honeyguide, Indicator xanthonotus

Woodpeckers and allies

Order: Piciformes Family: Picidae

Eurasian Wryneck, Jynx torquilla
 Speckled Piculet, Picumnus innominatus
 Rufous Piculet, Sasia abnormis

White-browed Piculet, Sasia ochracea Sulawesi Woodpecker, Dendrocopos temminckii Philippine Woodpecker, Dendrocopos maculatus Brown-capped Woodpecker, Dendrocopos moluccensis Grey-capped Woodpecker, Dendrocopos canicapillus Pygmy Woodpecker, Dendrocopos kizuki Lesser Spotted Woodpecker, Dendrocopos minor Brown-fronted Woodpecker, Dendrocopos auriceps Fulvous-breasted Woodpecker, Dendrocopos macei Stripe-breasted Woodpecker, Dendrocopos atratus Yellow-crowned Woodpecker, Dendrocopos mahrattensis Arabian Woodpecker, Dendrocopos dorae Rufous-bellied Woodpecker, Dendrocopos hyperythrus Darjeeling Woodpecker, Dendrocopos darjellensis Crimson-breasted Woodpecker, Dendrocopos cathpharius Middle Spotted Woodpecker, Dendrocopos medius White-backed Woodpecker, Dendrocopos leucotos Great Spotted Woodpecker, Dendrocopos maior Syrian Woodpecker, Dendrocopos syriacus White-winged Woodpecker, Dendrocopos leucopterus Sind Woodpecker, Dendrocopos assimilis Himalayan Woodpecker, Dendrocopos himalayensis Eurasian Three-toed Woodpecker, Picoides tridactylus Rufous Woodpecker, Celeus brachyurus White-bellied Woodpecker, Dryocopus javensis Andaman Woodpecker, Dryocopus hodgei Black Woodpecker, Dryocopus martius Banded Woodpecker, Picus mineaceus Lesser Yellownape, Picus chlorolophus Crimson-winged Woodpecker, Picus puniceus Greater Yellownape, Picus flavinucha Checker-throated Woodpecker, Picus mentalis Streak-breasted Woodpecker, Picus viridanus Laced Woodpecker, Picus vittatus Streak-throated Woodpecker, Picus xanthopygaeus Scalv-bellied Woodpecker, Picus squamatus Japanese Woodpecker, Picus awokera Green Woodpecker, Picus viridis Red-collared Woodpecker, Picus rabieri Black-headed Woodpecker, Picus erythropygius Grey-faced Woodpecker, Picus canus Olive-backed Woodpecker, Dinopium rafflesii Himalayan Flameback, Dinopium shorii Common Flameback, Dinopium javanense Black-rumped Flameback, Dinopium benghalense

White-naped Woodpecker, Chrysocolaptes festivus Greater Flameback, Chrysocolaptes lucidus Pale-headed Woodpecker, Gecinulus grantia Bamboo Woodpecker, Gecinulus viridis Okinawa Woodpecker, Sapheopipo noguchii Maroon Woodpecker, Blythipicus rubiginosus Bay Woodpecker, Blythipicus pyrrhotis Orange-backed Woodpecker, Reinwardtipicus validus Buff-rumped Woodpecker, Meiglyptes tristis Black-and-buff Woodpecker, Meiglyptes jugularis Buff-necked Woodpecker, Meiglyptes tukki Grey-and-buff Woodpecker, Hemicircus concretus Heart-spotted Woodpecker, Hemicircus canente Ashy Woodpecker, Mulleripicus fulvus Sooty Woodpecker, Mulleripicus funebris Great Slaty Woodpecker, Mulleripicus pulverulentus

Broadbills

Order: Passeriformes Family: Eurylaimidae

Dusky Broadbill, Corydon sumatranus
 Black-and-red Broadbill, Cymbirhynchus macrorhynchos
 Banded Broadbill, Eurylaimus javanicus
 Black-and-yellow Broadbill, Eurylaimus ochromalus
 Wattled Broadbill, Eurylaimus steerii
 Visayan Broadbill, Eurylaimus samarensis
 Long-tailed Broadbill, Psarisomus dalhousiae
 Silver-breasted Broadbill, Serilophus lunatus
 Green Broadbill, Calyptomena viridis
 Hose's Broadbill, Calyptomena hosii
 Whitehead's Broadbill, Calyptomena whiteheadi

Pittas

Order: Passeriformes Family: Pittidae

Eared Pitta, Pitta phayrei
 Blue-naped Pitta, Pitta nipalensis
 Blue-rumped Pitta, Pitta soror
 Rusty-naped Pitta, Pitta oatesi
 Schneider's Pitta, Pitta schneideri
 Giant Pitta, Pitta caerulea
 Blue Pitta, Pitta cyanea
 Banded Pitta, Pitta guajana

Bar-bellied Pitta, Pitta elliotii Gurnev's Pitta. Pitta gurnevi Blue-headed Pitta, Pitta baudii Hooded Pitta, Pitta sordida Azure-breasted Pitta, Pitta steerii Whiskered Pitta, Pitta kochi Red-bellied Pitta. Pitta erythrogaster Sula Pitta, Pitta dohertyi Blue-banded Pitta. Pitta arcuata Garnet Pitta, Pitta granatina Black-headed Pitta, Pitta ussheri Black-crowned Pitta, Pitta venusta Indian Pitta, Pitta brachyura Fairy Pitta, Pitta nympha Blue-winged Pitta, Pitta moluccensis Mangrove Pitta, Pitta megarhyncha Elegant Pitta, Pitta elegans

Larks

Order: Passeriformes Family: Alaudidae

Singing Bushlark, Mirafra cantillans Australasian Bushlark, Mirafra javanica Indian Bushlark, Mirafra erythroptera Bengal Bushlark, Mirafra assamica Jerdon's Bushlark, Mirafra affinis Indochinese Bushlark, Mirafra erythrocephala Burmese Bushlark, Mirafra microptera Black-crowned Sparrow Lark, Eremopterix nigriceps Chestnut-headed Sparrow Lark, Eremopterix signatus Ashy-crowned Sparrow Lark, Eremopterix griseus Bar-tailed Lark, Ammomanes cinctura Rufous-tailed Lark, Ammomanes phoenicura Desert Lark, Ammomanes deserti Greater Hoopoe Lark, Alaemon alaudipes Thick-billed Lark, Ramphocoris clotbey Calandra Lark, Melanocorypha calandra Bimaculated Lark, Melanocorypha bimaculata Tibetan Lark, Melanocorypha maxima Mongolian Lark, Melanocorypha mongolica White-winged Lark, Melanocorypha leucoptera Black Lark, Melanocorypha yeltoniensis Greater Short-toed Lark, Calandrella brachydactyla Blanford's Lark, Calandrella blanfordi

Hume's Lark, Calandrella acutirostris
Lesser Short-toed Lark, Calandrella rufescens
Red-capped Lark, Calandrella cinerea
Sand Lark, Calandrella raytal
Dunn's Lark, Eremalauda dunni
Dupont's Lark, Chersophilus duponti
Crested Lark, Galerida cristata
Malabar Lark, Galerida malabarica
Tawny Lark, Galerida deva
Wood Lark, Lullula arborea
Sky Lark, Alauda arvensis
Oriental Skylark, Alauda gulgula
Horned Lark, Eremophila alpestris
Temminck's Lark, Eremophila bilopha

Swallows

Order: Passeriformes Family: Hirundinidae

• White-eved River Martin, Pseudochelidon sirintarae Tree Swallow, Tachycineta bicolor Bank Swallow, Riparia riparia Pale Sand Martin, Riparia diluta Plain Martin, Riparia paludicola Banded Martin, Riparia cincta Cliff Swallow, Petrochelidon pyrrhonota Tree Martin, Petrochelidon nigricans Streak-throated Swallow. Petrochelidon fluvicola Fairy Martin, Petrochelidon ariel Eurasian Crag Martin, Ptyonoprogne rupestris Rock Martin, Ptyonoprogne fuligula Dusky Crag Martin, Ptyonoprogne concolor Barn Swallow, Hirundo rustica Ethiopian Swallow, Hirundo aethiopica Pacific Swallow, Hirundo tahitica Wire-tailed Swallow, Hirundo smithii Lesser Striped Swallow, Cecropis abyssinica Red-rumped Swallow, Cecropis daurica Striated Swallow, Cecropis striolata Rufous-bellied Swallow, Cecropis badia House Martin, Delichon urbicum Asian Martin, Delichon dasypus Nepal Martin, Delichon nipalense

Wagtails and pipits

Order: Passeriformes Family: Motacillidae

• Forest Wagtail, Dendronanthus indicus

White Wagtail, Motacilla alba

Mekong Wagtail, Motacilla samveasnae

Black-backed Wagtail, Motacilla lugens

Japanese Wagtail, Motacilla grandis

White-browed Wagtail, Motacilla madaraspatensis

Citrine Wagtail, Motacilla citreola

Yellow Wagtail, Motacilla flava

Eastern Yellow Wagtail, Motacilla tschutschensis

Grey Wagtail, Motacilla cinerea

Golden Pipit, Tmetothylacus tenellus

Oriental Pipit, Anthus rufulus

Richard's Pipit, Anthus richardi

Tawny Pipit, Anthus campestris

Blyth's Pipit, Anthus godlewskii

Long-billed Pipit, Anthus similis

Tree Pipit, Anthus trivialis

Olive-backed Pipit, Anthus hodgsoni

Pechora Pipit, Anthus gustavi

Meadow Pipit, Anthus pratensis

Red-throated Pipit, Anthus cervinus

Rosy Pipit, Anthus roseatus

Rock Pipit, Anthus petrosus

Water Pipit, Anthus spinoletta

Upland Pipit, Anthus sylvanus

American Pipit, Anthus rubescens

Nilgiri Pipit, Anthus nilghiriensis

Cuckoo-shrikes

Order: Passeriformes Family: Campephagidae

 Large Cuckoo-shrike, Coracina macei Sunda Cuckoo-shrike, Coracina larvata Javan Cuckoo-shrike, Coracina javensis

Slaty Cuckoo-shrike, Coracina schistacea

Wallacean Cuckoo-shrike, Coracina personata

Black-faced Cuckoo-shrike, Coracina novaehollandiae

Bar-bellied Cuckoo-shrike, Coracina striata

Pied Cuckoo-shrike, Coracina bicolor

Cerulean Cuckoo-shrike. Coracina temminckii

White-rumped Cuckoo-shrike, Coracina leucopygia Pygmy Cuckoo-shrike, Coracina abbotti Cicadabird, Coracina tenuirostris Blackish Cuckoo-shrike, Coracina coerulescens Sula Cuckoo-shrike, Coracina sula Black-bibbed Cuckoo-shrike, Coracina mindanensis Sulawesi Cuckoo-shrike, Coracina morio McGregor's Cuckoo-shrike, Coracina mcgregori Indochinese Cuckoo-shrike, Coracina polioptera White-winged Cuckoo-shrike, Coracina ostenta Black-winged Cuckoo-shrike, Coracina melaschistos Lesser Cuckoo-shrike. Coracina fimbriata Black-headed Cuckoo-shrike, Coracina melanoptera Black-and-white Triller, Lalage melanoleuca Pied Triller, Lalage nigra White-rumped Triller, Lalage leucopygialis White-shouldered Triller, Lalage sueurii Rosy Minivet, Pericrocotus roseus Brown-rumped Minivet, Pericrocotus cantonensis Ashy Minivet, Pericrocotus divaricatus Small Minivet, Pericrocotus cinnamomeus Ryukyu Minivet, Pericrocotus tegimae Fiery Minivet, Pericrocotus igneus White-bellied Minivet, Pericrocotus erythropygius Long-tailed Minivet, Pericrocotus ethologus Short-billed Minivet, Pericrocotus brevirostris Sunda Minivet, Pericrocotus miniatus Scarlet Minivet, Pericrocotus flammeus Grey-chinned Minivet, Pericrocotus solaris Bar-winged Flycatcher-shrike, Hemipus picatus Black-winged Flycatcher-shrike, Hemipus hirundinaceus

Bulbuls

Order: Passeriformes Family: Pycnonotidae

Crested Finchbill, Spizixos canifrons
 Collared Finchbill, Spizixos semitorques
 Straw-headed Bulbul, Pycnonotus zeylanicus
 Striated Bulbul, Pycnonotus striatus
 Cream-striped Bulbul, Pycnonotus leucogrammicus
 Spot-necked Bulbul, Pycnonotus tympanistrigus
 Black-and-white Bulbul, Pycnonotus melanoleucos
 Grey-headed Bulbul, Pycnonotus priocephalus
 Black-headed Bulbul, Pycnonotus atriceps

Black-crested Bulbul, Pycnonotus melanicterus Styan's Bulbul, Pycnonotus taivanus Scaly-breasted Bulbul, Pycnonotus squamatus Grev-bellied Bulbul, Pycnonotus cyaniventris Red-whiskered Bulbul, Pycnonotus jocosus Brown-breasted Bulbul, Pycnonotus xanthorrhous Light-vented Bulbul, Pycnonotus sinensis White-spectacled Bulbul, Pycnonotus xanthopygos White-eared Bulbul, Pycnonotus leucotis White-cheeked Bulbul, Pycnonotus leucogenys Red-vented Bulbul, Pycnonotus cafer Sooty-headed Bulbul, Pycnonotus aurigaster Puff-backed Bulbul, Pycnonotus eutilotus Blue-wattled Bulbul, Pycnonotus nieuwenhuisii Yellow-wattled Bulbul, Pycnonotus urostictus Orange-spotted Bulbul, Pycnonotus bimaculatus Stripe-throated Bulbul, Pycnonotus finlaysoni Yellow-throated Bulbul, Pycnonotus xantholaemus Yellow-eared Bulbul, Pycnonotus penicillatus Flavescent Bulbul, Pycnonotus flavescens White-browed Bulbul, Pycnonotus luteolus Yellow-vented Bulbul, Pycnonotus goiavier Olive-winged Bulbul, Pycnonotus plumosus Streak-eared Bulbul, Pycnonotus blanfordi Cream-vented Bulbul, Pycnonotus simplex Red-eyed Bulbul, Pycnonotus brunneus Spectacled Bulbul, Pycnonotus erythropthalmos Finsch's Bulbul, Alophoixus finschii White-throated Bulbul, Alophoixus flaveolus Puff-throated Bulbul, Alophoixus pallidus Ochraceous Bulbul, Alophoixus ochraceus Grey-cheeked Bulbul, Alophoixus bres Yellow-bellied Bulbul, Alophoixus phaeocephalus Golden Bulbul, Alophoixus affinis Hook-billed Bulbul, Setornis criniger Hairy-backed Bulbul, Tricholestes criniger Olive Bulbul, Iole virescens Grey-eyed Bulbul, Iole propingua Buff-vented Bulbul, Iole olivacea Yellow-browed Bulbul, Iole indica Sulphur-bellied Bulbul, Ixos palawanensis Philippine Bulbul, Ixos philippinus Streak-breasted Bulbul, Ixos siguijorensis Brown-eared Bulbul, Ixos amaurotis Yellowish Bulbul, Ixos everetti

Zamboanga Bulbul, Ixos rufigularis Streaked Bulbul, Ixos malaccensis Mountain Bulbul, Ixos mcclellandii Sunda Bulbul, Ixos virescens Ashy Bulbul, Hemixos flavala Chestnut Bulbul, Hemixos castanonotus Black Bulbul, Hypsipetes leucocephalus Nicobar Bulbul, Hypsipetes virescens White-headed Bulbul, Hypsipetes thompsoni

Kinglets

Order: Passeriformes Family: Regulidae

 Ruby-crowned Kinglet, Regulus calendula Goldcrest, Regulus regulus Flamecrest, Regulus goodfellowi Firecrest, Regulus ignicapilla

Leafbirds

Order: Passeriformes Family: Chloropseidae

Philippine Leafbird, Chloropsis flavipennis
 Yellow-throated Leafbird, Chloropsis palawanensis
 Greater Green Leafbird, Chloropsis sonnerati
 Lesser Green Leafbird, Chloropsis cyanopogon
 Blue-winged Leafbird, Chloropsis cochinchinensis
 Golden-fronted Leafbird, Chloropsis aurifrons
 Orange-bellied Leafbird, Chloropsis hardwickii
 Blue-masked Leafbird, Chloropsis venusta

Ioras

Order: <u>Passeriformes</u> **Family**: <u>Aegithinidae</u>

Common Iora, Aegithina tiphia
 White-tailed Iora, Aegithina nigrolutea
 Green Iora, Aegithina viridissima
 Great Iora, Aegithina lafresnayei

Waxwings

Order: Passeriformes Family: Bombycillidae

 Bohemian Waxwing, Bombycilla garrulus Japanese Waxwing, Bombycilla japonica

Hypocolius

Order: Passeriformes Family: Hypocoliidae

• <u>Hypocolius</u>, Hypocolius ampelinus

Dippers

Order: Passeriformes Family: Cinclidae

• White-throated Dipper, Cinclus cinclus Brown Dipper, Cinclus pallasii

Wrens

Order: Passeriformes Family: Troglodytidae

• Winter Wren, Troglodytes troglodytes

Accentors

Order: Passeriformes Family: Prunellidae

Alpine Accentor, Prunella collaris
 Himalayan Accentor, Prunella himalayana
 Robin Accentor, Prunella rubeculoides
 Rufous-breasted Accentor, Prunella strophiata
 Siberian Accentor, Prunella montanella
 Radde's Accentor, Prunella ocularis
 Yemen Accentor, Prunella fagani
 Brown Accentor, Prunella fulvescens
 Black-throated Accentor, Prunella atrogularis
 Mongolian Accentor, Prunella koslowi
 Dunnock, Prunella modularis
 Japanese Accentor, Prunella rubida
 Maroon-backed Accentor, Prunella immaculata

Thrushes

Order: Passeriformes Family: Turdidae

Rufous-tailed Rock Thrush, Monticola saxatilis Little Rock Thrush, Monticola rufocinereus Blue-capped Rock Thrush, Monticola cinclorhynchus White-throated Rock Thrush, Monticola gularis Chestnut-bellied Rock Thrush, Monticola rufiventris Blue Rock Thrush. Monticola solitarius Cevlon Whistling Thrush, Myophonus blighi Shiny Whistling Thrush, Myophonus melanurus Javan Whistling Thrush, Myophonus glaucinus Chestnut-winged Whistling Thrush, Myophonus castaneus Bornean Whistling Thrush, Myophonus borneensis Malayan Whistling Thrush, Myophonus robinsoni Malabar Whistling Thrush, Myophonus horsfieldii Formosan Whistling Thrush, Myophonus insularis Blue Whistling Thrush, Myophonus caeruleus Geomalia, Geomalia heinrichi Chestnut-capped Thrush, Zoothera interpres Enggano Thrush, Zoothera leucolaema Chestnut-backed Thrush, Zoothera dohertyi Rusty-backed Thrush, Zoothera erythronota Red-and-black Thrush, Zoothera mendeni Pied Thrush. Zoothera wardii Ashy Thrush, Zoothera cinerea Orange-banded Thrush, Zoothera peronii Orange-headed Thrush, Zoothera citrina Everett's Thrush, Zoothera everetti Siberian Thrush, Zoothera sibirica Spot-winged Thrush, Zoothera spiloptera Sunda Thrush, Zoothera andromedae Plain-backed Thrush, Zoothera mollissima Long-tailed Thrush, Zoothera dixoni Scaly Thrush, Zoothera dauma Long-billed Thrush, Zoothera monticola Dark-sided Thrush, Zoothera marginata Bonin Thrush, Zoothera terrestris (extinct) Sulawesi Thrush, Cataponera turdoides Grey-cheeked Thrush, Catharus minimus Yemen Thrush, Turdus menachensis Grey-backed Thrush, Turdus hortulorum Tickell's Thrush, Turdus unicolor Black-breasted Thrush, Turdus dissimilis Japanese Thrush, Turdus cardis White-collared Blackbird, Turdus albocinctus Ring Ouzel. Turdus torquatus

Grey-winged Blackbird, Turdus boulboul Eurasian Blackbird, Turdus merula Island Thrush, Turdus poliocephalus Chestnut Thrush, Turdus rubrocanus White-backed Thrush, Turdus kessleri Grey-sided Thrush, Turdus feae Evebrowed Thrush. Turdus obscurus Pale Thrush, Turdus pallidus Brown-headed Thrush, Turdus chrysolaus Izu Thrush, Turdus celaenops Dark-throated Thrush, Turdus ruficollis Dusky Thrush, Turdus naumanni Fieldfare, Turdus pilaris Redwing, Turdus iliacus Song Thrush, Turdus philomelos Chinese Thrush, Turdus mupinensis Mistle Thrush, Turdus viscivorus Fruit-hunter, Chlamydochaera jefferyi Rusty-bellied Shortwing, Brachypteryx hyperythra Gould's Shortwing, Brachypteryx stellata White-bellied Shortwing, Brachypteryx major Lesser Shortwing, Brachypteryx leucophrys White-browed Shortwing, Brachypteryx montana Great Shortwing, Heinrichia calligyna

Cisticolas and allies

Order: Passeriformes Family: Cisticolidae

Zitting Cisticola, Cisticola juncidis Golden-headed Cisticola, Cisticola exilis White-browed Chinese Warbler, Rhopophilus pekinensis Streaked Scrub Warbler, Scotocerca inquieta Rufous-vented Prinia, Prinia burnesii Swamp Prinia, Prinia cinerascens Striated Prinia, Prinia crinigera Brown Prinia, Prinia polychroa Hill Prinia, Prinia atrogularis Grey-crowned Prinia, Prinia cinereocapilla Rufous-fronted Prinia, Prinia buchanani Rufescent Prinia, Prinia rufescens Grey-breasted Prinia, Prinia hodgsonii Bar-winged Prinia, Prinia familiaris Graceful Prinia, Prinia gracilis Jungle Prinia, Prinia sylvatica

Yellow-bellied Prinia, Prinia flaviventris Ashy Prinia, Prinia socialis Plain Prinia, Prinia inornata

Old World warblers

Order: Passeriformes Family: Sylviidae

• Chestnut-headed Tesia. Tesia castaneocoronata Javan Tesia, Tesia superciliaris Slaty-bellied Tesia, Tesia olivea Grey-bellied Tesia, Tesia cyaniventer Timor Stubtail, Urosphena subulata Bornean Stubtail, Urosphena whiteheadi Asian Stubtail, Urosphena squameiceps Manchurian Bush Warbler, Cettia canturians Pale-footed Bush Warbler, Cettia pallidipes Japanese Bush Warbler, Cettia diphone Philippine Bush Warbler, Cettia seebohmi Brownish-flanked Bush Warbler, Cettia fortipes Sunda Bush Warbler, Cettia vulcania Chestnut-crowned Bush Warbler, Cettia major Aberrant Bush Warbler, Cettia flavolivacea Yellowish-bellied Bush Warbler, Cettia acanthizoides Grey-sided Bush Warbler, Cettia brunnifrons Cetti's Warbler, Cettia cetti Spotted Bush Warbler, Bradypterus thoracicus Long-billed Bush Warbler, Bradypterus major Chinese Bush Warbler, Bradypterus tacsanowskius Russet Bush Warbler, Bradypterus seebohmi Brown Bush Warbler, Bradypterus luteoventris Taiwan Bush Warbler, Bradypterus alishanensis Cevlon Bush Warbler, Bradypterus palliseri Friendly Bush Warbler, Bradypterus accentor Long-tailed Bush Warbler, Bradypterus caudatus Chestnut-backed Bush Warbler, Bradypterus castaneus Lanceolated Warbler, Locustella lanceolata Grasshopper Warbler, Locustella naevia Pallas's Warbler, Locustella certhiola Middendorff's Warbler, Locustella ochotensis Pleske's Warbler, Locustella pleskei Eurasian River Warbler, Locustella fluviatilis Savi's Warbler, Locustella luscinioides Grey's Warbler, Locustella fasciolata Sakhalin Warbler, Locustella amnicola

Moustached Warbler, Acrocephalus melanopogon Aquatic Warbler, Acrocephalus paludicola Sedge Warbler, Acrocephalus schoenobaenus Streaked Reed Warbler, Acrocephalus sorghophilus Black-browed Reed Warbler, Acrocephalus bistrigiceps Paddyfield Warbler, Acrocephalus agricola Blunt-winged Warbler, Acrocephalus concinens Eurasian Reed Warbler, Acrocephalus scirpaceus African Reed Warbler, Acrocephalus baeticatus Blyth's Reed Warbler, Acrocephalus dumetorum Marsh Warbler, Acrocephalus palustris Great Reed Warbler, Acrocephalus arundinaceus Oriental Reed Warbler, Acrocephalus orientalis Clamorous Reed Warbler, Acrocephalus stentoreus Large-billed Reed Warbler, Acrocephalus orinus Basra Reed Warbler, Acrocephalus griseldis Thick-billed Warbler, Acrocephalus aedon Booted Warbler, Hippolais caligata Sykes' Warbler, Hippolais rama Eastern Olivaceous Warbler, Hippolais pallida Upcher's Warbler, Hippolais languida Olive-tree Warbler, Hippolais olivetorum Melodious Warbler, Hippolais polyglotta Icterine Warbler, Hippolais icterina Mountain Tailorbird, Orthotomus cuculatus Common Tailorbird, Orthotomus sutorius Rufous-headed Tailorbird, Orthotomus heterolaemus Dark-necked Tailorbird, Orthotomus atrogularis Philippine Tailorbird, Orthotomus castaneiceps Rufous-fronted Tailorbird, Orthotomus frontalis Grey-backed Tailorbird, Orthotomus derbianus Rufous-tailed Tailorbird, Orthotomus sericeus Ashy Tailorbird, Orthotomus ruficeps Olive-backed Tailorbird, Orthotomus sepium Yellow-breasted Tailorbird, Orthotomus samarensis White-browed Tailorbird, Orthotomus nigriceps White-eared Tailorbird, Orthotomus cinereiceps White-browed Tit Warbler, Leptopoecile sophiae Crested Tit Warbler, Leptopoecile elegans Brown Woodland Warbler, Phylloscopus umbrovirens Willow Warbler, Phylloscopus trochilus Common Chiffchaff, Phylloscopus collybita Mountain Chiffchaff, Phylloscopus sindianus Plain Leaf Warbler, Phylloscopus neglectus Western Bonelli's Warbler, Phylloscopus bonelli

Eastern Bonelli's Warbler, Phylloscopus orientalis Wood Warbler, Phylloscopus sibilatrix Dusky Warbler, Phylloscopus fuscatus Smoky Warbler, Phylloscopus fuligiventer Tickell's Leaf Warbler, Phylloscopus affinis Buff-throated Warbler, Phylloscopus subaffinis Sulphur-bellied Warbler. Phylloscopus griseolus Yellow-streaked Warbler, Phylloscopus armandii Radde's Warbler, Phylloscopus schwarzi Buff-barred Warbler, Phylloscopus pulcher Ashy-throated Warbler, Phylloscopus maculipennis Pale-rumped Warbler, Phylloscopus chloronotus Lemon-rumped Warbler, Phylloscopus proregulus Sichuan Leaf Warbler, Phylloscopus forresti Gansu Leaf Warbler, Phylloscopus kansuensis Chinese Leaf Warbler, Phylloscopus yunnanensis Brooks' Leaf Warbler, Phylloscopus subviridis Yellow-browed Warbler, Phylloscopus inornatus Hume's Warbler, Phylloscopus humei Arctic Warbler, Phylloscopus borealis Greenish Warbler, Phylloscopus trochiloides Pale-legged Leaf Warbler, Phylloscopus tenellipes Sakhalin Leaf Warbler, Phylloscopus borealoides Large-billed Leaf Warbler, Phylloscopus magnirostris Tytler's Leaf Warbler, Phylloscopus tytleri Western Crowned Leaf Warbler, Phylloscopus occipitalis Eastern Crowned Leaf Warbler, Phylloscopus coronatus Ijima's Leaf Warbler, Phylloscopus ijimae Blyth's Leaf Warbler, Phylloscopus reguloides Hainan Leaf Warbler, Phylloscopus hainanus Emei Leaf Warbler, Phylloscopus emeiensis White-tailed Leaf Warbler, Phylloscopus davisoni Yellow-vented Warbler, Phylloscopus cantator Sulphur-breasted Warbler, Phylloscopus ricketti Lemon-throated Warbler, Phylloscopus cebuensis Mountain Warbler, Phylloscopus trivirgatus Sulawesi Leaf Warbler, Phylloscopus sarasinorum Timor Leaf Warbler, Phylloscopus presbytes Philippine Leaf Warbler, Phylloscopus olivaceus Golden-spectacled Warbler, Seicercus burkii Grey-crowned Warbler, Seicercus tephrocephalus Plain-tailed Warbler, Seicercus soror Whistler's Warbler, Seicercus whistleri Bianchi's Warbler, Seicercus valentini Grey-hooded Warbler, Seicercus xanthoschistos

White-spectacled Warbler, Seicercus affinis Grey-cheeked Warbler, Seicercus poliogenys Chestnut-crowned Warbler, Seicercus castaniceps Yellow-breasted Warbler, Seicercus montis Sunda Warbler, Seicercus grammiceps Rufous-faced Warbler, Abroscopus albogularis Yellow-bellied Warbler. Abroscopus superciliaris Black-faced Warbler, Abroscopus schisticeps Broad-billed Warbler, Tickellia hodgsoni Marsh Grassbird, Megalurus pryeri Tawny Grassbird, Megalurus timoriensis Striated Grassbird, Megalurus palustris Buff-banded Bushbird, Buettikoferella bivittata Bristled Grassbird, Chaetornis striata Rufous-rumped Grassbird, Graminicola bengalensis Broad-tailed Grassbird, Schoenicola platyurus Yemen Warbler, Sylvia buryi Blackcap, Sylvia atricapilla Garden Warbler, Sylvia borin Greater Whitethroat, Sylvia communis Lesser Whitethroat, Sylvia curruca Small Whitethroat, Sylvia minula Margelanic Whitethroat, Sylvia margelanica Hume's Whitethroat, Sylvia althaea Asian Desert Warbler, Sylvia nana Barred Warbler, Sylvia nisoria Western Orphean Warbler, Sylvia hortensis Eastern Orphean Warbler, Sylvia crassirostris Red Sea Warbler, Sylvia leucomelaena Rueppell's Warbler, Sylvia rueppelli Subalpine Warbler, Sylvia cantillans Sardinian Warbler, Sylvia melanocephala Cyprus Warbler, Sylvia melanothorax Menetries' Warbler, Sylvia mystacea Spectacled Warbler, Sylvia conspicillata

Old World flycatchers

Order: Passeriformes **Family**: Muscicapidae

 Brown-chested Jungle Flycatcher, Rhinomyias brunneatus Grey-chested Jungle Flycatcher, Rhinomyias umbratilis Fulvous-chested Jungle Flycatcher, Rhinomyias olivaceus Chestnut-tailed Jungle Flycatcher, Rhinomyias ruficauda Henna-tailed Jungle Flycatcher, Rhinomyias colonus

Eyebrowed Jungle Flycatcher, Rhinomyias gularis Rusty-flanked Jungle Flycatcher, Rhinomyias insignis Negros Jungle Flycatcher, Rhinomyias albigularis Mindanao Jungle Flycatcher, Rhinomyias goodfellowi Spotted Flycatcher, Muscicapa striata Gambaga Flycatcher, Muscicapa gambagae Grev-streaked Flycatcher, Muscicapa griseisticta Siberian Flycatcher, Muscicapa sibirica Asian Brown Flycatcher, Muscicapa dauurica Brown-streaked Flycatcher, Muscicapa williamsoni Ash-breasted Flycatcher, Muscicapa randi Rusty-tailed Flycatcher, Muscicapa ruficauda Brown-breasted Flycatcher, Muscicapa muttui Ferruginous Flycatcher, Muscicapa ferruginea European Pied Flycatcher, Ficedula hypoleuca Collared Flycatcher, Ficedula albicollis Semicollared Flycatcher, Ficedula semitorquata Korean Flycatcher, Ficedula zanthopygia Narcissus Flycatcher, Ficedula narcissina Beijing Flycatcher, Ficedula beijingnica Mugimaki Flycatcher, Ficedula mugimaki Slaty-backed Flycatcher, Ficedula hodgsonii Rufous-gorgeted Flycatcher, Ficedula strophiata Red-breasted Flycatcher, Ficedula parva Taiga Flycatcher, Ficedula albicilla Kashmir Flycatcher, Ficedula subrubra Snowy-browed Flycatcher, Ficedula hyperythra White-gorgeted Flycatcher, Ficedula monileger Rufous-browed Flycatcher, Ficedula solitaris Rufous-chested Flycatcher, Ficedula dumetoria Rufous-throated Flycatcher, Ficedula rufigula Little Slaty Flycatcher, Ficedula basilanica Palawan Flycatcher, Ficedula platenae Russet-tailed Flycatcher, Ficedula crypta Furtive Flycatcher, Ficedula disposita Lompobattang Flycatcher, Ficedula bonthaina Little Pied Flycatcher, Ficedula westermanni Ultramarine Flycatcher, Ficedula superciliaris Slaty-blue Flycatcher, Ficedula tricolor Black-and-rufous Flycatcher, Ficedula nigrorufa Sapphire Flycatcher, Ficedula sapphira Black-banded Flycatcher, Ficedula timorensis Blue-and-white Flycatcher, Cyanoptila cyanomelana Verditer Flycatcher, Eumyias thalassinus Dull-blue Flycatcher, Eumyias sordidus

Island Flycatcher, Eumyias panayensis Nilgiri Flycatcher, Eumyias albicaudatus Indigo Flycatcher, Eumyias indigo Large Niltava, Niltava grandis Small Niltava, Niltava macgrigoriae Fujian Niltava, Niltava davidi Rufous-bellied Niltava, Niltava sundara Rufous-vented Niltava, Niltava sumatrana Vivid Niltava, Niltava vivida Matinan Flycatcher, Cyornis sanfordi Blue-fronted Flycatcher, Cyornis hoevelli Timor Blue Flycatcher, Cyornis hyacinthinus White-tailed Flycatcher, Cyornis concretus Rueck's Blue Flycatcher, Cyornis ruckii Blue-breasted Flycatcher, Cyornis herioti Hainan Blue Flycatcher, Cyornis hainanus White-bellied Blue Flycatcher, Cyornis pallipes Pale-chinned Blue Flycatcher, Cyornis poliogenys Pale Blue Flycatcher, Cyornis unicolor Blue-throated Flycatcher, Cyornis rubeculoides Hill Blue Flycatcher, Cyornis banyumas Long-billed Blue Flycatcher, Cyornis caerulatus Malaysian Blue Flycatcher, Cyornis turcosus Palawan Blue Flycatcher, Cyornis lemprieri Bornean Blue Flycatcher, Cyornis superbus Tickell's Blue Flycatcher, Cyornis tickelliae Mangrove Blue Flycatcher, Cyornis rufigastra Sulawesi Blue Flycatcher, Cyornis omissus Pygmy Blue Flycatcher, Muscicapella hodgsoni Grey-headed Canary Flycatcher, Culicicapa ceylonensis Citrine Canary Flycatcher, Culicicapa helianthea European Robin, Erithacus rubecula Japanese Robin, Erithacus akahige Ryukyu Robin, Erithacus komadori Rufous-tailed Robin, Luscinia sibilans Thrush Nightingale, Luscinia luscinia Common Nightingale, Luscinia megarhynchos Siberian Rubythroat, Luscinia calliope White-tailed Rubythroat, Luscinia pectoralis Bluethroat, Luscinia svecica Rufous-headed Robin, Luscinia ruficeps Black-throated Blue Robin, Luscinia obscura Firethroat, Luscinia pectardens Indian Blue Robin, Luscinia brunnea Siberian Blue Robin, Luscinia cyane

Red-flanked Bluetail, Tarsiger cyanurus Golden Bush Robin, Tarsiger chrysaeus White-browed Bush Robin, Tarsiger indicus Rufous-breasted Bush Robin, Tarsiger hyperythrus Collared Bush Robin, Tarsiger johnstoniae White-throated Robin, Irania gutturalis Rufous-tailed Scrub Robin, Cercotrichas galactotes Black Scrub Robin, Cercotrichas podobe Oriental Magpie Robin, Copsychus saularis White-rumped Shama, Copsychus malabaricus White-browed Shama, Copsychus luzoniensis White-vented Shama, Copsychus niger Black Shama, Copsychus cebuensis Rufous-tailed Shama, Trichixos pyrropygus Indian Robin, Saxicoloides fulicatus Ala Shan Redstart, Phoenicurus alaschanicus Rufous-backed Redstart, Phoenicurus erythronotus Blue-capped Redstart, Phoenicurus caeruleocephala Black Redstart, Phoenicurus ochruros Common Redstart, Phoenicurus phoenicurus Hodgson's Redstart, Phoenicurus hodgsoni White-throated Redstart, Phoenicurus schisticeps Daurian Redstart, Phoenicurus auroreus White-winged Redstart, Phoenicurus erythrogastrus Blue-fronted Redstart, Phoenicurus frontalis White-capped Redstart, Chaimarrornis leucocephalus Plumbeous Redstart, Rhyacornis fuliginosa Luzon Redstart, Rhyacornis bicolor White-bellied Redstart, Hodgsonius phaenicuroides White-tailed Robin, Cinclidium leucurum Sunda Robin, Cinclidium diana Blue-fronted Robin, Cinclidium frontale Grandala, Grandala coelicolor Little Forktail, Enicurus scouleri Sunda Forktail, Enicurus velatus Chestnut-naped Forktail. Enicurus ruficapillus Black-backed Forktail, Enicurus immaculatus Slaty-backed Forktail, Enicurus schistaceus White-crowned Forktail, Enicurus leschenaulti Spotted Forktail, Enicurus maculatus Purple Cochoa, Cochoa purpurea Green Cochoa, Cochoa viridis Sumatran Cochoa, Cochoa beccarii Iavan Cochoa, Cochoa azurea Whinchat, Saxicola rubetra

White-browed Bushchat, Saxicola macrorhynchus White-throated Bushchat, Saxicola insignis European Stonechat, Saxicola rubicola Siberian Stonechat, Saxicola maurus African Stonechat, Saxicola torquatus White-tailed Stonechat, Saxicola leucurus Pied Bushchat, Saxicola caprata Jerdon's Bushchat, Saxicola jerdoni Grev Bushchat, Saxicola ferreus Timor Bushchat, Saxicola gutturalis White-tailed Wheatear, Oenanthe leucopyga Hooded Wheatear, Oenanthe monacha Hume's Wheatear, Oenanthe albonigra Black Wheatear, Oenanthe leucura Northern Wheatear, Oenanthe oenanthe Mourning Wheatear, Oenanthe lugens Finsch's Wheatear, Oenanthe finschii Variable Wheatear, Oenanthe picata Red-rumped Wheatear, Oenanthe moesta Pied Wheatear, Oenanthe pleschanka Cyprus Wheatear, Oenanthe cypriaca Black-eared Wheatear, Oenanthe hispanica Red-tailed Wheatear, Oenanthe xanthoprymna Desert Wheatear, Oenanthe deserti Isabelline Wheatear, Oenanthe isabellina Red-breasted Wheatear, Oenanthe bottae Indian Chat, Cercomela fusca Blackstart, Cercomela melanura

Fantails

Order: Passeriformes Family: Rhipiduridae

Yellow-bellied Fantail, Rhipidura hypoxantha
 Blue Fantail, Rhipidura superciliaris
 Blue-headed Fantail, Rhipidura cyaniceps
 Rufous-tailed Fantail, Rhipidura phoenicura
 Black-and-cinnamon Fantail, Rhipidura nigrocinnamomea
 White-throated Fantail, Rhipidura albicollis
 Spot-breasted Fantail, Rhipidura albogularis
 White-bellied Fantail, Rhipidura euryura
 White-browed Fantail, Rhipidura aureola
 Northern Fantail, Rhipidura rufiventris
 Pied Fantail, Rhipidura javanica
 Spotted Fantail, Rhipidura perlata

Rusty-flanked Fantail, Rhipidura teysmanni Rufous Fantail, Rhipidura rufifrons

Monarch flycatchers

Order: Passeriformes Family: Monarchidae

Short-crested Monarch, Hypothymis helenae
 Black-naped Monarch, Hypothymis azurea
 Pale-blue Monarch, Hypothymis puella
 Celestial Monarch, Hypothymis coelestis
 Cerulean Paradise Flycatcher, Eutrichomyias rowleyi
 African Paradise Flycatcher, Terpsiphone viridis
 Japanese Paradise Flycatcher, Terpsiphone atrocaudata
 Blue Paradise Flycatcher, Terpsiphone cyanescens
 Rufous Paradise Flycatcher, Terpsiphone cinnamomea
 Asian Paradise Flycatcher, Terpsiphone paradisi
 Island Monarch, Monarcha cinerascens
 Spectacled Monarch, Monarcha trivirgatus
 White-tipped Monarch, Monarcha everetti
 Broad-billed Flycatcher, Myiagra ruficollis

Whistlers

Order: Passeriformes Family: Pachycephalidae

Olive-flanked Whistler, Hylocitrea bonensis
 Maroon-backed Whistler, Coracornis raveni
 Mangrove Whistler, Pachycephala grisola
 Green-backed Whistler, Pachycephala albiventris
 White-vented Whistler, Pachycephala homeyeri
 Bornean Whistler, Pachycephala hypoxantha
 Sulphur-bellied Whistler, Pachycephala sulfuriventer
 Yellow-bellied Whistler, Pachycephala philippinensis
 Fawn-breasted Whistler, Pachycephala orpheus
 Golden Whistler, Pachycephala pectoralis
 Drab Whistler, Pachycephala griseonota
 Sangihe Shrike Thrush, Colluricincla sanghirensis

Babblers

Order: Passeriformes Family: Timaliidae

Malia, Malia grata
 Ashy-headed Laughingthrush, Garrulax cinereifrons

Sunda Laughingthrush, Garrulax palliatus Rufous-fronted Laughingthrush, Garrulax rufifrons Masked Laughingthrush, Garrulax perspicillatus White-throated Laughingthrush, Garrulax albogularis White-crested Laughingthrush, Garrulax leucolophus Lesser Necklaced Laughingthrush, Garrulax monileger Greater Necklaced Laughingthrush, Garrulax pectoralis Black Laughingthrush, Garrulax lugubris Striated Laughingthrush, Garrulax striatus White-necked Laughingthrush, Garrulax strepitans Black-hooded Laughingthrush, Garrulax milleti Grey Laughingthrush, Garrulax maesi Rufous-necked Laughingthrush, Garrulax ruficollis Chestnut-backed Laughingthrush, Garrulax nuchalis Black-throated Laughingthrush, Garrulax chinensis White-cheeked Laughingthrush, Garrulax vassali Yellow-throated Laughingthrush, Garrulax galbanus Wynaad Laughingthrush, Garrulax delesserti Rufous-vented Laughingthrush, Garrulax gularis Pere David's Laughingthrush, Garrulax davidi Sukatschev's Laughingthrush, Garrulax sukatschewi Moustached Laughingthrush, Garrulax cineraceus Rufous-chinned Laughingthrush, Garrulax rufogularis Chestnut-eared Laughingthrush, Garrulax konkakinhensis Spotted Laughingthrush, Garrulax ocellatus Barred Laughingthrush, Garrulax lunulatus Biet's Laughingthrush, Garrulax bieti Giant Laughingthrush, Garrulax maximus Grey-sided Laughingthrush, Garrulax caerulatus Rusty Laughingthrush, Garrulax poecilorhynchus Chestnut-capped Laughingthrush, Garrulax mitratus Spot-breasted Laughingthrush, Garrulax merulinus Hwamei. Garrulax canorus White-browed Laughingthrush, Garrulax sannio Rufous-breasted Laughingthrush, Garrulax cachinnans Grev-breasted Laughingthrush, Garrulax jerdoni Streaked Laughingthrush, Garrulax lineatus Striped Laughingthrush, Garrulax virgatus Scaly Laughingthrush, Garrulax subunicolor Brown-capped Laughingthrush, Garrulax austeni Blue-winged Laughingthrush, Garrulax squamatus Elliot's Laughingthrush, Garrulax elliotii Variegated Laughingthrush, Garrulax variegatus Prince Henry's Laughingthrush, Garrulax henrici Black-faced Laughingthrush, Garrulax affinis

White-whiskered Laughingthrush, Garrulax morrisonianus Chestnut-crowned Laughingthrush, Garrulax erythrocephalus Golden-winged Laughingthrush, Garrulax ngoclinhensis Collared Laughingthrush, Garrulax versini Red-winged Laughingthrush, Garrulax formosus Red-tailed Laughingthrush, Garrulax milnei Grev-faced Liocichla, Liocichla omeiensis Steere's Liocichla, Liocichla steerii Red-faced Liocichla, Liocichla phoenicea White-chested Babbler, Trichastoma rostratum Sulawesi Babbler, Trichastoma celebense Ferruginous Babbler, Trichastoma bicolor Bagobo Babbler, Trichastoma woodi Abbott's Babbler, Malacocincla abbotti Horsfield's Babbler, Malacocincla sepiaria Short-tailed Babbler, Malacocincla malaccensis Ashy-headed Babbler, Malacocincla cinereiceps Brown-capped Babbler, Pellorneum fuscocapillus Marsh Babbler, Pellorneum palustre Buff-breasted Babbler, Pellorneum tickelli Temminck's Babbler, Pellorneum pyrrogenys Spot-throated Babbler, Pellorneum albiventre Puff-throated Babbler, Pellorneum ruficeps Black-capped Babbler, Pellorneum capistratum Palawan Babbler, Malacopteron palawanense Moustached Babbler, Malacopteron magnirostre Sooty-capped Babbler, Malacopteron affine Scaly-crowned Babbler, Malacopteron cinereum Rufous-crowned Babbler, Malacopteron magnum Grey-breasted Babbler, Malacopteron albogulare Large Scimitar Babbler, Pomatorhinus hypoleucos Spot-breasted Scimitar Babbler, Pomatorhinus erythrocnemis Rusty-cheeked Scimitar Babbler, Pomatorhinus erythrogenys Indian Scimitar Babbler, Pomatorhinus horsfieldii White-browed Scimitar Babbler, Pomatorhinus schisticeps Chestnut-backed Scimitar Babbler, Pomatorhinus montanus Streak-breasted Scimitar Babbler, Pomatorhinus ruficollis Red-billed Scimitar Babbler, Pomatorhinus ochraceiceps Coral-billed Scimitar Babbler, Pomatorhinus ferruginosus Slender-billed Scimitar Babbler, Xiphirhynchus superciliaris Short-tailed Scimitar Babbler, Jabouilleia danjoui Long-billed Wren Babbler, Rimator malacoptilus Bornean Wren Babbler, Ptilocichla leucogrammica Striated Wren Babbler, Ptilocichla mindanensis Falcated Wren Babbler, Ptilocichla falcata

Striped Wren Babbler, Kenopia striata Large Wren Babbler, Napothera macrodactyla Rusty-breasted Wren Babbler, Napothera rufipectus Black-throated Wren Babbler, Napothera atrigularis Marbled Wren Babbler, Napothera marmorata Limestone Wren Babbler, Napothera crispifrons Streaked Wren Babbler, Napothera brevicaudata Mountain Wren Babbler, Napothera crassa Luzon Wren Babbler, Napothera rabori Eyebrowed Wren Babbler, Napothera epilepidota Scaly-breasted Wren Babbler, Pnoepyga albiventer Immaculate Wren Babbler, Pnoepyga immaculata Pygmy Wren Babbler, Pnoepyga pusilla Rufous-throated Wren Babbler, Spelaeornis caudatus Mishmi Wren Babbler, Spelaeornis badeigularis Bar-winged Wren Babbler, Spelaeornis troglodytoides Spotted Wren Babbler, Spelaeornis formosus Long-tailed Wren Babbler, Spelaeornis chocolatinus Tawny-breasted Wren Babbler, Spelaeornis longicaudatus Wedge-billed Wren Babbler, Sphenocichla humei Deignan's Babbler, Stachyris rodolphei Buff-chested Babbler, Stachyris ambigua Rufous-fronted Babbler, Stachyris rufifrons Rufous-capped Babbler, Stachyris ruficeps Black-chinned Babbler, Stachyris pyrrhops Golden Babbler, Stachyris chrysaea Pygmy Babbler, Stachyris plateni Golden-crowned Babbler, Stachyris dennistouni Black-crowned Babbler, Stachyris nigrocapitata Rusty-crowned Babbler, Stachyris capitalis Flame-templed Babbler, Stachyris speciosa Chestnut-faced Babbler, Stachyris whiteheadi Luzon Striped Babbler, Stachyris striata Panay Striped Babbler, Stachyris latistriata Negros Striped Babbler, Stachyris nigrorum Palawan Striped Babbler, Stachvris hypogrammica White-breasted Babbler, Stachyris grammiceps Sooty Babbler, Stachyris herberti Grey-throated Babbler, Stachyris nigriceps Grey-headed Babbler, Stachyris poliocephala Snowy-throated Babbler, Stachyris oglei Spot-necked Babbler, Stachyris striolata White-necked Babbler, Stachyris leucotis Black-throated Babbler, Stachyris nigricollis White-bibbed Babbler, Stachyris thoracica

Chestnut-rumped Babbler, Stachyris maculata Chestnut-winged Babbler, Stachyris erythroptera Crescent-chested Babbler, Stachyris melanothorax Tawny-bellied Babbler, Dumetia hyperythra Dark-fronted Babbler, Rhopocichla atriceps Striped Tit Babbler, Macronous gularis Grev-cheeked Tit Babbler. Macronous flavicollis Grey-faced Tit Babbler, Macronous kelleyi Brown Tit Babbler, Macronous striaticeps Fluffy-backed Tit Babbler, Macronous ptilosus Miniature Tit Babbler, Micromacronus levtensis Chestnut-capped Babbler, Timalia pileata Yellow-eyed Babbler, Chrysomma sinense Jerdon's Babbler, Chrysomma altirostre Rufous-tailed Babbler, Chrysomma poecilotis Spiny Babbler, Turdoides nipalensis Iraq Babbler, Turdoides altirostris Common Babbler, Turdoides caudata Striated Babbler, Turdoides earlei White-throated Babbler, Turdoides gularis Slender-billed Babbler, Turdoides longirostris Large Grey Babbler, Turdoides malcolmi Arabian Babbler, Turdoides squamiceps Rufous Babbler, Turdoides subrufa Jungle Babbler, Turdoides striata Orange-billed Babbler, Turdoides rufescens Yellow-billed Babbler. Turdoides affinis Chinese Babax, Babax lanceolatus Giant Babax, Babax waddelli Tibetan Babax, Babax koslowi Silver-eared Mesia, Leiothrix argentauris Red-billed Leiothrix, Leiothrix lutea Cutia. Cutia nipalensis Black-headed Shrike Babbler, Pteruthius rufiventer White-browed Shrike Babbler, Pteruthius flaviscapis Green Shrike Babbler, Pteruthius xanthochlorus Black-eared Shrike Babbler, Pteruthius melanotis Chestnut-fronted Shrike Babbler, Pteruthius aenobarbus White-hooded Babbler, Gampsorhynchus rufulus Rusty-fronted Barwing, Actinodura egertoni Spectacled Barwing, Actinodura ramsayi Black-crowned Barwing, Actinodura sodangorum Hoary-throated Barwing, Actinodura nipalensis Streak-throated Barwing, Actinodura waldeni Streaked Barwing, Actinodura souliei

Taiwan Barwing, Actinodura morrisoniana Blue-winged Minla, Minla cyanouroptera Chestnut-tailed Minla, Minla strigula Red-tailed Minla, Minla ignotincta Golden-breasted Fulvetta, Alcippe chrysotis Gold-fronted Fulvetta, Alcippe variegaticeps Yellow-throated Fulvetta, Alcippe cinerea Rufous-winged Fulvetta, Alcippe castaneceps White-browed Fulvetta, Alcippe vinipectus Chinese Fulvetta, Alcippe striaticollis Spectacled Fulvetta, Alcippe ruficapilla Streak-throated Fulvetta, Alcippe cinereiceps Ludlow's Fulvetta, Alcippe ludlowi Rufous-throated Fulvetta, Alcippe rufogularis Dusky Fulvetta, Alcippe brunnea Rusty-capped Fulvetta, Alcippe dubia Brown Fulvetta, Alcippe brunneicauda Brown-cheeked Fulvetta, Alcippe poioicephala Grey-cheeked Fulvetta, Alcippe morrisonia Javan Fulvetta, Alcippe pyrrhoptera Mountain Fulvetta, Alcippe peracensis Nepal Fulvetta, Alcippe nipalensis Grey-crowned Crocias, Crocias langbianis Spotted Crocias, Crocias albonotatus Rufous-backed Sibia, Heterophasia annectens Rufous Sibia, Heterophasia capistrata Grey Sibia, Heterophasia gracilis Black-backed Sibia, Heterophasia melanoleuca Black-headed Sibia, Heterophasia desgodinsi White-eared Sibia, Heterophasia auricularis Beautiful Sibia, Heterophasia pulchella Long-tailed Sibia, Heterophasia picaoides Striated Yuhina, Yuhina castaniceps Chestnut-crested Yuhina, Yuhina everetti White-naped Yuhina, Yuhina bakeri Whiskered Yuhina, Yuhina flavicollis Burmese Yuhina, Yuhina humilis Stripe-throated Yuhina, Yuhina gularis White-collared Yuhina, Yuhina diademata Rufous-vented Yuhina, Yuhina occipitalis Taiwan Yuhina. Yuhina brunneiceps Black-chinned Yuhina, Yuhina nigrimenta White-bellied Yuhina, Yuhina zantholeuca Fire-tailed Myzornis, Myzornis pyrrhoura

Parrotbills

Order: Passeriformes Family: Paradoxornithidae

Bearded Reedling, Panurus biarmicus Great Parrotbill, Conostoma oemodium Brown Parrotbill, Paradoxornis unicolor Grey-headed Parrotbill, Paradoxornis gularis Three-toed Parrotbill, Paradoxornis paradoxus Black-breasted Parrotbill, Paradoxornis flavirostris Spot-breasted Parrotbill, Paradoxornis guttaticollis Spectacled Parrotbill, Paradoxornis conspicillatus Vinous-throated Parrotbill, Paradoxornis webbianus Brown-winged Parrotbill, Paradoxornis brunneus Ashy-throated Parrotbill, Paradoxornis alphonsianus Grey-hooded Parrotbill, Paradoxornis zappeyi Rusty-throated Parrotbill, Paradoxornis przewalskii Fulvous Parrotbill, Paradoxornis fulvifrons Black-throated Parrotbill, Paradoxornis nipalensis Golden Parrotbill, Paradoxornis verreauxi Short-tailed Parrotbill, Paradoxornis davidianus Black-browed Parrotbill, Paradoxornis atrosuperciliaris Rufous-headed Parrotbill, Paradoxornis ruficeps Reed Parrotbill. Paradoxornis heudei

Rail-babbler

Order: Passeriformes Family: Eupetidae

• Malaysian Rail-babbler, Eupetes macrocerus

Long-tailed tits

Order: Passeriformes Family: Aegithalidae

Long-tailed Tit, Aegithalos caudatus
 White-cheeked Tit, Aegithalos leucogenys
 Black-throated Tit, Aegithalos concinnus
 White-throated Tit, Aegithalos niveogularis
 Black-browed Tit, Aegithalos iouschistos
 Sooty Tit, Aegithalos fuliginosus
 Pygmy Tit, Psaltria exilis

Gerygones

Order: Passeriformes Family: Acanthizidae

 Golden-bellied Gerygone, Gerygone sulphurea Plain Gerygone, Gerygone inornata Rufous-sided Gerygone, Gerygone dorsalis

Tits

Order: Passeriformes Family: Paridae

Sombre Tit, Poecile lugubris Marsh Tit, Poecile palustris Black-bibbed Tit, Poecile hypermelaenus Caspian Tit, Poecile hyrcana Willow Tit, Poecile montana Songar Tit, Poecile songara White-browed Tit, Poecile superciliosa Pere David's Tit, Poecile davidi Grey-headed Chickadee, Poecile cincta Coal Tit, Periparus ater Black-breasted Tit, Periparus rufonuchalis Rufous-vented Tit, Periparus rubidiventris Black-crested Tit, Periparus melanolophus Yellow-bellied Tit, Pardaliparus venustulus Elegant Tit, Pardaliparus elegans Palawan Tit, Pardaliparus amabilis Crested Tit, Lophophanes cristatus Grey-crested Tit, Lophophanes dichrous Great Tit, Parus major Turkestan Tit, Parus bokharensis Green-backed Tit, Parus monticolus White-winged Tit, Parus nuchalis Black-lored Tit, Parus xanthogenys Yellow-cheeked Tit, Parus spilonotus Yellow Tit, Macholophus holsti Eurasian Blue Tit, Cyanistes caeruleus Azure Tit, Cyanistes cyanus Yellow-breasted Tit, Cyanistes flavipectus White-fronted Tit, Sittiparus semilarvatus Varied Tit, Sittiparus varius Yellow-browed Tit, Sylviparus modestus Sultan Tit, Melanochlora sultanea Ground Tit, Pseudopodoces humilis

Nuthatches

Order: Passeriformes Family: Sittidae

• Chestnut-bellied Nuthatch, Sitta castanea Eurasian Nuthatch, Sitta europaea Chestnut-vented Nuthatch, Sitta nagaensis Kashmir Nuthatch, Sitta cashmirensis White-tailed Nuthatch, Sitta himalayensis White-browed Nuthatch, Sitta victoriae Krueper's Nuthatch, Sitta krueperi Snowy-browed Nuthatch, Sitta villosa Yunnan Nuthatch, Sitta yunnanensis White-cheeked Nuthatch, Sitta leucopsis Rock Nuthatch, Sitta neumayer Persian Nuthatch, Sitta tephronota Velvet-fronted Nuthatch, Sitta frontalis Yellow-billed Nuthatch, Sitta solangiae Sulphur-billed Nuthatch, Sitta oenochlamys Blue Nuthatch, Sitta azurea Giant Nuthatch, Sitta magna Beautiful Nuthatch, Sitta formosa

Wallcreeper

Order: Passeriformes Family: Tichodromidae

• Wallcreeper, Tichodroma muraria

Creepers

Order: Passeriformes Family: Certhiidae

Eurasian Treecreeper, Certhia familiaris
 Sichuan Treecreeper, Certhia tianquanensis
 Short-toed Treecreeper, Certhia brachydactyla
 Bar-tailed Treecreeper, Certhia himalayana
 Rusty-flanked Treecreeper, Certhia nipalensis
 Brown-throated Treecreeper, Certhia discolor
 Spotted Creeper, Salpornis spilonotus

Philippine creepers

Order: Passeriformes Family: Rhabdornithidae

 Stripe-sided Rhabdornis, Rhabdornis mysticalis Long-billed Rhabdornis, Rhabdornis grandis Stripe-breasted Rhabdornis, Rhabdornis inornatus

Penduline tits

Order: Passeriformes Family: Remizidae

 Eurasian Penduline Tit, Remiz pendulinus Black-headed Penduline Tit, Remiz macronyx White-crowned Penduline Tit, Remiz coronatus Chinese Penduline Tit, Remiz consobrinus Fire-capped Tit, Cephalopyrus flammiceps

Sunbirds

Order: Passeriformes Family: Nectarinidae

Ruby-cheeked Sunbird, Chalcoparia singalensis Plain Sunbird, Anthreptes simplex Plain-throated Sunbird, Anthreptes malacensis Red-throated Sunbird, Anthreptes rhodolaemus Nile Valley Sunbird, Hedydipna metallica Purple-naped Sunbird, Hypogramma hypogrammicum Purple-rumped Sunbird, Leptocoma zevlonica Crimson-backed Sunbird, Leptocoma minima Copper-throated Sunbird, Leptocoma calcostetha Purple-throated Sunbird, Leptocoma sperata Black Sunbird, Leptocoma sericea Palestine Sunbird, Cinnyris osea Shining Sunbird, Cinnyris habessinicus Purple Sunbird, Cinnyris asiaticus Olive-backed Sunbird, Cinnyris jugularis Flame-breasted Sunbird, Cinnyris solaris Long-billed Sunbird, Cinnyris lotenius Grev-hooded Sunbird, Aethopyga primigenia Mount Apo Sunbird, Aethopyga boltoni Lina's Sunbird, Aethopyga linaraborae Flaming Sunbird, Aethopyga flagrans Metallic-winged Sunbird, Aethopyga pulcherrima Elegant Sunbird, Aethopyga duyvenbodei

Lovely Sunbird, Aethopyga shelleyi Handsome Sunbird, Aethopyga bella Gould's Sunbird, Aethopyga gouldiae White-flanked Sunbird, Aethopyga eximia Green-tailed Sunbird, Aethopyga nipalensis Fork-tailed Sunbird, Aethopyga christinae Black-throated Sunbird, Aethopyga saturata Western Crimson Sunbird, Aethopyga vigorsii Eastern Crimson Sunbird, Aethopyga siparaja Scarlet Sunbird, Aethopyga mystacalis Temminck's Sunbird, Aethopyga temminckii Fire-tailed Sunbird, Aethopyga ignicauda Thick-billed Spiderhunter, Arachnothera crassirostris Spectacled Spiderhunter, Arachnothera flavigaster Long-billed Spiderhunter, Arachnothera robusta Little Spiderhunter, Arachnothera longirostra Yellow-eared Spiderhunter, Arachnothera chrysogenys Naked-faced Spiderhunter, Arachnothera clarae Grev-breasted Spiderhunter, Arachnothera modesta Streaky-breasted Spiderhunter, Arachnothera affinis Streaked Spiderhunter, Arachnothera magna Whitehead's Spiderhunter, Arachnothera juliae

Flowerpeckers

Order: Passeriformes Family: Dicaeidae

Olive-backed Flowerpecker, Prionochilus olivaceus Yellow-breasted Flowerpecker, Prionochilus maculatus Crimson-breasted Flowerpecker, Prionochilus percussus Palawan Flowerpecker, Prionochilus plateni Yellow-rumped Flowerpecker, Prionochilus xanthopygius Scarlet-breasted Flowerpecker, Prionochilus thoracicus Thick-billed Flowerpecker, Dicaeum agile Brown-backed Flowerpecker, Dicaeum everetti Whiskered Flowerpecker, Dicaeum proprium Yellow-vented Flowerpecker, Dicaeum chrysorrheum Yellow-bellied Flowerpecker, Dicaeum melanoxanthum White-throated Flowerpecker, Dicaeum vincens Yellow-sided Flowerpecker, Dicaeum aureolimbatum Olive-capped Flowerpecker, Dicaeum nigrilore Flame-crowned Flowerpecker, Dicaeum anthonyi Bicolored Flowerpecker, Dicaeum bicolor Cebu Flowerpecker, Dicaeum quadricolor Red-striped Flowerpecker, Dicaeum australe

Red-keeled Flowerpecker, Dicaeum haematostictum
Scarlet-collared Flowerpecker, Dicaeum retrocinctum
Orange-bellied Flowerpecker, Dicaeum trigonostigma
Pale-billed Flowerpecker, Dicaeum erythrorhynchos
Plain Flowerpecker, Dicaeum concolor
White-bellied Flowerpecker, Dicaeum hypoleucum
Pygmy Flowerpecker, Dicaeum pygmaeum
Crimson-crowned Flowerpecker, Dicaeum nehrkorni
Red-chested Flowerpecker, Dicaeum maugei
Fire-breasted Flowerpecker, Dicaeum ignipectus
Black-sided Flowerpecker, Dicaeum monticolum
Grey-sided Flowerpecker, Dicaeum celebicum
Blood-breasted Flowerpecker, Dicaeum sanguinolentum
Scarlet-backed Flowerpecker, Dicaeum cruentatum
Scarlet-headed Flowerpecker, Dicaeum trochileum

White-eyes

Order: Passeriformes Family: Zosteropidae

White-breasted White-eye, Zosterops abyssinicus Cevlon White-eve, Zosterops cevlonensis Chestnut-flanked White-eye, Zosterops erythropleurus Oriental White-eye, Zosterops palpebrosus Japanese White-eve, Zosterops japonicus Lowland White-eye, Zosterops meyeni Enggano White-eye, Zosterops salvadorii Black-capped White-eye, Zosterops atricapilla Everett's White-eye, Zosterops everetti Yellowish White-eve, Zosterops nigrorum Mountain White-eye, Zosterops montanus Javan White-eye, Zosterops flavus Yellow-bellied White-eve. Zosterops chloris Ashy-bellied White-eye, Zosterops citrinella Sulawesi White-eve, Zosterops consobrinorum Black-ringed White-eve, Zosterops anomalus Black-crowned White-eye, Zosterops atrifrons Sangihe White-eye, Zosterops nehrkorni Javan Grey-throated White-eye, Lophozosterops javanicus Streak-headed White-eve, Lophozosterops squamiceps Mindanao White-eve, Lophozosterops goodfellowi Pygmy White-eye, Oculocincta squamifrons Timor White-eye, Heleia muelleri Mountain Black-eye, Chlorocharis emiliae Cinnamon White-eye, Hypocryptadius cinnamomeus

Honeyeaters

Order: Passeriformes Family: Meliphagidae

Indonesian Honeyeater, Lichmera limbata
 Yellow-eared Honeyeater, Lichmera flavicans
 Sulawesi Myzomela, Myzomela chloroptera
 Black-breasted Myzomela, Myzomela vulnerata
 Streak-breasted Honeyeater, Meliphaga reticulata
 Bonin Honeyeater, Apalopteron familiare
 Timor Friarbird, Philemon inornatus
 Helmeted Friarbird, Philemon buceroides
 Dark-eared Honeyeater, Myza celebensis
 Greater Streaked Honeyeater, Myza sarasinorum

Old World orioles

Order: Passeriformes Family: Oriolidae

• Timor Oriole, Oriolus melanotis Dark-throated Oriole, Oriolus xanthonotus White-lored Oriole, Oriolus albiloris Philippine Oriole, Oriolus steerii Isabela Oriole, Oriolus isabellae Eurasian Golden Oriole, Oriolus oriolus Black-naped Oriole, Oriolus chinensis Slender-billed Oriole, Oriolus tenuirostris Black-hooded Oriole, Oriolus xanthornus Black Oriole, Oriolus hosii Black-and-crimson Oriole, Oriolus cruentus Maroon Oriole, Oriolus traillii Silver Oriole, Oriolus mellianus Green Figbird, Sphecotheres viridis

Fairy-bluebirds

Order: Passeriformes Family: Irenidae

Asian Fairy-bluebird, Irena puella
 Philippine Fairy-bluebird, Irena cyanogastra

Shrikes

Order: Passeriformes Family: Laniidae

Tiger Shrike, Lanius tigrinus Bull-headed Shrike, Lanius bucephalus Red-backed Shrike, Lanius collurio Rufous-tailed Shrike, Lanius isabellinus Brown Shrike, Lanius cristatus Burmese Shrike, Lanius collurioides Bay-backed Shrike, Lanius vittatus Long-tailed Shrike, Lanius schach Grey-backed Shrike, Lanius tephronotus Grey-capped Shrike, Lanius validirostris Northern Shrike, Lanius excubitor Southern Grev Shrike, Lanius meridionalis Lesser Grey Shrike, Lanius minor Chinese Grey Shrike, Lanius sphenocercus Masked Shrike. Lanius nubicus Woodchat Shrike, Lanius senator

Bushshrikes

Order: Passeriformes Family: Malaconotidae

Black-crowned Tchagra, Tchagra senegalus
 Large Woodshrike, Tephrodornis gularis
 Common Woodshrike, Tephrodornis pondicerianus

Helmetshrikes

Order: Passeriformes Family: Prionopidea

• Rufous-winged Philentoma, Philentoma pyrhoptera Maroon-breasted Philentoma, Philentoma velata

Drongos

Order: Passeriformes Family: Dicruridae

Black Drongo, Dicrurus macrocercus
 Ashy Drongo, Dicrurus leucophaeus
 White-bellied Drongo, Dicrurus caerulescens
 Crow-billed Drongo, Dicrurus annectans
 Bronzed Drongo, Dicrurus aeneus

Lesser Racket-tailed Drongo, Dicrurus remifer
Hair-crested Drongo, Dicrurus hottentottus
Balicassiao, Dicrurus balicassius
Sulawesi Drongo, Dicrurus montanus
Sumatran Drongo, Dicrurus sumatranus
Wallacean Drongo, Dicrurus densus
Spangled Drongo, Dicrurus bracteatus
Andaman Drongo, Dicrurus andamanensis
Greater Racket-tailed Drongo, Dicrurus paradiseus

Magpie-lark

Order: Passeriformes Family: Grallinidae
 Magpie-lark, Grallina cyanoleuca

Woodswallows

Order: Passeriformes Family: Artamidae

Ashy Woodswallow, Artamus fuscus
 White-backed Woodswallow, Artamus monachus
 White-breasted Woodswallow, Artamus leucorynchus
 Black-faced Woodswallow, Artamus cinereus

Bristlehead

Order: Passeriformes Family: Pityriaseidae

• Bornean Bristlehead, Pityriasis gymnocephala

Crows, jays, and magpies

Order: Passeriformes Family: Corvidae

 Crested Jay, Platylophus galericulatus Black Magpie, Platysmurus leucopterus Siberian Jay, Perisoreus infaustus Sichuan Jay, Perisoreus internigrans Eurasian Jay, Garrulus glandarius Black-headed Jay, Garrulus lanceolatus Lidth's Jay, Garrulus lidthi Azure-winged Magpie, Cyanopica cyanus Ceylon Magpie, Urocissa ornata Formosan Magpie, Urocissa caerulea

Gold-billed Magpie, Urocissa flavirostris Blue Magpie, Urocissa erythrorhyncha White-winged Magpie, Urocissa whiteheadi Green Magpie, Cissa chinensis Yellow-breasted Magpie, Cissa hypoleuca Short-tailed Magpie, Cissa thalassina Rufous Treepie. Dendrocitta vagabunda Grey Treepie, Dendrocitta formosae Sumatran Treepie, Dendrocitta occipitalis Bornean Treepie, Dendrocitta cinerascens White-bellied Treepie, Dendrocitta leucogastra Collared Treepie, Dendrocitta frontalis Andaman Treepie, Dendrocitta bayleyi Racket-tailed Treepie, Crypsirina temia Hooded Treepie, Crypsirina cucullata Ratchet-tailed Treepie, Temnurus temnurus Eurasian Magpie, Pica pica Mongolian Ground Jay, Podoces hendersoni Xinjiang Ground Jay, Podoces biddulphi Turkestan Ground Iav, Podoces panderi Iranian Ground Jay, Podoces pleskei Eurasian Nutcracker, Nucifraga caryocatactes Red-billed Chough, Pyrrhocorax pyrrhocorax Yellow-billed Chough, Pyrrhocorax graculus Eurasian Jackdaw, Corvus monedula Daurian Jackdaw, Corvus dauuricus House Crow. Corvus splendens Slender-billed Crow. Corvus enca Piping Crow, Corvus typicus Rook, Corvus frugilegus Carrion Crow, Corvus corone Hooded Crow, Corvus cornix Large-billed Crow, Corvus macrorhynchos Torresian Crow, Corvus orru Collared Crow, Corvus torquatus Brown-necked Raven. Corvus ruficollis Fan-tailed Raven, Corvus rhipidurus Common Raven, Corvus corax

Starlings

Order: Passeriformes Family: Sturnidae

Metallic Starling, Aplonis metallica
 Asian Glossy Starling, Aplonis panayensis

Moluccan Starling, Aplonis mysolensis Short-tailed Starling, Aplonis minor Sulawesi Myna, Basilornis celebensis Helmeted Myna, Basilornis galeatus Apo Myna, Basilornis mirandus Coleto, Sarcops calvus White-necked Myna, Streptocitta albicollis Bare-eyed Myna, Streptocitta albertinae Fiery-browed Myna, Enodes erythrophris Finch-billed Myna, Scissirostrum dubium Spot-winged Starling, Saroglossa spiloptera Golden-crested Myna, Ampeliceps coronatus Common Hill Myna, Gracula religiosa Southern Hill Myna, Gracula indica Enggano Myna, Gracula enganensis Nias Myna, Gracula robusta Ceylon Myna, Gracula ptilogenys White-vented Myna, Acridotheres grandis Crested Myna, Acridotheres cristatellus Iavan Myna, Acridotheres javanicus Pale-bellied Myna, Acridotheres cinereus Jungle Myna, Acridotheres fuscus Collared Myna, Acridotheres albocinctus Bank Myna, Acridotheres ginginianus Common Myna, Acridotheres tristis Vinous-breasted Starling, Acridotheres burmannicus Black-winged Starling, Acridotheres melanopterus Bali Myna, Leucopsar rothschildi Black-collared Starling, Gracupica nigricollis Asian Pied Starling, Gracupica contra Daurian Starling, Sturnia sturnina Chestnut-cheeked Starling, Sturnia philippensis White-shouldered Starling, Sturnia sinensis Chestnut-tailed Starling, Sturnia malabarica White-headed Starling, Sturnia erythropygia White-faced Starling, Sturnia albofrontata Brahminy Starling, Temenuchus pagodarum Rosy Starling, Pastor roseus Red-billed Starling, Sturnus sericeus White-cheeked Starling, Sturnus cineraceus European Starling, Sturnus vulgaris Wattled Starling, Creatophora cinerea Violet-backed Starling, Cinnyricinclus leucogaster Tristram's Starling, Onychognathus tristramii

Old World sparrows

Order: Passeriformes Family: Passeridae

Saxaul Sparrow, Passer ammodendri House Sparrow, Passer domesticus Spanish Sparrow, Passer hispaniolensis Sind Sparrow, Passer pyrrhonotus Russet Sparrow, Passer rutilans Plain-backed Sparrow, Passer flaveolus Dead Sea Sparrow, Passer moabiticus Desert Sparrow, Passer simplex Eurasian Tree Sparrow, Passer montanus Arabian Golden Sparrow, Passer euchlorus Chestnut-shouldered Petronia, Petronia xanthocollis Bush Petronia, Petronia dentata Rock Petronia, Petronia petronia Pale Rockfinch, Carpospiza brachydactyla White-winged Snowfinch, Montifringilla nivalis Black-winged Snowfinch, Montifringilla adamsi White-rumped Snowfinch, Montifringilla taczanowskii Pere David's Snowfinch, Montifringilla davidiana Rufous-necked Snowfinch, Montifringilla ruficollis Blanford's Snowfinch, Montifringilla blanfordi Afghan Snowfinch, Montifringilla theresae

Weavers

Order: Passeriformes Family: Ploceidae

 Rueppell's Weaver, Ploceus galbula Streaked Weaver, Ploceus manyar Baya Weaver, Ploceus philippinus Asian Golden Weaver, Ploceus hypoxanthus Yellow Weaver, Ploceus megarhynchus Bengal Weaver, Ploceus benghalensis Red Fody, Foudia madagascariensis

Waxbills

Order: Passeriformes Family: Estrildidae

Arabian Waxbill, Estrilda rufibarba
 Red Avadavat, Amandava amandava
 Green Avadavat, Sporaeginthus formosus

Zebra Waxbill, Sporaeginthus subflavus Zebra Finch, Taeniopygia guttata Tawny-breasted Parrotfinch, Erythrura hyperythra Pin-tailed Parrotfinch, Erythrura prasina Green-faced Parrotfinch, Erythrura viridifacies Tricolored Parrotfinch, Erythrura tricolor Blue-faced Parrotfinch. Ervthrura trichroa Red-eared Parrotfinch, Erythrura coloria African Silverbill, Euodice cantans White-throated Munia, Euodice malabarica White-rumped Munia, Lonchura striata Javan Munia, Lonchura leucogastroides Dusky Munia, Lonchura fuscans Black-faced Munia, Lonchura molucca Black-throated Munia, Lonchura kelaarti Nutmeg Mannikin, Lonchura punctulata White-bellied Munia, Lonchura leucogastra Black-headed Munia, Lonchura malacca Chestnut Munia, Lonchura atricapilla White-capped Munia, Lonchura ferruginosa Five-colored Munia, Lonchura quinticolor White-headed Munia, Lonchura maja Pale-headed Munia, Lonchura pallida Iava Sparrow, Padda oryzivora Timor Sparrow, Padda fuscata

Finches

Order: Passeriformes Family: Fringillidae

Chaffinch, Fringilla coelebs
 Brambling, Fringilla montifringilla
 Golden-winged Grosbeak, Rhynchostruthus socotranus
 Plain Mountain Finch, Leucosticte nemoricola
 Black-headed Mountain Finch, Leucosticte brandti
 Tawny-headed Mountain Finch, Leucosticte sillemi
 Asian Rosy Finch, Leucosticte arctoa
 Pine Grosbeak, Pinicola enucleator
 Crimson-browed Finch, Pinicola subhimachala
 Blanford's Rosefinch, Carpodacus rubescens
 Dark-breasted Rosefinch, Carpodacus nipalensis
 Common Rosefinch, Carpodacus erythrinus
 Beautiful Rosefinch, Carpodacus pulcherrimus
 Pink-rumped Rosefinch, Carpodacus eos
 Pink-browed Rosefinch, Carpodacus rodochroa

Vinaceous Rosefinch, Carpodacus vinaceus Dark-rumped Rosefinch, Carpodacus edwardsii Pale Rosefinch, Carpodacus synoicus Pallas' Rosefinch, Carpodacus roseus Three-banded Rosefinch, Carpodacus trifasciatus Spot-winged Rosefinch, Carpodacus rhodopeplus White-browed Rosefinch, Carpodacus thura Tibetan Rosefinch, Carpodacus roborowskii Red-mantled Rosefinch, Carpodacus rhodochlamys Streaked Rosefinch, Carpodacus rubicilloides Great Rosefinch, Carpodacus rubicilla Red-fronted Rosefinch, Carpodacus puniceus Parrot Crossbill, Loxia pytyopsittacus Red Crossbill, Loxia curvirostra White-winged Crossbill, Loxia leucoptera Yellow-breasted Greenfinch, Carduelis spinoides Vietnamese Greenfinch, Carduelis monguilloti European Greenfinch, Carduelis chloris Black-headed Greenfinch, Carduelis ambigua Common Redpoll, Carduelis flammea Hoary Redpoll, Carduelis hornemanni Eurasian Siskin, Carduelis spinus European Goldfinch, Carduelis carduelis Oriental Greenfinch, Carduelis sinica Twite. Carduelis flavirostris Eurasian Linnet, Carduelis cannabina Yemen Linnet, Carduelis yemenensis Fire-fronted Serin, Serinus pusillus European Serin, Serinus serinus Syrian Serin, Serinus syriacus Tibetan Serin, Serinus thibetanus Olive-rumped Serin, Serinus rothschildi Yemen Serin. Serinus menachensis Mountain Serin, Serinus estherae Brown Bullfinch, Pyrrhula nipalensis White-cheeked Bullfinch, Pyrrhula leucogenis Orange Bullfinch, Pyrrhula aurantiaca Red-headed Bullfinch, Pyrrhula erythrocephala Grey-headed Bullfinch, Pyrrhula erythaca Eurasian Bullfinch, Pyrrhula pyrrhula Hawfinch. Coccothraustes coccothraustes Yellow-billed Grosbeak, Eophona migratoria Japanese Grosbeak, Eophona personata Black-and-vellow Grosbeak, Mycerobas icterioides Collared Grosbeak, Mycerobas affinis

Spot-winged Grosbeak, Mycerobas melanozanthos White-winged Grosbeak, Mycerobas carnipes Gold-naped Finch, Pyrrhoplectes epauletta Spectacled Finch, Callacanthis burtoni Crimson-winged Finch, Rhodopechys sanguineus Mongolian Finch, Bucanetes mongolicus Trumpeter Finch, Bucanetes githagineus Desert Finch, Rhodospiza obsoletus Long-tailed Rosefinch, Uragus sibiricus Scarlet Finch, Haematospiza sipahi

Buntings and sparrows

Order: Passeriformes Family: Emberizidae

• Przewalski's Rosefinch, Urocynchramus pylzowi Crested Bunting, Melophus lathami Slaty Bunting, Latoucheornis siemsseni Yellowhammer, Emberiza citrinella Pine Bunting, Emberiza leucocephalos Cirl Bunting, Emberiza cirlus Tibetan Bunting, Emberiza koslowi Rock Bunting, Emberiza cia Godlewski's Bunting, Emberiza godlewskii Meadow Bunting, Emberiza cioides Rufous-backed Bunting, Emberiza jankowskii Grey-hooded Bunting, Emberiza buchanani Cinereous Bunting, Emberiza cineracea Ortolan Bunting, Emberiza hortulana Chestnut-breasted Bunting, Emberiza stewarti Cretzschmar's Bunting, Emberiza caesia House Bunting, Emberiza striolata Cinnamon-breasted Bunting, Emberiza tahapisi Ochre-rumped Bunting, Emberiza yessoensis Tristram's Bunting, Emberiza tristrami Chestnut-eared Bunting, Emberiza fucata Little Bunting, Emberiza pusilla Yellow-browed Bunting, Emberiza chrysophrys Rustic Bunting, Emberiza rustica Yellow-throated Bunting, Emberiza elegans Yellow-breasted Bunting, Emberiza aureola Chestnut Bunting, Emberiza rutila Black-headed Bunting, Emberiza melanocephala Red-headed Bunting, Emberiza bruniceps Yellow Bunting, Emberiza sulphurata

Black-faced Bunting, Emberiza spodocephala
Grey Bunting, Emberiza variabilis
Pallas' Bunting, Emberiza pallasi
Reed Bunting, Emberiza schoeniclus
Corn Bunting, Emberiza calandra
American Tree Sparrow, Spizella arborea
Savannah Sparrow, Passerculus sandwichensis
Fox Sparrow, Passerella iliaca
White-crowned Sparrow, Zonotrichia leucophrys
Golden-crowned Sparrow, Zonotrichia atricapilla
Dark-eyed Junco, Junco hyemalis
Lapland Longspur, Calcarius lapponicus
Snow Bunting, Plectrophenax nivalis

See also

• <u>List of birds</u>

References

- Birds of the World: A Checklist, fifth edition and supplements, by James F. Clements, ISBN 0-934797-16-1, Ibis Publishing, 2000 (supplements up to July, 2005).
 - '<u>Description of the ABA Listing Areas and Regions</u> from the American Birding Association.
- Splitting headaches? Recent taxonomic changes affecting the British and Western Palaearctic lists Martin Collinson, British Birds vol 99 (June 2006), 306-323

Birds of Australia

Australia has about 800 species of <u>bird</u>, ranging from the tiny 8 cm Weebill to the huge, flightless <u>Emu</u>.

Many species will immediately seem familiar to visitors from the northern hemisphere - Australian wrens look and act much like northern hemisphere wrens and Australian robins seem to be close relatives of the northern hemisphere robins, but in fact the majority of Australian <u>passerines</u> are descended from the ancestors of the <u>crow</u> family, and the close resemblance is misleading: the cause is not genetic relatedness but convergent evolution.

For example, almost any land habitat offers a niche for a small bird that specialises in finding small insects: the form best fitted to that task is one with long legs for agility and obstacle clearance, moderately-sized wings optimised for quick, short flight, and a large, upright tail for rapid changes of direction. In consequence, the unrelated birds that fill that niche in the Americas and in Australia look and act as though they are close relatives.

- 1 Kinds of Birds
- 2 Regional Lists
- <u>3 Organisations</u>
- <u>4 Regional References and Guides</u>

Kinds of Birds

Australian birds can be classified into six broad categories:

- Old endemics: long-established <u>non-passerines</u> of ultimately Gondwanan origin, notably <u>emus</u>, <u>cassowaries</u> and the huge parrot group
- Corvid radiation: <u>Passerines</u> peculiar to Australasia, descended from the <u>corvid</u> family, and now occupying a vast range of roles and sizes; examples include <u>wrens</u>, robins, <u>magpies</u>, thornbills, <u>pardalotes</u>, the huge <u>honeyeater</u> family, <u>treecreepers</u>, <u>lyrebirds</u>, <u>birds of paradise</u> and <u>bowerbirds</u>
- **Eurasian colonists**: later colonists from Eurasia, including plovers, <u>swallows</u>, <u>larks</u>, <u>thrushes</u>, cisticolas, <u>sunbirds</u> and some <u>raptors</u>
- Recent introductions: birds recently introduced by humans; some, such as the European Goldfinch and Greenfinch, appear to coexist with native fauna; others, such as the Common Starling, Blackbird, House and Tree Sparrows, and the Common Myna, are more destructive
- Migratory shorebirds: a suite of <u>waders</u> in the <u>Scolopacidae</u> and <u>Charadriidae</u> which breed in northern Asia and Alaska and spend the non-breeding season in Australasia
- <u>Seabirds</u>: a large and cosmopolitan group of petrels, <u>albatrosses</u>, <u>sulids</u>, <u>gulls</u>, <u>terns</u> and <u>cormorants</u>, many of which either breed on islands within Australian teritory or frequent its coast and territorial waters

Regional Lists

For comprehensive regional lists, see:

- Australian Birds, covering Australia and its territories
- Australian, New Zealand and Antarctic Birds, the HANZAB list for Australia, New Zealand, Antarctica and the surrounding ocean and islands.

Organisations

National organisations include:

 Birds Australia, also known as the Royal Australasian Ornithologists Union, the leading Australian NGO for birds, birding, ornithology and conservation Australian Bird Study Association, for banders and other field ornithologists Birding-Aus - an Internet mailing list about Australian birds Bird Observers Club of Australia, a major birdwatcher's organisation with 40 branches and affiliate groups

Regional References and Guides

Important regional references include:

 The Handbook of Australian, New Zealand and Antarctic Birds (HANZAB), the pre-eminent scientific reference, a seven-volume encyclopedia. The Atlas of Australian Birds, an extensive detailed survey of Australian bird distributions.

The Action Plan for Australian Birds 2000, Garnett, Stephen T.; & Crowley, Gabriel M., Environment Australia, Canberra, 2000 ISBN 0-642-54683-5, a comprehensive survey of the conservation status of Australian species, with costed conservation and recovery strategies.

Full-coverage field guides in print are as follows, (grouped in rough order of authority):

- **Pizzey:** Field Guide to the Birds of Australia, Pizzey, G and Menkhorst, P (ed), 7th edition, 2003
- **Slater:** *The Slater Field Guide to Australian Birds,* Slater P, Slater P and Slater R, 2003 revised edition
- **Simpson and Day:** *Field Guide to Australian Birds*, Simpson K and Day N, 7th edition, 2004 ISBN 0-670-04180-7
- **Morcombe:** Field Guide to Australian Birds, Morcombe, M, 2nd edition 2003, and complete compact edition 2004

- Flegg: Photographic Field Guide: Birds of Australia, Flegg, J, 2nd edition, 2002
- **Trounson:** Australian Birds: A Concise Photographic Field Guide, Trounson D and Trounson M, 2005 reprint
- Caley: What Bird is That?, Caley, N, 2000 edition

List of Australian, New Zealand and Antarctic birds

- <u>1 Struthioniiformes</u>
- 2 Podicipediformes
- <u>3 Sphenisciformes</u>
- 4 Procellariiformes
- <u>5 Pelecaniformes</u>
- <u>6 Ciconiiformes</u>
- <u>7 Phoenicopteriformes</u>
- 8 Anseriformes
- <u>9 Falconiformes</u>
- 10 Galliformes
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- 12 Gruiformes
- 13 Charadriiformes
- <u>14 Columbiformes</u>
- <u>15 Psittaciformes</u>
- <u>16 Cuculiformes</u>
- <u>17 Strigiformes</u>
- <u>18 Caprimulgiformes</u>
- <u>19 Apodiformes</u>
- 20 Coraciiformes
- <u>21 Passeriformes</u>
- 22 See also

This list is based on the *Handbook of Australian, New Zealand and Antarctic Birds* <u>list, May 2002 update</u>, with the doubtfuls omitted. It includes the birds of Australia, New Zealand, Antarctica, and the surrounding ocean and islands.

• Australian call-ups are based on the List of Australian birds.

Struthioniiformes

- Casuariidae
- Emu, Dromaius novaehollandiae Aus
 King Island Emu, Dromaius ater Aus, extinct
 Kangaroo Island Emu, Dromaius baudinianus Aus, extinct
 - <u>Casuariidae</u>
- o Southern Cassowary, Casuarius casuarius Aus
- Struthionidae
 - o Ostrich, Struthio camelus Aus, introduced, considered locally extinct
- Apterygidae

Brown Kiwi, Apteryx australis - NZ
 Little Spotted Kiwi, Apteryx owenii - NZ
 Great Spotted Kiwi, Apteryx haastii - NZ

Podicipediformes

- Podicipedidae
 - Australasian Grebe, Tachybaptus novaehollandiae Aus, NZ
 Hoary-headed Grebe, Poliocephalus poliocephalus Aus, NZ
 New Zealand Dabchick, Poliocephalus rufopectus NZ
 Great Crested Grebe, Podiceps cristatus Aus, NZ

Sphenisciformes

- Spheniscidae
 - King Penguin, Aptenodytes patagonicus Aus, NZ
 Emperor Penguin, Aptenodytes forsteri Aus, NZ
 Gentoo Penguin, Pygoscelis papua Aus, NZ
 Adelie Penguin, Pygoscelis adeliae Aus, NZ
 Chinstrap Penguin, Pygoscelis antarctica Aus, NZ
 Rockhopper Penguin, Eudyptes chrysocome Aus, NZ
 Fiordland Penguin, Eudyptes pachyrhynchus Aus, NZ
 Snares Penguin, Eudyptes robustus Aus, NZ
 Erect-crested Penguin, Eudyptes sclateri Aus, NZ
 Macaroni Penguin, Eudyptes chrysolophus Aus, NZ
 Yellow-eyed Penguin, Megadyptes antipodes NZ
 Little Penguin, Eudyptula minor Aus, NZ
 Magellanic Penguin, Spheniscus magellanicus Aus, NZ

Procellariiformes

- Diomedeidae
 - Wandering Albatross, Diomedea exulans Aus, NZ
 Royal Albatross, Diomedea epomophora Aus, NZ
 Black-footed Albatross, Diomedea nigripes NZ
 Black-browed Albatross, Diomedea melanophris Aus, NZ
 Shy Albatross, Diomedea cauta Aus, NZ
 Grey-headed Albatross, Diomedea chrysostoma Aus, NZ
 Yellow-nosed Albatross, Diomedea chlororhynchos NZ
 Buller's Albatross, Diomedea bulleri Aus, NZ
 Sooty Albatross, Phoebetria fusca Aus, NZ
 Light-mantled Sooty Albatross, Phoebetria palpebrata Aus, NZ

Procellariidae

Southern Giant Petrel, Macronectes giganteus - Aus Northern Giant Petrel, Macronectes halli - Aus Southern Fulmar, Fulmarus glacialoides - Aus, NZ Antarctic Petrel, Thalassoica antarctica - Aus, NZ Cape Petrel, Daption capense - Aus, NZ Snow Petrel, Pagodroma nivea - Aus Kerguelen Petrel, Lugensa brevirostris - Aus, NZ Tahiti Petrel, Pseudobulweria rostrata - Aus, NZ Great-winged Petrel, Pterodroma macroptera - Aus, NZ White-headed Petrel, Pterodroma lessonii - Aus, NZ Providence Petrel, Pterodroma solandri - Aus Magenta Petrel, Pterodroma magentae Kermadec Petrel, Pterodroma neglecta - Aus, NZ Herald Petrel. Pterodroma arminioniana - Aus Phoenix Petrel, Pterodroma alba - NZ Soft-plumaged Petrel, Pterodroma mollis - Aus, NZ Mottled Petrel, Pterodroma inexpectata - Aus, NZ Juan Fernandez Petrel, Pterodroma externa - Aus, NZ White-necked Petrel. Pterodroma cervicalis - Aus. NZ Barau's Petrel, Pterodroma baraui - Aus Black-winged Petrel, Pterodroma nigripennis - Aus, NZ Chatham Petrel, Pterodroma axillaris - NZ Cook's Petrel. Pterodroma cookii - Aus. NZ Steineger's Petrel, Pterodroma longirostris - NZ Pycroft's Petrel, Pterodroma pycrofti - NZ Gould's Petrel, Pterodroma leucoptera - Aus, NZ Blue Petrel, Halobaena caerulea - Aus, NZ Broad-billed Prion, Pachyptila vittata - Aus, NZ Salvin's Prion, Pachyptila salvini - Aus, NZ Antarctic Prion, Pachyptila desolata - Aus, NZ Slender-billed Prion, Pachyptila belcheri - Aus, NZ Fairy Prion, Pachyptila turtur - Aus, NZ Fulmar Prion, Pachyptila crassirostris - Aus, NZ Bulwer's Petrel, Bulweria bulwerii - Aus White-chinned Petrel, Procellaria aequinoctialis - Aus, NZ Westland Petrel, Procellaria westlandica - Aus, NZ Black Petrel, Procellaria parkinsoni - Aus Grey Petrel, Procellaria cinerea - Aus, NZ Cory's Shearwater, Calonectris diomedea - NZ Streaked Shearwater, Calonectris leucomelas - Aus Wedge-tailed Shearwater, Puffinus pacificus - Aus, NZ Buller's Shearwater, Puffinus bulleri - Aus, NZ Flesh-footed Shearwater, Puffinus carneipes - Aus. NZ

Pink-footed Shearwater, Puffinus creatopus - Aus, NZ Great Shearwater, Puffinus gravis - Aus Sooty Shearwater, Puffinus griseus - Aus Short-tailed Shearwater, Puffinus tenuirostris - Aus, NZ Christmas Shearwater, Puffinus nativitatis - NZ Manx Shearwater, Puffinus puffinus - Aus, NZ Fluttering Shearwater, Puffinis gavia - Aus, NZ Hutton's Shearwater, Puffinus huttoni - Aus, NZ Audubon's Shearwater, Puffinus lherminieri - Aus Little Shearwater, Puffinus assimilis - Aus, NZ

Procellariidae

- South Georgian Diving Petrel, Pelecanoides georgicus Aus Common Diving Petrel, Pelecanoides urinatrix - Aus
- Hydrobatidae
 - Wilson's Storm-petrel, Oceanites oceanicus Aus Grey-backed Storm-petrel, Garrodia nereis - Aus White-faced Storm-petrel, Pelagodroma marina - Aus Black-bellied Storm-petrel, Fregetta tropica - Aus White-bellied Storm-petrel, Fregetta grallaria - Aus Leach's Storm-petrel, Oceanodroma leucorhoa - Aus Matsudaira's Storm-petrel, Oceanodroma matsudairae - Aus

Pelecaniformes

- Pelecanidae
 - o Australian Pelican, Pelecanus conspicillatus Aus
 - Sulidae
 - Cape Gannet, Morus capensis Aus Australasian Gannet, Morus serrator - Aus Masked Booby, Sula dactylatra - Aus Red-footed Booby, Sula sula - Aus Brown Booby, Sula leucogaster - Aus Abbott's Booby, Papasula abbotti - Aus
- Anhingidae
 - o Darter, Anhinga melanogaster Aus
- Phalacrocoracidae
 - Great Cormorant, Phalacrocorax carbo Aus, NZ
 Pied Cormorant, Phalacrocorax varius Aus, NZ
 Little Black Cormorant, Phalacrocorax sulcirostris Aus, NZ
 Black-faced Cormorant, Phalacrocorax fuscescens Aus
 Little Pied Cormorant, Phalacrocorax melanoleucos Aus, NZ
 Spotted Cormorant, Phalacrocorax punctatus NZ
 Pitt Cormorant, Phalacrocorax featherstoni NZ

King Shag, Phalacrocorax carunculatus - NZ Stewart Island Shag, Phalacrocorax chalconotus - NZ Chatham Shag, Phalacrocorax onslowi - NZ Auckland Shag, Phalacrocorax colensoi - NZ Campbell Shag, Phalacrocorax campbelli - NZ Bounty Shag, Phalacrocorax ranfurlyi - NZ Kerguelen Shag, Leucocarbo verrucosus

Fregatidae

- Great Frigatebird, Fregata minor Aus
 Lesser Frigatebird, Fregata ariel Aus
 Christmas Frigatebird, Fregata andrewsi Aus
- Phaethontidae
 - Red-tailed Tropicbird, Phaethon rubricauda Aus, NZ
 White-tailed Tropicbird, Phaethon lepturus Aus

Ciconiiformes

- Ardeidae
 - White-necked Heron, Ardea pacifica Aus, NZ Great-billed Heron, Ardea sumatrana - Aus Great Egret, Ardea alba - Aus, NZ Pied Heron, Ardea picata - Aus Intermediate Egret, Ardea intermedia - Aus, NZ Swinhoe's Egret, Egretta eulophotes Cattle Egret, Ardea ibis - Aus, NZ White-faced Heron, Egretta novaehollandiae - Aus, NZ Little Egret, Egretta garzetta - Aus, NZ Eastern Reef Egret, Egretta sacra - Aus, NZ Striated Heron, Butorides striatus - Aus Black-crowned Night Heron, Nycticorax nycticorax - Aus Nankeen Night Heron, Nycticorax caledonicus - Aus Malayan Night Heron, Gorsachius melanolophus - Aus Little Bittern, Ixobrychus minutus - Aus, NZ New Zealand Little Bittern, Ixobrychus novaezelandiae - NZ, extinct Yellow Bittern, Ixobrychus sinensis - Aus Black Bittern, Ixobrychus flavicollis - Aus Australasian Bittern, Botaurus poiciloptilus - Aus, NZ

Ciconiidae

- White Stork, Ciconia ciconia
 Black-necked Stork, Ephippiorhynchus asiaticus Aus
- Threskiornithidae
 - Glossy Ibis, Plegadis falcinellus Aus, NZ
 Australian White Ibis, Threskiornis molucca Aus, NZ

Straw-necked Ibis, Threskiornis spinicollis - Aus Royal Spoonbill, Platalea regia - Aus, NZ Yellow-billed Spoonbill, Platalea flavipes - Aus, NZ

Phoenicopteriformes

- Phoenicopteridae
 - o Greater Flamingo, Phoenicopterus ruber Aus

Anseriformes

- Anseranatidae
 - Magpie Goose, Anseranas semipalmata Aus
 - Anatidae Plumed Whistling Duck, Dendrocygna eytoni - Aus Wandering Whistling Duck, Dendrocygna arcuata - Aus Argentine Ruddy Duck, Oxyura vittata Blue-billed Duck, Oxvura australis - Aus, NZ Musk Duck, Biziura lobata - Aus Freckled Duck, Stictonetta naevosa - Aus Mute Swan, Cygnus olor - Aus Black Swan, Cygnus atratus - Aus Canada Goose, Branta canadensis - Aus Cape Barren Goose, Cereopsis novaehollandiae - Aus Paradise Shelduck, Tadorna variegata - Aus, NZ Australian Shelduck, Tadorna tadornoides - Aus Radjah Shelduck, Tadorna radjah - Aus Green Pygmy Goose, Nettapus pulchellus - Aus Cotton Pygmy Goose, Nettapus coromandelianus - Aus Australian Wood Duck, Chenonetta jubata - Aus Pink-eared Duck, Malacorhynchus membranaceus - Aus Blue Duck, Hymenolaimus malacorhynchus - NZ Chiloe Widgeon, Anas sibilatrix Chilean Teal, Anas flavirostris

Grey Teal, Anas gibberifrons - Aus

Chestnut Teal, Anas castanea - Aus

Brown Teal, Anas chlorotis - NZ

Auckland Teal, Anas aucklandica - NZ

Campbell Teal, Anas nesiotis - NZ

Northern Pintail, Anas acuta - Aus

Brown Pintail, Anas georgica

Eaton's Pintail, Anas eatoni

Mallard, Anas platyrhynchos - Aus

Pacific Black Duck, Anas superciliosa - Aus Garganey, Anas querquedula - Aus Blue-winged Teal, Anas discors Australasian Shoveler, Anas rhynchotis - Aus Northern Shoveler, Anas clypeata - Aus Hardhead, Aythya australis - Aus New Zealand Scaup, Aythya novaeseelandiae - NZ Auckland Merganser, Mergus australis - NZ

Falconiformes

<u>Accipitridae</u>

Pacific Baza, Aviceda subcristata - Aus Black-shouldered Kite, Elanus axillaris - Aus Letter-winged Kite, Elanus scriptus - Aus Black Kite, Milvus migrans - Aus Brahminy Kite, Haliastur indus - Aus Whistling Kite, Haliastur sphenurus - Aus White-bellied Sea-eagle, Haliaeetus leucogaster - Aus Spotted Harrier, Circus assimilis - Aus Swamp Harrier, Circus approximans - Aus, NZ Grey Goshawk, Accipiter novaehollandiae - Aus Brown Goshawk, Accipiter fasciatus - Aus Collared Sparrowhawk, Accipiter cirrhocephalus - Aus Gurney's Eagle, Aquila gurneyi - Aus Wedge-tailed Eagle, Aquila audax - Aus Little Eagle, Hieraaetus morphnoides - Aus Black-breasted Buzzard, Hamirostra melanosternon - Aus Square-tailed Kite, Lophoictinia isura - Aus Red Goshawk, Erythrotriorchis radiatus - Aus Osprey, Pandion haliaetus - Aus

<u>Falconidae</u>

Brown Falcon, Falco berigora - Aus
 Nankeen Kestrel, Falco cenchroides - Aus
 Australian Hobby, Falco longipennis - Aus
 New Zealand Falcon, Falco novaeseelandiae - NZ
 Grey Falcon, Falco hypoleucos - Aus
 Black Falcon, Falco subniger - Aus
 Peregrine Falcon, Falco peregrinus - Aus

Galliformes

Megapodiidae

- Orange-footed Scrubfowl, Megapodius reinwardt Aus Malleefowl, Leipoa ocellata - Aus Australian Brush-turkey, Alectura lathami - Aus
 - Phasianidae
- o Wild Turkey, Meleagris gallopavo Aus, introduced
- Odontophoridae
 - o California Quail, Callipepla californica Aus, introduced
 - Phasianidae
 - Red Junglefowl, Gallus gallus Aus, introduced
 Indian Peafowl, Pavo cristatus Aus, NZ, introduced
 Common Pheasant, Phasianus colchicus Aus, NZ, introduced
 Chukar, Alectoris chukar NZ, introduced
 Stubble Quail, Coturnix pectoralis Aus
 New Zealand Quail, Coturnix novaezelandiae NZ, extinct
 Brown Quail, Coturnix ypsilophora Aus
 King Quail, Coturnix chinensis Aus

Turniciformes

- Turnicidae
 - Red-backed Button-quail, Turnix maculosa Aus Painted Button-quail, Turnix varia - Aus Chestnut-backed Button-quail, Turnix castanota - Aus Buff-breasted Button-quail, Turnix olivii - Aus Black-breasted Button-quail, Turnix melanogaster - Aus Little Button-quail, Turnix velox - Aus Red-chested Button-quail, Turnix pyrrhothorax - Aus

Gruiformes

- Gruidae
 - Sarus Crane, Grus antigone Aus Brolga, Grus rubicunda - Aus
 - Rallidae
 - Red-necked Crake, Rallina tricolor Aus
 Red-legged Crake, Rallina fasciata Aus
 Buff-banded Rail, Gallirallus philippensis Aus
 Weka, Gallirallus australis NZ
 Lord Howe Woodhen, Gallirallus sylvestris Aus
 Chatham Island Rail, Gallirallus modestus NZ, extinct
 Lewin's Rail, Rallus pectoralis Aus
 Bush-hen, Amaurornis olivaceus Aus

Baillon's Crake, Porzana pusilla - Aus
Australian Spotted Crake, Porzana fluminea - Aus
Ruddy-breasted Crake, Porzana fusca - Aus
Spotless Crake, Porzana tabuensis - Aus
White-browed Crake, Porzana cinerea - Aus
Chestnut Rail, Eulabeornis castaneoventris - Aus
Watercock, Gallicrex cinerea - Aus
Purple Gallinule, Porphyrio martinica
Purple Swamphen, Porphyrio porphyrio - Aus, NZ
Takahe, Porphyrio mantelli - NZ
Dusky Moorhen, Gallinula tenebrosa - Aus
Black-tailed Native-hen, Gallinula ventralis - Aus
Tasmanian Native-hen, Gallinula mortierii - Aus
Eurasian Coot, Fulica atra - Aus

- Otididae
 - o Australian Bustard, Ardeotis australis Aus

Charadriiformes

- Pedionomidae
 - o Plains-wanderer, Pedionomus torquatus Aus
- Rostratulidae
 - o Painted Snipe, Rostratula benghalensis Aus
- Jacanidae
 - Comb-crested Jacana, Irediparra gallinacea Aus
 Pheasant-tailed Jacana, Hydrophasianus chirurgus Aus
- Chionididae
 - Pale-faced Sheathbill, Chionis alba
 Black-faced Sheathbill, Chionis minor Aus
- Burhinidae
 - Bush Stone-curlew, Burhinus grallarius Aus Beach Stone-curlew, Esacus neglectus - Aus
- Haematopodidae
 - Pied Oystercatcher, Haematopus longirostris Aus South Island Pied Oystercatcher, Haematopus finschi - Aus, NZ Chatham Island Oystercatcher, Haematopus chathamensis - NZ Sooty Oystercatcher, Haematopus fuliginosus - Aus Variable Oystercatcher, Haematopus unicolor - NZ
 - Recurvirostridae
 - Black-winged Stilt, Himantopus himantopus Aus Black Stilt, Himantopus novaezelandiae - NZ Banded Stilt, Cladorhynchus leucocephalus - Aus Red-necked Avocet, Recurvirostra novaehollandiae - Aus

Charadriidae

Pacific Golden Plover, Pluvialis fulva - Aus American Golden Plover, Pluvialis dominica Grev Plover, Pluvialis squatarola - Aus New Zealand Dotterel, Charadrius obscurus - NZ Ringed Plover, Charadrius hiaticula - Aus Little Ringed Plover, Charadrius dubius - Aus Kentish Plover, Charadrius alexandrinus - Aus Red-capped Plover, Charadrius ruficapillus - Aus Double-banded Plover, Charadrius bicinctus - Aus Lesser Sand Plover, Charadrius mongolus - Aus Greater Sand Plover, Charadrius leschenaultii - Aus Caspian Plover, Charadrius asiaticus - Aus Oriental Plover, Charadrius veredus - Aus Inland Dotterel. Charadrius australis - Aus Three-banded Plover, Charadrius tricollaris Black-fronted Dotterel, Elsevornis melanops - Aus Hooded Plover, Thinornis rubricollis - Aus Shore Plover, Thinornis novaeseelandiae - NZ Wrybill, Anarhynchus frontalis - NZ Red-kneed Dotterel, Erythrogonys cinctus - Aus Banded Lapwing, Vanellus tricolor - Aus Masked Lapwing, Vanellus miles - Aus Northern Lapwing, Vanellus vanellus Blacksmith Lapwing, Vanellus armatus

Scolopacidae

Latham's Snipe, Gallinago hardwickii - Aus Pin-tailed Snipe, Gallinago stenura - Aus Swinhoe's Snipe, Gallinago megala - Aus Chatham Island Snipe, Coenocorypha pusilla - NZ New Zealand Snipe, Coenocorypha aucklandica - NZ Black-tailed Godwit, Limosa limosa - Aus Hudsonian Godwit, Limosa haemastica - Aus Bar-tailed Godwit, Limosa lapponica - Aus Little Curlew, Numenius minutus - Aus Whimbrel, Numenius phaeopus - Aus Bristle-thighed Curlew, Numenius tahitiensis Eastern Curlew, Numenius madagascariensis - Aus Upland Sandpiper, Bartramia longicauda - Aus Spotted Redshank, Tringa erythropus - Aus Common Redshank, Tringa totanus - Aus Marsh Sandpiper, Tringa stagnatilis - Aus Common Greenshank, Tringa nebularia - Aus Lesser Yellowlegs, Tringa flavipes - Aus

Solitary Sandpiper, Tringa solitaria Green Sandpiper, Tringa ochropus - Aus Wood Sandpiper, Tringa glareola - Aus Terek Sandpiper, Xenus cinereus - Aus Common Sandpiper, Actitis hypoleucos - Aus Grey-tailed Tattler, Heteroscelus brevipes - Aus Wandering Tattler, Heteroscelus incana - Aus Ruddy Turnstone, Arenaria interpres - Aus Asian Dowitcher, Limnodromus semipalmatus - Aus Great Knot, Calidris tenuirostris - Aus Red Knot, Calidris canutus - Aus, NZ Sanderling, Calidris alba - Aus Western Sandpiper, Calidris mauri Little Stint, Calidris minuta - Aus Red-necked Stint, Calidris ruficollis - Aus Long-toed Stint, Calidris subminuta - Aus Least Sandpiper, Calidris minutilla White-rumped Sandpiper, Calidris fuscicollis - Aus Baird's Sandpiper, Calidris bairdii - Aus Pectoral Sandpiper, Calidris melanotos - Aus Sharp-tailed Sandpiper, Calidris acuminata - Aus Dunlin, Calidris alpina - Aus Curlew Sandpiper, Calidris ferruginea - Aus Stilt Sandpiper, Micropalama himantopus - Aus Buff-breasted Sandpiper, Tryngites subruficollis - Aus Broad-billed Sandpiper, Limicola falcinellus - Aus Ruff, Philomachus pugnax - Aus Wilson's Phalarope, Phalaropus tricolor - Aus Red-necked Phalarope, Phalaropus lobatus - Aus Grey Phalarope, Phalaropus fulicarius - Aus

• Glareolidae

 Oriental Pratincole, Glareola maldivarum - Aus Australian Pratincole, Stiltia isabella - Aus

Laridae

South Polar Skua, Catharacta skua
South Polar Skua, Catharacta maccormicki - Aus
Pomarine Jaeger, Stercorarius pomarinus - Aus
Arctic Jaeger, Stercorarius parasiticus - Aus, NZ
Long-tailed Jaeger, Stercorarius longicauda - Aus
Pacific Gull, Larus pacificus - Aus
Black-tailed Gull, Larus crassirostris - Aus
Kelp Gull, Larus dominicanus - Aus, NZ
Silver Gull, Larus novaehollandiae - Aus, NZ
Black-billed Gull. Larus bulleri - NZ

Black-headed Gull, Larus ridibundus - Aus Laughing Gull, Larus atricilla - Aus Franklin's Gull, Larus pipixcan - Aus Sabine's Gull, Larus sabini - Aus Gull-billed Tern, Sterna nilotica - Aus Caspian Tern, Sterna caspia - Aus, NZ Lesser Crested Tern. Sterna bengalensis - Aus Crested Tern, Sterna bergii - Aus Roseate Tern, Sterna dougallii - Aus White-fronted Tern, Sterna striata - Aus Black-naped Tern, Sterna sumatrana - Aus Common Tern, Sterna hirundo - Aus Arctic Tern, Sterna paradisaea - Aus Antarctic Tern, Sterna vittata - Aus Kerguelen Tern, Sterna virgata Black-fronted Tern, Sterna albostriatus - NZ Little Tern. Sterna albifrons - Aus Fairy Tern, Sterna nereis - Aus Bridled Tern, Sterna anaethetus - Aus Sooty Tern, Sterna fuscata - Aus Whiskered Tern, Chlidonias hybridus - Aus White-winged Black Tern, Chlidonias leucopterus - Aus Black Tern, Chlidonias niger - Aus Common Noddy, Anous stolidus - Aus Black Noddy, Anous minutus - Aus Lesser Noddy, Anous tenuirostris - Aus Grey Ternlet, Procelsterna albivittata - Aus White Tern, Gygis alba - Aus

Columbiformes

<u>Columbidae</u>

Rock Dove, Columba livia - Aus, introduced
 White-throated Pigeon, Columba vitiensis - Aus
 White-headed Pigeon, Columba leucomela - Aus
 Laughing Turtle-dove, Streptopelia senegalensis - Aus, introduced
 Spotted Turtle-dove, Streptopelia chinensis - Aus, introduced
 Barbary Dove, Streptopelia risoria - introduced
 Brown Cuckoo-dove, Macropygia amboinensis - Aus
 Emerald Dove, Chalcophaps indica - Aus
 Common Bronzewing, Phaps chalcoptera - Aus
 Brush Bronzewing, Phaps elegans - Aus
 Flock Bronzewing, Phaps histrionica - Aus
 Crested Pigeon, Ocyphaps lophotes - Aus

Spinifex Pigeon, Geophaps plumifera - Aus
Partridge Pigeon, Geophaps smithii - Aus
Squatter Pigeon, Geophaps scripta - Aus

White-quilled Rock-pigeon, Petrophassa albipennis - Aus

Chestnut-quilled Rock-pigeon, Petrophassa rufipennis - Aus

Diamond Dove, Geopelia cuneata - Aus

Peaceful Dove, Geopelia striata - Aus

Bar-shouldered Dove, Geopelia humeralis - Aus

Wonga Pigeon, Leucosarcia melanoleuca - Aus

Norfolk Island Ground-dove, Gallicolumba norfolciensis - Aus, extinct

Banded Fruit-dove, Ptilinopus cinctus - Aus

Wompoo Fruit-dove, Ptilinopus magnificus - Aus

Superb Fruit-dove, Ptilinopus superbus - Aus

Rose-crowned Fruit-dove, Ptilinopus regina - Aus

Elegant Imperial Pigeon, Ducula concinna - Aus

Christmas Island Imperial Pigeon, Ducula whartoni - Aus

Collared Imperial Pigeon, Ducula mullerii - Aus

Pied Imperial Pigeon, Ducula bicolor - Aus

Topknot Pigeon, Lopholaimus antarcticus - Aus

New Zealand Pigeon, Hemiphaga novaeseelandiae - Aus, NZ

Psittaciformes

Cacatuidae

Palm Cockatoo, Probosciger aterrimus - Aus
Red-tailed Black Cockatoo, Calyptorhynchus banksii - Aus
Glossy Black Cockatoo, Calyptorhynchus lathami - Aus
Yellow-tailed Black Cockatoo, Calyptorhynchus funereus - Aus
Short-billed Black Cockatoo, Calyptorhynchus latirostris - Aus
Long-billed Black Cockatoo, Calyptorhynchus baudinii - Aus
Gang-gang Cockatoo, Callocephalon fimbriatum - Aus
Galah, Eolophus roseicapilla - Aus
Long-billed Corella, Cacatua tenuirostris - Aus
Western Corella, Cacatua pastinator - Aus
Little Corella, Cacatua sanguinea - Aus
Major Mitchell's Cockatoo, Cacatua leadbeateri - Aus
Sulphur-crested Cockatoo, Cacatua galerita - Aus
Cockatiel, Nymphicus hollandicus - Aus

Psittacidae

 Rainbow Lorikeet, Trichoglossus haematodus - Aus Scaly-breasted Lorikeet, Trichoglossus chlorolepidotus - Aus Varied Lorikeet, Psitteuteles versicolor - Aus Musk Lorikeet, Glossopsitta concinna - Aus

Little Lorikeet, Glossopsitta pusilla - Aus

Purple-crowned Lorikeet, Glossopsitta porphyrocephala - Aus

Eclectus Parrot, Eclectus roratus - Aus

Red-cheeked Parrot, Geoffrovus geoffrovi - Aus

Double-eyed Fig Parrot, Cyclopsitta diophthalma - Aus

Australian King Parrot, Alisterus scapularis - Aus

Red-winged Parrot, Aprosmictus erythropterus - Aus

Superb Parrot, Polytelis swainsonii - Aus

Regent Parrot, Polytelis anthopeplus - Aus

Princess Parrot, Polytelis alexandrae - Aus

Green Rosella, Platvcercus caledonicus - Aus

Crimson Rosella, Platycercus elegans - Aus

Eastern Rosella, Platycercus eximius - Aus

Pale-headed Rosella, Platvcercus adscitus - Aus

Northern Rosella, Platycercus venustus - Aus

Western Rosella, Platycercus icterotis - Aus

Australian Ringneck, Barnardius zonarius - Aus

Red-capped Parrot, Purpureicephalus spurius - Aus

Blue Bonnet, Northiella haematogaster - Aus

Swift Parrot, Lathamus discolor - Aus

Red-rumped Parrot, Psephotus haematonotus - Aus

Mulga Parrot, Psephotus varius - Aus

Golden-shouldered Parrot, Psephotus chrysopterygius - Aus

Hooded Parrot, Psephotus dissimilis - Aus

Paradise Parrot, Psephotus pulcherrimus - Aus

Antipodes Island Parakeet, Cyanoramphus unicolor - NZ

Red-crowned Parakeet, Cyanoramphus novaezelandiae - Aus, NZ

Yellow-crowned Parakeet, Cyanoramphus auriceps - NZ

Budgerigar, Melopsittacus undulatus - Aus

Bourke's Parrot, Neophema bourkii - Aus

Blue-winged Parrot, Neophema chrysostoma - Aus

Elegant Parrot, Neophema elegans - Aus

Rock Parrot, Neophema petrophila - Aus

Orange-bellied Parrot, Neophema chrysogaster - Aus

Turquoise Parrot, Neophema pulchella - Aus

Scarlet-chested Parrot, Neophema splendida - Aus

Ground Parrot, Pezoporus wallicus - Aus

Night Parrot, Pezoporus occidentalis - Aus

Kea, Nestor notabilis - NZ

Kk, Nestor meridionalis - NZ

Norfolk Island Kaka, Nestor productus - Aus

Kakapo, Strigops habroptilus - NZ

Cuculiformes

- Cuculidae
 - Common Cuckoo, Cuculus canorus African Cuckoo, Cuculus gularis Oriental Cuckoo, Cuculus saturatus - Aus Pallid Cuckoo, Cuculus pallidus - Aus Brush Cuckoo, Cuculus variolosus - Aus Chestnut-breasted Cuckoo, Cuculus castaneiventris - Aus Fan-tailed Cuckoo, Cacomantis flabelliformis - Aus Black-eared Cuckoo, Chrysococcyx osculans - Aus Horsfield's Bronze-cuckoo, Chrysococcyx basalis - Aus Shining Bronze-cuckoo, Chrysococcyx lucidus - Aus, NZ Little Bronze-cuckoo, Chrysococcyx minutillus - Aus Gould's Bronze-cuckoo, Chrysococcyx russatus - Aus Common Koel, Eudynamys scolopacea - Aus Long-tailed Cuckoo, Eudynamys taitensis - Aus, NZ Channel-billed Cuckoo, Scythrops novaehollandiae - Aus
- Centropodidae
 - Pheasant Coucal, Centropus phasianinus Aus

Strigiformes

- Strigidae
 - Buffy Fish-owl, Ketupa ketupu
 Little Owl, Athene noctua
 Powerful Owl, Ninox strenua Aus
 Rufous Owl, Ninox rufa Aus
 Barking Owl, Ninox connivens Aus
 Southern Boobook, Ninox novaeseelandiae Aus, NZ
 Brown Hawk-owl, Ninox scutulata Aus
 Christmas Island Hawk-owl, Ninox natalis Aus
 Laughing Owl, Sceloglaux albifacies
 - Tytonidae
 - Greater Sooty Owl, Tyto tenebricosa Aus Lesser Sooty Owl, Tyto multipunctata - Aus Masked Owl, Tyto novaehollandiae - Aus Barn Owl, Tyto alba - Aus Grass Owl, Tyto capensis - Aus

Caprimulgiformes

- Podargidae
 - Tawny Frogmouth, Podargus strigoides Aus Papuan Frogmouth, Podargus papuensis - Aus Marbled Frogmouth, Podargus ocellatus - Aus
- Caprimulgidae
 - White-throated Nightjar, Eurostopodus mystacalis Aus Spotted Nightjar, Eurostopodus argus - Aus Large-tailed Nightjar, Caprimulgus macrurus - Aus Savanna Nightjar, Caprimulgus affinis - Aus
- Aegothelidae
 - o Australian Owlet-nightjar, Aegotheles cristatus Aus

Apodiformes

- Apodidae
 - Glossy Swiftlet, Collocalia esculenta Aus
 White-rumped Swiftlet, Collocalia spodiopygius Aus
 Uniform Swiftlet, Collocalia vanikorensis Aus
 White-throated Needletail, Hirundapus caudacutus Aus
 Common Swift, Apus apus
 Fork-tailed Swift, Apus pacificus Aus
 House Swift, Apus affinis Aus

Coraciiformes

- Alcedinidae
 - Azure Kingfisher, Alcedo azurea Aus Little Kingfisher, Alcedo pusilla - Aus
- Halcvonidae
 - Buff-breasted Paradise Kingfisher, Tanysiptera sylvia Aus Laughing Kookaburra, Dacelo novaeguineae - Aus Blue-winged Kookaburra, Dacelo leachii - Aus Yellow-billed Kingfisher, Syma torotoro - Aus Forest Kingfisher, Todiramphus macleayii - Aus Red-backed Kingfisher, Todiramphus pyrrhopygia - Aus Sacred Kingfisher, Todiramphus sanctus - Aus Collared Kingfisher, Todiramphus chloris - Aus
- Meropidae
 - o Rainbow Bee-eater, Merops ornatus Aus
- Coraciidae

 Broad-billed Roller, Eurystomus glaucurus Dollarbird, Eurystomus orientalis - Aus

Passeriformes

- Tvrannidae
 - Eastern Kingbird, Tyrannus tyrannus
 Dark-faced Ground Tyrant, Muscisaxicola macloviana
 - Acanthisittidae
 - Rifleman, Acanthisitta chloris NZ
 Bush Wren, Xenicus longipes NZ
 Rock Wren, Xenicus gilviventris NZ
 Stephens Island Wren, Traversia lyalli NZ
- Pittidae
 - Red-bellied Pitta, Pitta erythrogaster Aus Blue-winged Pitta, Pitta moluccensis - Aus Noisy Pitta, Pitta versicolor - Aus Rainbow Pitta, Pitta iris - Aus
- Menuridae
 - Albert's Lyrebird, Menura alberti Aus
 Superb Lyrebird, Menura novaehollandiae Aus
- Atrichornithidae
 - Rufous Scrub-bird, Atrichornis rufescens Aus Noisy Scrub-bird, Atrichornis clamosus - Aus
- Climacteridae
 - White-throated Treecreeper, Cormobates leucophaeus Aus White-browed Treecreeper, Climacteris affinis - Aus Red-browed Treecreeper, Climacteris erythrops - Aus Brown Treecreeper, Climacteris picumnus - Aus Black-tailed Treecreeper, Climacteris melanura - Aus Rufous Treecreeper, Climacteris rufa - Aus
 - Maluridae
 - Purple-crowned Fairy-wren, Malurus coronatus Aus Superb Fairy-wren, Malurus cyaneus Aus Splendid Fairy-wren, Malurus splendens Aus Variegated Fairy-wren, Malurus lamberti Aus Lovely Fairy-wren, Malurus amabilis Aus Blue-breasted Fairy-wren, Malurus pulcherrimus Aus Red-winged Fairy-wren, Malurus elegans Aus White-winged Fairy-wren, Malurus leucopterus Aus Red-backed Fairy-wren, Malurus melanocephalus Aus Southern Emu-wren, Stipiturus malachurus Aus Mallee Emu-wren, Stipiturus mallee Aus

Rufous-crowned Emu-wren, Stipiturus ruficeps - Aus Grey Grasswren, Amytornis barbatus - Aus Black Grasswren, Amytornis housei - Aus White-throated Grasswren, Amytornis woodwardi - Aus Carpentarian Grasswren, Amytornis dorotheae - Aus Striated Grasswren, Amytornis striatus - Aus Short-tailed Grasswren, Amytornis merrotsyi - Aus Eyrean Grasswren, Amytornis goyderi - Aus Thick-billed Grasswren, Amytornis textilis - Aus Dusky Grasswren, Amytornis purnelli - Aus Kalkadoon Grasswren, Amytornis ballarae - Aus

Meliphagidae

Red Wattlebird, Anthochaera carunculata - Aus, NZ Yellow Wattlebird, Anthochaera paradoxa - Aus Little Wattlebird, Anthochaera chrysoptera - Aus Western Wattlebird, Anthocaera lunulata - Aus Spiny-cheeked Honeveater, Acanthagenys rufogularis - Aus Striped Honeyeater, Plectorhyncha lanceolata - Aus Helmeted Friarbird, Philemon buceroides - Aus Silver-crowned Friarbird, Philemon argenticeps - Aus Noisy Friarbird, Philemon corniculatus - Aus Little Friarbird, Philemon citreogularis - Aus Regent Honeveater, Xanthomyza phrygia - Aus Blue-faced Honeyeater, Entomyzon cyanotis - Aus Bell Miner, Manorina melanophrys - Aus Noisy Miner, Manorina melanocephala - Aus Yellow-throated Miner, Manorina flavigula - Aus Black-eared Miner, Manorina melanotis - Aus Macleay's Honeyeater, Xanthotis macleayana - Aus Tawny-breasted Honeyeater, Xanthotis flaviventer - Aus Lewin's Honeyeater, Meliphaga lewinii - Aus Yellow-spotted Honeyeater, Meliphaga notata - Aus Graceful Honeyeater, Meliphaga gracilis - Aus White-lined Honeyeater, Meliphaga albilineata - Aus Bridled Honeyeater, Lichenostomus frenatus - Aus Eungella Honeveater, Lichenostomus hindwoodi - Aus Yellow-faced Honeyeater, Lichenostomus chrysops - Aus Singing Honeyeater, Lichenostomus virescens - Aus Varied Honeyeater, Lichenostomus versicolor - Aus Mangrove Honeyeater, Lichenostomus fasciogularis - Aus White-gaped Honeveater, Lichenostomus unicolor - Aus Yellow Honeyeater, Lichenostomus flavus - Aus White-eared Honeyeater, Lichenostomus leucotis - Aus Yellow-throated Honeveater, Lichenostomus flavicollis - Aus

Yellow-tufted Honeyeater, Lichenostomus melanops - Aus Purple-gaped Honeveater, Lichenostomus cratitius - Aus Grey-headed Honeyeater, Lichenostomus keartlandi - Aus Yellow-plumed Honeveater, Lichenostomus ornatus - Aus Grey-fronted Honeyeater, Lichenostomus plumulus - Aus Fuscous Honeyeater, Lichenostomus fuscus - Aus Yellow-tinted Honeveater, Lichenostomus flavescens - Aus White-plumed Honeyeater, Lichenostomus penicillatus - Aus Black-chinned Honeveater, Melithreptus gularis - Aus Strong-billed Honeyeater, Melithreptus validirostris - Aus Brown-headed Honeyeater, Melithreptus brevirostris - Aus White-throated Honeyeater, Melithreptus albogularis - Aus White-naped Honeyeater, Melithreptus lunatus - Aus Black-headed Honeveater, Melithreptus affinis - Aus Stitchbird, Notiomystis cincta - NZ Green-backed Honeyeater, Glycichaera fallax - Aus Brown Honeyeater, Lichmera indistincta - Aus White-streaked Honeyeater, Trichodere cockerelli - Aus Painted Honeveater, Grantiella picta - Aus Crescent Honeyeater, Phylidonyris pyrrhoptera - Aus New Holland Honeyeater, Phylidonyris novaehollandiae - Aus White-cheeked Honeyeater, Phylidonyris nigra - Aus White-fronted Honeyeater, Phylidonyris albifrons - Aus Tawny-crowned Honeyeater, Phylidonyris melanops - Aus Brown-backed Honeveater, Ramsavornis modestus - Aus Bar-breasted Honeyeater, Ramsayornis fasciatus - Aus Rufous-banded Honeyeater, Conopophila albogularis - Aus Rufous-throated Honeyeater, Conopophila rufogularis - Aus Grev Honeveater, Conopophila whitei - Aus Eastern Spinebill, Acanthorhynchus tenuirostris - Aus Western Spinebill, Acanthorhynchus superciliosus - Aus Banded Honeyeater, Certhionyx pectoralis - Aus Black Honeyeater, Certhionyx niger - Aus Pied Honeyeater, Certhionyx variegatus - Aus Dusky Honeyeater, Myzomela obscura - Aus Red-headed Honeveater, Myzomela erythrocephala - Aus Scarlet Honeyeater, Myzomela sanguinolenta - Aus Bellbird, Anthornis melanura - NZ Tui, Prosthemadera novaeseelandiae - NZ Crimson Chat, Epthianura tricolor - Aus Orange Chat, Epthianura aurifrons - Aus Yellow Chat, Epthianura crocea - Aus White-fronted Chat, Epthianura albifrons - Aus Gibberbird, Ashbvia lovensis - Aus

Pardalotidae

Spotted Pardalote, Pardalotus punctatus - Aus Forty-spotted Pardalote, Pardalotus quadragintus - Aus Red-browed Pardalote. Pardalotus rubricatus - Aus Striated Pardalote, Pardalotus striatus - Aus Eastern Bristlebird, Dasyornis brachypterus - Aus Rufous Bristlebird, Dasvornis broadbenti - Aus Western Bristlebird, Dasyornis longirostris - Aus Pilotbird, Pycnoptilus floccosus - Aus Rockwarbler, Origma solitaria - Aus Fernwren, Oreoscopus gutturalis - Aus Yellow-throated Scrubwren, Sericornis citreogularis - Aus White-browed Scrubwren, Sericornis frontalis - Aus Tasmanian Scrubwren, Sericornis humilis - Aus Atherton Scrubwren, Sericornis keri - Aus Large-billed Scrubwren, Sericornis magnirostris - Aus Tropical Scrubwren, Sericornis beccarii - Aus Scrubtit, Acanthornis magnus - Aus Chestnut-rumped Heathwren, Hylacola pyrrhopygia - Aus Shy Heathwren, Hylacola cauta - Aus Striated Fieldwren, Calamanthus fuliginosus - Aus Rufous Fieldwren, Calamanthus campestris - Aus Redthroat, Pyrrholaemus brunneus - Aus Speckled Warbler, Chthonicola sagittata - Aus Weebill. Smicrornis brevirostris - Aus Brown Gervgone, Gervgone mouki - Aus Grey Warbler, Gerygone igata - NZ Chatham Island Warbler, Gerygone albofrontata - NZ Norfolk Island Gerygone, Gerygone modesta - Aus Dusky Gerygone, Gerygone tenebrosa - Aus Mangrove Gervgone, Gervgone levigaster - Aus Western Gerygone, Gerygone fusca - Aus Lord Howe Gerygone, Gerygone insularis - Aus Large-billed Gerygone, Gerygone magnirostris - Aus Green-backed Gerygone, Gerygone chloronotus - Aus Fairy Gerygone, Gerygone palpebrosa - Aus White-throated Gerygone, Gerygone olivacea - Aus Rusty-tailed Gerygone, Gerygone ruficauda - NZ, extinct Mountain Thornbill, Acanthiza katherina - Aus Brown Thornbill, Acanthiza pusilla - Aus Inland Thornbill, Acanthiza apicalis - Aus Tasmanian Thornbill, Acanthiza ewingii - Aus Chestnut-rumped Thornbill, Acanthiza uropygialis - Aus Slaty-backed Thornbill. Acanthiza robustirostris - Aus

Western Thornbill, Acanthiza inornata - Aus
Buff-rumped Thornbill, Acanthiza reguloides - Aus
Slender-billed Thornbill, Acanthiza iredalei - Aus
Yellow-rumped Thornbill, Acanthiza chrysorrhoa - Aus
Yellow Thornbill, Acanthiza nana - Aus
Striated Thornbill, Acanthiza lineata - Aus
Southern Whiteface, Aphelocephala leucopsis - Aus
Chestnut-breasted Whiteface, Aphelocephala pectoralis - Aus
Banded Whiteface, Aphelocephala nigricincta - Aus

Petroicidae

o Jacky Winter, Microeca fascinans - Aus Lemon-bellied Flycatcher, Microeca flavigaster - Aus Yellow-legged Flycatcher, Microeca griseoceps - Aus Scarlet Robin, Petroica multicolor - Aus New Zealand Tomtit, Petroica macrocephala - NZ Red-capped Robin, Petroica goodenovii - Aus Flame Robin, Petroica phoenicea - Aus Rose Robin, Petroica rosea - Aus Pink Robin, Petroica rodinogaster - Aus New Zealand Robin. Petroica australis - NZ Black Robin, Petroica traversi - NZ Hooded Robin, Melanodryas cucullata - Aus Dusky Robin, Melanodryas vittata - Aus Pale-yellow Robin, Tregellasia capito - Aus White-faced Robin, Tregellasia leucops - Aus Eastern Yellow Robin, Eopsaltria australis - Aus Western Yellow Robin, Eopsaltria griseogularis - Aus White-breasted Robin, Eopsaltria georgiana - Aus Mangrove Robin, Eopsaltria pulverulenta - Aus White-browed Robin, Poecilodryas superciliosa - Aus Grey-headed Robin, Heteromyias albispecularis - Aus Northern Scrub-robin, Drymodes superciliaris - Aus Southern Scrub-robin, Drymodes brunneopygia - Aus

• Orthonychidae

 Logrunner, Orthonyx temminckii - Aus Chowchilla (bird), Orthonyx spaldingii - Aus

Pomatostomidae

- Grey-crowned Babbler, Pomatostomus temporalis Aus White-browed Babbler, Pomatostomus superciliosus - Aus Hall's Babbler, Pomatostomus halli - Aus Chestnut-crowned Babbler, Pomatostomus ruficeps - Aus
 - <u>Cinclosomatidae</u>
- Eastern Whipbird, Psophodes olivaceus Aus
 Western Whipbird, Psophodes nigrogularis Aus

Chirruping Wedgebill, Psophodes cristatus - Aus Chiming Wedgebill, Psophodes occidentalis - Aus Spotted Quail-thrush, Cinclosoma punctatum - Aus Chestnut Quail-thrush, Cinclosoma castanotus - Aus Cinnamon Quail-thrush, Cinclosoma cinnamomeum - Aus Chestnut-breasted Quail-thrush, Cinclosoma castaneothorax - Aus

Neosittidae

- Varied Sittella, Daphoenositta chrysoptera Aus
 - Pachycephalidae
- Whitehead, Mohoua albicilla NZ Yellowhead, Mohoua ochrocephala - NZ Brown Creeper, Mohoua novaeseelandiae - NZ Crested Shrike-tit, Falcunculus frontatus - Aus Crested Bellbird, Oreoica gutturalis - Aus Olive Whistler, Pachycephala olivacea - Aus Red-lored Whistler, Pachycephala rufogularis - Aus Gilbert's Whistler, Pachycephala inornata - Aus Golden Whistler, Pachycephala pectoralis - Aus Mangrove Golden Whistler, Pachycephala melanura - Aus Grev Whistler, Pachycephala simplex - Aus Rufous Whistler, Pachycephala rufiventris - Aus White-breasted Whistler, Pachycephala lanioides - Aus Little Shrike-thrush. Colluricincla megarhyncha - Aus Bower's Shrike-thrush, Colluricincla boweri - Aus Sandstone Shrike-thrush, Colluricincla woodwardi - Aus Grey Shrike-thrush, Colluricincla harmonica - Aus

Dicruridae

Yellow-breasted Boatbill, Machaerirhynchus flaviventer - Aus Black-faced Monarch, Monarcha melanopsis - Aus Black-winged Monarch, Monarcha frater - Aus Spectacled Monarch, Monarcha trivirgatus - Aus White-eared Monarch, Monarcha leucotis - Aus Frilled Monarch, Arses telescophthalmus - Aus Pied Monarch, Arses kaupi - Aus Broad-billed Flycatcher, Myiagra ruficollis - Aus Leaden Flycatcher, Myiagra rubecula - Aus Satin Flycatcher, Myiagra cyanoleuca - Aus Shining Flycatcher, Myiagra alecto - Aus Restless Flycatcher, Myiagra inquieta - Aus Magpie-lark, Grallina cyanoleuca - Aus Rufous Fantail, Rhipidura rufifrons - Aus Grey Fantail, Rhipidura fuliginosa - Aus, NZ Mangrove Grev Fantail, Rhipidura phasiana - Aus Northern Fantail, Rhipidura rufiventris - Aus

Willie Wagtail, Rhipidura leucophrys - Aus Spangled Drongo, Dicrurus bracteatus - Aus

Campephagidae

 Black-faced Cuckoo-shrike, Coracina novaehollandiae - Aus Barred Cuckoo-shrike, Coracina lineata - Aus White-bellied Cuckoo-shrike, Coracina papuensis - Aus Cicadabird, Coracina tenuirostris - Aus Ground Cuckoo-shrike, Coracina maxima - Aus White-winged Triller, Lalage sueurii - Aus Varied Triller, Lalage leucomela - Aus Long-tailed Triller, Lalage leucopyga

Oriolidae

- Yellow Oriole, Oriolus flavocinctus Aus Olive-backed Oriole, Oriolus sagittatus - Aus Figbird, Sphecotheres viridis - Aus
 - Artamidae
- White-breasted Woodswallow, Artamus leucorynchus Aus Masked Woodswallow, Artamus personatus Aus, NZ White-browed Woodswallow, Artamus superciliosus Aus, NZ Black-faced Woodswallow, Artamus cinereus Aus Dusky Woodswallow, Artamus cyanopterus Aus Little Woodswallow, Artamus minor Aus Black Butcherbird, Cracticus quoyi Aus Grey Butcherbird, Cracticus torquatus Aus Black-backed Butcherbird, Cracticus mentalis Aus Pied Butcherbird, Cracticus nigrogularis Aus Pied Currawong, Strepera graculina Aus Black Currawong, Strepera fuliginosa Aus Grey Currawong, Strepera versicolor Aus Australian Magpie, Gymnorhina tibicen Aus, NZ

Paradisaeidae

- Paradise Riflebird, Ptiloris paradiseus Aus Victoria's Riflebird, Ptiloris victoriae - Aus Magnificent Riflebird, Ptiloris magnificus - Aus Trumpet Manucode, Manucodia keraudrenii - Aus
 - Corvidae
- Rook, Corvus frugilegus NZ, introduced
 Australian Raven, Corvus coronoides Aus
 Forest Raven, Corvus tasmanicus Aus
 Little Raven, Corvus mellori Aus
 Little Crow, Corvus bennetti Aus
 Torresian Crow, Corvus orru Aus
 - Corcoracidae

- White-winged Chough, Corcorax melanorhamphos Aus Apostlebird, Struthidea cinerea - Aus
 - Callaeidae
- Kokako, Callaeas cinerea NZ
 Saddleback, Philesturnus carunculatus NZ
 Huia, Heteralocha acutirostris NZ
- Laniidae
 - Brown Shrike, Lanius cristatus Aus Red-backed Shrike, Lanius collurio
- Ptilonorhynchidae
 - Spotted Catbird, Ailuroedus melanotis Aus
 Green Catbird, Ailuroedus crassirostris Aus
 Tooth-billed Bowerbird, Scenopoeetes dentirostris Aus
 Golden Bowerbird, Prionodura newtoniana Aus
 Regent Bowerbird, Sericulus chrysocephalus Aus
 Satin Bowerbird, Ptilonorhynchus violaceus Aus
 Spotted Bowerbird, Chlamydera maculata Aus
 Western Bowerbird, Chlamydera guttata Aus
 Great Bowerbird, Chlamydera nuchalis Aus
 Fawn-breasted Bowerbird, Chlamydera cerviniventris Aus
 - <u>Turnagridae</u>
 - Piopio, Turnagra capensis NZ
 - Alaudidae
 - Singing Bushlark, Mirafra javanica Aus Skylark, Alauda arvensis - Aus
 - Motacillidae
 - Richard's Pipit, Anthus novaeseelandiae Aus, NZ
 Correndera Pipit, Anthus correndera
 Red-throated Pipit, Anthus cervinus Aus
 Yellow Wagtail, Motacilla flava Aus
 Citrine Wagtail, Motacilla citreola Aus
 Grey Wagtail, Motacilla cinerea Aus
 White Wagtail, Motacilla alba Aus
 Black-backed Wagtail, Motacilla lugens Aus
- Prunellidae
 - Dunnock, Prunella modularis NZ
 - Passeridae
 - House Sparrow, Passer domesticus Aus, NZ, introduced Eurasian Tree Sparrow, Passer montanus - Aus, introduced Zebra Finch, Taeniopygia guttata - Aus Double-barred Finch, Taeniopygia bichenovii - Aus Long-tailed Finch, Poephila acuticauda - Aus Black-throated Finch, Poephila cincta - Aus Masked Finch, Poephila personata - Aus

Crimson Finch, Neochmia phaeton - Aus Star Finch, Neochmia ruficauda - Aus Plum-headed Finch, Neochmia modesta - Aus Red-browed Finch, Neochmia temporalis - Aus Diamond Firetail, Stagonopleura guttata - Aus Beautiful Firetail, Stagonopleura bella - Aus Red-eared Firetail. Stagonopleura oculata - Aus Painted Finch, Emblema pictum - Aus Nutmeg Mannikin, Lonchura punctulata - Aus Yellow-rumped Mannikin, Lonchura flaviprymna - Aus Chestnut-breasted Mannikin, Lonchura castaneothorax - Aus Java Sparrow, Lonchura oryzivora - Aus Pale-headed Munia, Lonchura pallida - Aus Pictorella Mannikin, Heteromunia pectoralis - Aus Blue-faced Parrot-Finch, Erythrura trichroa - Aus Gouldian Finch, Erythrura gouldiae - Aus

- <u>Fringillidae</u>
- Common Chaffinch, Fringilla coelebs Aus, NZ, introduced European Greenfinch, Carduelis chloris - Aus, NZ, introduced European Goldfinch, Carduelis carduelis - Aus, NZ, introduced Common Redpoll, Carduelis flammea - Aus, NZ, introduced Long-tailed Meadowlark, Sturnella loyca - introduced
 - Emberizidae
- Yellowhammer, Emberiza citrinella Aus, NZ, introduced
 Cirl Bunting, Emberiza cirlus NZ, introduced
- Nectariniidae
 - Yellow-bellied Sunbird, Nectarinia jugularis Aus
- Dicaeidae
 - Mistletoebird, Dicaeum hirundinaceum Aus Red-capped Flowerpecker, Dicaeum geelvinkianum - Aus
 - Hirundinidae
 - White-rumped Swallow, Tachycineta leucorrhoa
 White-backed Swallow, Cheramoeca leucosternus Aus
 Sand Martin, Riparia riparia
 Barn Swallow, Hirundo rustica Aus
 Welcome Swallow, Hirundo neoxena Aus
 Red-rumped Swallow, Hirundo daurica Aus
 Tree Martin, Hirundo nigricans Aus
 Fairy Martin, Hirundo ariel Aus
 Asian House Martin, Hirundo dasypus Aus
- Pycnonotidae
 - o Red-whiskered Bulbul, Pycnonotus jocosus Aus
 - Sylviidae

Clamorous Reed Warbler, Acrocephalus stentoreus - Aus
 Oriental Reed Warbler, Acrocephalus orientalis - Aus
 Willow Warbler, Phylloscopus trochilus
 Arctic Warbler, Phylloscopus borealis - Aus
 Tawny Grassbird, Megalurus timoriensis - Aus
 Little Grassbird, Megalurus gramineus - Aus
 Fernbird, Bowdleria punctata - NZ
 Chatham Island Fernbird, Bowdleria rufescens - NZ
 Spinifexbird, Eremiornis carteri - Aus
 Rufous Songlark, Cincloramphus mathewsi - Aus
 Brown Songlark, Cincloramphus cruralis - Aus
 Zitting Cisticola, Cisticola juncidis - Aus
 Golden-headed Cisticola, Cisticola exilis - Aus

Zosteropidae

- Christmas Island White-eye, Zosterops natalis Aus Pale White-eye, Zosterops citrinellus - Aus Yellow White-eye, Zosterops luteus - Aus Silvereye, Zosterops lateralis - Aus, NZ Robust White-eye, Zosterops strenuus - Aus Slender-billed White-eye, Zosterops tenuirostris - Aus White-chested White-eye, Zosterops albogularis - Aus
 - <u>Muscicapidae</u>
- Blue Rock Thrush, Monticola solitarius Aus
 Bassian Thrush, Zoothera lunulata Aus
 Russet-tailed Thrush, Zoothera heinei Aus
 Common Blackbird, Turdus merula Aus
 Island Thrush, Turdus poliocephalus Aus
 Song Thrush, Turdus philomelos Aus
 Narcissus Flycatcher, Ficedula narcissina Aus
 Blue-and-White Flycatcher, Cyanoptila cyanomelana Aus
 Mountain Wheatear, Oenanthe monticola

Sturnidae

Tasman Starling, Aplonis fusca - Aus Metallic Starling, Aplonis metallica - Aus Singing Starling, Aplonis cantoroides - Aus Common Starling, Sturnus vulgaris - Aus, NZ, introduced Purple-backed Starling, Sturnus sturninus Common Myna, Acridotheres tristis - Aus, NZ, introduced

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The Birds Australia list is considered unofficial. It is based on Christidis and Boles, **The Taxonomy and Species of Birds of Australia and its Territories**, RAOU, Melbourne, 1994, but incorporates suggested changes in taxonomy such as new species accepted by the Birds Australia Rarities Committee.

Struthioniiformes

Struthionidae

Ostrich, Struthio camelus - introduced, now considered locally extinct

Casuariidae

 Southern Cassowary, Casuarius casuarius Emu, Dromaius novaehollandiae King Island Emu, Dromaius ater - extinct Kangaroo Island Emu, Dromaius baudinianus - extinct

Galliformes

Megapodiidae

 Australian Brush-turkey, Alectura lathami Malleefowl, Leipoa ocellata Orange-footed Scrubfowl, Megapodius reinwardt

Phasianidae

Stubble Quail, Coturnix pectoralis
 Brown Quail, Coturnix ypsilophora
 King Quail, Coturnix chinensis
 Red Junglefowl, Gallus gallus
 Common Pheasant, Phasianus colchicus
 Indian Peafowl, Pavo cristatus
 Wild Turkey, Meleagris gallopavo

Odontophoridae

• California Quail, Callipepla californica

Anseriformes

Anseranatidae

Magpie Goose, Anseranas semipalmata

Anatidae

Plumed Whistling-Duck, Dendrocygna eytoni Wandering Whistling-Duck, Dendrocygna arcuata Blue-billed Duck, Oxyura australis Musk Duck, Biziura lobata Freckled Duck, Stictonetta naevosa Mute Swan, Cygnus olor Black Swan, Cygnus atratus Canada Goose, Branta canadensis Cape Barren Goose, Cereopsis novaehollandiae Australian Shelduck, Tadorna tadornoides Paradise Shelduck, Tadorna variegata Radjah Shelduck, Tadorna radjah Australian Wood Duck, Chenonetta jubata Cotton Pygmy-goose, Nettapus coromandelianus Green Pygmy-goose, Nettapus pulchellus Mallard, Anas platyrhynchos Pacific Black Duck, Anas superciliosa Australasian Shoveler, Anas rhynchotis Northern Shoveler, Anas clypeata Grey Teal, Anas gracilis Chestnut Teal, Anas castanea Northern Pintail. Anas acuta Garganey, Anas querquedula Pink-eared Duck, Malacorhynchus membranaceus Hardhead, Aythya australis

Podicipediformes

Podicipedidae

 Australasian Grebe, Tachybaptus novaehollandiae Hoary-headed Grebe, Poliocephalus poliocephalus Great Crested Grebe, Podiceps cristatus

Sphenisciformes

Spheniscidae

King Penguin, Aptenodytes patagonicus
 Emperor Penguin, Aptenodytes forsteri
 Gentoo Penguin, Pygoscelis papua
 Adelie Penguin, Pygoscelis adeliae
 Chinstrap Penguin, Pygoscelis antarctica
 Rockhopper Penguin, Eudyptes chrysocome
 Fiordland Penguin, Eudyptes pachyrhynchus
 Snares Penguin, Eudyptes robustus
 Erect-crested Penguin, Eudyptes sclateri
 Macaroni Penguin, Eudyptes chrysolophus
 Royal Penguin, Eudyptes schlegeli
 Little Penguin, Eudyptula minor
 Magellanic Penguin, Spheniscus magellanicus

Procellariiformes

Procellariidae

Common Diving-Petrel, Pelecanoides urinatrix South Georgian Diving-Petrel, Pelecanoides georgicus Southern Giant-Petrel, Macronectes giganteus Northern Giant-Petrel, Macronectes halli Southern Fulmar, Fulmarus glacialoides Antarctic Petrel, Thalassoica antarctica Cape Petrel, Daption capense Snow Petrel, Pagodroma nivea Kerguelen Petrel, Lugensa brevirostris Tahiti Petrel, Pseudobulweria rostrata Great-winged Petrel, Pterodroma macroptera White-headed Petrel, Pterodroma lessonii Providence Petrel, Pterodroma solandri Kermadec Petrel, Pterodroma neglecta Herald Petrel, Pterodroma arminjoniana Soft-plumaged Petrel, Pterodroma mollis Mottled Petrel, Pterodroma inexpectata

Juan Fernandez Petrel, Pterodroma externa White-necked Petrel, Pterodroma cervicalis Barau's Petrel, Pterodroma baraui Black-winged Petrel, Pterodroma nigripennis Cook's Petrel, Pterodroma cookii Gould's Petrel, Pterodroma leucoptera Blue Petrel, Halobaena caerulea Broad-billed Prion, Pachyptila vittata Salvin's Prion, Pachyptila salvini Antarctic Prion, Pachyptila desolata Slender-billed Prion, Pachyptila belcheri Fairy Prion, Pachyptila turtur Fulmar Prion, Pachyptila crassirostris Bulwer's Petrel, Bulweria bulwerii White-chinned Petrel, Procellaria aequinoctialis Westland Petrel, Procellaria westlandica Black Petrel, Procellaria parkinsoni Grey Petrel, Procellaria cinerea Streaked Shearwater, Calonectris leucomelas Wedge-tailed Shearwater, Puffinus pacificus Buller's Shearwater, Puffinus bulleri Flesh-footed Shearwater, Puffinus carneipes Pink-footed Shearwater, Puffinus creatopus Great Shearwater, Puffinus gravis Sooty Shearwater, Puffinus griseus Short-tailed Shearwater, Puffinus tenuirostris Manx Shearwater, Puffinus puffinus Fluttering Shearwater, Puffinis gavia Hutton's Shearwater, Puffinus huttoni Audubon's Shearwater, Puffinus lherminieri Little Shearwater, Puffinus assimilis Newell's Shearwater, Puffinus auricularis

Diomedeidae

Wandering Albatross, Diomedea exulans
 Tristan Albatross, Diomedea dabbenena
 Antipodean Albatross, Diomedea antipodensis
 Gibson's Albatross, Diomedea gibsoni
 Southern Royal Albatross, Diomedea epomophora
 Northern Royal Albatross, Diomedea sanfordi
 Amsterdam Albatross, Diomedea amsterdamensis
 Laysan Albatross, Phoebastria immutabilis

Black-browed Albatross, Thalassarche melanophrys
Campbell Albatross, Thalassarche impavida
Buller's Albatross, Thalassarche bulleri
Pacific Albatross, Thalassarche platei
Shy Albatross, Thalassarche cauta
White-capped Albatross, Thalassarche steadi
Salvin's Albatross, Thalassarche salvini
Chatham Albatross, Thalassarche eremita
Atlantic Yellow-nosed Albatross, Thalassarche chlororhynchos
Indian Yellow-nosed Albatross, Thalassarche carteri
Grey-headed Albatross, Thalassarche chrysostoma
Sooty Albatross, Phoebetria fusca
Light-mantled Sooty Albatross, Phoebetria palpebrata

Hydrobatidae

 Wilson's Storm-Petrel, Oceanites oceanicus Grey-backed Storm-Petrel, Garrodia nereis White-faced Storm-Petrel, Pelagodroma marina Black-bellied Storm-Petrel, Fregetta tropica White-bellied Storm-Petrel, Fregetta grallaria Leach's Storm-Petrel, Oceanodroma leucorhoa Matsudaira's Storm-Petrel, Oceanodroma matsudairae

Pelecaniformes

Phaethontidae

 Red-tailed Tropicbird, Phaethon rubricauda White-tailed Tropicbird, Phaethon lepturus

Sulidae

Abbott's Booby, Papasula abbotti
 Cape Gannet, Morus capensis
 Australasian Gannet, Morus serrator
 Masked Booby, Sula dactylatra
 Tasman Booby, Sula tasmani - extinct

Red-footed Booby, Sula sula Brown Booby, Sula leucogaster

Anhingidae

• <u>Darter</u>, Anhinga melanogaster

Phalacrocoracidae

 Little Pied Cormorant, Phalacrocorax melanoleucos Black-faced Cormorant, Phalacrocorax fuscescens Pied Cormorant, Phalacrocorax varius Little Black Cormorant, Phalacrocorax sulcirostris Great Cormorant, Phalacrocorax carbo Imperial Shag, Leucocarbo atriceps

Pelecanidae

• Australian Pelican, Pelecanus conspicillatus

Fregatidae

 Great Frigatebird, Fregata minor Lesser Frigatebird, Fregata ariel Christmas Frigatebird, Fregata andrewsi

Ciconiiformes

Ardeidae

 White-faced Heron, Egretta novaehollandiae Little Egret, Egretta garzetta Eastern Reef Egret, Egretta sacra White-necked Heron, Ardea pacifica Great-billed Heron, Ardea sumatrana Pied Heron, Ardea picata

Great Egret, Ardea alba
Intermediate Egret, Ardea intermedia
Cattle Egret, Ardea ibis
Striated Heron, Butorides striatus
Black-crowned Night Heron, Nycticorax nycticorax
Nankeen Night Heron, Nycticorax caledonicus
Malayan Night Heron, Gorsachius melanolophus
Little Bittern, Ixobrychus minutus
Yellow Bittern, Ixobrychus sinensis
Black Bittern, Ixobrychus flavicollis
Australasian Bittern, Botaurus poiciloptilus

Threskiornithidae

Glossy Ibis, Plegadis falcinellus
 Australian White Ibis, Threskiornis molucca
 Straw-necked Ibis, Threskiornis spinicollis
 Royal Spoonbill, Platalea regia
 Yellow-billed Spoonbill, Platalea flavipes

Ciconiidae

• Black-necked Stork, Ephippiorhynchus asiaticus

Phoenicopteriformes

Phoenicopteridae

• Greater Flamingo, Phoenicopterus ruber

Falconiformes

Accipitridae

 Osprey, Pandion haliaetus Pacific Baza, Aviceda subcristata

Black-shouldered Kite, Elanus axillaris Letter-winged Kite, Elanus scriptus Square-tailed Kite, Lophoictinia isura Black-breasted Buzzard, Hamirostra melanosternon Black Kite, Milvus migrans Whistling Kite, Haliastur sphenurus Brahminy Kite, Haliastur indus White-bellied Sea-Eagle, Haliaeetus leucogaster Spotted Harrier, Circus assimilis Swamp Harrier, Circus approximans Brown Goshawk, Accipiter fasciatus Grey Goshawk, Accipiter novaehollandiae Collared Sparrowhawk, Accipiter cirrhocephalus Red Goshawk, Erythrotriorchis radiatus Gurney's Eagle, Aquila gurneyi Wedge-tailed Eagle, Aquila audax Little Eagle, Hieraaetus morphnoides

Falconidae

Brown Falcon, Falco berigora
 Australian Hobby, Falco longipennis
 Grey Falcon, Falco hypoleucos
 Black Falcon, Falco subniger
 Peregrine Falcon, Falco peregrinus
 Nankeen Kestrel, Falco cenchroides

Gruiformes

Gruidae

• Sarus Crane, Grus antigone Brolga, Grus rubicunda

Rallidae

 Red-necked Crake, Rallina tricolor Red-legged Crake, Rallina fasciata Buff-banded Rail, Gallirallus philippensis

Lord Howe Woodhen, Gallirallus sylvestris Lewin's Rail, Rallus pectoralis Bush-hen, Amaurornis olivaceus White-breasted Waterhen, Amaurornis phoenicurus Baillon's Crake, Porzana pusilla Australian Spotted Crake, Porzana fluminea Ruddy-breasted Crake, Porzana fusca Spotless Crake, Porzana tabuensis White-browed Crake, Porzana cinerea Chestnut Rail, Eulabeornis castaneoventris Watercock, Gallicrex cinerea Purple Swamphen, Porphyrio porphyrio White Gallinule, Porphyrio albus - extinct Dusky Moorhen, Gallinula tenebrosa Black-tailed Native-hen, Gallinula ventralis Tasmanian Native-hen, Gallinula mortierii Eurasian Coot, Fulica atra

Otididae

Australian Bustard, Ardeotis australis

Turniciformes

Turnicidae

Red-backed Button-quail, Turnix maculosa
 Little Button-quail, Turnix velox
 Red-chested Button-quail, Turnix pyrrhothorax
 Chestnut-backed Button-quail, Turnix castanota
 Buff-breasted Button-quail, Turnix olivii
 Painted Button-quail, Turnix varia
 Black-breasted Button-quail, Turnix melanogaster

Charadriiformes

Pedionomidae

• Plains Wanderer, Pedionomus torquatus

Scolopacidae

• Latham's Snipe, Gallinago hardwickii Pin-tailed Snipe, Gallinago stenura Swinhoe's Snipe, Gallinago megala Black-tailed Godwit, Limosa limosa Hudsonian Godwit, Limosa haemastica Bar-tailed Godwit, Limosa lapponica Little Curlew, Numenius minutus Whimbrel, Numenius phaeopus Eastern Curlew, Numenius madagascariensis Upland Sandpiper, Bartramia longicauda Spotted Redshank, Tringa erythropus Common Redshank, Tringa totanus Marsh Sandpiper, Tringa stagnatilis Common Greenshank, Tringa nebularia Lesser Yellowlegs, Tringa flavipes Wood Sandpiper, Tringa glareola Green Sandpiper, Tringa ochropus Terek Sandpiper, Xenus cinereus Common Sandpiper, Actitis hypoleucos Grey-tailed Tattler, Heteroscelus brevipes Wandering Tattler, Heteroscelus incana Ruddy Turnstone, Arenaria interpres Asian Dowitcher, Limnodromus semipalmatus Short-billed Dowitcher, Limnodromus griseus Great Knot, Calidris tenuirostris Red Knot, Calidris canutus Sanderling, Calidris alba Little Stint, Calidris minuta Red-necked Stint. Calidris ruficollis Long-toed Stint, Calidris subminuta White-rumped Sandpiper, Calidris fuscicollis Baird's Sandpiper, Calidris bairdii Pectoral Sandpiper, Calidris melanotos

Sharp-tailed Sandpiper, Calidris acuminata
Dunlin, Calidris alpina
Curlew Sandpiper, Calidris ferruginea
Stilt Sandpiper, Micropalama himantopus
Buff-breasted Sandpiper, Tryngites subruficollis
Broad-billed Sandpiper, Limicola falcinellus
Ruff, Philomachus pugnax
Wilson's Phalarope, Phalaropus tricolor
Red-necked Phalarope, Phalaropus lobatus
Grey Phalarope, Phalaropus fulicarius

Rostratulidae

• Australian Painted Snipe, Rostratula australis

Jacanidae

• Comb-crested Jacana, Irediparra gallinacea Pheasant-tailed Jacana, Hydrophasianus chirurgus

Chionididae

• Black-faced Sheathbill, Chionis minor

Burhinidae

• Bush Stone-curlew, Burhinus grallarius Beach Stone-curlew, Esacus neglectus

Haematopodidae

Pied Oystercatcher, Haematopus longirostris
 Sooty Oystercatcher, Haematopus fuliginosus
 South Island Pied Oystercatcher, Haematopus finschi

Recurvirostridae

 Black-winged Stilt, Himantopus himantopus Banded Stilt, Cladorhynchus leucocephalus Red-necked Avocet, Recurvirostra novaehollandiae

Charadriidae

Pacific Golden Plover, Pluvialis fulva Grey Plover, Pluvialis squatarola Ringed Plover, Charadrius hiaticula Little Ringed Plover, Charadrius dubius Kentish Plover, Charadrius alexandrinus Red-capped Plover, Charadrius ruficapillus Double-banded Plover, Charadrius bicinctus Lesser Sand Plover, Charadrius mongolus Greater Sand Plover, Charadrius leschenaultii Caspian Plover, Charadrius asiaticus Oriental Plover, Charadrius veredus Inland Dotterel, Charadrius australis Black-fronted Dotterel, Elseyornis melanops Hooded Plover, Thinornis rubricollis Red-kneed Dotterel, Erythrogonys cinctus Banded Lapwing, Vanellus tricolor Masked Lapwing, Vanellus miles

Glareolidae

 Oriental Pratincole, Glareola maldivarum Australian Pratincole, Stiltia isabella

Laridae

Brown Skua, Catharacta lonnbergi
 South Polar Skua, Catharacta maccormicki
 Pomarine Jaeger, Stercorarius pomarinus
 Arctic Jaeger, Stercorarius parasiticus
 Long-tailed Jaeger, Stercorarius longicauda
 Pacific Gull, Larus pacificus
 Black-tailed Gull, Larus crassirostris
 Kelp Gull, Larus dominicanus

Silver Gull, Larus novaehollandiae Black-headed Gull, Larus ridibundus Laughing Gull, Larus atricilla Franklin's Gull, Larus pipixcan Sabine's Gull, Larus sabini Gull-billed Tern, Sterna nilotica Caspian Tern, Sterna caspia Lesser Crested Tern, Sterna bengalensis Crested Tern, Sterna bergii Roseate Tern, Sterna dougallii White-fronted Tern, Sterna striata Black-naped Tern, Sterna sumatrana Common Tern, Sterna hirundo Arctic Tern, Sterna paradisaea Antarctic Tern, Sterna vittata Little Tern, Sterna albifrons Fairy Tern, Sterna nereis Bridled Tern, Sterna anaethetus Sooty Tern, Sterna fuscata Whiskered Tern, Chlidonias hybridus White-winged Black Tern, Chlidonias leucopterus Black Tern, Chlidonias niger Common Noddy, Anous stolidus Black Noddy, Anous minutus Lesser Noddy, Anous tenuirostris Grey Ternlet, Procelsterna albivittata White Tern, Gygis alba

Columbiformes

Columbidae

 New Zealand Pigeon, Hemiphaga novaeseelandiae - extinct Norfolk Island Ground-dove, Gallicolumba norfolciensis White-throated Pigeon, Columba vitiensis - extinct Rock Dove, Columba livia White-headed Pigeon, Columba leucomela Laughing Turtle-Dove, Streptopelia senegalensis Spotted Turtle-Dove, Streptopelia chinensis Brown Cuckoo-Dove, Macropygia amboinensis Emerald Dove, Chalcophaps indica

Common Bronzewing, Phaps chalcoptera Brush Bronzewing, Phaps elegans Flock Bronzewing, Phaps histrionica Crested Pigeon, Ocyphaps lophotes Spinifex Pigeon, Geophaps plumifera Partridge Pigeon, Geophaps smithii Squatter Pigeon, Geophaps scripta White-quilled Rock-Pigeon, Petrophassa albipennis Chestnut-quilled Rock-Pigeon, Petrophassa rufipennis Diamond Dove, Geopelia cuneata Peaceful Dove, Geopelia striata Bar-shouldered Dove, Geopelia humeralis Wonga Pigeon, Leucosarcia melanoleuca Banded Fruit-Dove, Ptilinopus cinctus Wompoo Fruit-Dove, Ptilinopus magnificus Superb Fruit-Dove, Ptilinopus superbus Rose-crowned Fruit-Dove, Ptilinopus regina Elegant Imperial-Pigeon, Ducula concinna Christmas Island Imperial-Pigeon, Ducula whartoni Collared Imperial-Pigeon, Ducula mullerii Pied Imperial-Pigeon, Ducula bicolor Topknot Pigeon, Lopholaimus antarcticus

Psittaciformes

Cacatuidae

Palm Cockatoo, Probosciger aterrimus
 Red-tailed Black-Cockatoo, Calyptorhynchus banksii
 Glossy Black-Cockatoo, Calyptorhynchus lathami
 Yellow-tailed Black-Cockatoo, Calyptorhynchus funereus
 Short-billed Black-Cockatoo, Calyptorhynchus latirostris
 Long-billed Black-Cockatoo, Calyptorhynchus baudinii
 Gang-gang Cockatoo, Callocephalon fimbriatum
 Galah, Eolophus roseicapilla
 Long-billed Corella, Cacatua tenuirostris
 Western Corella, Cacatua pastinator
 Little Corella, Cacatua sanguinea
 Major Mitchell's Cockatoo, Cacatua leadbeateri
 Sulphur-crested Cockatoo, Cacatua galerita
 Cockatiel, Nymphicus hollandicus

Psittacidae

Rainbow Lorikeet, Trichoglossus haematodus Scaly-breasted Lorikeet, Trichoglossus chlorolepidotus Varied Lorikeet, Psitteuteles versicolor Musk Lorikeet, Glossopsitta concinna Little Lorikeet, Glossopsitta pusilla Purple-crowned Lorikeet, Glossopsitta porphyrocephala Eclectus Parrot, Eclectus roratus Red-cheeked Parrot, Geoffroyus geoffroyi Double-eyed Fig-Parrot, Cyclopsitta diophthalma Australian King-Parrot, Alisterus scapularis Red-winged Parrot, Aprosmictus erythropterus Superb Parrot, Polytelis swainsonii Regent Parrot, Polytelis anthopeplus Princess Parrot, Polytelis alexandrae Green Rosella. Platvcercus caledonicus Crimson Rosella, Platycercus elegans Eastern Rosella, Platycercus eximius Pale-headed Rosella, Platycercus adscitus Northern Rosella, Platycercus venustus Western Rosella, Platycercus icterotis Australian Ringneck, Barnardius zonarius Red-capped Parrot, Purpureicephalus spurius Blue Bonnet, Northiella haematogaster Swift Parrot, Lathamus discolor Red-rumped Parrot, Psephotus haematonotus Mulga Parrot, Psephotus varius Golden-shouldered Parrot, Psephotus chrysopterygius Hooded Parrot, Psephotus dissimilis Red-crowned Parakeet, Cyanoramphus novaezelandiae Budgerigar, Melopsittacus undulatus Bourke's Parrot, Neopsephotus bourkii Blue-winged Parrot, Neophema chrysostoma Elegant Parrot, Neophema elegans Rock Parrot, Neophema petrophila Orange-bellied Parrot, Neophema chrysogaster Turquoise Parrot, Neophema pulchella Scarlet-chested Parrot, Neophema splendida Ground Parrot, Pezoporus wallicus

Night Parrot, Pezoporus occidentalis

Norfolk Island Kaka, Nestor productus - extinct Paradise Parrot, Psephotus pulcherrimus - extinct

Cuculiformes

Cuculidae

Oriental Cuckoo, Cuculus saturatus
 Pallid Cuckoo, Cuculus pallidus
 Brush Cuckoo, Cacomantis variolosus
 Chestnut-breasted Cuckoo, Cacomantis castaneiventris
 Fan-tailed Cuckoo, Cacomantis flabelliformis
 Black-eared Cuckoo, Chrysococcyx osculans
 Horsfield's Bronze-Cuckoo, Chrysococcyx basalis
 Shining Bronze-Cuckoo, Chrysococcyx lucidus
 Little Bronze-Cuckoo, Chrysococcyx minutillus
 Gould's Bronze-Cuckoo, Chrysococcyx russatus
 Common Koel, Eudynamys scolopacea
 Long-tailed Cuckoo, Eudynamys taitensis
 Channel-billed Cuckoo, Scythrops novaehollandiae

Centropodidae

• Pheasant Coucal, Centropus phasianinus

Strigiformes

Strigidae

 Powerful Owl, Ninox strenua Rufous Owl, Ninox rufa Barking Owl, Ninox connivens Southern Boobook, Ninox novaeseelandiae Brown Hawk-Owl, Ninox scutulata Christmas Island Hawk-Owl, Ninox natalis

Tytonidae

Sooty Owl, Tyto tenebricosa
 Lesser Sooty Owl, Tyto multipunctata
 Masked Owl, Tyto novaehollandiae
 Barn Owl, Tyto alba
 Grass Owl, Tyto capensis

Caprimulgiformes

Podargidae

Tawny Frogmouth, Podargus strigoides
 Papuan Frogmouth, Podargus papuensis
 Marbled Frogmouth, Podargus ocellatus

Caprimulgidae

 White-throated Nightjar, Eurostopodus mystacalis Spotted Nightjar, Eurostopodus argus Large-tailed Nightjar, Caprimulgus macrurus Savanna Nightjar, Caprimulgus affinis

Aegothelidae

• Australian Owlet-nightjar, Aegotheles cristatus

Apodiformes

Apodidae

Glossy Swiftlet, Collocalia esculenta
 White-rumped Swiftlet, Collocalia spodiopygius
 Uniform Swiftlet, Collocalia vanikorensis
 White-throated Needletail, Hirundapus caudacutus

Fork-tailed Swift, Apus pacificus House Swift, Apus affinis

Coraciiformes

Alcedinidae

 Azure Kingfisher, Ceyx azurea Little Kingfisher, Ceyx pusilla

Halcyonidae

 Buff-breasted Paradise-Kingfisher, Tanysiptera sylvia Laughing Kookaburra, Dacelo novaeguineae Blue-winged Kookaburra, Dacelo leachii Yellow-billed Kingfisher, Syma torotoro Forest Kingfisher, Todiramphus macleayii Red-backed Kingfisher, Todiramphus pyrrhopygia Sacred Kingfisher, Todiramphus sanctus Collared Kingfisher, Todiramphus chloris

Meropidae

• Rainbow Bee-eater, Merops ornatus

Coraciidae

• Dollarbird, Eurystomus orientalis

Passeriformes

Pittidae

 Red-bellied Pitta, Pitta erythrogaster Blue-winged Pitta, Pitta moluccensis Noisy Pitta, Pitta versicolor Rainbow Pitta, Pitta iris

Menuridae

Albert's Lyrebird, Menura alberti
 Superb Lyrebird, Menura novaehollandiae

Atrichornithidae

• Rufous Scrub-bird, Atrichornis rufescens Noisy Scrub-bird, Atrichornis clamosus

Climacteridae

 White-throated Treecreeper, Cormobates leucophaeus White-browed Treecreeper, Climacteris affinis Red-browed Treecreeper, Climacteris erythrops Brown Treecreeper, Climacteris picumnus Black-tailed Treecreeper, Climacteris melanura Rufous Treecreeper, Climacteris rufa

Maluridae

 Purple-crowned Fairy-wren, Malurus coronatus Superb Fairy-wren, Malurus cyaneus Splendid Fairy-wren, Malurus splendens Variegated Fairy-wren, Malurus lamberti Lovely Fairy-wren, Malurus amabilis Blue-breasted Fairy-wren, Malurus pulcherrimus Red-winged Fairy-wren, Malurus elegans White-winged Fairy-wren, Malurus leucopterus Red-backed Fairy-wren, Malurus melanocephalus Southern Emu-wren, Stipiturus malachurus Mallee Emu-wren, Stipiturus mallee Rufous-crowned Emu-wren, Stipiturus ruficeps Grey Grasswren, Amytornis barbatus Black Grasswren, Amytornis housei White-throated Grasswren, Amytornis woodwardi Carpentarian Grasswren, Amytornis dorotheae Striated Grasswren, Amytornis striatus Short-tailed Grasswren, Amytornis merrotsyi Eyrean Grasswren, Amytornis goyderi Thick-billed Grasswren, Amytornis textilis Dusky Grasswren, Amytornis purnelli Kalkadoon Grasswren, Amytornis ballarae

Pardalotidae

Spotted Pardalote, Pardalotus punctatus Forty-spotted Pardalote, Pardalotus quadragintus Red-browed Pardalote, Pardalotus rubricatus Striated Pardalote. Pardalotus striatus Eastern Bristlebird, Dasyornis brachypterus Western Bristlebird, Dasvornis longirostris Rufous Bristlebird, Dasvornis broadbenti Pilotbird, Pycnoptilus floccosus Rockwarbler, Origma solitaria Fernwren, Oreoscopus gutturalis Yellow-throated Scrubwren, Sericornis citreogularis White-browed Scrubwren, Sericornis frontalis Tasmanian Scrubwren, Sericornis humilis Atherton Scrubwren, Sericornis keri Large-billed Scrubwren, Sericornis magnirostris Tropical Scrubwren, Sericornis beccarii Scrubtit, Acanthornis magnus Chestnut-rumped Heathwren, Hylacola pyrrhopygia Shy Heathwren, Hylacota cauta Striated Fieldwren, Calamanthus fuliginosus Rufous Fieldwren, Calamanthus campestris Redthroat, Pyrrholaemus brunneus Speckled Warbler, Chthonicola sagittata Weebill, Smicrornis brevirostris Brown Gerygone, Gerygone mouki Norfolk Island Gerygone, Gerygone modesta Dusky Gerygone, Gerygone tenebrosa Mangrove Gerygone, Gerygone laevigaster Lord Howe Gerygone, Gerygone insularis - extinct

Western Gerygone, Gerygone fusca Large-billed Gerygone, Gerygone magnirostris Green-backed Gerygone, Gerygone chloronota Fairy Gerygone, Gerygone palpebrosa White-throated Gerygone, Gerygone olivacea Mountain Thornbill, Acanthiza katherina Brown Thornbill, Acanthiza pusilla Inland Thornbill, Acanthiza apicalis Tasmanian Thornbill, Acanthiza ewingii Chestnut-rumped Thornbill, Acanthiza uropygialis Slaty-backed Thornbill, Acanthiza robustirostris Western Thornbill. Acanthiza inornata Buff-rumped Thornbill, Acanthiza reguloides Slender-billed Thornbill, Acanthiza iredalei Yellow-rumped Thornbill, Acanthiza chrysorrhoa Yellow Thornbill, Acanthiza nana Striated Thornbill, Acanthiza lineata Southern Whiteface, Aphelocephala leucopsis Chestnut-breasted Whiteface, Aphelocephala pectoralis Banded Whiteface, Aphelocephala nigricincta

Meliphagidae

Red Wattlebird, Anthochaera carunculata Yellow Wattlebird, Anthochaera paradoxa Little Wattlebird, Anthochaera chrysoptera Western Wattlebird, Anthochaera lunulata Spiny-cheeked Honeyeater, Acanthagenys rufogularis Striped Honeyeater, Plectorhyncha lanceolata Helmeted Friarbird, Philemon buceroides Silver-crowned Friarbird, Philemon argenticeps Noisy Friarbird, Philemon corniculatus Little Friarbird, Philemon citreogularis Regent Honeyeater, Xanthomyza phrygia Blue-faced Honeyeater, Entomyzon cyanotis Bell Miner, Manorina melanophrys Noisy Miner, Manorina melanocephala Yellow-throated Miner, Manorina flavigula Black-eared Miner, Manorina melanotis Macleav's Honeveater, Xanthotis macleavana Tawny-breasted Honeyeater, Xanthotis flaviventer Lewin's Honeveater, Meliphaga lewinii Yellow-spotted Honeyeater, Meliphaga notata

Graceful Honeyeater, Meliphaga gracilis White-lined Honeyeater, Meliphaga albilineata Bridled Honeyeater, Lichenostomus frenatus Eungella Honeveater, Lichenostomus hindwoodi Yellow-faced Honeyeater, Lichenostomus chrysops Singing Honeyeater, Lichenostomus virescens Varied Honeveater, Lichenostomus versicolor Mangrove Honeyeater, Lichenostomus fasciogularis White-gaped Honeveater, Lichenostomus unicolor Yellow Honeyeater, Lichenostomus flavus White-eared Honeyeater, Lichenostomus leucotis Yellow-throated Honeyeater, Lichenostomus flavicollis Yellow-tufted Honeyeater, Lichenostomus melanops Purple-gaped Honeveater, Lichenostomus cratitius Grev-headed Honeyeater, Lichenostomus keartlandi Yellow-plumed Honeyeater, Lichenostomus ornatus Grey-fronted Honeyeater, Lichenostomus plumulus Fuscous Honeyeater, Lichenostomus fuscus Yellow-tinted Honeveater, Lichenostomus flavescens White-plumed Honeveater, Lichenostomus penicillatus Black-chinned Honeyeater, Melithreptus gularis Strong-billed Honeyeater, Melithreptus validirostris Brown-headed Honeyeater, Melithreptus brevirostris White-throated Honeveater, Melithreptus albogularis White-naped Honeyeater, Melithreptus lunatus Black-headed Honeyeater, Melithreptus affinis Green-backed Honeyeater, Glycichaera fallax Brown Honeyeater, Lichmera indistincta White-streaked Honeyeater, Trichodere cockerelli Painted Honeyeater, Grantiella picta Crescent Honeyeater, Phylidonyris pyrrhoptera New Holland Honeyeater, Phylidonyris novaehollandiae White-cheeked Honeyeater, Phylidonyris nigra White-fronted Honeyeater, Phylidonyris albifrons Tawny-crowned Honeyeater, Phylidonyris melanops Brown-backed Honeveater, Ramsavornis modestus Bar-breasted Honeyeater, Ramsayornis fasciatus Rufous-banded Honeyeater, Conopophila albogularis Rufous-throated Honeyeater, Conopophila rufogularis Grey Honeyeater, Conopophila whitei Eastern Spinebill, Acanthorhynchus tenuirostris Western Spinebill, Acanthorhynchus superciliosus Banded Honeyeater, Certhionyx pectoralis Black Honeveater, Certhionyx niger Pied Honeyeater, Certhionyx variegatus

Dusky Honeyeater, Myzomela obscura Red-headed Honeyeater, Myzomela erythrocephala Scarlet Honeyeater, Myzomela sanguinolenta Crimson Chat, Epthianura tricolor Orange Chat, Epthianura aurifrons Yellow Chat, Epthianura crocea White-fronted Chat, Epthianura albifrons Gibberbird, Ashbyia lovensis

Petroicidae

Jacky Winter, Microeca leucophaea Lemon-bellied Flycatcher, Microeca flavigaster Yellow-legged Flycatcher, Microeca griseoceps Scarlet Robin, Petroica multicolor Red-capped Robin, Petroica goodenovii Flame Robin, Petroica phoenicea Rose Robin, Petroica rosea Pink Robin, Petroica rodinogaster Hooded Robin, Melanodryas cucullata Dusky Robin, Melanodryas vittata Pale-yellow Robin, Tregellasia capito White-faced Robin, Tregellasia leucops Eastern Yellow Robin, Eopsaltria australis Western Yellow Robin, Eopsaltria griseogularis White-breasted Robin, Eopsaltria georgiana Mangrove Robin, Eopsaltria pulverulenta White-browed Robin, Poecilodryas superciliosa Grey-headed Robin, Heteromyias albispecularis Northern Scrub-robin, Drymodes superciliaris Southern Scrub-robin, Drymodes brunneopygia

Orthonychidae

 Logrunner, Orthonyx temminckii Chowchilla, Orthonyx spaldingii

Pomatostomidae

Grey-crowned Babbler, Pomatostomus temporalis
 White-browed Babbler, Pomatostomus superciliosus

Hall's Babbler, Pomatostomus halli Chestnut-crowned Babbler, Pomatostomus ruficeps

Cinclosomatidae

Eastern Whipbird, Psophodes olivaceus
 Western Whipbird, Psophodes nigrogularis
 Chirruping Wedgebill, Psophodes cristatus
 Chiming Wedgebill, Psophodes occidentalis
 Spotted Quail-thrush, Cinclosoma punctatum
 Chestnut Quail-thrush, Cinclosoma castanotum
 Cinnamon Quail-thrush, Cinclosoma cinnamomeum
 Chestnut-breasted Quail-thrush, Cinclosoma castaneothorax

Neosittidae

• Varied Sittella, Daphoenositta chrysoptera

Pachycephalidae

Crested Shrike-tit, Falcunculus frontatus
Crested Bellbird, Oreoica gutturalis
Olive Whistler, Pachycephala olivacea
Red-lored Whistler, Pachycephala rufogularis
Gilbert's Whistler, Pachycephala inornata
Golden Whistler, Pachycephala pectoralis
Mangrove Golden Whistler, Pachycephala melanura
Grey Whistler, Pachycephala simplex
Rufous Whistler, Pachycephala rufiventris
White-breasted Whistler, Pachycephala lanioides
Little Shrike-thrush, Colluricincla megarhyncha
Bower's Shrike-thrush, Colluricincla boweri
Sandstone Shrike-thrush, Colluricincla woodwardi
Grey Shrike-thrush, Colluricincla harmonica

Dicruridae

 Yellow-breasted Boatbill, Machaerirhynchus flaviventer Black-faced Monarch, Monarcha melanopsis Black-winged Monarch, Monarcha frater

Spectacled Monarch, Monarcha trivirgatus White-eared Monarch, Monarcha leucotis Frilled Monarch, Arses telescophthalmus Pied Monarch, Arses kaupi Broad-billed Flycatcher, Myiagra ruficollis Leaden Flycatcher, Myiagra rubecula Satin Flycatcher, Myiagra cyanoleuca Shining Flycatcher, Myiagra alecto Restless Flycatcher, Myiagra inquieta Magpie-Lark, Grallina cyanoleuca Rufous Fantail, Rhipidura rufifrons Grey Fantail, Rhipidura fuliginosa Lord Howe Fantail, Rhipidura cervina - extinct Mangrove Grey Fantail, Rhipidura phasiana Northern Fantail, Rhipidura rufiventris Willie Wagtail, Rhipidura leucophrys Spangled Drongo, Dicrurus bracteatus

Campephagidae

 Black-faced Cuckoo-Shrike, Coracina novaehollandiae Barred Cuckoo-Shrike, Coracina lineata White-bellied Cuckoo-Shrike, Coracina papuensis Cicadabird, Coracina tenuirostris Ground Cuckoo-Shrike, Coracina maxima White-winged Triller, Lalage sueurii Varied Triller, Lalage leucomela Long-tailed Triller, Lalage leucopyga

Oriolidae

 Yellow Oriole, Oriolus flavocinctus Olive-backed Oriole, Oriolus sagittatus Figbird, Sphecotheres viridis

Artamidae

 White-breasted Woodswallow, Artamus leucorynchus Masked Woodswallow, Artamus personatus White-browed Woodswallow, Artamus superciliosus Black-faced Woodswallow, Artamus cinereus

Dusky Woodswallow, Artamus cyanopterus Little Woodswallow, Artamus minor Black Butcherbird, Cracticus quoyi Grey Butcherbird, Cracticus torquatus Black-backed Butcherbird, Cracticus mentalis Pied Butcherbird, Cracticus nigrogularis Australian Magpie, Gymnorhina tibicen Pied Currawong, Strepera graculina Black Currawong, Strepera fuliginosa Grey Currawong, Strepera versicolor

Paradisaeidae

 Paradise Riflebird, Ptiloris paradiseus Victoria's Riflebird, Ptiloris victoriae Magnificent Riflebird, Ptiloris magnificus Trumpet Manucode, Manucodia keraudrenii

Corvidae

Australian Raven, Corvus coronoides
 Forest Raven, Corvus tasmanicus
 Little Raven, Corvus mellori
 Little Crow, Corvus bennetti
 Torresian Crow, Corvus orru

Corcoracidae

• White-winged Chough, Corcorax melanorhamphos Apostlebird, Struthidea cinerea

Laniidae

• Brown Shrike, Lanius cristatus

Ptilonorhynchidae

Spotted Catbird, Ailuroedus melanotis
 Green Catbird, Ailuroedus crassirostris
 Tooth-billed Catbird, Scenopoeetes dentirostris
 Golden Bowerbird, Prionodura newtoniana
 Regent Bowerbird, Sericulus chrysocephalus
 Satin Bowerbird, Ptilonorhynchus violaceus
 Spotted Bowerbird, Chlamydera maculata
 Western Bowerbird, Chlamydera guttata
 Great Bowerbird, Chlamydera nuchalis
 Fawn-breasted Bowerbird, Chlamydera cerviniventris

Alaudidae

 Singing Bushlark, Mirafra javanica Skylark, Alauda arvensis

Motacillidae

 Australasian Pipit, Anthus novaeseelandiae Red-throated Pipit, Anthus cervinus Yellow Wagtail, Motacilla flava Citrine Wagtail, Motacilla citreola Grey Wagtail, Motacilla cinerea White Wagtail, Motacilla alba Black-backed Wagtail, Motacilla lugens

Passeridae

House Sparrow, Passer domesticus
 Eurasian Tree Sparrow, Passer montanus
 Zebra Finch, Taeniopygia guttata
 Double-barred Finch, Taeniopygia bichenovii
 Long-tailed Finch, Poephila acuticauda
 Black-throated Finch, Poephila cincta
 Masked Finch, Poephila personata
 Crimson Finch, Neochmia phaeton
 Star Finch, Neochmia ruficauda
 Plum-headed Finch, Neochmia modesta
 Red-browed Finch, Neochmia temporalis

Diamond Firetail, Stagonopleura guttata
Beautiful Firetail, Stagonopleura bella
Red-eared Firetail, Stagonopleura oculata
Painted Finch, Emblema picta
Nutmeg Mannikin, Lonchura punctulata
Yellow-rumped Mannikin, Lonchura flaviprymna
Chestnut-breasted Mannikin, Lonchura castaneothorax
Java Sparrow, Lonchura oryzivora
Pale-headed Munia, Lonchura pallida
Pictorella Mannikin, Heteromunia pectoralis
Blue-faced Parrot-Finch, Erythrura trichroa
Gouldian Finch, Erythrura gouldiae

Fringillidae

Common Chaffinch, Fringilla coelebs
 European Greenfinch, Carduelis chloris
 European Goldfinch, Carduelis carduelis
 Common Redpoll, Carduelis flammea

Emberizidae

• Yellowhammer, Emberiza citrinella

Nectariniidae

• Yellow-bellied Sunbird, Nectarinia jugularis

Dicaeidae

• Mistletoebird, Dicaeum hirundinaceum Red-capped Flowerpecker, Dicaeum geelvinkianum

Hirundinidae

 White-backed Swallow, Cheramoeca leucosternum Barn Swallow, Hirundo rustica Welcome Swallow, Hirundo neoxena Red-rumped Swallow, Hirundo daurica Tree Martin, Hirundo nigricans Fairy Martin, Hirundo ariel Asian House Martin, Hirundo dasypus

Pycnonotidae

• Red-whiskered Bulbul, Pycnonotus jocosus

Sylviidae

Clamorous Reed-Warbler, Acrocephalus stentoreus
 Oriental Reed-Warbler, Acrocephalus orientalis
 Arctic Warbler, Phylloscopus borealis
 Tawny Grassbird, Megalurus timoriensis
 Little Grassbird, Megalurus gramineus
 Spinifexbird, Eremiornis carteri
 Rufous Songlark, Cinclorhamphus mathewsi
 Brown Songlark, Cinclorhamphus cruralis
 Zitting Cisticola, Cisticola juncidis
 Golden-headed Cisticola, Cisticola exilis

Zosteropidae

Christmas Island White-eye, Zosterops natalis
 Pale White-eye, Zosterops citrinella
 Yellow White-eye, Zosterops lutea
 Silvereye, Zosterops lateralis
 Robust White-eye, Zosterops strenuus - extinct
 Slender-billed White-eye, Zosterops tenuirostris - extinct
 White-chested White-eye, Zosterops albogularis

Muscicapidae

Bassian Thrush, Zoothera lunulata
 Russet-tailed Thrush, Zoothera heinei
 Common Blackbird, Turdus merula
 Island Thrush, Turdus poliocephalus
 Song Thrush, Turdus philomelos
 Narcissus Flycatcher, Ficedula narcissina

Blue-and-white Flycatcher, Cyanoptila cyanomelana Blue Rock-Thrush, Monticola solitarius

Sturnidae

Tasman Starling, Aplonis fusca - extinct
 Metallic Starling, Aplonis metallica
 Singing Starling, Aplonis cantoroides
 Common Starling, Sturnus vulgaris
 Purple-backed Starling Sturnus philippensis
 Common Myna, Acridotheres tristis

See also

• List of Australian, New Zealand and Antarctic birds

Birds of Europe

In this article, Europe refers to the geographical continent, not the somewhat larger Western Palearctic, which includes parts of the Middle East and north Africa.

There are about 700 species of <u>bird</u> in the area, and in general the avifauna is similar to Asia north of the Himalayas, which shares the same ecozone. There are also many groups shared with North America.

Conversely, many of the southern hemisphere groups, including the ancient flightless *Struthioniformes* (ostrich family), and their relatives the tinamous are not represented at all.

The order follows the **Voous Order**, with the revision of the Anseriformes and Galliformes brought to the start of the list, adopted by all European countries.

European birds include the following families:

Anseriformes

Anatidae swans, geese and ducks

Galliformes

- Tetraonidae grouse
 - Phasianidae partridges, pheasants, quails etc.

Gaviiformes

Gaviidae divers

Podicipediformes

• Podicepidae grebes

Procellariiformes

- Diomedeidae <u>albatross</u> rare vagrant
- **Procellariidae** fulmars, shearwaters, gadfly and other petrels.
- Hydrobatidae storm-petrels

Pelecaniformes

- Phaethontidae tropicbirds very rare vagrant
- Sulidae gannets
- Phalacrocoracidae cormorants
- Pelecanidae pelicans
- Fregatidae frigatebirds very rare vagrant

Ciconiiformes (American taxonomists often include all the raptors in this family.)

- Ardeidae herons and bitterns
- Ciconiidae: storks
- Threskiomithidae <u>ibises</u> and spoonbills

• Phoenicopteridae flamingos

Accipitriformes (Some classifications also include the Falconidae.)

- <u>Accipitridae</u> hawks, <u>eagles</u>, buzzards and <u>Old World vultures</u>, <u>harriers</u>, <u>kites</u> and allies
- Pandionidae Osprey

Falconiformes (Sometimes included in the Accipitriformes.)

• Falconidae <u>falcons</u>

Gruiformes

Rallidae rails and crakes
 Turnicidae buttonquails very marginal in Europe
 Gruidae cranes
 Otidae bustards

Charadriformes

- Haematopodidae oystercatchers
- Recurvirostridae avocets and stilts
- Burhinidae thick-knees
- Glareolidae coursers and pratincoles
- Charadrfidae plovers
- Scolopacidae typical <u>waders</u> or shorebirds
- Stercoraracidae skuas
- Laridae gulls
- Sternidae terns
- Alcidae <u>auks</u>

Pterocliformes

• Pteroclidae sandgrouse

Columbiformes

• Columbidae pigeons and doves

Psittaciformes

• Psittacidae parrots introduced only

Cuculiformes

Cuculidae cuckoos

Strigiformes

- Tytonidae barn owls
- Strigidae owls

Caprimulgiformes

• Caprimulgidae <u>nightjars</u>

Apodiformes

Apodidae <u>swifts</u>

Coraciiformes

- Alcedinidae <u>kingfishers</u>
- Meropidae bee-eaters
- Coraciidae rollers
- Upupidae Hoopoe

Piciformes

Picidae woodpeckers

Passeriformes perching birds

Alaudidae larks

Hirundinidae swallows and martins

Motacillidae wagtails and pipits

Bombycillidae waxwings

Cinclidae dippers

Troglodytidae wrens

Prunellidae accentors

Turdidae thrushes and chats

Sylviidae Old World warblers

Regulidae kinglets

Muscicapidae Old World flycatchers

Timaliidae Bearded Tit (and babblers, not in Europe)

Aegithalidae long-tailed tits

Paridae tits

Sittidae nuthatches

Tichodromadidae Wallcreeper

Certhiidae treecreepers

Remizidae penduline tits

Oriolidae orioles

Laniidae shrikes

Corvidae crows and jays

Sturnidae starlings

Passeridae sparrows

Estrildidae waxbills etc introduced

Vireonidae vireos very rare vagrant

Fringillidae finches

Parulidae New World warblers very rare vagrant

Thraupidae tanagers very rare vagrant Emberizidae buntings and American sparrows Icteridae icterids very rare vagrant

The links above lead to family accounts and hence to individual species. Taxonomy is very fluid in the age of DNA analysis, so other arrangements may be found.

See also

• List of Australian birds

Birds of prey

Kingdom: Animalia Phylum: Chordata

Class: <u>Aves</u> Orders

- Accipitriformes
- o Pandionidae
 - Accipitridae
- o Sagittariidae
 - Falconiformes
 - o Falconidae

A **bird of prey** or **raptor** is a <u>bird</u> that hunts for food primarily using its talons. They display a characteristic curved tip to their <u>beak</u> and have superb vision. Diurnal birds of prey belong to the orders Accipitriformes and Falconiformes in several groups including:

Accipitriformes

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- o Pandionidae: Osprey
 - o Accipitridae: hawks, eagles, buzzards, kites and Old World vultures
- o Sagittariidae: Secretary Bird
 - Falconiformes
 - o Falconidae: falcons

For an alternative taxonomy, see also Sibley-Ahlquist taxonomy.

Nocturnal birds of prey—the <u>owls</u>—are separate from the diurnal families, and are in the order Strigiformes. The term "raptor" includes owls.

Although other bird groups may fill similar ecological roles and sometimes appear closely related at first sight, this is largely because of convergent evolution.

Raptor names

- <u>Eagles</u> are large birds with long, broad wings and massive legs. Booted eagles have feathered legs and build large stick nests.
- <u>Kites</u> have long wings and weak legs. They spend much of their time soaring. They will take live prey but mostly feed on carrion.
- <u>Falcons</u> are small to medium sized birds of prey with long pointed wings. Unlike
 most other raptors, they belong to the <u>Falconidae</u> rather than the <u>Accipitridae</u>.
 Many are particularly swift flyers. Instead of building their own nests, falcons

- appropriate old nests of other birds but sometimes they lay their eggs on cliff ledges or in tree hollows.
- Owls are variable-sized nocturnal hunting birds. They fly soundlessly and have very acute senses of hearing and sight.
- <u>Harriers</u> are large, slender hawk-like birds with long tails and long thin legs. Most hunt by gliding and circling low over grasslands and marshes on their long broad wings.
- <u>Hawks</u> are medium-sized birds of prey that belong to the genus Accipiter. They are mainly woodland birds that hunt by sudden dashes from a concealed perch. They usually have long tails.
- **Buzzards** are raptors with a robust body and broad wings, or, alternatively, any bird of the genus *Buteo* (also commonly known as **Hawks** in North America).

Eagles

- 1 Taxonomy
 - o 1.1 Species
- 2 Eagles in culture
 - o 2.1 Eagles as national symbols
 - o 2.2 Eagles as religious objects
 - o 2.3 Eagles as organizational symbols
- <u>3 References</u>

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u>

Genera: Several, see below.

Eagles are large <u>birds of prey</u> which inhabit mainly the Old World, with only two species (Bald Eagle and Golden Eagle) commonly found in North America, a few in South America, the (White-bellied Sea Eagle, Wedge-tailed Eagle) in Australia and the Philippine Eagle in the Philippine Archipelago. They are members of the <u>bird</u> order Falconiformes (or Accipitriformes, according to alternative classification schemes), family <u>Accipitridae</u> and belong to several genera which are not necessarily closely related to each other.

Eagles are differentiated from other broad-winged birds of prey mainly by their larger size, more powerful build, and heavier head and bill. Even the smallest eagles, like the Booted Eagle, which is comparable in size to a Common Buzzard or Red-tailed Hawk has relatively longer and more evenly broad wings, and more direct, faster flight. Most eagles are larger than any other raptors apart from the <u>vultures</u>.

In Britain before 1678, *Eagle* referred specifically to the Golden Eagle, the other native species, the White-tailed Eagle, being known as the Erne. The modern name "Golden Eagle" for Aquila chrysaetos was introduced by the naturalist John Ray.

Like all birds of prey, eagles have very large powerful hooked <u>beaks</u> for tearing flesh from their prey, strong legs, and powerful talons. They also have extremely keen eyesight to enable them to spot potential prey from a very long distance. This keen eyesight is primarily contributed by their extremely large pupils which cause minimal diffraction (spreading) of the incoming light.

Eagles build their nest in tall trees or on high cliffs. Their nests, which are sometimes called evries, can grow to 10 feet in diameter and weigh as much as 2000 pounds.

Eagles are sometimes used in <u>falconry</u>. They appear prominently in myth and literature. In the Old World, such references are commonly to the Golden Eagle (or possibly closely related species found in warm climates).

Taxonomy

For many years there has been some scientific debate as to whether the Accipitriformes are a separate order, or belong to the Falconiformes.

Major new research into eagle taxonomy suggests that the important genera *Aquila* and *Hieraaetus* are not composed of nearest relatives, and it is likely that a reclassification of these genera will soon take place, with some species being moved to *Lophaetus* or *Ictinaetus*.

Species

FAMILY ACCIPITRIDAE

- **Subfamily** Buteoninae hawks (buzzards), true eagles and sea-eagles
 - Genus Geranoaetus
 - Black-chested Buzzard-eagle, Geranoaetus melanoleucus
 - o Genus *Harpyhaliaetus*
 - Crowned Solitary Eagle, Harpyhaliaetus coronatus Solitary Eagle, Harpyhaliaetus solitarius
 - o Genus *Morphnus*
 - Crested Eagle, *Morphnus guianensis*

even to be each other's nearest relatives.

- o Genus Harpia
 - Harpy Eagle, Harpia harpyja
- o Genus Pithecophaga
 - Philippine Eagle, *Pithecophaga jefferyi*
- o Genus Harpyopsis
 - New Guinea Eagle, *Harpyopsis novaequineae*
- Genus Oroaetus
 - Black-and-chestnut Eagle, *Oroaetus isidori*
- Genus Spizastur
 - Black-and-white Hawk-eagle, Spizastur melanoleucus
- Genus Spizaetus
 - Cassin's Hawk-eagle, Spizaetus africanus Changeable Hawk-eagle, Spizaetus cirrhatus Mountain Hawk-eagle, Spizaetus nipalensis

Blyth's Hawk-eagle, Spizaetus alboniger Javan Hawk-eagle, Spizaetus bartelsi Sulawesi Hawk-eagle, Spizaetus lanceolatus Philippine Hawk-eagle, Spizaetus philippensis Wallace's Hawk-eagle, Spizaetus nanus Black Hawk-eagle, Spizaetus tyrannus Ornate Hawk-eagle, Spizaetus ornatus

- o Genus *Lophaetus*
 - Long-crested Eagle, Lophaetus occipitalis possibly belongs into Ictinaetus
- Genus Stephanoaetus
 - Crowned Hawk-eagle, Stephanoaetus coronatus
- Genus Polemaetus
 - Martial Eagle, Polemaetus bellicosus
- Genus Hieraaetus
 - Little Eagle, Hieraaetus morphnoides Ayres' Hawk-eagle, Hieraaetus ayresii Rufous-bellied Hawk-eagle, Hieraaetus kienerii
- Genus Aquila

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Bonelli's Eagle, Aquila fasciata - formerly Hieraaetus fasciatus Booted Eagle, Aquila pennata - formerly Hieraaetus pennatus African Hawk-eagle, Aquila spilogastra - formerly Hieraaetus spilogaster Golden Eagle, Aquila chrysaetos Eastern Imperial Eagle, Aquila heliaca

Spanish Imperial Eagle Aquila adalberti

Steppe Eagle, Aquila nipalensis

Tawny Eagle, Aquila rapax

Greater Spotted Eagle, Aquila clanga - to be moved to Lophaetus or **Ictinaetus**

Lesser Spotted Eagle, Aquila pomarina - to be moved to Lophaetus or **Ictinaetus**

Verreaux's Eagle, Aquila verreauxii Gurney's Eagle, Aquila gurneyi Wahlberg's Eagle, Aquila wahlbergi

Wedge-tailed Eagle, Aquila audax

- Genus Ictinaetus
 - Black Eagle, Ictinaetus malayensis
- Genus Haliaeetus
 - White-tailed Eagle, Haliaeetus albicilla Bald Eagle, Haliaeetus leucocephalus Steller's Sea-eagle, Haliaeetus pelagicus African Fish-eagle, Haliaeetus vocifer

White-bellied Sea-eagle, Haliaeetus leucogaster Sanford's Fish-eagle, Haliaeetus sanfordi Madagascar Fish-eagle, Haliaeetus vociferoides Pallas' Sea-eagle, Haliaeetus leucoryphus

- o Genus Ichthyophaga
 - Lesser Fish-eagle, Ichthyophaga humilis
 Grey-headed Fish-eagle, Ichthyophaga ichthyaetus

• Subfamily Circaetinae: snake-eagles

- Genus *Terathopius*
 - Bateleur, *Terathopius ecaudatus*
- o Genus Circaetus
 - Short-toed Eagle, Circaetus gallicus
 Black-chested Snake-eagle, Circaetus pectoralis
 Brown Snake-eagle, Circaetus cinereus
 Fasciated Snake-eagle, Circaetus fasciolatus
 Banded Snake-eagle, Circaetus cinerascens
- o Genus Spilornis
 - Crested Serpent-eagle, Spilornis cheela
 Nicobar Serpent-eagle, Spilornis minimus
 Mountain Serpent-eagle, Spilornis kinabaluensis
 Sulawesi Serpent-eagle, Spilornis rufipectus
 Philippine Serpent-eagle, Spilornis holospilus
 Andaman Serpent-eagle, Spilornis elgini
- o Genus Eutriorchis
 - Madagascar Serpent-eagle, Eutriorchis astur

Eagles in culture

Eagles as national symbols

Coat of arms of the town of Berg en Terblijt in the Netherlands, an example of the prolific use of the eagle in European heraldry.

The eagle has been used by many nations as a national symbol, depicting power, beauty and independence.

- **Ancient Egypt**. The Ptolemaic rulers of Egypt used it as their seal
- Arabic world. Many Arabic states and organisations use eagles as symbols, e.g. the PLO.

- **Czech Republic**. The Czech Republic integrates three historical parts: Bohemia (with a double tailed lion in the emblem), Moravia and Silesia (both with eagle females in emblems red-and-white chequered and black).
- **First French Empire**. Napoleon Bonaparte recovered the Roman golden eagle as the symbol of his new French empire.
- **Mexico**. The bird on the Mexican coat of arms and flag is a Golden Eagle.
- **Moldova**. An eagle is part of the coat of arms and flag of Moldova.
- **The Philippines**. The endangered Philippine Eagle is the national bird of the Philippines.
- **Poland**. A white eagle on a red field is the coat of arms of Poland.
- Romania. The eagle is also part of the coat of arms of Romania
- Rome. The Romans used it on the standards of their armies. From this derives:
 - The Eastern Roman Empire (Byzantium) at Constantinople chose a twoheaded golden eagle as its symbol. One head symbolised ancient Rome, and the other head symbolised "new Rome" at Constantinople. From this derives:
 - Albania. The two-headed eagle is the emblem of "Shqipëria" or Land of the Eagles, which is known in English as Albania
 - **Russian Empire**. After the fall of Constantinople, the Russian Empire took the two-headed eagle as its own symbol.
 - o **Charlemagne and Holy Roman Empire**. After his crowning as the new Roman Emperor, Charlemagne adopted the ancient Roman eagle as his own symbol. The Holy Roman Empire born of his kingdom took the eagle, but the Habsburgs replaced the golden eagle by an imperial eagle. From this derives:
 - Austria. The Austrian Empire had a two-headed eagle as its symbol. After the abolition of Austria-Hungary, Austria took as its symbol a one-headed eagle in the modern coat of arms of Austria.
 - **Germany and Prussia**. Prussia, and later Germany have used a black eagle as their national symbol.
 - **Spain**. The "Catholic Kings", Isabella and Ferdinand, used the Golden Eagle as a part of the royal shield. The eagle was on the Spanish shield until 1978.
- **Serbia/Montenegro**. The Two-headed eagle is the emblem of Serbia, Montenegro, and Serbia and Montenegro.
- **Seljuk Turks** and Ottoman Turks used a double-headed eagle as coats-of-arms.
- **USA**. The United States has adopted the North American Bald Eagle as its national emblem. Although the Golden Eagle is found in North America, U.S. references to an unspecified "eagle" are often to the Bald Eagle; this point was not realized by an American coin die engraver, who, told to depict "an eagle", depicted a Golden Eagle; this error is the cause of the expression "illegal eagle".

Eagles as religious objects

In Jewish tradition the eagle is a symbol of true greatness, and the nation's greatest leaders such as the great sage of the Middle Ages Maimonides and the Lubavitcher Rebbe, Rabbi Menachem M. Schneerson, the modern day leader of world Jewry have been referred to by their peers and students as "The Great Eagle". The Torah compares G-d Himself to an eagle in Deuteronomy, 32.11-12. "As an eagle awakens its nest, hovering over its fledglings, it spreads its wings, taking them and carrying them on its pinions. [So] the Lord guided them [the Israelites] alone, and there was no alien deity with Him."

The eagle is a sacred bird in some cultures and the feathers of the eagle are central to many religious and spiritual customs, especially amongst Native Americans. Native Americans revere eagles as sacred religious objects and the feathers and parts of Bald and Golden Eagles are often compared to the Bible and crucifix. Eagle feathers are often used in various ceremonies and are used to honor noteworthy achievements and qualities such as exceptional leadership and bravery.

Despite modern and historic Native American practices of giving eagle feathers to non-Native Americans and Native American members of other tribes who have been deemed worthy, current United States eagle feather law stipulates that only individuals of certifiable Native American ancestry enrolled in a federally-recognized tribe are legally authorized to obtain eagle feathers for religious or spiritual use.

Eagles as organizational symbols

- **USA**. Eagles are a common motif for American companies and organizations seeking association with a national identity. A few examples are the United States Postal Service, the Constitution Party, and the name of the highest rank in the Boy Scouts of America.
- **Portugal**. Eagle is the symbol of the Portuguese football team Sport Lisboa e Benfica.

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Falconry

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Falconry or **hawking** is the art or sport involving <u>raptors</u> (birds of prey) to hunt or pursue game. There are two traditional terms used to describe a person involved in falconry. A Falconer, who flies a falcon. An Austringer is one who flies a "true" hawk (accipiter). In modern falconry, buteos are now commonly used so a more loosely used term of falconer now applies to all people involved in falconry, because the words hawking and hawker have become so much used to mean petty travelling traders in goods.

History

Traditional views of falconry state that the art started in East Asia; however, archaeologists have found evidence of falconry in the Middle East dating back to the 1st century BC. Historically, falconry was a popular sport, and status symbol, among the nobles of both medieval Europe and feudal Japan, where it is called takagari. Eggs and chicks of birds of prey were quite rare and expensive, and since the process of raising and training a hawk

or falcon takes a lot of time and money and space, it was more or less restricted to the noble classes. In Japan, there were even strict restrictions on who could hunt which sorts of animals, and where, based on one's ranking within the samurai class. In art, and in other aspects of culture, such as literature, falconry remained a status symbol long after falconry was no longer popularly practiced. Eagles and hawks displayed on the wall could represent the noble himself, metaphorically, as noble and fierce. Woodblock prints or paintings of falcons or falconry scenes could be bought by wealthy commoners, and displayed as the next best thing to partaking in the sport, again representing a certain degree of nobility.

Timeline

- **722-705 BC** An Assyrian bas-relief found in the ruins at Khorsabad during the excavation of the palace of Sargon II (or Saragon II) has been claimed to depict falconry. In fact, it depicts an archer shooting at raptors and an attendant capturing a raptor. A. H. Layard's statement in his 1853 book Discoveries in the Ruins of Nineveh and Babylon is "A falconer bearing a hawk on his wrist appeared to be represented in a bas-relief which I saw on my last visit to those ruins."
- **680 BC** Chinese records describe falconry. E. W. Jameson suggests that evidence of falconry in Japan surfaces.
- 4th Century BC It is assumed that the Romans learned falconry from the Greeks.
- 384 BC Aristotle and other Greeks made references to falconry
- **70-44 BC** Caesar is reported to have trained falcons to kill carrier pigeons.
- **355 AD** Nihon-shoki, a historical narrative, records first hawking in Japan as of 43rd reign of Nintoku.
- **500** E. W. Jameson says that the earliest reliable evidence of falconry in Europe is a Roman floor mosaic of a falconer and his hawk hunting <u>ducks</u>.
- **600** Germanic tribes practiced falconry
- 8th and 9th century and continuing today Falconry flourished in the Middle East.
- **818** The Japanese Emperor Saga ordered someone to edit a falconry text named "Shinshuu Youkyou".
- **875** Western Europe and Saxon England practiced falconry widely.
- **991** The Battle of Maldon. A poem describing it says that before the battle, the Anglo-Saxons' leader Byrhtnoth "let his beloved hawk fly from his hand towards the woodland".
- **1066** Normans wrote of the practice of falconry; following the Norman conquest of England, falconry became even more popular. The word "falconry" is descended from the Norman-French word *fauconnerie*.
- **c.1100** Crusaders are credited with bringing falconry to England and making it popular in the courts.
- **c.1240s**, Frederick II, Holy Roman Emperor, commissions a translation of the treatise De arte venandi cum avibus, by the Arab Moamyn, and is said to have

corrected and rewritten it on the basis of his own extensive experience with falconry.

- **1390s** In his *Libro de la caza de las aves*, Castilian poet and chronicler Pero López de Ayala attempts to compile all the correct and available knowledge concerning falconry.
- early 16th Century Japanese warlord Asakura Norikage (1476-1555) succeeded in captive breeding of goshawks.
- **1600's** Dutch records of falconry; the Dutch willage of Valkenswaard was almost entirely dependent on falconry for its economy.
- **1660s** Tsar Alexis of Russia writes a treatise which celebrates aesthetic pleasures derived from falconry.
- **1801** James Strutt of England writes, "the ladies not only accompanied the gentlemen in pursuit of the diversion [falconry], but often practiced it by themselves; and even excelled the men in knowledge and exercise of the art."
- 1934 The first US falconry club, The Peregrine Club, is formed; it died out during World War II
- **1961** NAFA formed
- **1970** The Peregrine Fund is founded mostly by falconers to conserve raptors, but focusing on Peregrines.

The Boke of St Albans

The often-quoted *Boke of St Albans*, first printed in 1486, often attributed to Dame Juliana Berners, provides this hierarchy of hawks and the social ranks for which each bird was supposedly appropriate. The line numbers are not in the original.

- 1) Emperor: The Eagle, Vulture, and Merloun
- 2) King: The Ger Falcon and the Tercel of the Ger Falcon
- 3) Prince: The Falcon Gentle and the Tercel Gentle
- 4) Duke: The Falcon of the Loch
- 5) Earl: The Falcon Peregrine
- 6) Baron: The Bustard
- 7) Knight: The Sacre and the Sacret
- 8) Esquire: The Lanere and the Laneret
- 9) Lady: The Marlyon
- 10) Young Man: The Hobby
- 11) Yeoman: The Goshawk
- 12) Poor Man: The Jercel
- 13) Priest: The Sparrowhawk
- 14) Holy Water Clerk: The Musket
- 15) Knave or Servant: The Kestrel
 - This list, however, was mistaken in several respects.
- 1) Vultures are not used for falconry.
- 3) 4) 5) These are usually said to be different names for the Peregrine Falcon. But there is

an opinion that renders 4) as "rock falcon" = a peregrine from remote rocky areas, which would be bigger and stronger than other peregrines.

- 6) The bustard is not a bird of prey, but a game species that was commonly hunted by falconers; this entry may have been a mistake for buzzard, or for busard which is French for "harrier"; but any of these would be a poor deal for barons; some treat this entry as "bastard hawk", whatever that may be.
- 7) 8) Sakers and Lanners were imported from abroad and very expensive, and ordinary knights and squires would be unlikely to have them.
- 10) 15) Hobbies and kestrels are of little use for serious falconry.
- 12) If "Jercel" is a handwriting misread for "tercel" (= tiercel), a poor man would not be able to afford one of those. Or "jercel" might have been an old portmanteau of names of two sorts of hawk, used as slang for a non-existent species of hawk, and thus to mean "no hawk", similar to modern expressions such as "a reel of chalk line" and "skyhook".

Birds

There are several categories of raptor that could possibly be used in falconry. They are also classed by falconers as:-

• Broadwings: eagles, buzzards, Harris hawk.

• Longwings: <u>falcons</u>.

• Shortwings: Accipiters.

Osprey (Pandion)

The Osprey is a medium large raptor which is a specialist fish-eater with a worldwide distribution. Generally speaking it does not lend itself to falconry. However the possibility of using a raptor to obtain <u>fish</u> remains an intriguing idea. (Some references to "ospreys" in old records mean a mechanical fish-catching device and not the bird.)

Sea Eagles (Haliaëtus)

Most species of this genus, to some extent, catch and eat fish, some almost exclusively. However, in countries where they are not protected, some have been effectively used in hunting for ground quarry.

True **Eagles** (Aquila)

This genus has a worldwide distribution. The more powerful types are used in falconry, for example golden eagles and subspecies have reportedly been used to hunt wolves in Kazakhstan, and are now used by the Kazakh eagle hunters to hunt foxes and other large

prey. Most are primarily ground oriented but will occasionally take birds. Eagles are not used as widely in falconry as other birds of prey, due to the lack of versatility in the larger species (they primarily hunt over large, open ground), the greater potential danger to other people if hunted in a widely populated area, and the difficulty of training and managing an eagle.

Buzzards (Buteo)

This genus has worldwide distribution but is particularly well represented in North America. The Red-tailed Hawk, Ferruginous Hawk, and Red-shouldered Hawk are all examples of species from this genus that are used in falconry today. The Red-tailed Hawk is hardy and versatile, taking rabbits, hares, and tree squirrels, and given the right conditions can be trained to take geese, ducks, and pheasants. The Eurasian or Common Buzzard is also used, although this species requires more perseverance if rabbits are to be hunted. These birds are mainly ground prey oriented, and since carrion is a large part of the diet in the wild they often require more perseverance to hunt than the hawks or falcons.

The Harris' Hawk (Parabuteo)

This is the sole representative of the Parabuteo genus worldwide. This is arguably the very best rabbit or hare raptor available anywhere. The Harris' Hawk is also adept at catching birds. The Harris' Hawk is remarkably popular in the UK because of its temperament and ability. They are gregarious birds: they are the only semi-social raptor; all others are not social except with their mate, so they can hunt in groups, a behavior that is trademark for family groups in the wild. This genus is native to the Americas in areas with a warm climate.

The True Hawks (Accipiter)

This genus of raptor is also found worldwide. Hawk expert Mike McDermott once said, "The attack of the accipiters is extremely swift, rapid and violent in every way." They are well known in falconry use both in Europe and North America.

The Falcons (Falco)

This genus is found worldwide. Much falconry is concerned with species of this group of birds. True falcons are generally oriented towards birds as prey.

The **Owl** (Strigidae)

Owls are not closely related to hawks or falcons. There is little written in classic falconry that discusses the use of Owls in falconry. However, there are at least two species that have successfully been used, the Eurasian Eagle Owl and the Great Horned Owl. As in Yeats' Second Coming "the falcon cannot hear the falconer" establishes the belief that once a falcon is lost from the falconer mutiny may break loose. Successful training of owls is very much different from the training of hawks and falcons, as they are hearing rather than sight-oriented (owls can only see black and white, and are long-sighted). This often leads falconers to believe that they are less intelligent, as they are distracted easily by new or unnatural noises and they don't respond as readily to food cues. However, if trained successfully, owls show intelligence on the same level as that of hawks and falcons.

Falconry Around the World

Falconry, defined as the use of a raptor to take game, is currently practiced in many countries around the world.

Tangent aspects, such as <u>bird abatement</u> and raptor rehabilitation also employ falconry techniques to accomplish their goals, but are not falconry in the proper sense of the word.

U.S. Regulations on Falconry

In the United States, falconry is legal in all states except Hawaii and the District of Columbia. A falconer must have state and federal licenses to practice the sport. Acquiring a falconry license in the US requires an aspiring falconer to a pass a written test, have his equipment and facilities inspected, and serve a minimum of two years as an apprentice under a licensed falconer. There are three classes of the falconry license, which is a permit issued jointly by the falconer's state of residence and the federal government. The aforementioned Apprentice license matriculates to a General Class license, which allows the falconer to possess no more than two raptors at a time. After a minimum of 5 years at General level, the falconer may apply for his Master Class license, which allows him to keep 3 raptors for falconry. It should be noted that, within the U.S., a state's regulations may be more, but not less, restrictive than the federal guidelines. Both state and federal regulations (as well as state hunting laws) must be complied with by the falconer.

Owing to the Migratory Bird Treaty Act (MBTA,) a federal legislation created to enforce the Migratory Bird Treaty (which is an international agreement between the U.S., Canada, Mexico, Japan and England,) no one may possess, kill, or harass any bird appearing on the Migratory Bird list without specific license to do so. The U.S. Fish & Wildlife Service (USFWS) and the individual states both claim ownership of raptors which appear on the Migratory Bird list. They extend their claim of ownership to include captive-bred raptors (which may legally be bought, sold, traded or bartered by licensed individuals and companies.) Many feel captive-bred raptors should reasonably be considered Livestock, personal property. This

becomes an especially important issue to falconers in the U.S. because the MBTA allows government officials to confiscate raptors without specific cause. Confiscated raptors very often die within a short period of time, and so falconers, who have put hundreds of hours and hundreds or thousands of dollars invested in these birds are understandably upset by the practice. Recent studies show that less than half of one percent of all falconers are ever even investigated, (let alone tried or convicted,) for violations of state or falconry regulations.

The Convention on International Trade on Endangered Species of Wild Flora and Fauna (CITES) also has a say in matters pertaining to the import and export of certain animals. CITES assign plants and animals to a certain Appendix, and imposes standards amongst the member nations (over 160 at this time). In practice, each nation has its own policies and procedures for issuing the required CITES import/export permits. In nearly all nations, the process takes from a few hours to a worst-case scenario of two weeks, but in the U.S acquiring a CITES permit often takes months.

The Wild Bird Conservation Act (WBCA), a unilateral legislation put into action circa 1993, prohibits importation of any non-native species of bird into the U.S. Originally intended to lessen the impact of wild parrots being trapped for sale to the pet trade, a supposed oversight leaves raptors under this law as well. While the WBCA does have provision for importation, the process requires membership in a CITES-recognized breeding co-op, and renders importation prohibitively exhaustive and expensive.

Clubs & organizations in the U.S.

The <u>North American Falconers' Association</u>(NAFA), founded in 1961, is the premier national club for falconry in the US, Canada and Mexico, and has members worldwide.

The <u>Falconry Alliance</u>(FA)is a newcomer to the scene, a proactive advocacy organization with no social aspect, focusing exclusively on protecting falconry in the US and the improving regulations falconers must abide by.

Both NAFA and the FA now work to protect this venerable art/sport from an increasing anti-hunting sentiment and what is, by international comparisons, heavyhanded regulation.

Additionally, most of the states have their own falconry clubs. Although these clubs are primarily social in nature, the state clubs also serve to represent falconers within the state in regards to that state's wildlife regulations.

Raptor conservation in the U.S.

Among North American raptors, some of the most popular birds used in falconry are the Red-tailed hawk, the Peregrine Falcon, the Prairie Falcon, the Goshawk, and the Harris's Hawk. Artificial insemination techniques have allowed hybrid raptors to be made in captive breeding projects. These crosses have become popular both in the U.S. and abroad.

Until recently, all Peregrines used for falconry in the U. S. were captive-bred from the progeny of falcons taken before the U. S. Endangered Species Act was enacted. Peregrine

Falcons were removed from the United States' endangered species list in 1999 due largely to the effort and knowledge of falconers. Finally, after years of close work with the US Fish and Wildlife Service, a limited take of wild Peregrines was allowed in 2004, the first wild Peregrines taken specifically for falconry in over 30 years.

An Environmental Impact report prepared by the US Fish & Wildlife service's Brian Milsap and George Allen is expected to be officially released during 2006. This report confirms that falconry has literally no measurable impact on wild populations.

Current practices in Great Britain

In sharp contrast to the US, in the UK, falconry is permitted without a special license, but only using captive-bred birds. All raptors native to the UK are ringed and registered, and can be DNA tested to verify their origins. Anyone may possess captive-bred raptors, though this is not necessarily considered falconry. Falconry is hunting with a trained bird; a bird kept as a pet is not considered a falconer's bird. Birds may be used for breeding or kept after their hunting days are done, but a young, fit bird should be flown at quarry.

Species used

Most practical falconry in the UK is done with the Harris Hawk (found from the southwestern USA, through Central America and into the northern regions of South America), or the Red-tailed Hawk (native to North America). The Harris Hawk, which is the singular exception within the otherwise non-social raptor family, naturally hunts in family units, social packs with rabbits as its main quarry).

Goshawks are excellent hunters, and were once called the 'cook's hawk', but can be willful and unpredictable. Rabbits are bolted from their warrens with ferrets, or approached as they lay out. The acceleration of a short-wing, especially the Goshawk, is astonishing and a rabbit surprised any distance from its burrow has little hope of escape. Short-wings will dive into cover after their quarry, where the tinkling of the bells is vital for locating the bird. In many cases, modern falconers use radio telemetry to track their birds. Game birds in season and a wide range of other quarry can be taken.

Sparrowhawks were formerly used to take a range of small birds, but are really too delicate for serious falconry and have fallen out of favour now that American species are available.

The long-winged falcon usually flies only after birds. Classical game hawking saw a brace of peregrines flown against grouse, or merlins in 'ringing' flights after skylarks. Rooks and crows are classic game for the large falcon, and the magpie, making up in cunning what it lacks in flying ability, is another common target. Short-wings can be flown in wooded country, but falcons need large open tracts where the falconer can follow the flight with ease. Medieval falconers often rode horses but this is now rare.

Escaped or released species breeding in the wild

Birds are inevitably lost on occasion, though most are found again. Of records of species becoming established in Britain after escapes, there are:-

- There has been a report of escaped Harris hawks breeding in the wild in Britain.
- The return of the Goshawk as a breeding bird to Britain since 1945 is due in some part to falconers' escapes: its earlier British population was wiped out by gamekeepers and egg collectors in the late 19th century.
- A pair of European Eagle Owls bred in the wild in Yorkshire for several years. The pair may have been natural migrants or captive escapes. It is not yet known if this will lead to a population being established.

After raptors were mercilessly wiped out by gamekeepers, shooters, egg collectors, and DDT, the numbers of most British species have recovered well in recent times. The Red Kite, the Goshawk and the White Tailed Sea Eagle have all returned as breeding birds, and the techniques perfected in breeding birds of prey for falconry have proved their worth.

Species to start with?

Falconers used to start with a kestrel, but this little falcon is really too delicate for a beginner's hands, and the European Buzzard is similarly useless for taking quarry. The first bird of choice is either the equable Harris Hawk or the slightly more demanding Red-tailed Hawk. The beauty of these birds, easily bred in captivity, is that they can be used to take quarry and can easily satisfy a falconer's demand for a capable bird in themselves. The Lanner falcon makes a good first long-wing, with a Peregrine, or a hybrid containing Peregrine or Gyr genes being the ultimate step.

Falconry today

Falconry is not the preserve of the past, or the lord of the manor. If its simple but inviolable precepts are followed, a well trained bird is a delight for many years. Falcons can live into their mid teens, with larger hawks living longer and eagles likely to see out their middle aged owners. The captive breeding of birds rescued a dying sport in the seventies and has ensured its good health today. It has largely escaped the attention of the anti-blood-sports lobby and its popularity, through lure flying displays at country houses and game fairs, has probably not been higher for 300 years. Flying a raptor is a delight, but entails a great responsibility. A bird cannot be loaned out to a next-door neighbour while the falconer holidays, nor hung up in a cupboard like a gun. One mistake can lose the bird, but the hours of care and attention in training is repaid in full by the thrill of a perfect flight.

Falconry is always associated with the Middle Ages, and many of its terms and practices seem archaic. However, the last 30 years has seen a great rebirth of the sport, with a host of innovations. One of these, stemming from the captive breeding of birds which has rejuvenated the sport, is the creation of 'hybrid' falcons. Falcons are more closely related than many suspected, the heavy northern Gyrfalcon and Asiatic Saker being especially closely related, and they may interbreed naturally to create the so called 'Altay' falcon.

Hybrid falcons

Hybrid falcons have been available since the late 1970s, and enjoyed a meteoric rise in popularity in the UK in the 1990s. Originally 'created' to remove suspicions of having nest-robbed peregrines (by demonstrating without doubt that they were captive-bred), hybrids

have assumed an important, if controversial role in falconry worldwide. Some combinations appear to lend themselves to certain styles of flight, for example:-

- The gyr/peregrine is well-suited to game-hawking.
- The peregrine/lanner has proved useful in keeping birds off airport runways to prevent birdstrikes: peregrines fly too far for this job, and lanners do not fly far enough for this job.

But hybrids falcon are not the panacea that some breeders would have you believe. Proponents of hybrids often cite 'hybrid vigour' as the reason that these birds seem to do so well, despite the fact that crossing two non-inbred lines is more likely to lead to outbreeding depression (i.e., a negative effect), and could never prompt hybrid vigour, a phenomenon that boosts genetic integrity and heterogeneity in lines that have been too heavily inbred by judicious selection.

Artificial selection

No species of raptor have been in captivity long enough to have undergone successful selective breeding for desired traits, thus hybrid vigour is an irrelevance when applied to falcons.

However, several generations of captive breeding of gyrfalcons have resulted in selection for feather color[1] and for better disease resistance, and probably for better ability to breed in captivity.

Falconry elsewhere

In Australia, although falconry is not specifically illegal, it is illegal to keep any type of bird of prey in captivity. The only exemption is when the birds are kept for purposes of rehabilitation (for which a licence must still be held), circumstances under which the practice can be an effective tool used in returning a bird to health.

Most of Europe practices falconry under varying degrees of regulation.

Owls and Eagles are sometimes used in North American and European falconry.

In Kazakhstan, Kyrgyzstan, and Mongolia (among Kazakh population), the golden eagle is used extensively, hunting game as large as fox and wolf. It has been reported that a pair (called a cast) of Bergut Golden Eagles (an exceptionally large variation of the Golden Eagle) equipped with steel sheathings over their talons, has historically been used to hunt tigers.

South Korea allows a small number of people (4 in 2005) to own raptors and practise falconry as a cultural asset.

Literature

In Virginia Henley's historical romance books, "The Falcon and the Flower", "The Dragon and the Jewel", "The Marriage Prize", "The Border Hostage" and "Infamous", there are

numerous mentions to the art of Falconry, as these books are set at dates ranging from the 1150's to the 1500's.

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Falcon

Scientific classification

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Falconiformes

Family: Falconidae

_a Falco

Genus: Linnaeus, 1758

Species

About 37; see text.

A **Falcon** is any of several species of <u>raptors</u> in the genus *Falco*. The word came from Latin falco, from Latin falx = "sickle" because of the shape of its wings.

Overview

Falcons have thin pointed wings, which give them speed and the ability to change direction rapidly. Peregrine Falcons, the fastest <u>birds</u> on Earth, are said to have reached stoop speeds of up to 200 mph.

Young falcons in their first year have longer flight feathers than adults. This makes their configuration more like a general-purpose bird such as a broadwing while they are learning how to fly.

Other falcons include the Gyrfalcon, Lanner Falcon, and the Merlin. Some small insectivorous falcons with long, narrow wings are called hobbies, and some which sometimes hover as they hunt for small rodents are called kestrels.

The traditional term for a male falcon is a "tiercel", from Latin *tertius*, because it is roughly a third smaller than the female.

An eyass is a raptor chick still in its downy stage: the word arose by misdivision of Old French *un niais*, from Latin presumed **nidiscus*, from Latin *nidus* = "nest". Or it is sometime sused for a falcon which had been taken from its nest before it flew.

The technique of hunting with trained captive birds of prey is known as falconry.

The falcons are part of the family <u>Falconidae</u>, which also includes the caracaras, Laughing Falcon, forest falcons, and falconets.

In February 2005 the Canadian scientist Dr Louis Lefebvre announced a method of measuring avian IQ in terms of their innovation in feeding habits. Falcons were named among the most intelligent birds based on this scale.

Falcon fossils have been found dated 50 million years ago in the Eocene in the Messel Pit in Germany.

Species in taxonomic order

Lesser Kestrel, Falco naumanni Common Kestrel, Falco tinnunculus Madagascar Kestrel, Falco newtoni Mauritius Kestrel, Falco punctatus Sevchelles Kestrel, Falco araea Spotted Kestrel, Falco moluccensis Nankeen Kestrel, Falco cenchroides American Kestrel, Falco sparverius Greater Kestrel, Falco rupicoloides Fox Kestrel, Falco alopex Grev Kestrel, Falco ardosiaceus Dickinson's Kestrel, Falco dickinsoni Banded Kestrel, Falco zoniventris Red-necked Falcon, Falco chicquera Red-footed Falcon, Falco vespertinus Amur Falcon, Falco amurensis Eleonora's Falcon, Falco eleonorae Sooty Falcon, Falco concolor Aplomado Falcon, Falco femoralis Merlin Falcon, Falco columbarius Bat Falcon, Falco rufigularis Orange-breasted Falcon, Falco deiroleucus Eurasian Hobby, Falco subbuteo African Hobby, Falco cuvierii Oriental Hobby, Falco severus Australian Hobby, Falco longipennis New Zealand Falcon. Falco novaeseelandiae Brown Falcon, Falco berigora Grev Falcon, Falco hypoleucos Lanner Falcon, Falco biarmicus Laggar Falcon, Falco jugger Saker Falcon, Falco cherrug Black Falcon, Falco subniger Gyr Falcon, Falco rusticolus Prairie Falcon, Falco mexicanus Peregrine Falcon, Falco peregrinus Barbary Falcon, Falco (peregrinus) pelegrinoides Taita Falcon, Falco fasciinucha

Harrier

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u> Subfamily: **Circinae**

Genera: Circus, Geranospiza, Polyboroides

A **Harrier** is any of several species of diurnal <u>birds of prey</u> which fly low over meadows and marshes and hunt or harry small animals or birds (hence their common name). Most are in the <u>genus</u> *Circus*, the scientific name also arising from the circling movements male and female make when mating.

Species list

Montagu's Harrier, Circus pygargus Northern or Hen Harrier, Circus cyaneus Western Marsh Harrier, Circus aeruginosus Eastern Marsh Harrier, Circus spilonotus African Marsh Harrier, Circus ranivorus Swamp Harrier, Circus approximans Madagascar Marsh Harrier, Circus maillardi Long-winged Harrier, Circus buffoni Spotted Harrier, Circus assimilis Black Harrier, Circus maurus Cinereous Harrier, Circus cinereus Pallid Harrier. Circus macrourus Pied Harrier, Circus melanoleucos Madagascar Harrier-hawk, Polyboroides radiatus African Harrier-hawk, Polyboroides typus Crane Hawk, Geranospiza caerulescens

Kites

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u>

Genera

- Milvinae
 - o Harpagus
 - o Ictinia
 - Rostrhamus
 - Haliastur
 - o Milvus
 - o *Lophoictinia*
 - Hamirostra
- Elaninae
 - o Elanus
 - o Chelictinia
 - Machaerhamphus
 - Gampsonyx
 - Elanoides

Kites are <u>raptors</u> with long wings and weak legs which spend a great deal of time soaring. In general they will take live prey but mostly feed on carrion.

They are <u>birds of prey</u> which along with <u>hawks</u>, <u>eagles</u>, <u>Old World vultures</u> and many others are in the family <u>Accipitridae</u>.

Together with less closely related groups such as <u>New World vultures</u> and Osprey, they make up the diurnal bird of prey order Falconiformes.

Species list

Subfamily Elaninae

Black-winged Kite, Elanus caeruleus
 Black-shouldered Kite, Elanus axillaris
 White-tailed Kite, Elanus leucurus
 Letter-winged Kite, Elanus scriptus
 Scissor-tailed Kite, Chelictinia riocourii
 Bat Hawk, Machaerhamphus alcinus
 Pearl Kite, Gampsonyx swainsonii
 Swallow-tailed Kite, Elanoides forficatus

• Subfamily Milvinae

 Double-toothed Kite, Harpagus bidentatus Rufous-thighed Kite, Harpagus diodon Mississippi Kite, Ictinia mississippiensis

Plumbeous Kite, Ictinia plumbea
Snail Kite, Rostrhamus sociabilis
Slender-billed Kite, Rostrhamus hamatus
Whistling Kite, Haliastur sphenurus
Brahminy Kite, Haliastur indus
Red Kite, Milvus milvus
Black Kite, Milvus migrans
Black-eared Kite, Milvus lineatus
Square-tailed Kite, Lophoictinia isura
Black-breasted Buzzard, Hamirostra melanosternon
Chinese Kite, Milvus korshun

A few of the Perninae are also called kites.

Grey-headed Kite, Leptodon cayanensis
 White-collared Kite, Leptodon forbesi
 Hook-billed Kite, Chondrohierax uncinatus

Old World vulture

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes Family: <u>Accipitridae</u>

Genera: Gypaetus, Gyps, Torgos, Aegypius, Neophron, Gypohierax, Necrosyrtes

Old World vultures belong to the family <u>Accipitridae</u>, which also includes <u>eagles</u>, <u>kites</u>, buzzards and <u>hawks</u>.

They are not at all closely related to the superficially similar <u>New World vultures</u> and <u>condors</u>, and do not share that group's good sense of smell. The similarities between the two groups are due to convergent evolution rather than a close relationship. They were widespread in both the Old World and North America, during the Neogene.

Vultures are scavenging <u>birds</u>, feeding mostly from carcasses of dead animals. Old World vultures find carcasses exclusively by sight.

A particular characteristic of many vultures is a bald head, devoid of <u>feathers</u>. This is because a feathered head would become spattered with blood and other fluids, and thus be difficult to keep clean.

Species

- Genus Aegypius
- Eurasian Black Vulture or Monk Vulture, Aegypius monachus
 - Genus Gypaetus
- o Lämmergeier or Bearded Vulture, *Gypaetus barbatus*
 - Genus Gypohierax
- o Palm-nut Vulture, *Gypohierax angolensis*
 - Genus Gyps
- Griffon Vulture Gyps fulvus
 Indian White-rumped Vulture, Gyps bengalensis
 Rüppell's Vulture, Gyps rueppelli
 Long-billed Vulture Gyps indicus
 Himalayan Griffon Vulture Gyps himalayensis
 White-backed Vulture, Gyps africanus
 Cape Griffon, Gyps coprotheres
 - Genus Necrosyrtes
- Hooded Vulture, Necrosyrtes monachus
 - Genus Neophron
- Egyptian Vulture, *Neophron percnopterus*
 - Genus Sarcogyps
- o Red-headed Vulture, Sarcogyps calvus
 - Genus Torgos

- o Lappet-faced Vulture, *Torgos tracheliotus*
 - Genus Trigonoceps
- White-headed Vulture, *Trigonoceps occipitalis*

Owls

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: **Strigiformes** Wagler, 1830 Families: *Strigidae*, *Tytonidae*

The **owl** is a solitary, mainly nocturnal <u>bird of prey</u>. Owls belong to the order **Strigiformes**, in which there are 222 known <u>species</u>. Owls mostly hunt small mammals, insects, and other <u>birds</u>, though a few species specialize in hunting <u>fish</u>. They are found in all regions of the Earth except Antarctica, most of Greenland, and some remote islands. Though owls are typically solitary, the literary collective noun for a group of owls is a *parliament*.

Owls are classified in two families: the <u>typical owls</u>, Strigidae, and the <u>barn owls</u>, Tytonidae.

- 1 External appearance
- 2 Behaviour
- 3 Myth, lore, and popular culture
 - o 3.1 Africa
 - o 3.2 The Americas
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 - o 3.4 Europe
 - o 3.5 Owls in popular culture
- 4 References

External appearance

Owls have large forward-facing eyes and ears, a <u>hawk</u>-like <u>beak</u>, and usually a conspicuous circle of feathers around each eye called a *facial disc*. Although owls have binocular vision, their large eyes are fixed in their sockets, as with other birds, and they must turn their entire head to change views.

Owls are far-sighted, and are unable to clearly see anything within a few inches of their eyes. Their far vision, particularly in low light, is incredibly good, and they can turn their head 270 degrees around.

Different species of owls make different sounds. The facial disc helps to funnel the sound of prey to their ears. In some species, these are placed asymmetrically, for better directional location.

Owls are more closely related to the <u>nightjars</u> (Caprimulgiformes) than to the diurnal predators in the order Falconiformes. Some taxonomists place the nightjars in the same order as owls, as in the Sibley-Ahlquist taxonomy.

Behaviour

Owls' powerful clawed feet and sharp beak enable them to tear their prey to pieces before eating, although most items are swallowed whole. Their muffled wings and dull feathers allow them to fly practically silent and unseen. Some fish-eating owls, which have no need of silence, lack this adaptation.

Scientists studying the diets of owls are helped by their habit of disgorging the indigestible parts of their prey (bones, scales, fur, etc.) in the form of pellets. These "owl pellets" are often sold by companies to schools to be dissected by students as a lesson in biology and ecology, because they are plentiful and easy to interpret.

Owl eggs are white and almost spherical, and range in number from a few to a dozen dependent on species. Their nests are crudely built and may be in trees, underground burrows or barns and caves.

Most owls are nocturnal, but several, including the pygmy owls (Glaucidium), are crepuscular, or twilight active, hunting mainly at dawn and dusk. A few owls, such as the Burrowing Owl (Speotyto cunicularia) and the Short-eared Owl (Asio flammeus), are also active during the day.

The smallest owls include the pygmy owls, some of which are only 13 cm (5.1 in) long, have a 32 cm (12.6-in) wingspan, and weigh only 50 g (1.76 oz). The largest owls are the eagle owls, the Eurasian Eagle Owl Bubo bubo and Verreaux's Eagle Owl *B. lacteus*, which may reach 76.2 cm (30 in) long, have a wingspan of just over 2 m (6.6 ft), and weigh about 4 kg (almost 9 lb).

Myth, lore, and popular culture

In many parts of the world, owls have been associated with death and misfortune, likely due to their nocturnal activity and common screeching call. However, owls have also been associated with wisdom and prosperity as a result of frequently being companion animals for goddesses.

Henry David Thoreau summarized one perception of owls, when he wrote in 1854's Walden, "I rejoice that there are owls. Let them do the idiotic and maniacal hooting for men. It is a sound admirably suited to swamps and twilight woods which no day illustrates, suggesting a vast and underdeveloped nature which men have not recognized. They represent the stark twilight and unsatisfied thoughts which all [men] have."

Africa

Ancient Egyptians used a representation of an owl for their hieroglyph for the sound *m*, although they would often draw this hieroglyph with its legs broken to keep this bird of prey from coming to life..

The Americas

In the culture of the Native Americans, (e.g. the Native American Hopi nation), taboos often surround owls and they are often associated with evil or sorcery. Like <u>eagle</u> feathers, the possession of owl feathers as religious objects is regulated by federal law (e.g. The Migratory Bird Treaty Act of 1918 and Title 50 Part 22 Code of Federal Regulations).

The Aztecs and Mayans, along with other natives of Mesoamerica, considered the Owl a symbol of death and destruction. In fact, the Aztec god of death, Mictlantecuhtli, was often depicted with owls. There is a saying in Spanish that still exists today: *cuando el tecolote canta, el indio se muere* ("when the owl cries/sings, the Indian dies").

Asia

In Japanese culture, owls are seen as either negative or positive symbols depending on species. Owls are seen as divine messengers of the gods while Barn or Horned owls are perceived as demonic figures.

In Indian culture, a white owl is considered a companion of the goddess of wealth, and therefore a harbinger of prosperity. The owl has been adapted as an emblem to reflect its implications of wisdom (Wise old owl) by a revered military institution in India known as the Defence Service Staff College. In colloquial use, however, it is commonly used to refer to stupidity.

In the ancient region of Akkadia (located in present-day Iraq), the demoness Lilith is thought to have been associated with (screech) owls as well. However, prior to the rise of Islam, owls were considered evil omens and bad luck in most Middle Eastern pagan traditions. In modern times, although such superstitions are less prevalent, owls are still popularly considered "evil" because of their fierce, horrific appearance.

Europe

In Greek mythology, the owl, and specifically the Little Owl, was often associated with the Greek goddess Athena, a bird goddess who often assumed the form of an owl. Athena was also the goddess of wisdom, the Arts, and skills, and as a result, owls also became symbols of teaching and of institutions of learning, being included in the crest of arms of many universities. In the Western world, owls continue to be traditionally associated with wisdom. They are the unofficial mascot of the high-IQ society Mensa.

The Romans, in addition to having borrowed the Greek associations of the owl, also considered owls to be funerary birds, due to their nocturnal activity and often having their nests in inaccessible places. As a result, seeing an owl in the daytime was considered a bad omen. The vampiric strix of Roman mythology was in part based on the owl.

Likewise, in Romanian culture, the mournful call of an owl is thought to predict the death of somebody living in the neighbourhood. Such superstitions caused a minor disturbance when an owl showed up at Romanian President's residence, Cotroceni Palace.

Owls in popular culture

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True hawks

Hawks

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Accipitriformes
Family: Accipitridae
Subfamily: Accipitrinae

The term **hawk** refers to <u>birds of prey</u> in any of three senses:

- Strictly, to mean any of the <u>species</u> in the bird sub-family Accipitrinae in the <u>genera</u> Accipiter, Micronisus, Melierax, Urotriorchis, and Megatriorchis. The large and widespread Accipiter genus includes goshawks, sparrowhawks, the Sharpshinned Hawk and others. They are mainly woodland birds that hunt by sudden dashes from a concealed perch. They usually have long tails and high visual acuity.
- More generally, to mean small to medium-sized birds that are members of the <u>Accipitridae</u>, the family which includes the true hawks (Accipiters) and also <u>eagles</u>, <u>kites</u>, <u>harriers</u>, buzzards, and <u>Old World vultures</u>.
- Loosely, to mean almost any bird of prey.

The common names of birds in various parts of the world often use *hawk* loosely. For example, in North America, the Buteos are often called "hawks".

In February 2005 the Canadian scientist Dr Louis Lefebvre announced a method of measuring avian IQ in terms of their innovation in feeding habits. Hawks were named among the most intelligent birds based on this scale.

Hawks are believed to have vision as good as 20/2, about eight times more acute than humans with good eyesight. This is because of many photoreceptors in the retina (Up to 1,000,000 per square mm, against 200,000 for humans), a very high number of nerves connecting the receptors to the brain, a second set of eye muscles not found in other animals, and an indented fovea which magnifies the central part of the visual field.

Species list

This list is in taxonomic order to show the relationships between species.

- Subfamily Accipitrinae
- o Genus Accipiter
 - Goshawk, A. gentilis
 Sparrowhawk, A. nisus
 Grey-bellied Goshawk, A. poliogaster
 Crested Goshawk, A. trivirgatus
 Sulawesi Goshawk, A. griseiceps
 Red-chested Goshawk, A. toussenelii
 African Goshawk, A. tachiro
 Chinese Goshawk, A. soloensis

Frances' Goshawk, A. francesii Spot-tailed Goshawk, A. trinotatus Grey Goshawk, A. novaehollandiae Brown Goshawk, A. fasciatus Black-mantled Goshawk, A. melanochlamys Pied Goshawk, A. albogularis Fiji Goshawk, A. rufitorques White-bellied Goshawk, A. haplochrous Moluccan Goshawk, A. henicogrammus Grey-headed Goshawk, A. poliocephalus New Britain Goshawk, A. princeps Black Goshawk, A. melanoleucus Henst's Goshawk, A. henstii Meyer's Goshawk, A. meyerianus Chestnut-flanked Sparrowhawk, A. castanilius Nicobar Sparrowhawk, A. butleri Levant Sparrowhawk, A. brevipes Slaty-mantled Sparrowhawk, A. luteoschistaceus Imitator Sparrowhawk, A. imitator Red-thighed Sparrowhawk, A. erythropus Little Sparrowhawk, A. minullus Japanese Sparrowhawk, A. gularis Small Sparrowhawk, A. nanus Rufous-necked Sparrowhawk, A. erythrauchen Collared Sparrowhawk, A. cirrocephalus New Britain Sparrowhawk, A. brachyurus Vinous-breasted Sparrowhawk, A. rhodogaster Madagascar Sparrowhawk, A. madagascariensis Ovampo Sparrowhawk, A. ovampensis Rufous-chested Sparrowhawk, A. rufiventris Shikra, A. badius Tiny Hawk, A. superciliosus Semicollared Hawk, A. collaris Sharp-shinned Hawk, A. striatus White-breasted Hawk, A. chionogaster Plain-breasted Hawk. A. ventralis Rufous-thighed Hawk, A. erythronemius Cooper's Hawk, A. cooperii Gundlach's Hawk, A. gundlachi Bicoloured Hawk, A. bicolor Besra, A. virgatus

Genus Micronisus

- Gabar Goshawk, *M. gabar*
- Genus Melierax

- Dark Chanting Goshawk, M. metabates
 Eastern Chanting Goshawk, M. poliopterus
 Pale Chanting Goshawk, M. canorus
- o Genus *Urotriorchis*
 - Long-tailed Hawk, *U. macrourus*
- o Genus Erythrotriorchis
 - Red Goshawk, E. radiatus
 Chestnut-shouldered Goshawk, E. buergersi
- Genus Megatriorchis

Hawks and humans

- Hawks are sometimes used in <u>falconry</u>, a sport in which trained hawks, <u>eagles</u> or <u>falcons</u>, are used to pursue and catch small game.
- In the US, hawks are sometimes shot for sport or by ranchers who believe the birds may depredate livestock. This makes hawk conservation an issue in some areas. In other parts of the world, most hawk species are protected by law

Birdwatching

Birdwatching or **birding** is the observation and study of <u>birds</u>. The term *birding* is of American origin; birdwatching is the more commonly used word in the United Kingdom and Ireland. Most birders or birdwatchers pursue this activity for recreational or social reasons, unlike <u>ornithologists</u>, who are engaged in the formal <u>scientific</u> study of birds. Ornithologists can, however, study birds using the same methods as birders.

- 1 Overview
- 2 Rarity watching
 - o 2.1 Birding competitions
 - o 2.2 Equipment
 - 2.2.1 Photography
- 3 Birding organizations
- 4 Socio-psychology of birdwatching
- <u>5 Birding vs. birdwatching</u>
- <u>6 Famous birders/ornithologists</u>
 - o 6.1 Famous for birding/ornithology
 - o 6.2 Otherwise famous
 - o 6.3 Birders in fiction
- 7 See also
- 9 References

Overview

The most active times of the year for birding in the temperate zones are during spring and fall <u>migration</u> when the greatest variety of birds may be seen. These birds are travelling north or south to wintering or nesting locations.

Early morning is typically the best time of the day for birding since many birds are active searching for food, and thus are easier to find and observe. Success in locating the more interesting species typically requires detailed knowledge of their appearance, sounds, behavior, and most likely habitat, in addition to stealth and patience.

Birding can be one of the quieter and more relaxing outdoor activities. However, birders who are keen rarity-seekers will travel long distances to see a new species to add to the list of birds they have personally observed (life list, national list, state list, county list, year list, etc.).

Seawatching is a type of birdwatching where observers based at a coastal watchpoint (such as a headland) watch birds flying over the sea.

Many birders take part in censuses of bird populations and their migratory patterns which are sometimes specific to individual species, and sometimes count all the birds in a given area (as in a Christmas Bird Count). This citizen science can assist in identifying environmental threats to the well-being of birds or, conversely, in assessing the outcomes of environmental management initiatives intended to ensure the survival of at-risk species or

encourage the breeding of species for aesthetic or ecological reasons. This more scientific side of the hobby is an aspect of ornithology, co-ordinated in the UK by the British Trust for Ornithology.

Increasing (seasonal) bird populations can be a good indicator of biodiversity or the quality of different habitats. Some species may be persecuted as vermin, often illegally (e.g. the Hen Harrier in Britain), under the (usually false) perception that predatory species increase in number at the expense of other species of birds, insects, or smaller mammals. In most cases, the reverse applies: the population of predatory species is controlled by the abundance of the prey species. Bird counts in defined geographic areas can therefore be useful from a scientific perspective.

Rarity watching

"Twitching" is a British term used to mean "the pursuit of a previously-located rare bird." In North America it is more often called "chasing", though the British usage is starting to catch on in North America, especially among younger birders. The British term is said to come from the frenzy that descends on some when they receive news of a rare bird. The term may derive from one of its first proponents, who used to arrive on his motorbike in freezing weather in the early 1960s, still "twitching" from the cold. The end goal of twitching is often to accumulate species on one's *lists*. Some birders engage in competition with one another to accumulate the biggest species lists. The act of the pursuit itself is referred to as a "twitch" or a "chase". A rare bird that stays put long enough for people to see it is called "twitchable" or "chaseable".

Twitching is probably most highly developed in the United Kingdom, The Netherlands and Ireland because their small sizes make it possible to travel within their borders quickly with relative ease. The most popular twitches in the UK have drawn crowds of up to 5,000 people at any one time (Golden-Winged Warbler in Kent). Twitching is also highly popular in Finland and Sweden. In the United Kingdom there exists a particular twitchers' vocabulary which is surprisingly well-developed and potentially confusing for the uninitiated. In the UK for example, "dipping" is the act of missing the rare bird you tried to see, "gripped off" is how you feel if other twitchers see the bird but you didn't, "supression" is the act of concealing news of a rare bird from twitchers, and a "dude" is someone who doesn't know much about rare birds. Similar vocabularies have developed in all countries where twitching is popular. Twitchers often have mobile phones and (especially in Europe) pagers to keep constantly informed of rare bird sightings and weather. The latter is important, since the right winds can lead to drift migration from the east or "Yankees" caught up in the tail end of hurricanes from the west.

Birding competitions

A North American one-day birding competition is called a "Big Day"; in Britain it is called a "Bird Race". Teams trying to win such competitions usually have twenty-four hours in a

designated geographical area to do so. They commonly drive hundreds of kilometers. Some record-chasers have employed private jets and helicopters in the enterprise.

The most popular birding competitions in the United States are the one-day World Series of Birding which is held in New Jersey in May and the five-day Great Texas Birding Classic held in April.

Equipment

Equipment commonly used for birding includes binoculars and a telescope or spotting scope with tripod, a notepad, and one or more field guides.

Photography

Photography has always been a part of birding, but in the past the cost of good cameras and long lenses made this a minority, often semi-professional, interest. The advent of affordable digital cameras, which can be used in conjunction with binoculars or a telescope (a technique known as digiscoping), have made this a much more widespread aspect of the hobby.

Birding organizations

Prominent national organizations concerned with birding include the B.T.O. and RSPB in the United Kingdom (over 1 million members), and the National Audubon Society and American Birding Association in the United States. Many statewide or local Audubon organizations are also quite active in the U.S. BirdLife International is an important global alliance of bird conservation organizations.

Socio-psychology of birdwatching

It has been suggested that birdwatching is a form of expression of the innate need for human connection to the environment. Ethologist Nikolaas Tinbergen considered birdwatching an expression of the male hunting instinct. Indeed, most birders (especially those below middle-age) are male; however, one of the top world listers was a woman, Phoebe Snetsinger. The idea of birding as a completely male-oriented activity is not accurate, though twitching in the UK is heavily male dominated.

Another intriguing connection has been that of the interest in birds by spies. There have been several cases of spies who were serious ornithologists such as Sidney Dillon Ripley, St. John Philby and Richard Meinertzhagen.

Birding vs. birdwatching

In the U.S., birders differentiate themselves from birdwatchers. At the most basic level, the (possibly elitist) distinction is one of dedication or intensity. Generally, self-described birders are more versed in minutiae such as molt, distribution, migration timing, and habitat usage. Whereas dedicated *birders* may travel widely, *bird watchers* have a more limited scope, perhaps to their own yards.

Famous birders/ornithologists

Famous for birding/ornithology

• Kenn Kaufman

Ted Parker

Roger Tory Peterson

Pete Dunne

Jon Dunn

Clay Sutton

Phoebe Snetsinger

David Allen Sibley

John James Audubon

Salim Ali

Induchoodan

Susanth

Otherwise famous

• Members of the band British Sea Power

Alan Brooke, 1st Viscount Alanbrooke

Sir Anthony Galsworthy, former UK Ambassador to China

Kenneth Clarke MP

Ian Fleming, who named his most famous character after the ornithologist

Iames Bond

Billy Fury

Trevor Harrison

Princess Takamado of Japan

Eric Morecambe

Bill Oddie

Harold Wilson, former Prime Minister of the United Kingdom

Jimmy Carter

Charley Harper Iolo Williams Sir Kenneth Dover, famous British classicist

Birders in fiction

• Stephen Maturin in the Patrick O'Brian's Aubrey-Maturin series

See also

• <u>Birdfeeding</u>

References

1. <u>^</u> Dunne, Pete (2003). Pete Dunne on Bird Watching. Boston: Houghton Mifflin. ISBN 0-395-90686-5.

Bird diseases

Angel Wing

Angel Wing or Slipped Wing is a disease that affects waterfowl, primarily <u>geese</u> and <u>ducks</u>. There are two basic theories concerning the cause of angel wing, both of which may be correct and both suppose the root cause to be overfeeding waterfowl. The first involves too much protein and the second involves too many sugars. Angel wing is not generally observed in waterfowl not residing near humans, and the disease can often be observed in areas where geese or ducks are excessively fed bread. To prevent angel wing, waterfowl should not be fed bread, popcorn or other human foodstuffs.

The disease manifests as an incurable anatomical condition which is acquired in young birds. Due to a high-calorie diet, especially one high in proteins and/or low in vitamin D, vitamin E and manganese, one or both carpus (wrist) joints are retarded in their development relative to the rest of the wing; for reasons unknown, if only one wing is affected it is usually the left one. The result is a wrist which is twisted outwards and unable to perform its usual function.

Angel wing symptoms include stripped remiges (flight <u>feathers</u>) in the wrist area, or remiges protruding from wings at odd angles. In extreme cases, the stripped feathers may resemble sickly blue straw protruding from wings. In adult birds the disease is incurable and usually leads to an early death as affected birds are rendered effectively or totally flightless. In young birds wrapping the wing and binding it against the bird's flank, together with feeding the bird a more natural diet, can reverse the damage.

Avian adenovirus

Aviadenovirus are viruses that affect birds; they represent one of four genera of the family Adenoviridae, the others being Mastadenovirus, Atadenovirus and Siadenovirus.

They are class I, non-enveloped, icosahedral viruses that are 74 - 80nm in diameter, having a double stranded DNA genome of approximately 26 - 45 kilo-base pairs (kbp) and a guanine/cytosine content of 53 - 59%.

Naturally acquired aviadenovirus diseases include enteritis, splenitis, inclusion body hepatitis, bronchitis, pulmonary congestion ventriculitis, pancreatitis, oedema and abnormal reproduction (Egg Drop Syndrome), depending on the species of bird infected.

Diagnosis of Aviadenovirus is the same as for all Adenoviruses, by viral isolation and serotyping also ELISA assay.

Avian flu

Flu

For the current concern about the transmission of an avian flu to humans see $\underline{Transmission}$ and infection of H5N1.

Avian flu (also "bird flu", "avian influenza", "bird influenza"), means "flu from viruses adapted to <u>birds</u>", but is sometimes mistakenly used to refer to both other flu subsets (such as H5N1 flu) or the viruses that cause them (such as H5N1).[1][2] [3][4] [5][6] [2]

"Bird flu" is a phrase similar to "Pig flu", "Dog flu", "Horse flu", or "Human flu" in that it refers to an illness caused by any of many different strains of flu viruses such that the strain in question has adapted to the host. "Avian flu" differs in being named after an entire vertebrate class with 8,800–10,200 species. All known avian flu viruses belong to the species of virus called Influenza A virus. All subtypes (but not all strains of all subtypes) of Influenza A virus are adapted to birds, which is why for many purposes avian flu virus *is* the Influenza A virus (note that the "A" does *not* stand for "avian").

Adaptation is sometimes partial or multiple so a flu virus strain can be partially adapted to a species or adapted to more than one species. Flu pandemic viruses are human adapted and also bird adapted. Being adapted to one species does not mean another species can not catch it; nor does it mean it can not adapt to another species.

Genetic factors in distinguishing between "human flu viruses" and "avian flu viruses" include:

PB2: (RNA polymerase): Amino acid (or residue) position 627 in the PB2 protein encoded by the PB2 RNA gene. Until H5N1, all known avian influenza viruses had a Glu at position 627, while all human influenza viruses had a lysine.

HA: (hemagglutinin): Avian influenza HA bind alpha 2-3 sialic acid receptors while human influenza HA bind alpha 2-6 sialic acid receptors. Swine influenza viruses have the ability to bind both types of sialic acid receptors.

The HA changes have not yet occurred in any sequenced H5N1 virus - even ones from humans that died from it and the PB2 changes don't stop it from being a flu virus adapted to birds (the definition of "avian flu virus").

Pandemic flu viruses have some avian flu virus genes and usually some human flu virus genes. Both the H2N2 and H3N2 pandemic strains contained genes from avian influenza viruses. The new subtypes arose in pigs coinfected with avian and human viruses and were soon transferred to humans. Swine were considered the original "intermediate host" for influenza, because they supported reassortment of divergent subtypes. However, other hosts appear capable of similar coinfection (e.g., many poultry species), and direct transmission of avian viruses to humans is possible. The Spanish flu virus strain may have been transmitted directly from birds to humans.

In spite of their pandemic connection, avian flu viruses are noninfectious for most species. When they are infectious they are usually asymptomatic, so the carrier does not have any disease from it. Thus while infected with an avian flu virus, the animal doesn't have a "flu". Typically, when illness (called "flu") from an avian flu virus *does* occur, it is the result

of an avian flu virus strain adapted to one species spreading to another species (usually from one bird species to another bird species). So far as is known, the most common result of this is an illness so minor as to be not worth noticing (and thus little studied). But with the domestication of chickens and turkeys, humans have created species subtypes (domesticated poultry) that can catch an avian flu virus adapted to waterfowl and have it rapidly mutate into a form that kills in days over 90% of an entire flock and spread to other flocks and kill 90% of them and can only be stopped by killing every domestic bird in the area. Until H5N1 infected humans in the 1990s, this was all that was considered important about avian flu (outside of the poultry industry). Since then, avian flu viruses have been intensively studied; resulting in changes in what is believed about flu pandemics, changes in poultry farming, changes in flu vaccination research, and changes in flu pandemic planning.

H5N1 has evolved into a flu virus strain that inflects more species than any previously known flu virus strain, is deadlier than any previously known flu virus strain, and continues to evolve becoming both more widespread and more deadly causing the world's number one expert on avian flu to publish an article titled "The world is teetering on the edge of a pandemic that could kill a large fraction of the human population" in American Scientist. He called for adequate resources to fight what he sees as a major world threat to possibly billions of lives. Since the article was written, the world community has spent billions of dollars fighting this threat with limited success. It is a race between an exceptionally fast mutating virus and modern scientific research capabilities, with the winner of the race still in doubt.

Notes:

- Source WHO <u>Confirmed Human Cases of H5N1</u>
- "[T]he incidence of human cases peaked, in each of the three years in which cases have occurred, during the period roughly corresponding to winter and spring in the northern hemisphere. If this pattern continues, an upsurge in cases could be anticipated starting in late 2006 or early 2007." <u>Avian influenza epidemiology of human H5N1 cases reported to WHO</u>
- The regression curve for deaths is $y = a + e^{kx}$, and is shown extended through the end of November, 2006.
 - <u>1 H5N1</u>
 - 2 Illustrative examples of correct usage
 - <u>3 Illustrative examples</u> of imprecise usage
 - 4 See also
 - 5 Sources and notes

H5N1

As of 2006, "avian flu" is being commonly used to refer to infection from a particular subtype of Influenza A virus, H5N1, which can cause severe illness in humans who are infected. Currently, this strain is transmitted by contact with infected birds, and has been

transmitted from one person to another only in a few cases. H5N1 flu is therefore not pandemic now and is not currently capable of causing a pandemic. Only if H5N1 mutates into a form that can be readily transmitted from one person to another could it cause a pandemic.

Illustrative examples of correct usage

H5N1

WHO pandemic phases

- 1. Low risk
- 2. New virus

3. Self limiting

- 4. Person to person
- 5. Epidemic exists
- 6. Pandemic exists

In technical contexts, correct usage of terms is necessary because precise distinctions are the essence of the communication.

- "Avian influenza strains are those well adapted to birds" [1]
- "An outbreak of influenza A (H5N1), also known as 'avian flu' or 'bird flu,' has been reported in several countries throughout Asia." [10]
- "Avian influenza virus usually refers to influenza A viruses found chiefly in birds, but infections can occur in humans."[11]
- "Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of cases of severe disease and death in humans. Unlike normal seasonal influenza, where infection causes only mild respiratory symptoms in most people, the disease caused by H5N1 follows an unusually aggressive clinical course, with rapid deterioration and high fatality." Seasonal influenza is human flu.[12]
- "avian influenza HA bind alpha 2-3 sialic acid receptors while human influenza HA bind alpha 2-6 sialic acid receptors. Swine influenza viruses have the ability to bind both types of sialic acid receptors."
- Sometimes a virus contains both avian adapted genes and human adapted genes. Both the H2N2 and H3N2 pandemic strains contained avian flu virus RNA segments. "While the pandemic human influenza viruses of 1957 (H2N2) and 1968 (H3N2) clearly arose through reassortment between human and avian viruses, the influenza virus causing the 'Spanish flu' in 1918 appears to be entirely derived from an avian source (Belshe 2005)."

Illustrative examples of imprecise usage

In nontechnical contexts, imprecise usage of terms is typical when discussing complex things.

• "A 1,000 square mile quarantine zone to combat an outbreak of bird flu was lifted in Scotland today - despite the spread of a similar disease south of the border." Here "bird flu" is used to mean "Asian lineage HPAI A(H5N1) flu" (which is a bird flu) and contrasted with flu from an avian adapted strain of H7N3 (which is also a bird flu).[14]

See also

Timeline data on avian flu

- Timeline data on avian flu can be found at the article on the causative agent species called *Influenza A virus*.
- Timeline data on the global spread of the strain that is the current pandemic concern (called Asian lineage HPAI A(H5N1)) can be found at Global spread of H5N1.
- Timeline data on creation of a flu vaccine for H5N1 can be found at H5N1 clinical trials.

Subtypes of the causative agent species of avian flu include

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H1N1
H1N2
H2N2
H3N2
H3N8
H5N1
H5N2
H5N3
H5N8
H5N8
H5N9
H7N1
H7N2
H7N3
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H7N4 H7N7 H9N2 H10N7

Information concerning research about it can be found at

Transmission and infection of H5N1

Sources and notes

- 1. ^ a b "Avian influenza strains are those well adapted to birds" <u>EUROPEAN CENTRE</u> FOR DISEASE PREVENTION AND CONTROL.
- 2. ^ a b Chapter Two: Avian Influenza by Timm C. Harder and Ortrud Werner from excellent free on-line Book called *Influenza Report 2006* which is a medical textbook that provides a comprehensive overview of epidemic and pandemic influenza
- 3. <u>^ Large-scale sequencing of human influenza reveals the dynamic nature of viral genome evolution</u> Nature magazine presents a summary of what has been discovered in the Influenza Genome Sequencing Project.
- 4. <u>^</u> Full HTML text of <u>Avian Influenza A (H5N1) Infection in Humans</u> by The Writing Committee of the World Health Organization (WHO) Consultation on Human Influenza A/H5 in the September 29, 2005 New England Journal of Medicine
- 5. <u>^ The Threat of Pandemic Influenza: Are We Ready? Workshop Summary (2005)</u>
 Full text of online book by INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES
- 6. <u>A Here</u> is the tree showing evolution by antigenic drift since 2002 that created dozens of highly pathogenic varieties of the Z genotype of avian flu virus H5N1, some of which are increasingly adapted to mammals.
 - 7. <u>^ Evolutionary characterization of the six internal genes of H5N1</u> human influenza A virus
- 8. <u>^ Chapter Two: Avian Influenza by Timm C. Harder and Ortrud Werner</u> from excellent free on-line Book called *Influenza Report 2006* which is a medical textbook that provides a comprehensive overview of epidemic and pandemic influenza.
- 9. <u>^</u> Webster, R. G. and Walker, E. J. (2003). "<u>The world is teetering on the edge of a pandemic that could kill a large fraction of the human population</u>". American Scientist **91** (2): 122. DOI:10.1511/2003.2.122.
 - 10. <u>^</u> OSHA
- 11. ^ CDC Avian Influenza (Bird Flu)
- 12. <u>^ WHO</u> Avian influenza frequently asked questions
 - 13. <u>^ Greninger Paper (PDF)</u>
- 14. ^ News Avian flu augrantine zone lifted published May 1, 2006.

Transmission and infection of H5N1

H5N1

WHO pandemic phases

- 1. Low risk
- 2. New virus
 - 3. Self limiting
- 4. Person to person
- 5. Epidemic exists
- 6. Pandemic exists

H5N1 flu refers to the **transmission and infection of H5N1**. H5N1 flu is a concern due to the global spread of H5N1 that constitutes a pandemic threat. This article is about the transmission of the H5N1 virus, infection by that virus, the resulting symptoms of that infection (having or coming down with influenza or more specifically <u>avian flu</u> or even more specifically H5N1 flu which can include pneumonia), and the medical response including treatment.

Infected birds pass on H5N1 through their saliva, nasal secretions, and feces. Other birds may pick up the virus through direct contact with these excretions or when they have contact with surfaces contaminated with this material. Because migratory birds are among the carriers of the H5N1 virus it may spread to all parts of the world. Past outbreaks of avian flu have often originated in crowded conditions in southeast and east Asia, where humans, pigs, and poultry live in close quarters. In these conditions a virus is more likely to mutate into a form that more easily infects humans.

The majority of H5N1 flu cases have been reported in southeast and east Asia. Once an outbreak is detected, local authorities often order a mass slaughter of birds or animals affected. If this is done promptly, an outbreak of avian flu may be prevented. However, the United Nations (UN) World Health Organization (WHO) has expressed concern that not all countries are reporting outbreaks as completely as they should. China, for example, is known to have initially denied past outbreaks of severe acute respiratory syndrome (SARS) and HIV, although there have been some signs of improvement regarding its openess in recent months, particularly with regard to H5N1.

H5N1 infections in humans are generally caused by bird to human transmission of the virus. Until May 2006, the WHO estimate of the number of human to human transmission had been "two or three cases". On May 24, 2006, Dr. Julie L. Gerberding, director of the United States Centers for Disease Control and Prevention in Atlanta, estimated that there had been "at least three." On May 30, Maria Cheng, a WHO spokeswoman, said there were "probably about half a dozen," but that no one "has got a solid number."[1] A few isolated cases of suspected human to human transmission exist.[2] with the latest such case in June 2006 (among members of a family in Sumatra).[3] No pandemic strain of H5N1 has yet been found. The key point is that, at present, "the virus is not spreading efficiently or sustainably among humans."[4]

There is also concern, although no definitive proof, that other animals — particularly cats — may be able to act as a bridge between birds and humans. So far several cats have been confirmed to have died from H5N1 and the fact that cats have regular close contact with both birds and humans means monitoring of H5N1 in cats will need to continue.

Notes:

- Source WHO Confirmed Human Cases of H5N1
- "[T]he incidence of human cases peaked, in each of the three years in which cases have occurred, during the period roughly corresponding to winter and spring in the northern hemisphere. If this pattern continues, an upsurge in cases could be anticipated starting in late 2006 or early 2007." <u>Avian influenza epidemiology of human H5N1 cases reported to WHO</u>
- The regression curve for deaths is $y = a + e^{kx}$, and is shown extended through the end of November, 2006.

H5N1 vaccines for chickens exist and are sometimes used, although there are many difficulties that make deciding if it helps more or hurts more especially difficult. H5N1 prepandemic vaccines exist in quantities sufficient to inoculate a few million people^[5] and might be useful for priming to "boost the immune response to a different H5N1 vaccine tailor-made years later to thwart an emerging pandemic". H5N1 pandemic vaccines and technologies to rapidly create them are in the H5N1 clinical trials stage but can not be verified as useful until after there exists a pandemic strain.

- 1 Avian flu in birds
- 2 Transmission by wild birds (waterfowl)
- 3 Prevention
- 4 Environmental survival
- 5 Incubation
- 6 Symptoms
- <u>7 Treatment</u>
- 8 Mortality rate
 - o <u>8.1 Mortality rate in planning reports</u>
- 9 Notes and references

Avian flu in birds

According to Avian Influenza by Timm C. Harder and Ortrud Werner:

Following an incubation period of usually a few days (but rarely up to 21 days), depending upon the characteristics of the isolate, the dose of inoculum, the species, and age of the bird, the clinical presentation of avian influenza in birds is variable and symptoms are fairly unspecific. Therefore, a diagnosis solely based on the clinical presentation is impossible. The symptoms following infection with low pathogenic AIV may be as discrete as ruffled feathers, transient reductions in egg production or weight loss combined with a slight respiratory disease. Some LP strains such as certain Asian H9N2 lineages, adapted to efficient replication in poultry, may cause more prominent signs and also significant mortality. In its highly pathogenic form, the illness in chickens and turkeys is characterised by a sudden onset of severe symptoms and a mortality that can approach 100% within 48 hours.

Poultry farming practices have changed due to H5N1:

- killing millions of poultry
- vaccinating poultry against bird flu
- vaccinating poultry workers against human flu
- limiting travel in areas where H5N1 is found
- increasing farm hygiene
- reducing contact between livestock and wild birds
- reducing open-air wet markets
- limiting workers contact with cock fighting
- reducing purchases of live fowl
- improving veterinary vaccine availability and cost. [13]

For example, after nearly two years of using mainly culling to control the virus, the Vietnamese government in 2005 adopted a combination of mass poultry vaccination, disinfecting, culling, information campaigns and bans on live poultry in cities.¹¹⁴

Webster et al write

Transmission of highly pathogenic H5N1 from domestic poultry back to migratory waterfowl in western China has increased the geographic spread. The spread of H5N1 and its likely reintroduction to domestic poultry increase the need for good agricultural vaccines. In fact, the root cause of the continuing H5N1 pandemic threat may be the way the pathogenicity of H5N1 viruses is masked by cocirculating influenza viruses or bad agricultural vaccines."[15]

Dr. Robert Webster explains: "If you use a good vaccine you can prevent the transmission within poultry and to humans. But if they have been using vaccines now [in China] for several years, why is there so much bird flu? There is bad vaccine that stops the disease in the bird but the bird goes on pooping out virus and maintaining it and changing it. And I think this is what is going on in China. It has to be. Either there is not enough vaccine being used or there is substandard vaccine being used. Probably both. It's not just China. We can't blame China for substandard vaccines. I think there are substandard vaccines for influenza in poultry all over the world." [16] In response to the same concerns, Reuters reports Hong Kong infectious disease expert Lo Wing-lok saying, "The issue of vaccines has to take top priority," and Julie

Hall, in charge of the WHO's outbreak response in China, saying China's vaccinations might be masking the virus." [12] The BBC reported that Dr Wendy Barclay, a virologist at the University of Reading, UK said: "The Chinese have made a vaccine based on reverse genetics made with H5N1 antigens, and they have been using it. There has been a lot of criticism of what they have done, because they have protected their chickens against death from this virus but the chickens still get infected; and then you get drift - the virus mutates in response to the antibodies - and now we have a situation where we have five or six 'flavours' of H5N1 out there." [18]

Transmission by wild birds (waterfowl)

According to the United Nations FAO: there is no denying the fact that wild water fowl most likely play a role in the avian influenza cycle and could be the initial source for AI viruses, which may be passed on through contact with resident water fowl or domestic poultry, particularly domestic ducks. The virus undergoing mutations could circulate within the domestic and possibly resident bird populations until HPAI arises. This new virus is pathogenic to poultry and possibly to the wild birds that it arose from. Wild birds found to have been infected with HPAI were either sick or dead. This could possibly affect the ability of these birds to carry HPAI for long distances. However, the findings in Qinghai Lake-China, suggest that H5N1 viruses could possibly be transmitted between migratory birds. Additionally, the new outbreaks of HPAI in poultry and wild birds in Russia, Kazakhstan, Western China and Mongolia may indicate that migratory birds probably act as carriers for the transport of HPAI over longer distances. Short distance transmission between farms, villages or contaminated local water bodies is likewise a distinct possibility. The AI virus has adapted to the environment in ways such as: 1) the use of water for survival and to spread 2) has evolved in a reservoir (ducks) strictly tied to water. The water in turn influences movement, social behaviour and migration patterns of water bird species. It is therefore of great importance to know the ecological strategy of influenza virus as well, in order to fully understand this disease and to control outbreaks when they occur. There remains a body of data and analysis missing on the collection and detection of HPAI viruses in wild birds. Finding HPAI viruses in wild birds may be a rare event, but if the contact with susceptible species occurs it can cause an outbreak at the local level or in distant areas. [19]

Prevention

The current method of prevention in animal populations is to destroy infected animals, as well as animals suspected of being infected. In southeast Asia, millions of domestic birds have been slaughtered to prevent the spread of the virus.

The probability of a "humanized" form of H5N1 emerging through genetic recombination in the body of a human co-infected with H5N1 and another influenza virus type (a process called reassortment) could be reduced by influenza vaccination of those at risk for infection by H5N1. It is not clear at this point whether vaccine production and immunization could be

stepped up sufficiently to meet this demand. Additionally, vaccination of only humans would not address the possibility or reassortment in pigs, cats, or other mammal hosts.

If an outbreak of pandemic flu does occur, its spread might be slowed by increasing hygiene in aircraft, and by examining airline cabin air filters for presence of H5N1 virus.

The American Centers for Disease Control and Prevention advises travelers to areas of Asia where outbreaks of H5N1 have occurred to avoid poultry farms and animals in live food markets [20]. Travelers should also avoid surfaces that appear to be contaminated by feces from any kind of animal, especially poultry.

There are several H5N1 vaccines for several of the avian H5N1 varieties. H5N1 continually mutates rendering them, so far for humans, of little use. While there can be some cross-protection against related flu strains, the best protection would be from a vaccine specifically produced for any future pandemic flu virus strain. Dr. Daniel Lucey, co-director of the Biohazardous Threats and Emerging Diseases graduate program at Georgetown University has made this point, "There is no H5N1 pandemic so there can be no pandemic vaccine." [21] However, "pre-pandemic vaccines" have been created; are being refined and tested; and do have some promise both in furthering research and preparedness for the next pandemic [22]. Vaccine manufacturing companies are being encouraged to increase capacity so that if a pandemic vaccine is needed, facilities will be available for rapid production of large amounts of a vaccine specific to a new pandemic strain.

It is not likely that use of antiviral drugs could prevent the evolution of a pandemic flu virus. [23]

Environmental survival

Avian flu virus can last forever at a temperature dozens of degrees below freezing, as is found in the northern most areas that migratory birds frequent.

Heat kills H5N1 (i.e. inactivates the virus):

- Over 30 days at 0°C (32.0°F) (over one month at freezing temperature)
- 6 days at 37°C (98.6°F) (one week at human body temperature)
- 30 minutes 60°C (140.0°F) (half hour at a temperature that causes first and second degree burns in humans in ten seconds)[24]

Inactivation of the virus also occurs under the following conditions:

Acidic pH conditions
 Presence of oxidizing agents such as sodium dodecyl sulfate, lipid solvents, and
 B-propiolactone

Exposure to disinfectants: formalin, iodine compounds [25]

Incubation

The human incubation period of avian influenza A (H5N1) is 2 to 17 days^[26]. Once infected, the virus can spread by cell-to-cell contact, bypassing receptors. So even if a strain is very hard to initially catch, once infected, it spreads rapidly within a body.^[27]

Symptoms

Avian influenza HA bind alpha 2-3 sialic acid receptors while human influenza HA bind alpha 2-6 sialic acid receptors. Usually other differences also exist. There is as yet no human form of H5N1, so all humans who have caught it so far have caught **avian** H5N1.

Human flu symptoms usually include fever, cough, sore throat, muscle aches, conjunctivitis and, in severe cases, severe breathing problems and pneumonia that may be fatal. The severity of the infection will depend to a large part on the state of the infected person's immune system and if the victim has been exposed to the strain before, and is therefore partially immune. No one knows if these or other symptoms will be the symptoms of a humanized H5N1 flu.

Highly pathogenic H5N1 avian flu in a human is far worse, killing over 50% of humans that catch it. In one case, a boy with H5N1 experienced diarrhea followed rapidly by a coma without developing respiratory or flu-like symptoms. [28]

There have been studies of the levels of cytokines in humans infected by the H5N1 flu virus. Of particular concern is elevated levels of tumor necrosis factor alpha (TNF±), a protein that is associated with tissue destruction at sites of infection and increased production of other cytokines. Flu virus-induced increases in the level of cytokines is also associated with flu symptoms including fever, chills, vomiting and headache. Tissue damage associated with pathogenic flu virus infection can ultimately result in death [29]. The inflammatory cascade triggered by H5N1 has been called a 'cytokine storm' by some, because of what seems to be a positive feedback process of damage to the body resulting from immune system stimulation. H5N1 type flu virus induces higher levels of cytokines than the more common flu virus types such as H1N1 [30] Other important mechanisms also exist "in the acquisition of virulence in avian influenza viruses" according to the CDC.[31]

The NS1 protein of the highly pathogenic avian H5N1 viruses circulating in poultry and waterfowl in Southeast Asia is currently believed to be responsible for the enhanced proinflammatory cytokine response. H5N1 NS1 is characterized by a single amino acid change at position 92. By changing the amino acid from glutamic acid to aspartic acid, researchers were able to abrogate the effect of the H5N1 NS1. This single amino acid change in the NS1 gene greatly increased the pathogenicity of the H5N1 influenza virus.

In short, this one amino acid difference in the NS1 protein produced by the NS RNA molecule of the H5N1 virus is believed to be largely responsible for an increased pathogenicity (on top of the already increased pathogenicity of its hemagglutinin type which allows it to grow in organs other than lungs) that can manifest itself by causing a cytokine storm in a patient's body, often causing pneumonia and death.

Treatment

Neuraminidase inhibitors are a class of drugs that includes zanamivir and oseltamivir, the latter being licensed for prophylaxis treatment in the United Kingdom. Oseltamivir inhibits the influenza virus from spreading inside the user's body [23]. It is marketed by

Roche as Tamiflu. This drug has become a focus for some governments and organizations trying to be seen as making preparations for a possible H5N1 pandemic. In August 2005, Roche agreed to donate three million courses of o be deployed by the WHO to contain a pandemic in its region of origin. Although Tamiflu is patented, international law gives governments wide freedom to issue compulsory licenses for life-saving drugs.

A second class of drugs, which include amantadine and rimantadine, target the M2 protein, but are ineffective against H5N1. Unlike zanamivir and oseltamivir, these drugs are inexpensive and widely available and the WHO had initially planned to use them in efforts to combat an H5N1 pandemic. However, the potential of these drugs was considerably lessened when it was discovered that farmers in China have been administering amantadine to poultry with government encouragement and support since the early 1990s, against international livestock regulations; the result has been that the strain of the virus now circulating in South East Asia is largely resistant to these medications and hence significantly more dangerous to humans^[32].

However, recent data suggest that some strains of H5N1 are susceptible to the older drugs. An analysis of more than 600 H5N1 viruses collected in Southeast Asia showed that most samples from China and Indonesia lacked genetic characteristics signaling resistance to amantadine, whereas most samples from Vietnam, Thailand, and Cambodia had those characteristics. The report was published by the Journal of Infectious Diseases. The new WHO guidelines were drawn up by an international group of clinicians with experience treating H5N1 patients, along with other experts, at a meeting in late March. The panel systematically reviewed and graded the evidence for the drugs' effectiveness. Since no results from controlled trials of medication use in H5N1 cases are available, "Overall, the quality of the underlying evidence for all recommendations was very low," the 138-page WHO report states. The evidence includes results of lab and animal studies and indirect evidence from studies of antiviral use in patients with seasonal influenza. The recommendations are classified as "strong" or "weak," depending on the quality of the relevant evidence. The WHO says that if a patient has a confirmed or strongly suspected H5N1 case and NIs are available, "Clinicians should administer oseltamivir treatment (strong recommendation); zanamivir might be used as an alternative (weak recommendation)." Oseltamivir comes in capsule form, whereas zanamivir is taken with an inhaler. The WHO says zanamivir has lower bioavailability outside the respiratory tract than oseltamivir, but it may be active against some strains of oseltamivir-resistant H5N1 virus.[33]

Mortality rate

Human Mortality from H5N1

A strain of H5N1 killed chickens in 1959 in Scotland and turkeys in 1991 in England. This strain was "highly pathogenic" (deadly to birds) but caused neither illness nor death in humans.[34] "The precursor of the H5N1 influenza virus that spread to humans in 1997 was first detected in Guangdong, China, in 1996, when it caused a moderate number of deaths in

geese and attracted very little attention." [35] In 1997, in Hong Kong, 18 humans were infected and 6 died in the first known case of H5N1 infecting humans. [36] H5N1 had evolved from a zero mortality rate to a 33% mortality rate.

By 2003 H5N1 infection was detected in three flocks in the Republic of Korea. This strain caused asymptomatic infections in humans and has died out, meaning that its low mortality level is no more relevant than the 1959 strain's low mortality rate. [37][38] The apparently extinct strain that caused Vietnam's human deaths from H5N1 in 2003, 2004 and 2005 also had a lower case mortality rate than the currently existing strains. [38] Changes are occurring in H5N1 that are increasing its pathogenicity in mammals. [39]

In 2005, 42 of 97 people confirmed by the WHO to be infected with H5N1 died -- or 43%. From January 1, 2006 to October 31, 2006, the case fatality ratio has been higher, with 74 deaths among 109 WHO-confirmed cases [40]-- or 68%. This has been interpreted by some to mean that the virus itself is becoming more deadly over time. [41] The global case fatality ratio is, nonetheless, a crude summary of a complex situation with many contributing factors. In particular, if an influenza pandemic arises from one of the currently circulating strains of Asian lineage HPAI A(H5N1), the mortality rates for the resulting human adapted influenza strain cannot be predicted with any confidence.

H5N1 is currently much better adapted to birds than to other hosts, which is why the disease it causes is called a bird flu. No pandemic strain of H5N1 has yet been found. The precise nature and extent of the genetic alterations that might change one of the currently circulating avian flu strains into a human flu strain cannot be known in advance. While many of the current H5N1 strains circulating in birds can generate a dangerous cytokine storm in healthy adult humans [42][43], the ultimate pandemic strain might arise from a less-lethal strain, or its current level of lethality might be lost in the adaptation to a human host.

The global case fatality ratio looks only to the official tally of cases confirmed by the WHO. It takes no account of other cases, such as those appearing in press reports. Nor does it reflect any estimate of the global extent of mild, asymptomatic, or other cases which are undiagnosed, unreported by national governments to the WHO, or for any reason cannot be confirmed by the WHO. While the WHO's case count is clearly the most authoritative, these unavoidable limitations result in an unknown number of cases being omitted from it. The problem of overlooked but genuine cases is emphasized by occasional reports in which later serology reveals antibodies to the H5N1 infection in the blood of persons who were never known to have bird flu, and who then are confirmed by the WHO only retroactively as "cases." Press reports of such cases, often poultry handlers, have appeared in various countries. The largest number of asymptomatic cases was recently confirmed among Korean workers who had assisted in massive culls of H5N1-infected poultry. [44] This relatively benign Korean strain of H5N1 has died out, and the remaining strains of H5N1 have a higher case fatality rate in humans.

Unconfirmed cases have a potentially huge impact on the case fatality ratio. This mathematical impact is well-understood by epidemiologists, and is easy to see in theory. For example, if for each confirmed case reported by the WHO we assume that there has been another mild and unreported case, the actual global number of cases would be double the current number of WHO-confirmed cases. The fatality ratio for H5N1 infections would then be calculated as the same number of deaths, but divided by a doubled number for total cases, resulting in a hypothetical death ratio of half the currently-reported fatality ratio. Such a

result would indicate to epidemiologists that the world was confronting an H5N1 virus that is less-lethal than currently assumed, although possibly one that was more contagious and difficult to track.

A case-fatality ratio based on an accurate and all-inclusive count of cases would be invaluable, but unfortunately it is impossible to attain. The ability to diagnose every case of H5N1 as it arises does not exist. A few reported studies have attempted to gather preliminary data on this crucial statistic, by carrying out systematic blood testing of neighbors and contacts of fatal cases in villages where there had been confirmed H5N1 fatalities. This testing failed to turn up any overlooked mild cases. [45][46] These methodical studies of contacts provide significant evidence that the high death rate among confirmed cases in the villages where these studies were carried out cannot be simply attributed to a wholesale failure to detect mild cases. Unfortunately, these studies are likely to remain too few and sketchy to define the complex situation worldwide regarding the lethality of the varying H5N1 clades. The testing and reporting necessary for mass serology studies to determine the incidence of overlooked cases for each existing clade and strain of H5N1 worldwide would be prohibitively costly.

Hence the precise allocation of infections by the various H5N1 clades across the spectrum including lethal, serious, mild, and asymptomatic cases is likely to remain unknown in both humans and the hundreds of other species it can infect. Scientists are very concerned about what we do know about H5N1; but even more concerned about the vast amount of important data that we don't know about H5N1 and its future mutations.

A case fatality ratio of over 50% provides a grim backdrop for the fact that the currently circulating H5N1 strains have certain genetic similarities with the Spanish Influenza pandemic virus. In that pandemic, 50 million to 100 million people worldwide were killed during about a year in 1918 and 1919 [47]. The highly lethal second and third waves of the 1918 Spanish flu evolved through time into toward a less virulent and more transmissible human form. Although the overall fatality rate for the Spanish Flu was at most 1% to 2% of the population, the lethal waves of the Spanish Flu are not reported to have emerged with anything like the over-50% case fatality ratio observed to date in human H5N1 infection. Unfortunately, a human H5N1 pandemic might emerge with initial lethality resembling that over-50% case fatality now observed in pre-pandemic H5N1 human cases, rather than with the still-high 1-2% seen with the Spanish Flu or with the lower rates seen in the two more recent influenza pandemics.[48]

Review of patient ages and outcomes reveals that H5N1 attacks are especially lethal in pre-adults and young adults, while older victims tend to have milder attacks and to survive. This is consistent with the frequent development of a cytokine storm in the afflicted. [50] Very few persons over 50 years of age died after suffering a H5N1 attack. Instead, the age-fatality curve of H5N1 influenza attacks in humans resembles that of the 1918 Spanish pandemic flu, and is the opposite of the mortality curve of seasonal flu strains, since seasonal influenza preferentially kills the elderly and does not kill by cytokine storm.

Another factor complicating any attempt to predict lethality of an eventual pandemic strain is that many human victims of the current H5N1 influenza have been blood relatives (but rarely spouses) of other victims. This data suggests that the victims' genetic susceptibility may have played a role in the human cases registered to date.

Mortality rate in planning reports

Governments and other organizations at many levels and in many places have produced "planning" reports that, among other things, have offered speculation on the mortality rate of an eventual H5N1 pandemic. One such report stated that "over half a million Americans could die and over 2.3 million could be hospitalized if a moderately severe strain of a pandemic flu virus hits the U.S."[51]. No one knew if "moderately severe" was an accurate guess or not. A report entitled *A Killer Flu?*[52] projected that, with an assumed (guessed) contraction rate of just 25%, and with a severity rate as low as that of the two lowest severity flu pandemics of the 1900s, a modern influenza A pandemic would cause 180 thousand deaths in the US, while a pandemic equaling the 1918 Spanish Flu in level of lethality would cause one million deaths in the US. Again, the report offered no evidence that an emerging H5N1 flu pandemic would be between these figures [53].

The current avian flu, in humans, is fatal in over 50% of confirmed cases. Yet early projections like those above have assumed that such a lethal avian strain would surely lose genes contributing to its lethality in humans as it made the adaptations necessary for ready transmission in the human population. This optimistic assumption cannot be relied on, as the WHO reported in November 2006. Initial outbreaks of an H5N1 pandemic could rival the current lethality of over 50%. Further information necessary to make an accurate projection of initial lethality of an H5N1 pandemic does not exist, as no data was collected that could show the pre-pandemic virulence in any potential flu strain until after the last pandemic of the 20th Century. There is no basis for assuming that an H5N1 pandemic will emerge with only the far lower 1-2% lethality rate of the Spanish Flu, once assumed to be a worst case scenario. There exists no reliable prediction of the mortality rate of an H5N1 pandemic, and it would be irresponsible to confine planning to only optimistic assumptions out of step with the currently observed case fatality ratio.

Although marred by unrealistically low ranges of assumed mortality, the earlier planning reports nevertheless show convincingly that we are not prepared *even* for a pandemic as severe as the milder pandemics of the past century. [55], let alone the much higher case fatality ratios seen more recently.

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Bumblefoot

Bumblefoot (ulcerative pododermatitis) is a bacterial infection and inflammatory reaction on the foot of <u>birds of prey</u> and rodents. This infection is much more likely to occur in captive animals than in those in the wild.

Bumblefoot on Birds of Prey

Bumblefoot is, perhaps, the largest cause of referral of birds of prey to a verterinary surgeon. Bumblefoot on birds of prey can be put into three broad types of the infection;

In the first type, a small reddened area, or sometimes a small shiny patch, can be seen on the foot. This is mostly caused by inappropriate perching (or perching for too long), or, less likely, by badly fitted furniture, such as jesses that are too small. To treat this type, one must change the fault in the husbandry, fly the bird regularly, and apply haemorrhoid cream to the effected foot.

The second type is more serious, where there has been some penetration has occurred. While treatment for the first type will help, it is likely that the bird will require antibiotics as well.

The third type involves the bird having severe distortion of the contours of the foot and/or the toes, resulting from the Bumblefoot causing considerable damage in the foot.

Bumblefoot in rodents

Bumblefoot in rodents is not necessarily associated with wire-floor cages, but more commonly with genetic factors, and/or an unsanitary living environment [1], although no conclusive evidence yet exists that would directly link this infection to these factors. Bumblefoot is so named because of the characteristic "bumbles" or lesions as well as swelling of the foot pad symptomatic of an infection. Topical antiseptics such as Blue-Kote in addition to oral or injected antibiotics may be used to combat the infection, which if left untreated may be fatal. [2]

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Gallid herpesvirus 1

Virus classification

Group: Group I (dsDNA)Family: *Herpesviridae*Genus: *Iltovirus*Species: *Gallid herpesvirus* 1 (GaHV-1)

Gallid herpesvirus 1 (GaHV-1) (also known as Avian herpesvirus 1) is a virus of the family Herpesviridae that causes avian infectious laryngotracheitis. It was originally recognized as a disease of chickens in the United States in 1926. The disease also occurs in pheasants. GaHV-1 is shed in respiratory secretions and transmitted by droplet inhalation. A previously unexposed flock will develop cases for two to eight weeks following introduction. The incubation period is two to eight days. [1] Symptoms include coughing, sneezing, head shaking, lethargy, discharge from the eyes and nostrils (sometimes bloody), and difficulty breathing. The name comes from the severe inflammation of the larynx and trachea. A diphtheritic membrane may form in the trachea, causing obstruction. Mortality is typically less than 15 percent. A vaccine is available, but it does not prevent latent infections.

The disease is usually referred to as Infectious laryngotracheitis or simply LT in the poultry industry. It is widely viewed as one of the most contagious viruses that affect the poultry industry. A confirmed case will usually result in the establishment of a quarantine zone around the farm. Inside this quarantine zone, poultry workers will avoid poultry farms to prevent the spread of the virus.

References

- 1. ^ab Fenner, Frank J.; Gibbs, E. Paul J.; Murphy, Frederick A.; Rott, Rudolph; Studdert, Michael J.; White, David O. (1993). Veterinary Virology (2nd ed.). Academic Press, Inc. ISBN 0-12-253056-X.
- 2. ^ a b Carter, G.R.; Flores, E.F.; Wise, D.J. (2006). Herpesviridae. A Concise Review of Veterinary Virology. Retrieved on 2006-06-10.

Scaly leg

Scaly leg is a disease of <u>chickens</u> and other <u>birds</u>. It is caused by a parasitic mite, Knemidocoptes mutans. The mite burrows under the scales in the bird's legs, but may also infect other areas, including the comb or wattles. The mite spends its entire lifecycle on the birds and is usually spread by direct contact.

Birds infected with scaly leg have raised or protuding scales, sometimes with a white crusty appearance. Scaly leg is extremely irritating to the infected bird, and in extreme cases can result in lameness.

The disease can be treated by soaking the afflicted bird's legs in soapy water mixed with diluted ammonia, and the encrusted areas scrubbed gently with a soft brush, followed by the application of an insecticide to kill the mites, usually oil based. Petroleum jelly (mixed with sulphur if available), or a commercial chest rub can be used — the mites are unable to breathe beneath the jelly.

Multiple treatments may be required to completely eliminate the mite, and pen, perches, and nesting areas should be sprayed. Ideally birds should be moved to a new area for at least a month to avoid re-infection from dropped scales that may remain infectious for up to 30 days.

References

- Poultry parasitic diseases, Mississippi State University
- Moore, Alanna (1998). Backyard Poultry Naturally, 2nd Ed. Bolwarrah Press, Bolwarrah Vic Australia. ISBN 0-9585590-1-5.

Famous birds

This is a **list of historical birds**.

Famous birds

- The <u>African grey parrot</u> Alex, who, in studies by Dr. Irene Pepperberg, has
 demonstrated an ability to count; differentiate categories involving objects,
 colors, shapes, and materials; and understand the concept of same and different
- The Capitoline geese, who warned of an imminent attack on Rome's hill of the Capitol by the Gauls in 390 B.C.
- Cher Ami, British-bred homing pigeon (autumn of 1918) delivers twelve messages for the U.S. Army during World War I, among other things helping to save the Lost Battalion.
- **Incas**, the last Carolina parakeet, who died in 1918 at the Cincinnati Zoo, reportedly of grief after his mate **Lady Jane** died a few months before him, in 1917
- **Martha**, the last of the American passenger pigeons, who died at the Cincinnati Zoo in 1914. Species Requiem Day, September 1, marks Martha's passing.
- **Mike**, the Wyandotte rooster of Fruita, Colorado who lived for 18 months after his head was cut off. The botched decapitation in 1945 missed his brain stem and jugular vein. His owners fed him thereafter with an eyedropper, and took him on tours of the West Coast. He died in 1947.
- The <u>ducks</u> of the Peabody Hotel in Memphis, Tennessee, who, in a tradition dating back to the 1930s, are escorted from their penthouse palace down the elevator every day of the year at 11:00 a.m., cross a red carpet to a Sousa march, and spend the day in the lobby fountain, returning home with equal ceremony at 5:00 p.m.
- The <u>ravens</u> of the Tower of London, whose continuing presence there is said to maintain the general safety of the kingdom. qand

Birds owned by famous people

- Mrs. Ballard's parrots, whose owner, Alba Ballard, dressed them up in costumes and had them photographed in miniature scenes she made. Sherlock Holmes, General Patton, and Sonny and Cher were just a few of the people portrayed. They appeared on several American late-night television shows in the 1970s and 1980s.
- The parrot who sailed with Thor Heyerdahl on the raft Kon-Tiki
- **Ulysses**, Gerald Durrell's pet owl when he was growing up in Corfu. Ulysses appeared frequently in Durrell's books about living on the Greek island.

Famous extinct birds

• Carolina parakeet

- Dodo
- Great Auk
 - <u>Moa</u>
- Passenger pigeon
 - See also Extinct birds

Feathers

Feathers are one of the epidermal growths that form the distinctive outer covering, or <u>plumage</u>, on <u>birds</u>. They are the outstanding characteristic that distinguishes the Class <u>Aves</u> from all other living groups. Other Theropoda also had feathers.

- 1 Characteristics
- 2 Evolution
 - o 2.1 Feathered dinosaurs
- <u>3 Human uses</u>
- <u>4 References</u>

Characteristics

Feathers are among the most complex structural organs found in vertebrates: integumentary appendages, formed by controlled proliferation of cells in the epidermis, or outer skin layer, that produce keratin proteins. The ²-keratins in feathers, beaks and claws — and the claws, scales and shells of reptiles — are composed of protein strands hydrogenbonded into ²-pleated sheats, which are then further twisted and crosslinked by disulfide bridges into structures even tougher than the ±-keratins of mammalian hair, horns and hoof.

Feathers insulate birds from water and cold temperatures. Individual feathers in the wings and tail play important roles in controlling flight. These have their own identity and are not just randomly distributed. Some species have a crest of feathers on their heads. Although feathers are light, a bird's plumage weighs two or three times more than its skeleton, since many bones are hollow and contain air sacs. Color patterns serve as camouflage against predators for birds in their habitats, and by predators looking for a meal. As with fish, the top and bottom colors may be different to provide camouflage during flight. Striking differences in feather patterns and colours are part of the sexual dimorphism of many bird species and are particularly important in selection of mating pairs. The remarkable colors and feather sizes of some species have never been fully explained.

There are two basic types of feather: *vaned feathers* which cover the exterior of the body, and down feathers which are underneath the vaned feathers. The pennaceous feathers are vaned feathers. Also called contour feathers, pennaceous feathers are distributed over the whole body. Some of them are modified into remiges, the flight feathers of the wing, and rectrices, the flight feathers of the tail. A typical vaned feather features a main shaft, called the rachis. Fused to the rachis are a series of branches, or barbs; the barbs themselves are also branched and form the barbules. These barbules have minute hooks called barbicels for cross-attachment. Down feathers are fluffy because they lack barbicels, so the barbules float free of each other, allowing the down to trap much air and provide excellent thermal insulation. At the base of the feather, the rachis expands to form the hollow tubular calamus, or quill, which inserts into a follicle in the skin.

The Dyck texture is what causes the colours blue and green in most parrots. This is due to a texture effect in microscopic portions of the feather itself, rather than pigment, or the Tyndall effect as was previously believed.

The spectacular red feathers of certain parrots owe their vibrancy to a rare set of pigments found nowhere else in nature.

A bird's feathers are replaced periodically during its life through molting, new feathers are formed through the same follicle from which the old ones were fledged.

Some birds have a supply of powder-down feathers which grow continuously, with small particles regularly breaking off from the ends of the barbules. These particles produce a powder that sifts through the feathers on the bird's body and acts as a waterproofing agent and a feather conditioner. Most waterbirds produce a large amount of powder down. Waterproofing can be lost by exposure to emulsifying agents due to human pollution. Feathers can become waterlogged and birds may sink. It is also very difficult to clean and rescue birds whose feathers have been fouled by oil spills.

Bristles are stiff, tapering feathers with a large rachis but few barbs. **Rictal bristles** are bristles found around the eyes and bill. They serve a similar purpose to eyelashes and vibrissae in mammals.

Evolution

Feathers most likely originated as a filamentous insulation structure, or possibly as markers for mating, with flight emerging only as a secondary purpose. It has been thought that feathers evolved from the scales of <u>reptiles</u>, but recent research suggests that while there is a definite relationship between these structures, it remains uncertain the exact process. (see *Quarterly Review of Biology* 77:3 (September 2002): 261-95). Experiments show that the same protein (when missing before birth) that causes bird feet to stay webbed, causes bird scutes and scales to become feathers. [1]

Feathered dinosaurs

Although birds use feathers primarily for flight, several dinosaurs have been discovered with feathers on their limbs that would not have functioned for flight. One theory is that feathers originally developed on dinosaurs as a means of insulation; those small dinosaurs that then grew longer feathers may have found them helpful in gliding, which would have begun the evolutionary process that resulted in some proto-birds like Archaeopteryx and Microraptor zhaoianus. Other dinosaurs discovered with feathers include Pedopenna daohugouensis, Sinosauropteryx, and Dilong paradoxus. Currently the question is whether birds are deinonychosaurians or dromaeosaurids, not whether birds are dinosaurs. It has been suggested that Pedopenna is older than Archaeopteryx, however, their age remains doubted by some experts. Dilong is a tyrannosauroid which predates Tyrannosaurus rex by 60 to 70 million years.

Human uses

Feathers have a number of utilitarian and cultural and religious uses.

Utilitarian Functions

Feathers are both soft and excellent at trapping heat; thus, they are sometimes used in high-class bedding, especially pillows, blankets, and mattresses. They are also used as filling for winter clothing, such as quilted coats and sleeping bags; goose down especially has great loft, the ability to expand from a compressed, stored state to trap large amounts of compartmentalized, insulating air. Bird feathers have long been used for fletching arrows and in the past were used for ink pens. They have also been put to use as sexual aids; see feather-dancing. Another human use is tickling for their soft feeling. Colorful feathers such as those belonging to pheasants have been used in the past to decorate hats and fishing lures. During the late 19th and early 20th Centuries a booming international trade in plumes, to satisfy market demand in North America and Europe for extravagant head-dresses as adornment for fashionable women, caused so much destruction (for example, to egret breeding colonies) that a major campaign against it by conservationists caused the fashion to change and the market to collapse.

Cultural and Religious Uses

<u>Eagle</u> feathers have great cultural and spiritual value to American Indians as religious objects. The religious use of eagle and hawk feathers are governed by the eagle feather law (50 CFR 22), a federal law limiting the possession of <u>eagle</u> feathers to certified and enrolled members of federally-recognized Native American tribes.

Various birds and their plumages serve as cultural icons throughout the world, from the hawk in ancient Egypt to the bald eagle and the turkey in the United States. In Greek mythology, Icarus tried to escape his prison by attaching feathered wings to his shoulders with wax, which melted near the Sun.

References

McGraw, K. J. 2005. <u>Polly want a pigment? Cracking the chemical code to red coloration in parrots.</u> Australian Birdkeeper Magazine 18:608-611.

DeMeo, Antonia M. Access to Eagles and Eagle Parts: Environmental Protection v. Native American Free Exercise of Religion (1995) [2]

Electronic Code of Federal Regulations (e-CFR), *Title 50: Wildlife and Fisheries PART 22—EAGLE PERMITS* [3]

Stokes, DaShanne. (In Press) <u>Legalized Segregation and the Denial of Religious Freedom</u> U.S. v. Thirty Eight Golden Eagles (1986) [4]

Plumage

The differences in plumage of a Blue Grosbeak, from top to bottom, between a breeding male (alternate plumage) a non-breeding male (basic plumage), a female and a related Indigo Bunting

Plumage refers both to the layer of <u>feathers</u> that cover a <u>bird</u> and the pattern, colour, and arrangement of those feathers. The pattern and colours of plumage vary between species and subspecies and can also vary between different age classes, sexes, and season. Within species there can also be a number of different colour morphs. Differences in plumage are used by <u>ornithologists</u> and birdwatchers in order to distinguish between species and collect other species specific information.

Basic and alternate plumage

Almost all species of birds moult at least annually, usually after the breeding season. This resulting covering of feathers, which will last either until the next breeding season or until the next annual moult, is known as the **basic plumage**. Many species undertake another moult prior to the breeding season known as the prealternate moult, the resilting breeding plumage being known as the **alternate plumage**. The alternate plumage is often brighter than the basic plumage, for the purposes of sexual display, but may also be cryptic in order to hide incubating birds that might be vulnerable on the nest.

Fictional birds

- <u>1 Birds in legends, mythology, and religion</u>
- 2 Birds in literature
- <u>3 Birds in heraldry</u>
- 4 Birds in Television
- 5 Birds on the radio
- 6 Birds in animation, comics, puppetry, and theme parks
- 7 Birds in film
- 8 Birds in music
- <u>9 Birds in sports</u>
- 10 Birds in video games
- <u>11 Birds in commerce</u>
- <u>12 See also</u>

Birds in legends, mythology, and religion

Alkonost in Russian legends

Ba in Egyptian mythology

Bagucks in Chippewa mythology

Bar Juchne in Talmud

Camulatz in Mayan mythology

Chamrosh in Persian mythology

The Cu Bird (el Pájaro Cu) in Mexican folklore

Noah's Dove in the Bible

Feng-huang (Chinese Phoenix) in Chinese mythology

Firebird in Native American mythologies

Ember bird in Russian fairy tales

Gamayun in Russian folklore

Garuda in Buddhism and Hinduism

Griffin in European mythology

Hábrók, a hawk from Norse mythology

Harpies in Greek mythology

Hokhokw in Kwakiutl mythology

Ho-o in Japanese, imported from Chinese; Fenghuang

Huginn and Muninn (Thought and Memory), Odin's two companion birds in

Norse mythology

Jatayu in Hindu mythology

Kin-u in Japanese, imported from Chinese

Kwakwakalanooksiwae in Kwakiutl mythology

Lightning Bird, a real or imaginary bird in southern African folklore

Phoenix in Egyptian mythology

Pisia in Native American mythology

Quetzalcoatl in Aztec mythology

Raven in Native American mythologies

Noah's Raven in the Bible

Roc in Persian mythology

Samjoko in Korean mythology

Shang-Yang (a rainbird) in Chinese mythology

Simurgh in Persian mythology

Sirin in Russian folklore

Suzaku in Japanese mythology, imported from the Chinese Shu-jaku

Tecumbalam in Maya mythology

Thunderbird in Native American mythologies

Xecotcovach in Maya mythology

Yatagarasu in Japanese mythology

Ziz in Talmud

Birds in literature

• The albatross in Rime of the Ancient Mariner

Archimedes (an owl) and various hawks, falcons, and white-fronted geese in The Once and Future King by T. H. White

Billina (a chicken) in numerous Land of Oz books by L. Frank Baum numerous bond-birds in the Velgarth books by Mercedes Lackey, mostly raptors, usually selectively-bred for size and intelligence

The black hen in the "Hickety, pickety" nursery rhyme

Mr. Brown, the owl in Beatrix Potter's The Tale of Squirrel Nutkin

Chanticleer (a rooster) and Pertelote (his favorite hen) in "The Nun's Priest's Tale" by Geoffrey Chaucer

Chil the Kite in The Jungle Book and The Second Jungle Book by Rudyard Kipling

Crow, by Ted Hughes

Johnny Crow, the crow star of a series of children's books illustrated by L. Leslie Brookes

The Crow and the Oriole, one of James Thurber's fables; also, The Owl Who was God, and The Shrike and the Chipmunks

A dove carrying a sprig flies to Noah, indicating the end of the Flood in Book of Genesis

The E-Telekeli (a humanoid eagle) leader of the Underpeople in the works of Cordwainer Smith

Fawkes (a phoenix) in the Harry Potter novels by J. K. Rowling

Captain Flint (a parrot) in Treasure Island by Robert Louis Stevenson

The four and twenty blackbirds baked in a pie in the nursery rhyme

Miss Goldfinch the elder and Miss Clara Goldfinch, who have a tea and coffee tavern in Beatrix Potter's The Tale of Little Pig Robinson

Thorondor, king of the eagles in the works of J. R. R. Tolkien

Gwaihir and Landroval, also eagles, in The Lord of the Rings, also by Tolkien Roäc and Cärc, two ravens from The Hobbit, also by Tolkien

Hedwig (a snowy owl) in the Harry Potter novels by J. K. Rowling; also many other owls, used to carry messages

Jack and Jill, the blackbirds on a hill told to fly away in the nursery rhyme Kaisa, the dæmon of the witch Serafina Pekkala in the His Dark Materials trilogy by Philip Pullman. His final form is a snow goose.

Kehaar the seagull in Watership Down

Sally Henny-penny, the chicken who re-opens the shop in Beatrix Potter's Ginger and Pickles

Oreb (a "night chough", a fictitious crow-like species) in The Book of the Long Sun and The Book of the Short Sun by Gene Wolfe; also various hawks and "the white-headed one", some kind of vulture

Owl (an owl) in the Winnie the Pooh books by A. A. Milne

A sarcastic parrot belonging to the title character in Terry Pratchett's Faust Eric The phoenix, in E. Nesbit's The Phoenix and the Carpet

Pickwick, a dodo from the Thursday Next series by Jasper Fforde

"Pigeons on the grass, alas," from a poem by Gertrude Stein

Pigeons, owls, hens, and an eagle in James Thurber's taking issue with Stein's pigeon passage – the story There's an Owl in My Room

Pip, Beth March's unfortunate canary in Louisa May Alcott's Little Women Polynesia, a parrot in Hugh Lofting's Dr. Dolittle stories.

Quoth (a raven) in the works of Terry Pratchett (a pun on The Raven by Edgar Allan Poe)

The raven in Edgar Allan Poe's The Raven

The robin of the "Little Robin Redbreast" nursery rhyme

Jonathan Livingston Seagull (a gull), eponymous character in a short story by Richard Bach. The story has other gull characters as well.

A stork (presumably a white stork) and a kingfisher (presumably a belted kingfisher) in Little, Big by John Crowley

Tobias, a human who becomes stuck in the body of a red-tailed hawk in the Animorphs series by K. A Applegate

The Ugly Duckling (actually a cygnet) in the story of that name by Hans Christian Andersen

Yittleby and Yattleby (alien flightless birds called krylobos) in Wizard's Eleven and the Jinian books by Sheri S. Tepper.

Zoltan the raven in The Gunslinger by Stephen King.

Many species in Aesop's Fables

Many species in The Conference of the Birds, a Persian book of poems by Farid ud-Din Attar.

Many species in La Fontaine's fables.

Many species in Brian Jacques's Redwall novels.

Many species in Thornton Burgess's children's stories.

Many species including the Ratbird in Paul Stewart's Edge Chronicles series.

The twin white condors in The Legend of the Condor Heroes and The Return of

the Condor Heroes
The divine condor in The Return of the Condor Heroes

Birds in heraldry

Birds in Television

Carly, the Cardinal spokes/songbird for National Arbor Day in the U.S.
 Dahl (parrot), household pet of the Kennedy family in the Australian soapopera Neighbours

Fred the cockatoo in Baretta

Owl, from Winnie the Pooh

Rosita, Dolores and Marguerita, parrots who advertise Tropicana brand orange juice on UK television

Tony Soprano's swimming pool ducks in The Sopranos

Birds on the radio

• The Wise Old Bird on the planet Brontitall in The Hitchhiker's Guide to the Galaxy.

Birds in animation, comics, puppetry, and theme parks

The Aracuan Bird, in various Walt Disney cartoons
 Archimedes, an owl in Disney's The Sword in the Stone
 Articuno, Zapdos, Moltres, Lugia and Ho-oh from Pokémon
 Beaky Buzzard, a buzzard in the Looney Tunes and Merrie Melodies cartoons
 Big Bird, a very big canary and Little Bird on Sesame Street
 Big Mama, an owl in the Disney film The Fox and the Hound
 Birdee, Kira Yamato's robotic pet created by Athrun Zala as a parting gift;
 Gundam Seed.

Blackbird, a pirate (based on Blackbeard) in The Legend Of Anne Bunny Booker, a baby chick in Garfield and Friends

Buzby, yellow bird of unspecified species in advertisements for British Telecom in the late 1970s/early 1980s

Gallina Caponata, a big (theorical) chicken similar to Big Bird in Spanish version of Sesame Street

Cathryn Aura and her son Nigel, vultures in Kevin and Kell

Charlie the Owl in the New Zoo Revue

Chicken Pig of Avatar: The Last Airbender

Chilly Willy, a penguin in the Walter Lantz cartoons

Cozy Heart Penguin, a Care Bears cousin

The crows in Dumbo

Daffy Duck, a duck in the Looney Tunes and Merrie Melodies cartoons

Darkwing Duck, of the Disney television cartoon of the same name.

Diablo, Maleficent's raven, in Disney's animated version of Sleeping Beauty

The last of the Dodos in Looney Tunes

Donald Duck, Daisy Duck, Huey, Dewey and Louie, Ludwig Von Drake, and Scrooge McDuck in the Walt Disney cartoons

Duckman, a duck in the cartoon of the same name

Flit, a hummingbird in Disney's animated version of Pocahontas

Friend Owl, in Disney's Bambi

Frobisher (aka Avan Tarklu), an alien shapeshifter from the Dr. Who comic strip who preferred the form of a penguin.

Foghorn Leghorn, a rooster in the Looney Tunes and Merrie Melodies cartoons Gogo Dodo in Tiny Toon Adventures

The Goodfeathers (pigeons) in Animaniacs

Graculus in Noggin the Nog

Giant hawks flown by the Glider Elves in Elfquest comics

The Great Bird Conspiracy in Kevin and Kell

H. Ross Parrot on Sesame Street

Henery Hawk, a chickenhawk in the Looney Tunes and Merrie Melodies cartoons

Howard the Duck in the comic book of the same name

Howland Owl, and Sarcophagus MacAbre, a vulture in Walt Kelly's Pogo

Iago, a parrot in Disney's animated version of Aladdin

Jose Carioca, a parrot in various Walt Disney cartoons

Jose, Michael, Pierre, and Fritz, parrot sin Walt Disney's Enchanted Tiki Room attraction at Disney theme parks

Kehaar the seagull in Watership Down

Kestrel, Owl, Mr. Pheasant and several others in Animals of Farthing Wood Kotreeka birds in Gene Catlow

Matthew, Dream's raven in the DC Comics Sandman series.

Opus, a penguin in Berkeley Breathed's Bloom County

Owls in Futurama, considered vermin in the 31st Century

* Owl in Disney's animated versions of the Winnie the Pooh stories.

Pen2, a penguin from Neon Genesis Evangelion.

Panchito, a rooster in The Three Caballeros

The penguin waiters in Mary Poppins

Penguins in Avatar: The Last Airbender of Avatar: The Last Airbender

The pigeons from Pigeon Street.

Pingu, a penguin in the animated children's series of the same name (Swiss)

Plucky Duck in Tiny Toon Adventures

Pokey the Penguin, a penguin living in the Arctic Circle, in the webcomic of the same name

Professor Yaffle, a Green Woodpecker in Bagpuss (UK)

The purple falcon sidekick of Birdman

Reptile Parrot of Avatar: The Last Airbender

The Road Runner (a roadrunner) in the Looney Tunes and Merrie Melodies cartoons

Screaming Bird of Avatar: The Last Airbender Scuttle, a seagull in Disney's The Little Mermaid

Sheldon, an unhatched chick egg, in Garfield and Friends

Shoe, a grumpy, cigar-smoking newspaper publisher in his own comic strip

Shirley McLoon in Tiny Toon Adventures

Sonny (a cuckoo), a cartoon spokesbird for Cocoa Puffs cereal (USA)

Toucan Sam, a toucan, the cartoon spokesbird for Froot Loops cereal (USA)

Turtle Ducks of Avatar: The Last Airbender

Tweety, a canary in the Looney Tunes and Merrie Melodies cartoons

The vultures in Disney's animated version of The Jungle Book

The Why Bird, in BBC educational programme Playdays.

Woodstock in the Charles Schultz's Peanuts comic strip

Woody Woodpecker, a woodpecker in the Walter Lantz cartoons

Yankee Doodle Pigeon in Hanna-Barbera's Dastardly and Muttley in their Flying Machines

Yoyo, an owl in The Books of Magic comic book by Neil Gaiman and others Zazu, a hornbill in The Lion King.

Birds in film

Babs and Ginger (hens) and Fowler and Rocky (roosters) in Chicken Run
The Crow (also made into a television series) is about a superhero named The
Crow, but he associated with an actual crow

Falcon (a falcon) and Margalo (a canary) in Stuart Little 2

Paulie (a parrot) in the film of the same name

The killer birds in the Hitchcock film The Birds (and the Daphne du Maurier story on which the film is based)

Mordechai: Pet falcon of Richie Tenenbaum in The Royal Tenenbaums

Waddlesworth (a parrot) in 102 Dalmatians

Howard - "Howard The Duck" aka "Howard: A New Breed of Hero" (1986)

Zazu, from The Lion King

Iago (a parrot) from Aladdin

Hedwig, Pigwidgeon (owls) from Harry Potter

Birds in music

Blackbird in the Beatles' Blackbird
 The Birds – British band
 The Byrds – American band

The doves in Prince's When Doves Cry

Free Bird by Lynyrd Skynyrd

The old grey goose who drowned in the millpond in Go Tell Aunt Rhody

The Kookaburra of the Australian song of the same name

The Lark Ascending; composition by Vaughan Williams

Mockingbird by Carly Simon and James Taylor

The Mutton Birds - band

The Mynah Birds - band

The Nightingale; composition by Igor Stravinsky

Oiseax exotiques and Catalogue d'oiseaux; organ compositions by Olivier Messiaen.

The turkey in Turkey in the Straw

And Your Bird Can Sing by The Beatles

"City Bird" from the album Satanic Panic in the Attic by Of Montreal.

Bird song in transcribed form is found in Antonio Vivaldi's The Four Seasons, Richard Wagner's Siegfried, Richard Strauss's Der Rosenkavalier, Camille Saint-Saëns's Le Carnaval des Animaux and Olivier Messiaen's Chronochromie and Coleurs de la cité céleste.

"Bird on a Wire" by Leonard Cohen

Birds in sports

• The Anaheim Ducks

The Arizona Cardinals

The Atlanta Hawks

The Atlanta Thrashers

The Baltimore Orioles

The Baltimore Ravens

The BellevueBlackhawks

The Boston Doves (now Atlanta Braves)

The Chicago Owls (defunct)

The Oklahoma Thunderbirds (defunct)

The Pittsburgh Condors (defunct)

The Pittsburgh Penguins

The St Louis Eagles (defunct)

The Seattle Seahawks

The Toronto Blue Jays

Birds in video games

The Chozo in the Metroid series
 Beat the Bird in Mega Man
 Chill Penguin and Storm Eagle in Mega Man X

Overdrive Ostrich in Mega Man X2

Cvber Peacock and Storm Owl in Mega Man X4

Falco Lombardi in the Star Fox series

Sgt. James Byrd in the Spyro the Dragon series, beginning with Spyro 3: Year of the Dragon

Miscellaneous Pokémon characters, including Pidgey, Delibird, Spearow,

Zapdos, and Ho-oh, among many others

Helmaroc King and Kargorocs in the Legend of Zelda: The Wind Waker

Chocobo in the Final Fantasy series

Kaepora Gaebora in the The Legend of Zelda: Ocarina of Time

Kazooie, the sidekick in the Banjo-Kazooie series

Blathers, the owner of the museum in Animal Crossing

Celeste, in Animal Crossing: Wild World. The sister of Blathers

The Babylon Rogues of Sonic Riders

Tiki the Kiwi from New Zealand Story

Birds in commerce

• Granny Goose

See also

- Bird
- <u>List of fictional ducks</u>

Fictional ducks

- 1 Disney cartoon ducks
- \circ 1.1 Residents of Disney's Duckburg and the Donald Duck/Scrooge McDuck universes
 - o 1.2 Residents of Disney's St. Canard exclusive to Darkwing Duck
 - o 1.3 Other characters
- 2 Warner Brothers ducks
- <u>3 Other cartoon ducks</u>
- 4 Krazy Kat
- 5 Pokemon
- 6 Live or costumed ducks on television and film
- 7 Ducks in literature and song
- 8 Duck mascots
- 9 Other media
- 10 See also

Disney cartoon ducks

Disney animators have created an entire universe of ducks; most are modeled after the Pekin duck.

Residents of Disney's Duckburg and the Donald Duck/Scrooge McDuck universes

Bubba the Caveduck

Daisy Duck

Daphne Duck

Della Thelma Duck

Donald Duck

Downy O'Drake

Eider Duck

Fenton Crackshell

Huey, Dewey and Louie and their lost brother Phooey Duck

April, May and June Duck

Humperdink Duck

Pintail Duck

Ouackmore Duck

Gladstone Gander

Flintheart Glomgold

• Clan McDuck

• Angus McDuck

Dingus McDuck

Fergus McDuck

Hortense McDuck

Hugh McDuck

Jake McDuck

Malcolm McDuck

Matilda McDuck

Quagmire McDuck

Scrooge McDuck

Sir Eider McDuck

Sir Quackly McDuck

Sir Roast McDuck

Sir Stuft McDuck

Sir Swamphole McDuck

• Launchpad McQuack

Pah-Peh-Rheo

Paperinik

Howard Rockerduck

John Rockerduck

Residents of Disney's St. Canard exclusive to Darkwing Duck

Darkwing Duck/Drake Mallard

Gosalyn Mallard

Stegmutt

NegaDuck

Morgana Macawber

Bushroot

Quackerjack

Other characters

• Abby Mallard 'The Ugly Duckling'

Moby Duck

Warner Brothers ducks

Daffy Duck

Danger Duck (Loonatics Unleashed)

Duck Dodgers

Melissa Duck

Plucky Duck Shirley the Loon- technically a loon, not a duck.

Other cartoon ducks

• Arima Ahiru, a duck transformed into a girl in Princess Tutu.

Baby Huey, no relation to Disney's Huey

Bill from Sitting Ducks TV series by Canadian artist Michael Bedard

Yakky Doodle, a Hanna-Barbera character

Wade Duck from U.S. Acres

Count Duckula, a vampire duck originally from the British television series

Dangermouse. Count Duckula later starred in a cartoon series of his own.

Duckman, a former USA Network animated character known for his raunchy behavior and foul mouth.

Alfred J. Kwak, Dutch cartoon character

Mousse from the popular manga Ranma $\frac{1}{2}$ transforms into a duck when doused with cold water.

Turtle Ducks of Avatar: The Last Airbender

[[1]Throwback the Duck] Classic video game journalist.

Krazy Kat

 Gooseberry Sprig the duck duke, comic-strip character created by George Herriman, later appeared in Herriman's Krazy Kat

Mock Duck, a fowl of Chinese descent who resembles a coolie and operates a cleaning establishment

Mrs. Katalpa Kwakk Wakk, a duck in a pillbox hat, is a scold who frequently notices Ignatz in the course of his plotting and then informs Officer Pupp.

Pokemon

 Psyduck Golduck Farfetch'd

Live or costumed ducks on television and film

Plucka Duck from the Australian television show "Hey Hey it's Saturday"
 The Chick and The Duck from American sitcom Friends
 The ducks in Star Wars

The Aflac duck

Howard the Duck Doobie Duck (and his disco bus) Orville the Duck Edd the Duck Tom Holden

Ducks in literature and song

 The Ugly Duckling by Hans Christian Andersen (In the end not actually a duckling, but a Cygnet)

Jemima Puddle-Duck and her sister-in-law, Mrs. Rebeccah Puddle-Duck, in The Tale of Tom Kitten and The Tale of Jemima Puddle-Duck by Beatrix Potter The duck in the traditional song "Froggy would a-wooing go"; at the end it swallowed the frog

Ping from The Story of Ping.

Sasha from Peter and the Wolf.

Mr. and Mrs. Mallad and their children from Robert McCloskey's Make Way for Ducklings.

The titular ducks from Angus and the Ducks by Marjorie Flack.

The Llama Song, even though most of it is about llamas, ducks are in it too.

Duck mascots

• University of Oregon Ducks

Stevens Institute of Technology's Attila the Duck, mascot of the Stevens Ducks Long Island Ducks minor league baseball team,

National Hockey League's Anaheim Ducks (originally the Mighty Ducks, named after the Mighty Ducks movies, where a youth hockey team named themselves the Mighty Ducks)

United Hockey League's Quad City Mallards.

Millard the Mallard of WRVA Richmond, Virginia.

The duck from Duck Products' adhesives.

Other media

 Derwin, Mallary, Pate and Scoot from the Animal Crossing video-games Dirty Duck from the comic strip of the same name by Bobby London Destroyer Duck comic book

Duckman Drake, a humanoid shotgun-wielding duck from the Timesplitters video games

Jonathin Quackup

Montague, a steam engine from The Railway Series by Rev. W. Awdry is better known as Duck.

Ernie's rubber ducky from Sesame Street.

Ty characters Jake, Quackers, Allegro, Splash, Flip Flop, Gemma, Duck-e, Puddles, and Huggyducky.

The animated short series on Showtime titled and staring Queer Duck.

See also

• List of fictional birds

Flightless birds

Flightless birds evolved from flying ancestors; there are about forty species in existence today. The best-known flightless birds are the <u>ostrich</u>, <u>emu</u>, <u>cassowary</u>, rhea and <u>penguins</u>. Most flightless <u>birds</u> evolved in the absence of predators, on islands, and lost the power of flight because they had few enemies. A notable exception, the <u>ostrich</u>, which lives in the African savannas, has claws on its feet to use as a weapon against predators.

Two key differences between flying and flightless birds are the smaller wing bones of flightless birds and the absent (or greatly reduced) keel on their breastbone. The keel anchors muscles needed for wing movement [1]. Flightless birds also have more feathers than flying birds.

New Zealand has more species of flightless birds (including the <u>kiwis</u>, several species of <u>penguins</u>, and the takahe) than any other country. One reason is that until the arrival of humans roughly 1000 years ago, there were no land mammals in New Zealand other than three species of bat; the main predators of flightless birds were larger birds[2].

Some flightless variety of island birds are closely related to flying varities, impling flight is a significant biological cost.

With the introduction of mammals (among them humans) to the habitats of flightless birds, many have become extinct, including the Great Auk, the Dodo, and the <u>Moas</u>.

The smallest flightless bird is the Inaccessible Island Rail (length 12.5 cm, weight 34.7 g). The largest (both heaviest and tallest) flightless bird, which is also the largest living bird, is the Ostrich (2.7 m, 156 kg)[3].

Flightless birds are the easiest to take care of in captivity because they do not have to be caged. Ostriches were once farmed for their decorative feathers. Today they are raised for meat and for their skins, which are used to make leather.

- <u>1 List of recent flightless birds</u>
 - o 1.1 Ratites
 - o 1.2 Grebes
 - o 1.3 Pelican-like birds
 - o 1.4 Petrel-like birds
 - 1.5 Duck-like birds
 - 1.6 Rails and relatives
 - o 1.7 Gulls and relatives
 - o 1.8 Parrots
 - o 1.9 Doves and relatives
 - o 1.10 Songbirds
- 2 See also
- 3 Reference

List of recent flightless birds

Ratites

- Ostrich
- <u>Emu</u>
- Kangaroo Island Emu (extinct) King Island Emu (extinct)
 - <u>Cassowaries</u>
- Moas (extinct)
 - <u>Elephant birds</u> (extinct)
 - <u>Kiwis</u>
- Rheas

Grebes

• Junin Flightless Grebe Titicaca Flightless Grebe

Pelican-like birds

• Flightless Cormorant Spectacled Cormorant (extinct)

Petrel-like birds

• <u>Penguins</u>

Duck-like birds

Moa-nalo (extinct)
 Magellanic Flightless Steamer Duck
 Falkland Flightless Steamer Duck
 White-headed Flightless Steamer Duck
 Auckland Island Teal

Rails and relatives

• Red Rail (extinct)

Rodrigues Rail (extinct)

Woodford's Rail (probably flightless)

Bar-winged Rail (extinct, probably flightless)

Weka

New Caledonian Rail

Lord Howe Woodhen

Calayan Rail

New Britain Rail

Guam Rail

Roviana Rail ("flightless, or nearly so" [Taylor (1998])

Tahiti Rail (extinct)

Dieffenbach's Rail (extinct)

Chatham Rail (extinct)

Wake Island Rail (extinct)

Snoring Rail

Inaccessible Island Rail

Laysan Rail (extinct)

Hawaiian Rail (extinct)

Kosrae Island Crake (extinct)

Henderson Island Crake

Invisible Rail

New Guinea Flightless Rail

Lord Howe Swamphen (extinct, probably flightless)

North Island Takahe (extinct)

Takahe

Samoan Wood Rail

Makira Wood Rail

Tristan Moorhen (extinct)

Gough Island Moorhen

Adzebills (extinct)

Kagu

Gulls and relatives

• Great Auk (extinct)

Parrots

Kakapo

Doves and relatives

• Dodo (extinct) Rodrigues Solitaire (extinct)

Songbirds

• Stephens Island Wren (extinct)

See also

- Extinct birds
- <u>Ratite</u>

Reference

Taylor, Barry (1998). <u>Rails: A Guide to the Rails, Crakes, Gallinules and Coots of the World.</u> Yale University Press. ISBN 0-300-07758-0.

Struthioniformes

Ratites

Kingdom: Animalia Phylum: Chordata

Class: Aves

Superorder: Paleognathae

Order: Struthioniformes Latham, 1790 Families: Struthionidae (ostriches), Rheidae (rheas),

Casuariidae (emus etc.), †Aepyornithidae (elephant birds), †Dinornithidae (moa),

Apterygidae (kiwis)

A **ratite** is any of a diverse group of large, <u>flightless birds</u> of Gondwanan origin, most of them now extinct. Unlike other flightless birds, the ratites have no keel on their sternum and, lacking a strong anchor for their wing muscles, could not fly even were they to develop suitable wings. The name *ratite* comes from the Latin word for raft (*ratis*), because their breastbone looks like a raft.

Most parts of the former Gondwana have ratites, or have had until the fairly recent past.

Living forms

- The African Ostrich is the largest living ratite. A large member of this species can be 3 m tall, weigh 135 kg, and outrun a horse.
- Of the living species, the Australian emu is next in size, reaching up to 2 m tall and about 60 kg. Like the ostrich, it is a fast-running, powerful bird of the open plains and woodlands.
- Also native to Australia and the islands to the north, are the three species of
 <u>cassowary</u>. Shorter than an emu and very solidly built, cassowaries prefer thickly
 vegetated tropical forest. They can be very dangerous when surprised or
 cornered. In New Guinea, cassowary eggs are brought back to villages and the
 chicks raised for eating as a much-prized delicacy, despite (or perhaps because
 of) the risk they pose to life and limb.
- The smallest ratites are the six species of <u>kiwi</u> from New Zealand. Kiwi are <u>chicken</u>-sized, shy, and nocturnal. They nest in deep burrows and use a highly developed sense of smell to find small insects and grubs in the soil. Kiwi are notable for laying eggs that are very large in relation to their body size. A Kiwi egg may equal 15 to 20 percent of the body mass of a female kiwi.
- South America has two species of rhea, mid-sized, fast-running birds of the pampas. The larger American rhea grows to about 1.5 m tall and weighs 20 to 25 kg. (South America also has 73 species of the small and ground-dwelling but not flightless tinamou family, which is distantly related to the ratite group.)

Extinct forms

• Aepyornis, the "elephant bird" of Madagascar, was the largest bird ever known. Although shorter than the tallest <u>moa</u>, a large aepyornis could weigh 450 kg.

Moa - at least ten species in New Zealand, ranging from just over turkey-sized, to
the Giant Moa Dinornis robustus (formerly known as Dinornis giganteus) with a
height of 3 m and weighing about 250 kg[1]. Extinct by 1500 due to hunting by
human settlers, who arrived around 1000, although at least one species may have
survived past this date and maybe was seen by early European settlers.

In addition, eggshell fragments similar to those of *Aepyornis* (though this is probably a symplesiomorphy) were found on the Canary Islands. The fragments apparently date to the Middle or Late Miocene, and no satisfying theory has been proposed as to how they got there due to uncertainties about whether these islands were ever connected to the mainland.

Evolution and systematics

There are two taxonomic approaches to ratite classification: the one applied here combines the groups as <u>families</u> in the <u>order</u> **Struthioniformes**, while the other supposes that the lineages evolved mostly independently and thus elevates the families to order rank (e.g. **Rheiformes**, **Casuariformes** etc.). The uncertainties regarding the evolution of these groups may be taken as indication that the latter is actually a better way of expressing ratite interrelationships.

The traditional account of ratite evolution has the group emerging in Gondwana in cretaceous times, then evolving in their separate directions as the continents drifted apart. Cladistic evidence for this is strong: ratites share too many features for their current forms to be easily explained by convergent evolution. However, recent analysis of genetic variations between the ratites conflicts with this: DNA analysis appears to show that the ratites diverged from one another too recently to share a common Gondwanian ancestor, and suggest that the kiwis are more closely related to the cassowaries than the moa. At present there is no generally accepted explanation. Also, there is the Middle Eocene fossil "proto-ostrich" Palaeotis from Central Europe, which either implies that the ancestral ratites had not yet lost flight when they were dispersing all over Gondwana - by the Middle Eocene, both Laurasia and Gondwana had separated into the continents of today - or that the "out-of-Gondwana" hypothesis is wrong. Research continues, but at present the ratites are perhaps the one group of modern birds for which no good theory of their evolution and paleobiogeography exists.

Heraldic birds

American Robin

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes Family: <u>Turdidae</u> Genus: *Turdus*

Species: *T. migratorius*

Binomial name: *Turdus migratorius* Linnaeus, 1766

The **American Robin** (*Turdus migratorius*) is a migratory songbird of the thrush family.

1 Overview

• 2 Song and calls

3 Trivia

• <u>5 References</u>

Overview

The American Robin is 25–28 cm (10–11 in) long. It has gray upperparts and head, and orange underparts, usually brighter in the male; the similarity between this coloring and that of the smaller and unrelated European Robin (*Erithacus rubecula*) led to its common name. There are seven races, but only *T. m. confinus* in the southwest is particularly distinctive, with pale gray-brown underparts.

During the breeding season, the adult males grow distinctive black <u>feathers</u> on their heads; after the breeding season they lose this eye-catching plumage.

This bird breeds throughout Canada and the United States. While Robins occasionally overwinter in the northern part of the United States and southern Canada, most winter in the southern parts of the breeding range and beyond, from the southern U.S.A. to Guatemala. Most depart south by the end of August and begin to return north in February and March. (Exact dates vary with latitude and climate, of course.)

This species is a very rare vagrant to western Europe. In autumn 2003, migration was displaced eastwards leading to massive movements through the eastern USA. Presumably this is what led to no fewer than three American Robins being found in Great Britain, with two attempting to overwinter in 2003–4, one eventually being taken by a Sparrowhawk.

As with many migratory birds, the males return to the summer breeding grounds before the females and compete with each other for nesting sites. The females then select mates based on the males' songs, plumage, and territory quality. The females build the nest and lay three or four blue eggs in the lined cup. Incubation, almost entirely by the female is 11-14 days to hatching, with another 15–16 days to fledging. Two broods in a season are common. The adult male looks after the fledged chicks while female incubates her second clutch. Some people enjoy the Robin's presence, and want to protect the chicks; they do this by building

nesting shelves for the Robin's use. Bird banders found that only 25% of young robins survive the first year.

The American Robin's habitat is all sorts of woodland and more open farmland and urban areas. Food is the typical thrush mixture consisting largely of insects and earthworms. Robins are also fond of some berries, including those of the black cherry tree; they will fly in especially to feed on them during the period when they ripen.

Robins are frequently seen running across lawns, picking up earthworms by sight. In fact, the *running and stopping* behavior is a distinguishing characteristic. When stopping, they are believed to be listening for the movement of prey.

Without showing symptoms, the American Robin is sometimes a carrier of the West Nile virus in the Western hemisphere.

This is the state bird of Connecticut, Michigan, and Wisconsin.

Song and calls

The American Robin, like many thrushes, has a beautiful and complex song, and in contrast to other thrushes, its song is almost continuous. Its song is commonly described as a *cheerily* carol song. The song is made of discrete units, often repeated, and spliced together into a string with brief pauses in between. The song varies regionally, and its style varies by time of day. American Robins will often be among the last songbirds singing as the evening sets in.

In addition to its song, the American Robin has a number of calls used for communicating specific information. When a ground predator approaches but does not directly threaten, Robins will make a *PEEK!! tut tut tut...* warning call. When a nest or Robin is being directly threatened, another call is used, which sounds like a horse's whinny. Even during nesting season, when Robins exhibit mostly competitive and territorial behaviour, they may still band together to drive away a predator. Robins also make a very high-pitched sound when a hawk or other bird of prey is seen; other robins will repeat the sound, seek cover, and stop moving. During the colder parts of the year, the American Robin gathers in flocks around food sources, and there is yet another call that is heard in such flocks.

Trivia

- Crayola has a crayon color, robin's egg blue named after the color of the eggs.
- The American Robin was depicted on the 1986 series Canadian \$2 note.
- The Disney film Mary Poppins, set in London, incorrectly portrayed American Robins singing by an open window, despite the fact that the European Robin is the only bird named as a robin to be commonly found in the United Kingdom. Additionally, both robins building the nest in that film are males.

References

- BirdLife International (2004). <u>Turdus migratorius</u>. 2006 IUCN Red List of *Threatened Species*. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern
- *Thrushes* by Clement and Hathaway, ISBN 0-7136-3940-7
 - Design for human-built nesting shelves

Andean Condor

Conservation status Near threatened

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: New_World_vulture.html

Genus: *Vultur* Lesson, 1842 Species: *V. gryphus* Binomial name: *Vultur gryphus* (Linnaeus, 1758)

Synonyms, $Vultur\ fossilis\$ Moreno & Mercerat, 1891 , $Vultur\ patruus\$ Lönnberg, 1902 , $Vultur\ pratruus\$

Emslie, 1988 (lapsus)

The **Andean Condor**, *Vultur gryphus*, is a species of bird in one of the <u>vulture</u> families. It is in many regards the largest flying land bird in the Western Hemisphere and is the heaviest, but not the lengthiest, member of the order Ciconiiformes.

This <u>condor</u> inhabits the Andes mountains. Although it is primarily a scavenger, feeding on carrion, this species belongs to the New World vulture family Cathartidae, related to storks and not closely related to Old World vultures, which are in the family Accipitridae along with <u>hawks</u>, eagles and <u>kites</u>.

- <u>1 Appearance</u>
- 2 Behavior
- 3 Human influence
- 4 Systematics and evolution
- <u>5 References</u>

Appearance

Although about 5 cm shorter (beak to tail) on average than the California Condor, the Andean Condor is undoubtedly larger in wingspan: Ferguson-Lees gives 274-310 cm (108-122 in). It is also heavier: up to 11-15 kg (24-33 lb) for males and 7.5-11 kg (16-24 lb) for females. Measurements are usually taken from specimens reared in captivity.

The adult <u>plumage</u> is of a uniform black, with the exception of a frill of white feathers nearly surrounding the base of the neck and, especially in the male, large patches or bands of white on the wings which do not appear until the completion of the first moulting. As an adaptation for hygiene, the head and neck have few feathers, exposing the skin to the sterilizing effects of dehydration and ultraviolet light at high altitudes, and are meticulously kept clean by the bird. The head is much flattened above. In the male it is crowned with a caruncle or comb, while the skin of the neck in the male lies in folds, forming a wattle. The skin of the head and neck is capable of flushing noticeably in response to emotional state, which serves to communicate between individuals.

The middle toe is greatly elongated, and the hinder one but slightly developed, while the talons of all the toes are comparatively straight and blunt. The feet are thus more adapted to

walking as in their relatives the storks, and of little use as weapons or organs of prehension as in birds of prey and Old World vultures. The female, contrary to the usual rule among <u>birds</u> of <u>prey</u>, is smaller than the male.

Behavior

Sexual maturity and breeding behavior do not appear in the condor until 5 or 6 years of age. They may live for 50 years or more, and mate for life. The Andean condor prefers roosting and breeding at elevations of 3,000 to 5,000 m (10,000–16,000 ft). There on inaccessible ledges of rock, its nest consisting merely of a few sticks placed around the eggs, it deposits one or two bluish-white eggs, weighing about 10 ounces (280 g) and from 3 to 4 inches (75 to 100 mm) in length, during the months of February and March every second year. The egg hatches after 54–58 days of incubation by both parents. If the chick or egg is lost or removed, another egg is laid to take its place. Researchers and breeders take advantage of this behavior to double the reproductive rate by taking the first egg away for hand-rearing, causing the parents to lay a second egg which they are generally allowed to raise.

The young are covered with a grayish down until almost as large as their parents. They are able to fly after six months, but continue to roost and hunt with their parents until age two, when they are displaced by a new clutch. There is a well developed social structure within large groups of condors, with competition to determine a 'pecking order' by body language, competitive play behavior, and a wide variety of vocalizations, even though the condor has no voice box.

On wing the movements of the condor, as it wheels in majestic circles, are remarkably graceful. The lack of a large sternum to anchor correspondingly large flight muscles identifies them physiologically as primarily soarers. The birds flap their wings on rising from the ground, but after attaining a moderate elevation they seem to sail on the air. Charles Darwin commented on having watched them for half an hour without once observing a flap of their wings. They prefer to roost on high places from where they can launch without major wingflapping effort. Oftentimes, these birds are seen soaring near rock cliffs, using the heat thermals to aid them with rising in the air.

Wild condors inhabit large territories, often traveling 250 km (150 miles) a day in search of carrion. They prefer large carcasses such as deer or cattle which they spot by looking for other scavengers, who cannot rip through the tougher hides of these larger animals with the efficiency of the larger condor. In the wild they are intermittent eaters, often going for a few days without eating, then gorging themselves on several pounds at once, sometimes to the point of being unable to lift off the ground.

Human influence

The Andean Condor is the national symbol of Bolivia, Colombia, Ecuador, Peru, Argentina, and Chile. It plays an important role in the folklore and mythology of the South American

Andean regions, similar to the role the Bald Eagle plays in North America. As such, condors are depicted in the national coats of arms of Colombia, Ecuador, Bolivia, and Chile, and can also be seen in the state flag of Ecuador.

One of best known Peruvian songs is *El Cóndor Pasa* (*The condor passes*), composed by Peruvian musician Daniel Alomía Robles. The melody attained world fame years later, in Paul Simon's "If I Could". Tourists can see the condors flying freely at the Colca Canyon in Peru, which is a natural habitat of the great Andean Condor.

The Andean Condor is becoming more common in bird shows, and these large birds can prove very powerful and aggressive, so a well-trained Andean Condor appearing free in a public show is an impressive feat.

Systematics and evolution

See Sibley-Ahlquist taxonomy for a radically different approach to ciconiiform classification, quite popular in the late 20th century but is increasingly falling out of favor, being superseded by more current research.

The Andean Condor is the only accepted species of its genus, living or extinct. Unlike the California Condor, which is known from extensive fossil remains and some additional ones of congeners, the fossil record of the Andean Condor recovered to date is scant. Some prehistoric genera of New World vultures seem to be closely related to Vultur; the Argentine Early to Middle Pliocene Dryornis pampeanus may actually belong into this genus. Presumed Plio-/Pleistocene species of South American condors were later recognized to be not different from the present species, although one known only from a few rather small bones found in a Pliocene deposit of Tarija Department, Bolivia, may have been a smaller palaeosubspecies, *V. gryphus patruus* (Fisher, 1944).

References

• **Fisher**, Harvey L. (1944): The skulls of the Cathartid vultures. *Condor* **46**: 272-296. PDF fulltext

Blue Jay

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes Family: Corvidae Genus: *Cyanocitta* Species: *C. cristata*

Binomial name: *Cyanocitta cristata* Linnaeus, 1758

The **Blue Jay** (*Cyanocitta cristata*) is a North American jay, a handsome bird with predominantly lavender-blue to mid-blue feathering from the top of the head to midway down the back. There is a pronounced crest on the head. The colour changes to black, skyblue and white barring on the wing primaries and the tail. The bird has an off-white underside, with a black collar around the neck and sides of the head and a white face.

Blue Jays reside over a very large area of the eastern side of North America from Newfoundland in the northeast to Florida in the southeast and westward to Texas and the mid-west and eastern Colorado in the north. It is mainly a bird of mixed woodland, including American beech and various oak species, but also of parks and gardens in some towns and cities. West of the Rockies, it is replaced by the closely related Steller's Jay.

Its food is sought both on the ground and in trees and includes virtually all known types of plant and animal sources, such as acorns and beech mast, weed seeds, grain, fruits and other berries, peanuts, bread, meat, eggs and nestlings, small invertebrates of many types, scraps in town parks and bird-table food.

Its occasionally aggressive behavior at feeding stations, plus a reputation for occasionally destroying the nests and eggs of other birds, has made the Blue Jay unwelcome at some bird feeders. However, these are clever and adaptable birds who are good survivors and have adapted well to human presence. They are particularly fond of peanuts and sunflower seeds.

Any suitable tree or large bush may be used for nesting and both sexes build the nest and rear the young, though only the female broods them. There are usually 4–5 eggs laid and incubated over 16–18 days. The young are fledged usually between 17–21 days. Blue Jays typically form monogamous pair bonds for life.

Although this bird is generally found year round through most of its range, some northern birds do move into the southern parts of the range. These birds <u>migrate</u> during the day.

Blue Jays also have a quiet, almost subliminal call which they use among themselves in close proximity. In fact, they can make a large variety of sounds, and individuals may vary perceptibly in their calling style.

As with other blue-hued birds, the Blue Jay's coloration is not derived by pigments, but is the result of light refraction due to the internal structure of the <u>feathers</u>; if a Blue Jay feather is crushed, the blue disappears as the structure is destroyed. This is referred to as structural coloration.

The Blue Jay is the provincial bird of Prince Edward Island and gave its name to the Toronto Blue Jays baseball team.

Blue Jays in captivity are generally aggressive toward other birds. They tend to bond to one or two people and attack all others.

References

- BirdLife International (2004). <u>Cyanocitta cristata</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 09 May 2006. Database entry includes justification for why this species is of least concern
- Goodwin, D. 1976. *Crows of the World*. Seattle, University of Washington Press.
- Madge, S. and H. Burn. 1994. *Crows and Jays: A Guide to the Crows, Jays and Magpies of the World*. Boston, Houghton Mifflin.
- Tarvin, K. A., and G. E. Woolfenden. 1999. *Blue Jay (Cyanocitta cristata)*. In The Birds of North America. No. 469.

Caladrius

According to the Aberdeen Bestiary (as well earlier texts such as The Physiologus), the **Caladrius** is a snow-white bird that lives in kings' houses. Supposedly, the bird refuses to look at any patient that is not going to make a full recovery.

It is said to also be able to take the sickness into itself and then fly away, dispersing the sickness and healing both itself and the sick person.

This is said to be analogous to Jesus Christ, whose crucifixion is said to have drawn out "the sickness" (sin, see <u>Biblical sin-sickness analogy</u>) and, through his "flight" from the grave, saved the sinner.

Basis of Origination

There are numerous theories as to where the legend of the Caladrius was started. One of them would be that it is merely the product of some overactive imaginations or that it was created purely as an analogy.

Another is that the Caladrius is based on a real bird. According to the descriptions of its being completely white with no black on it, it is possible that it was based on the dove, or possibly some sort of water bird such as the heron.

Other

<u>Caladrius Computing</u> is also the name of an Australian data backup company.

Canada Goose

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u> Genus: <u>Branta</u>

Species: *B. canadensis*

Binomial name: **Branta canadensis** (Linnaeus, 1758) Subspecies: B. c. occidentalis (Dusky Canada Goose), B. c. fulva (Vancouver Canada Goose), B. c. parvipes (Lesser Canada Goose), B. c. moffitti (Moffitt's Canada Goose), B. c. maxima (Giant Canada Goose), B. c. interior (Interior Canada Goose), B. c. canadensis (Atlantic Canada Goose)

The **Canada Goose** (*Branta canadensis*) belongs to the *Branta* genus of geese, which contains species with largely black plumage, distinguishing them from the grey species of the *Anser* genus.

The species name, canadensis, is a New Latin word meaning "of Canada".

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Appearance

The black head and neck with white "chinstrap" distinguish this goose from all except the Barnacle Goose, but the latter has a black breast, and grey, rather than brownish, body plumage. There are seven subspecies of this bird, of varying sizes and plumage details, but all are recognizable as Canada Geese. Some are hard to distinguish from the Cackling Goose (*Branta hutchinsii*), with which the Canada Goose was long assumed to form one species; the name Lesser Canada Goose is, confusingly, often applied to *B. hutchinsii*.

This species is 90-100 cm long with a 160-175 cm wing span. Males weigh 3.5–6.5 kg, (8–14 pounds), and can be very aggressive in defending territory. The female looks virtually identical but is slightly lighter at 3–5.5 kg (7–12 pounds), and has a different honk.

Behaviour and habitat

These birds feed mainly on plant material. When feeding in water, they submerge their heads and necks to reach aquatic plants, sometimes tipping forward like a dabbling duck. Flocks of these birds often feed on leftover cultivated grains in fields, especially during migration or in winter.

During the second year of their lives, Canada Geese find themselves a mate. Most couples stay together all of their lives. If one is killed, the other may find a new mate, and divorce also occurs, though rarely. The female lays 4-8 eggs and both parents protect the nest while the eggs incubate, but the female spends more time at the nest than the male. During that time, they lose their flight feathers, so that they cannot fly until after their eggs hatch. This period lasts for 25-28 days.

In some populations, up to 12% of the pairs are homosexual. Both males and females may form same-sex pairs. One study has observed that 18% of the males formed same-sex pair bonds, while for females the ratios varied between 6 and 12%. Courtship behavior is associated with such couples, though copulation is not a prominent feature of same-sex pairs.[2]

Adult geese are often seen leading their goslings in a line with one parent at the front, and the other at the back of the "parade". While protecting their young, parents often violently chase away nearby creatures, from small blackbirds to other geese, to humans that approach. However, geese may form groups of a number of goslings and a few adults, called crèches. The young do not leave their parents until after the spring migration, when they return to their birthplace.

This well-known species is native to North America. It breeds in Canada and the northern United States in a variety of habitats. However, the nest is usually located in an elevated area near water, sometimes on a beaver lodge. The eggs are laid in a shallow depression lined with plant material and down. The Great Lakes region maintains a very large population of Canada Geese.

Like most geese, it is naturally <u>migratory</u>, the wintering range being most of the US. The calls overhead from large groups of Canada Geese flying in V-shaped formation signal the transitions into spring and autumn. In some areas, migration routes have changed due to changes in habitat and food sources. In mild climates, such as the Pacific Northwest, due to a lack of former predators, some of the population has become non-migratory.

If a goose feels threatened by another creature it will usually warn the creature by giving off a hissing sound.

Other locations

Canada Geese have reached western Europe naturally, as has been proved by ringing recoveries. The birds are of at least the subspecies parvipes, and possibly others. Canada

Geese are also found naturally on the Kamchatka Peninsula in eastern Siberia, eastern China, and throughout Japan.

Greater Canada Geese have also been widely introduced in Europe, and have established feral populations in Great Britain, the Netherlands, and Scandinavia. Semi-tame feral birds are common in parks, and have become a pest in some areas. It is now proven that most Scandinavian and some British birds have established a migration pattern. The geese were first introduced in the Britain in the late 17th century as an addition to King James II's waterfowl collection in St. James's Park. Finally, Canada Geese were introduced as a game bird into New Zealand, but they have also become a problem in some areas there.

By the early 20th century, over-hunting and loss of habitat in the late 1800s and early 1900s had resulted in a serious decline in the numbers of this bird in its native range. The Giant Canada Goose subspecies was believed to be extinct in the 1950s until, in 1962, a small flock was discovered wintering in Rochester, Minnesota by Harold Hanson of the Illinois Natural History Survey. With improved game laws and habitat recreation and preservation programs, their populations have recovered in most of their range, although some local populations, especially of the subspecies occidentalis, may still be declining. They have adapted well to urban environments, especially those with well-trimmed lawns and large ponds, such as golf courses and city parks.

Taxonomy

The Cackling Goose was originally considered to be the same species or a subspecies of the Canada Goose, but in July 2004 the American Ornithologists' Union's Committee on Classification and Nomenclature split the two into two species, making Cackling Goose into a full species with the scientific name Branta hutchinsii. The British Ornithologists Union followed suit in June 2005.

The AOU has divided the many associated subspecies of both animals:

- Canada Goose (also known as Greater Canada Goose)
 - Atlantic Canada Goose (Branta canadensis canadensis)
 - o Interior Canada Goose (Branta canadensis interior)
 - o Giant Canada Goose (*Branta canadensis maxima*)
 - Moffit's Canada Goose (Branta canadensis moffitti)
 - Vancouver Canada Goose (Branta canadensis fulva)
 - Dusky Canada Goose (Branta canadensis occidentalis)
 - o part of "Lesser complex" (Branta canadensis parvipes)
- Cackling Goose (also known as Lesser Canada Goose or Small Canada Goose)
 - o Richardson's Cackling Goose (Branta hutchinsii hutchinsii)
 - o Bering Cackling Goose (*Branta hutchinsii asiatica*) Conservation status: Extinct (c.1929)
 - Aleutian Cackling Goose (Branta hutchinsii leucopareia)
 - Small Cackling Goose (Branta hutchinsii minima)

o part of "Lesser complex" (Branta hutchinsii taverneri)

The distinctions between the two geese have led to a great deal of confusion and debate among ornithologists. This has been aggravated by the overlap between the small types of Canada Goose and larger types of Cackling Goose. The old "Lesser Canada Goose" was believed to be a partly hybrid population, with the birds named taverneri considered a mixture of minima, occidentalis and parvipes. In addition, it has been determined that the Barnacle Goose is a derivative of the Cackling Goose lineage, whereas the Hawaiian Goose is an insular representative of the Canada Goose.

See also

- The Canada Goose was depicted on the 1986 series Canadian \$100 note.
- The 1996 movie Fly Away Home was about a young girl who finds and raises a brood of orphaned Canada Goslings and attempts to get them to migrate after the birds reach adulthood.
- A Canada Goose was used as the logo for the tail section of Canadian Airlines last livery before the airline merged with Air Canada.

Notes

- 1. <u>^</u> Bruce Bagemihl, *Biological Exuberance: Animal Homosexuality and Natural Diversity*, St. Martin's Press, 1999; p.485
- 2. <u>^</u> Bruce Bagemihl, *Biological Exuberance: Animal Homosexuality and Natural Diversity*, St. Martin's Press, 1999; pp.483-485

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• BirdLife International (2006). <u>Branta canadensis</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 11 May 2006.

Canary

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Passeriformes Family: <u>Fringillidae</u> Genus: *Serinus* Species: *S. canaria*

Binomial name: *Serinus canaria* (Linnaeus, 1758)

The **Canary** (*Serinus canaria*) sometimes called the **Island Canary**, **Wild Canary** or **Atlantic Canary** is a small <u>songbird</u> which is a member of the finch family.

This <u>bird</u> is native to Madeira, Azores and the Canary Islands. The bird was named after the Canary Islands, not the other way around; "Canary" is derived from the Latin *canaria*, "of the dogs", referring to the numerous wild dogs that inhabited the islands.

Its habitat is semi-open areas such as orchards and copses, where it nests in bushes or trees.

The wild bird is 4 to 6 in. long, yellow-green, with streaking on its back. It is larger, longer and less contrasted than its relative the Serin, and has more grey and brown in its <u>plumage</u>.

The song is a silvery twittering like the Goldfinch.

This species is often kept as a pet: see **Domestic Canary** for details.

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Cassowary

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Struthioniformes Family: Casuariidae

Genus: Casuarius Brisson, 1760 Species: Casuarius casuarius, Casuarius unappendiculatus,

Casuarius bennetti

Cassowaries (genus *Casuarius*) are very large <u>flightless birds</u> native to the tropical forests of New Guinea and northeastern Australia. Some nearby islands also have small cassowary populations, but it is not known if these are natural or the result of the New Guinea trade in young birds. They are frugivorous; fallen fruit and fruit on low branches is the mainstay of their diet. They also eat fungi, snails, insects, frogs, snakes and other small animals. Recently, they have also been observed to attack humans, though this usually only occurs in self-defense when humans intrude upon the birds' territory or cause them to feel threatened.

Cassowaries (from the Indonesian name *kasuari*) are part of the <u>ratite</u> group, which also includes the <u>emu</u>, rhea, <u>ostrich</u>, <u>moa</u>, and kiwi. There are three species recognized today:

- **Southern Cassowary** or **double-wattled cassowary** *C. casuarius* of Australia and New Guinea.
- **Dwarf Cassowary** *C. bennetti* of New Guinea and New Britain.
- Northern Cassowary C. unappendiculatus of New Guinea.

The Northern and Dwarf Cassowaries are not well known. All cassowaries are usually shy, secretive birds of the deep forest, adept at disappearing long before a human knows they are there. Even the more accessible Southern Cassowary of the far north Queensland rain forests is not well understood.

The evolutionary history of cassowaries, as all ratites, is not well known. A fossil species was reported from Australia, but for reasons of biogeography this assignment is not certain and it might belong to the prehistoric "emuwaries", *Emuarius*, which were cassowary-like primitive emus.

The Southern Cassowary is the second-largest bird in Australia and the third-largest remaining bird in the world (after the ostrich and emu). Adult Southern Cassowaries are 1.5 to 1.8 m (5 to 6 feet) tall, although some may reach 2m (6 feet 8 inches), and weigh about 60 kilograms (130 pounds). They have a bony casque on the head that is used to batter through underbrush, making them the only armoured bird in the world. Females are bigger and more brightly coloured.

A cassowary's three-toed feet have sharp claws; the dagger-like middle claw is 120 mm (5 inches) long. This claw is particularly dangerous since the Cassowary can use it to kill an enemy, disemboweling it with a single kick. They can run up to 50 km/h (32 mph) through the dense forest, pushing aside small trees and brush with their bony casques. They can jump up to 1.5 m (5 feet) and they are good swimmers.

The 2004 edition of the Guinness World Records lists the cassowary as the world's most dangerous bird. Normally cassowaries are very shy but when disturbed can lash out dangerously with their powerful legs. During World War II American and Australian troops stationed in New Guinea were warned to steer clear of the birds. They are capable of inflicting fatal injuries to an adult human. Usually, attacks are the result of provocation. Wounded or cornered birds are particularly dangerous. Cassowaries, deftly using their surroundings to conceal their movements, have been known to out-flank organized groups of human predators. Cassowaries are considered to be one of the most dangerous animals to keep in zoos, based on the frequency and severity of injuries incurred by zookeepers.

More recently, Cassowaries have been known to lose their natural fear of people. As a result, large areas of Australian National Parks have been temporarily closed to avoid human contact with the bird.

Females lay three to eight large, pale green-blue $\underline{\text{eggs}}$ in each clutch. These eggs measure about 9 by 14 cm (3½ by 5½ inches) — only $\underline{\text{ostrich}}$ and $\underline{\text{emu}}$ eggs are larger. The female does not care for the eggs or the chicks; the male incubates the eggs for two months, then cares for the brown-striped chicks for nine months.

Southern and Northern Cassowaries are threatened species because of habitat loss; estimates of their current population range from 1500 to 10,000 individuals. About 40 are kept in captivity in Australia. Habitat loss has caused some cassowaries to venture out of the rainforest into human communities. This has caused conflict particularly with fruit growers. However, in some locations such as Mission Beach, Queensland, tourism involving the birds has been launched.

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Condor

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: New_World_vulture.html Genera: <u>Vultur</u>, Gymnogyps

Condor is the name for the largest <u>species</u> of <u>New World vultures</u>. They are the largest flying land birds in the Western Hemisphere.

There are two species, each in its own monotypic genus:

- The **Andean Condor** (*Vultur gryphus*) which inhabits the Andes mountains.
- The **California Condor** (*Gymnogyps californianus*) nowadays restricted to western coastal mountains of the United States.

Taxonomy

Although they are primarily scavengers, feeding on carrion, these species belong to the New World vulture family Cathartidae, most likely closer related to the <u>storks</u> instead of <u>Old World vultures</u>. The latter are in the diurnal raptor family <u>Accipitridae</u> along with <u>hawks</u>, <u>eagles</u> and <u>kites</u>.

Appearance

Both condors are very large broad-winged soaring birds, the Andean Condor being 5 cm shorter (beak to tail) on average than the northern species, but larger in wingspan.

Measurements are usually taken from specimens reared in captivity.

The adult <u>plumage</u> is of a uniform black, with the exception of a frill of white feathers nearly surrounding the base of the neck and, especially in the male, large patches or bands of white on the wings which do not appear until the completion of the first moulting. As an adaptation for hygiene, the head and neck have few feathers (see below photo), exposing the skin to the sterilizing effects of dehydration and ultraviolet light at high altitudes, and are meticulously kept clean by the bird. The head is much flattened above. In the male it is crowned with a caruncle or comb, while the skin of the neck in the male lies in folds, forming a wattle. The skin of the head and neck is capable of flushing noticeably in response to emotional state, which serves to communicate between individuals.

The middle toe is greatly elongated, and the hinder one but slightly developed, while the talons of all the toes are comparatively straight and blunt. The feet are thus more adapted to walking as in their relatives the storks, and of little use as weapons or organs of prehension as in birds of prey and Old World vultures. The female, contrary to the usual rule among birds of prey, is smaller than the male.

Behavior

Sexual maturity and breeding behavior do not appear in the condor until 5 or 6 years of age. They may live for 50 years or more, and mate for life.

The young are covered with a grayish down until almost as large as their parents. They are able to fly after six months, but continue to roost and hunt with their parents until age two, when they are displaced by a new clutch. There is a well developed social structure within large groups of condors, with competition to determine a 'pecking order' by body language, competitive play behavior, and a wide variety of vocalizations, even though the condor has no voice box.

On the wing the movements of the condor, as it wheels in majestic circles, are remarkably graceful. The lack of a large sternum to anchor correspondingly large flight muscles identifies it physiologically as a primarily soarer. The birds flap their wings on rising from the ground, but after attaining a moderate elevation they seem to sail on the air.

Wild condors inhabit large territories, often traveling $250 \, \mathrm{km}$ ($150 \, \mathrm{miles}$) a day in search of carrion. They prefer large carcasses such as deer or cattle which they spot by looking for other scavengers, which cannot rip through the tougher hides of these larger animals with the efficiency of the larger condor. In the wild they are intermittent eaters, often going for a few days without eating, then gorging themselves on several kilograms at once, sometimes to the point of being unable to lift off the ground.

Double-headed eagle

The **double headed eagle** is a common symbol in heraldry and vexillology. Several Eastern European nations use this symbol today, having adopted this symbol from the Byzantine Empire. In Byzantine heraldry, the heads represent the dual sovereignty of the Emperor (secular and religious) and/or dominance of the Roman Emperors over both East and West. The Russian tsars adopted the symbol both to position themselves as successors to the Byzantine state and to likewise symbolize their dominion over the west (Europe) and the east (Asia).

The two-headed eagle appears on the coat of arms of the following countries:

Albania

Austria-Hungary (historical)

Bosnia and Herzegovina:

Republika Srpska

Byzantine Empire (historical)

Russian Federation

Russian Empire (historical)

Serbia and Montenegro (historical)

Serbia

Montenegro

Pre-WWII Yugoslavia (historical)

It also appears on the following flags:

• Flag of Albania

Flag of Montenegro

Flag of Serbia

the flag of the Ecumenical Patriarchate of Constantinople.

the flag of Mount Athos

- 1 Origins
- <u>2 Byzantine Empire</u>
- 3 Use by the Turks
- <u>4 Use by other countries</u>
- 5 Use in Masonry
- 6 Use in fiction
- 7 Use in sports

Origins

Double headed eagles have been present in imagery for many centuries. A representation of a two-headed woman dating from 6000 BC was discovered in Çatalhöyük (Turkey) one of the oldest cities in the world. Therefore, the apparition of the two-headed eagle is very old.

because it can be found in archeologic remains of the Hittite civilization dating from a period that goes between the 20th century BC and the 13th century BC.

First, cylindric seals discovered in Bogazkoy, nowday (Turkey), an old Hittite capital, represents clearly a two-headed eagle with spread wings. The esthetic of this symmetric position explains in part the birth of this religious figure. It probably dates from the 18th century BC, and was used in a tradesman background.

This symbol can also be seen in the same region in two monumental realisations: in Alacahöyük (around 1400 BC) and in Yazilikaya (Turkey). (before 1250 BC). Here the context looks different and totally religious. The eagle becomes divinity's symbol. The two-headed eagle slowly disappears during the last Hittite period, from the 9th century BC to the 7th century BC and totally disappears after the end of the empire.

Byzantine Empire

Constantinople was the successor of Rome, and the Byzantines continued the use of the old imperial 'single-headed' eagle motif. Although the roots of the transformation to doubleheaded are almost certainly connected with old depictions in Asia Minor, the details of its adoption are uncertain. Beyond any doubt, it was used in the wider area during the first centuries AD and certainly before the 10th century AD, as it appears in Persian and Armenian art. According to the most prevalent theory, the imperial Roman single-headed eagle was modified to double-headed by emperor Isaakios Komnenos being influenced from local traditions about such a beast (the haga) in his native Paphlagonia in Asia Minor. Local legends talked about this giant eagle with two heads that could easily hold a bull in its claws; the haga was seen as a representation of power, and people would often "call" it for protection. Isaakios Komnenos, deeply influenced by these beliefs, had already used it as a family emblem (N. Zapheiriou, "the Greek Flag from Antiquity to present", Athens, 1947). As there has been reference to "stone representations" of the eagle that were the inspiration for its picture, it is reasonable to assume that Hittite carvings may have been the sources of the myths themselves, but other relevant artwork cannot be excluded as such a source. Whether the eagle became an "imperial" symbol or remained purely a personal symbol for Komnenos, is not clear.

After the Latin conquest of Constantinople in 1204, it was used by the successor states of Epirus and Nicaea. The first mention of a double-headed eagle in the West dates from 1250 in a roll of arms of Matthew of Paris for Emperor Friedrich II. Theodore II Laskaris chose it for his symbol as Emperor (Empire of Nicaea), taking it to symbolize his state's claims to all the Byzantine Empire's former domains, both European (West) and Asian (East). An alternative (and probably more correct) interpretation is that the eagle symbolized the Emperor's double temporal and spiritual sovereignty. After the recapture of Constantinople and the restoration of the Byzantine Empire, the symbol was used as an emblem of the imperial family, but it is uncertain whether it was the official emblem of the Empire. More recent research has suggested that it was not, its usage being limited to imperial seals and other personal or dynasty symbols such as imperial robes, although there has been no depiction of any Emperor wearing it. The role of "state" symbols was most probably played

by flags with the cross. In Byzantine usage, the eagle was almost always connected with colors of imperial power (gold and red). A black eagle on golden background was used outside the imperial family, denoting the subordinate position (the eagle was black as being the 'shadow' of the Emperor's golden eagle) of their bearers.

Use by the Turks

The double-headed eagle reappears in the same region, but after 2000 years. The double-headed eagle became the standard of the Seljuk Turks with the crowning of Toghrül (meaning "Eagle") Beg at Mosul in 1058 as "King of the East and the West" and was much used afterwards. The Sultans of Rum, Ala ad-Din Kay Qubadh I (1220-1237) and his son Kay Khusrau II (1237-1246) used the bicephalous eagle in their standards, and the motif was also found on tissues, cut stones, mural squares, and Koran holders.

Turcomans who ruled in Anatolia during the 13th century, inherited it from the Seljuk Turks. Islamic coins from the reign of Khalif Nasreddin Mahmoud bin Mohammad, following Turkish influence, sport a double-headed eagle on one side and the Star of David on the other as early as year 1200. The use of the symbol by the Turks has two possible explanations. First is the propagandist explanation: the eagle was a sign of grandeour and magnificance and it was to support the claim of Turkish rulers over the Roman imperial inheritance. Another explanation can be found in pre-Islamic Turkic shamanism, in which the eagle (one-headed) was the creature that would guide spirits to the afterlife.

Today, the Turkish Police has a double-headed eagle in its insignia.

Use by other countries

From Byzantium, two-headed eagles spread to Russia after Ivan III's marriage to Zoe Palaeologina, and to Montferrat, where a cadet branch of the Palaeologi ruled. The Serbian Nemanji dynasty adopted a white version as their own to signify their own independence of, and indeed, claim to the imperial throne of Constantinople. George Kastriotis (Skanderbeg) adopted a similar flag in his struggle against the Ottomans, consisting of a black eagle on red background, which has been resurrected in the current Flag of Albania. After the fall of Constantinople, the black eagle also became the symbol of the Austrian Empire and thence passed into several families of the German aristocracy.

During the next centuries, the eagle was made to hold a sword and/or a sceptre and an orb with a cross, symbols of the aforementioned double sovereignty. Its usage also survived as a decorative element in the Greek Orthodox Church, which was the inheritor of the Byzantine legacy during the Ottoman Empire, while it remained a popular symbol among Greeks. In modern Greece various variations of the two-headed eagles are used in Church flags (based on Byzantine flag patterns) and, officially, by the Greek Army; the bird found its way into the Greek coat of arms for a brief period in 1925-1926.

Use in Masonry

The **Double-Headed Eagle of Lagash** is used as emblem by the Scottish Rite of Freemasonry[1]. While there are many meanings attached to this symbol, [2] the famed Masonic author M. P. Hall declares it an alchemical symbol of union between the masculine and feminine principles in the individual.

Use in fiction

In the world of Warhammer 40,000, the double-headed eagle forms the crest of the Imperium of Man, earning it considerable religious and cultural significance. For this reason, it is not too uncommon to create actual double-headed eagles through surgery, mechanical proxy or genetic manipulation. When these are used to aid the abilities of a psyker, they are known as psyber-eagles. In Namco's game, Tales of Symphonia, Aska, a golden, twin-headed bird who is one of the two Summon Spirits of Light is thought to have been inspired by the two-headed eagle. In Ragnarok Online the double-headed eagle appears ins many flags and buildings of the city of Prontera.

In The Mouse that Roared and its sequels, the Double-headed eagle is on the national flag of Grand Fenwick.

Use in sports

The double-headed eagle is the emblem of the Greek sport clubs AEK (black eagle on yellow background) and PAOK (black eagle on white background). It is a symbol of the clubs' origins, since both clubs were founded by Greeks who fled to Greece from Constantinople in 1922-23. It is also the emblem of the Turkish Konyaspor. [3]

Duck

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u>

Subfamilies: *Dendrocygninae*, *Oxyurinae*, *Anatinae*, *Merginae*

Duck is the common name for a number of species in the <u>Anatidae</u> family of <u>birds</u>. The ducks are divided between several subfamilies listed in full in the Anatidae article. Ducks are mostly aquatic birds, mostly smaller than their relatives the <u>swans</u> and <u>geese</u>, and may be found in both fresh water and sea water.

Most ducks have a wide flat beak adapted for dredging. They exploit a variety of food sources such as grasses, grains and aquatic plants, fish, and insects. Diving ducks forage deep underwater; Dabbling ducks feed on the surface of water or land. Dabbling ducks have special plates called lamellae[1] that are similar to a whale's baleen. These tiny rows of plates along the inside of the bill allow them to filter water out of the side of their bills and keep food inside. To be able to submerge more easily, the diving ducks are heavier than dabbling ducks, and therefore have more difficulty taking off to fly. A few specialized species (the goosander and the mergansers) are adapted to catch large fish.

In Ohio, one of a duck's biggest enemies is the muskie, which has been known to eat fully grown ducks. In Britain, big pike have been known to swallow fully grown wild ducks whole, and pike often take small ducklings.

The males (drakes) of northern species often have extravagant <u>plumage</u>, but this is moulted in summer to give a more female-like appearance, the "eclipse" plumage. Many species of ducks are temporarily flightless while moulting; they seek out protected habitat with good food supplies during this period. This moult typically precedes <u>migration</u>.

Some duck species, mainly those breeding in the temperate and arctic Northern Hemisphere, are <u>migratory</u>, but others are not. Some, particularly in Australia where rainfall is patchy and erratic, are nomadic, seeking out the temporary lakes and pools that form after localised heavy rain.

Some people use "duck" specifically for adult females and "drake" for adult males, for the species described here; others use "hen" and "drake", respectively.

Ducks are sometimes confused with several types of unrelated water birds with similar forms, such as loons or divers, grebes, gallinules, and coots.

Etymology

The word **duck** from (Anglo-Saxon dkce) meaning the bird, came from the verb "to duck" (from Anglo-Saxon supposed *dkcan) meaning "to bend down low as if to get under something", because of the way many species in the dabbling duck group feed by upending (compare the Dutch word *duiken* = "to dive").

This happened because the older Old English word for "duck" came to be pronounced the same as the word for "end": other Germanic languages still have similar words for "duck"

and "end": for example, Dutch eend = "duck", eind = "end"; compare Latin anas (stem anat-) = "duck", Sanskrit anta (masc.) = "end", Lithuanian *antis* = "duck".

Ducks and humans

In many areas, wild ducks of various species (including ducks farmed and released into the wild) are hunted for food or sport, by shooting, or formerly by decoys. From this came the expression "a sitting duck", which means "an easy target".

Ducks have many economic uses, being farmed for their meat, eggs, feathers and down feathers. They are also kept and bred by aviculturists and often displayed in zoos. All domestic ducks are descended from the wild Mallard Anas platyrhynchos, except Muscovy Ducks[2]. Many breeds have become much larger than their wild ancestor, with a "hull length" (from base of neck to base of tail) of 30 cm (12 inches) or more and routinely able to swallow an adult British Common Frog, *Rana temporaria*, whole.

Foie gras is often made using the liver of ducks, rather than of geese.

In a wildlife pond, the bottom over most of the area should be too deep for dabbling wild ducks to reach the bottom, to protect bottom-living life from being constantly disturbed and eaten by wild ducks dredging, and domestic ducks should not be allowed in.

Generally, the sound made by ducks is called a "quack". A common false urban legend asserts that quacks do not echo. [3]

Ducks and humor

In 2002, psychologist Richard Wiseman and colleagues at the University of Hertfordshire (UK) finished a year-long LaughLab experiment, concluding that, of the animals in the world, the duck is the type that attracts most humor and silliness; he said "If you're going to tell a joke involving an animal, make it a duck." The word "duck" may have become an inherently funny word in many languages because ducks are seen as a silly animal, and their odd appearance compared to other birds. Of the many ducks in fiction, many are silly <u>cartoon</u> characters (see the *New Scientist* article [1] mentioning humor in the word "duck").

Trivia

• Some Ancient Egyptian wall pictures show that (some of) the ships of the Sea Peoples had ornamental prows shaped like a duck's head.[4]

See also

- <u>Domesticated duck</u> ducks kept as pets or show animals and for meat and eggs and down
 - List of fictional ducks

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Emu

Conservation status See text Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: <u>Struthioniformes</u>
Family: Casuariidae
Genus: *Dromaius*

Species: D. novaehollandiae

Binomial name: **Dromaius novaehollandiae** (Latham, 1790)Synonyms: **Dromiceius**

novaehollandiae

The **Emu** (IPA pronunciation: [ÈiĐmjuĐ]), *Dromaius novaehollandiae*, is the largest bird native to Australia and the only extant member of the genus *Dromaius*. It is also the second-largest bird in the world by height, after its <u>ratite</u> relative, the <u>ostrich</u>. The soft-feathered, brown, <u>flightless birds</u> reach up to 2 m (6 ft 7 in) in height. The Emu is common over most of mainland Australia, although it avoids heavily populated areas, dense forest and arid areas. Emus can travel great distances at a fast, economical trot and, if necessary, can sprint at 50 km/h (31 mph) for some distance at a time. They are opportunistically nomadic and may travel long distances to find food; they feed on a variety of plants and insects.

The Emu subspecies that previously inhabited Tasmania became extinct following the European settlement of Australia in 1788; the distribution of the mainland subspecies has also been affected by human activities. The Emu was once common on the east coast, but is now uncommon there; by contrast, the development of agriculture and the provision of water for stock in the interior of the continent have increased the range of the Emu in arid regions. Emus are farmed for their meat, oil and leather.

- 1 Taxonomy and distribution
- <u>2 Physical description</u>
- 3 Reproduction
- 4 Ecology and behaviour
- <u>5 Conservation status</u>
- 6 Emu farming and products
- 7 Cultural references
- 8 See also
- 9 References

Taxonomy and distribution

Three different Dromaius species were common in Australia before European settlement and one species is known from fossils. The small emus — Dromaius baudinianus and D. ater

— both became extinct shortly after; however, the Emu, D. novaehollandiae, remains common. The population varies from decade to decade, largely dependent on rainfall; it is estimated that the Emu population is 625,000–725,000, with 100,000–200,000 in Western Australia and the remainder mostly in New South Wales and Queensland.[2] D. novaehollandiae diemenensis, a subspecies known as the Tasmanian Emu, became extinct around 1865. Emus were introduced in Maria Island near Tasmania, and Kangaroo Island near South Australia, in the 20th century and have established breeding populations there.

There are three extant subspecies in Australia:

- In the southeast, *D. novaehollandiae novaehollandiae*, with its whitish ruff when breeding;
- In the north, D. novaehollandiae woodwardi, slender and paler; and
- In the southwest, *D. novaehollandiae rothschildi*, darker, with no ruff during breeding.

The species was first described under the name of the New Holland Cassowary in Arthur Phillip's Voyage to Botany Bay, published in 1789.[3] The species was named by ornithologist John Latham, who collaborated on Phillip's book and provided the first descriptions of and names for many Australian bird species; its name is Latin for "fast-footed New Hollander". The etymology of the common name Emu is uncertain, but is thought to have come from an Arabic word for large bird that was later used by Portuguese explorers to describe the related Cassowary in New Guinea.^[2]

Physical description

Emus are large birds. The largest individuals can reach up to two metres (6 ft 7 in) in height (1–1.3 metres (3.2–4.3 ft) at the shoulder) and weigh between 30 and 45 kilograms (66–100 pounds).[2] They have small vestigial wings and a long neck and legs. Their ability to run at high speeds is due to their highly specialised pelvic limb musculature. Their feet have only three toes and a similarly reduced number of bones and associated foot muscles; they are the only birds with gastrocnemius muscles in the back of the lower legs. The pelvic limb muscles of Emus have a similar contribution to total body mass as the flight muscles of flying birds.[4]

Emus have brown to grey-brown plumage of shaggy appearance; the shafts and the tips of the <u>feathers</u> are black. Solar radiation is absorbed by the tips, and the loose-packed inner <u>plumage</u> insulates the skin. The resultant heat is prevented from flowing to the skin by the insulation provided by the coat, allowing the bird to be active during the heat of the day. A unique feature of the Emu feather is its double rachis emerging from a single shaft. The sexes are similar in appearance.

On very hot days, Emus pant to maintain their body temperature, their lungs work as evaporative coolers and, unlike some other species, the resulting low levels of carbon dioxide in the blood do not appear to cause alkalosis.[6] For normal breathing in cooler weather, they have large, multifolded nasal passages. Cool air warms as it passes through into the

lungs, extracting heat from the nasal region. On exhalation, the Emu's cold nasal turbinates condense moisture back out of the air and absorb it for reuse.

Reproduction

Emus form breeding pairs during the summer months of December and January, and may remain together for about five months. Mating occurs in the cooler months of May and June. During the breeding season, males experience hormonal changes, including an increase in luteinizing hormone and testosterone levels, and their testes double in size.[8] Males lose their appetite and construct a rough nest in a semi-sheltered hollow on the ground from bark, grass, sticks and leaves. The pair mates every day or two, and every second or third day the female lays an average of 11 (and as many as 20) very large, thick-shelled, dark-green eggs. The eggs are on average 134 x 89 millimeters (5.3 x 3.5 inches) and weigh between 700 and 900 grams (1.5–2 pounds), which is roughly equivalent to 10–12 chicken eggs in volume and weight. The first occurrence of genetically identical avian twins was demonstrated in the Emu.

The male becomes broody after his mate starts laying, and begins to incubate the eggs before the laying period is complete. From this time on, he does not eat, drink or defecate, and stands only to turn the eggs, which he does about 10 times a day. Over eight weeks of incubation, he will lose a third of his weight and will survive only on stored body-fat and on any morning dew that he can reach from the nest. As with many other Australian birds, such as the Superb Fairy-wren, infidelity is the norm for Emus, despite the initial pair-bond: once the male starts brooding, the female mates with other males and may lay in multiple clutches; thus, as many as half the chicks in a brood may be fathered by others, or by neither parent as Emus also exhibit brood parasitism. Some females stay and defend the nest until the chicks start hatching, but most leave the nesting area completely to nest again; in a good season, a female Emu may nest three times.

Incubation takes 56 days, and the male stops incubating the eggs shortly before they hatch. Newly hatched chicks are active and can leave the nest within a few days. They stand about 25 centimetres tall and have distinctive brown and cream stripes for camouflage, which fade after three months or so. The male stays with the growing chicks for up to 18 months, defending them and teaching them how to find food. Chicks grow very quickly and are full-grown in 12–14 months; they may remain with their family group for another six months or so before they split up to breed in their second season. In the wild, Emus live between 10 to 20 years, 1131 captive birds can live longer than those in the wild.

Ecology and behaviour

Emus live in most habitats across Australia, although they are most common in areas of sclerophyll forest and savanna woodland, and least common in populated and very arid areas. Emus are largely solitary, and while they can form enormous flocks, this is an atypical

social behaviour that arises from the common need to move towards food sources. Emus have been shown to travel long distances to reach abundant feeding areas. In Western Australia, Emu movements follow a distinct seasonal pattern — north in summer and south in winter. On the east coast their wanderings do not appear to follow a pattern. Emus are also able to swim when necessary.

Their calls consist of loud booming, drumming and grunting sounds that can be heard up to two kilometres away. The booming sound is created in an inflatable neck sac.[2]

Emus forage in a diurnal pattern. They eat a variety of native and introduced plant species; the type of plants eaten depends on seasonal availability. They also eat insects, including grasshoppers and crickets, ladybirds, soldier and saltbush caterpillars, Bogong and cotton-boll moth larvae and ants.[14] In Western Australia, food preferences have been observed in travelling Emus: they eat seeds from Acacia aneura until it rains, after which they eat fresh grass shoots and caterpillars; in winter they feed on the leaves and pods of Cassia; in spring, they feed on grasshoppers and quandong fruit.[11] Emus may serve as an important agent for the dispersal of large viable seeds, which could contribute to the maintenance of floral biodiversity.[15]

Conservation status

Emus were used as a source of food by indigenous Australians and early European settlers. Aborigines used a variety of techniques to catch the bird, including spearing them while they drank at waterholes, poisoning waterholes, catching Emus in nets, and attracting Emus by imitating their calls or with a ball of feathers and rags dangled from a tree.[9] Europeans killed Emus to provide food and to remove them if they interfered with farming or invaded settlements in search of water during drought. An extreme example of this was the Emu War in Western Australia in 1932, when Emus that flocked to Campion during a hot summer scared the town's inhabitants and an unsuccessful attempt to drive them off was mounted. In John Gould's Handbook to the Birds of Australia, first published in 1865, he laments the loss of the Emu from Tasmania, where it had become rare and has since become extinct; he notes that Emus were no longer common in the vicinity of Sydney and proposes that the species be given protected status.[3] Wild Emus are formally protected in Australia under the Environment Protection and Biodiversity Conservation Act 1999.

Although the population of Emus on mainland Australia is thought to be higher now than before European settlement, some wild populations are at risk of local extinction due to small population size. Threats to small populations include the clearance and fragmentation of areas of habitat; deliberate slaughter; collisions with vehicles; and predation of the young and eggs by foxes, feral and domestic dogs, and feral pigs. The isolated Emu population of the New South Wales North Coast Bioregion and Port Stephens is listed as endangered by the New South Wales Government.

Emu farming and products

Commercial Emu farming started in Western Australia in 1987 and the first slaughtering occurred in 1990.[17] In Australia, the commercial industry is based on stock bred in captivity and all states except Tasmania have licensing requirements to protect wild Emus. Outside Australia, Emus are farmed on a large scale in North America, with about 1 million birds in the US,[18] Peru and China, and to a lesser extent in some other countries. Emus breed well in captivity, and are kept in large open pens to avoid leg and digestive problems that arise with inactivity. They are typically fed on grain supplemented by grazing, and are slaughtered at 50–70 weeks of age.

Emus are farmed primarily for their meat, leather and oil. Emu meat is a low-fat, low-cholesterol meat (85 mg/100 g); despite being avian, it is considered a red meat because of its red colour and pH value.[19][18] The best cuts come from the thigh and the larger muscles of the drum or lower leg. Emu fat is rendered to produce oil for cosmetics, dietary supplements and therapeutic products. There is some evidence that the oil has anti-inflammatory properties;[20] however, the US Food and Drug Administration regards pure emu oil product as an unapproved drug. Emu leather has a distinctive patterned surface, due to a raised area around the hair follicles in the skin; the leather is used in such small items as wallets and shoes, often in combination with other leathers. The feathers and eggs are used in decorative arts and crafts.

Cultural references

The Emu has a prominent place in Australian Aboriginal mythology, including a creation myth of the Yuwaalaraay and other groups in NSW who say that the sun was made by throwing an Emu's egg into the sky; the bird features in numerous aetiological stories told across a number of Aboriginal groups.^[21]

The Emu is popularly but unofficially considered as a faunal emblem—the national bird of Australia.[22] It appears as a shield bearer on the Coat of Arms of Australia with the Red Kangaroo and as a part of the Arms also appears on the Australian 50 cent coin. It has featured on numerous Australian postage stamps, including a pre-federation New South Wales 100th Anniversary issue from 1888, which featured a 2p blue Emu stamp, a 36-cent stamp released in 1986 and a \$1.35 stamp released in 1994. The hats of the Australian Light Horse were famously decorated with an Emu feather plume.

There are around 600 gazetted places named after the Emu in Australia, including mountains, lakes, creeks and towns.[23] During the 19th and 20th centuries, many Australian companies and household products were named after the bird; for example, in Western Australia, Emu branded beer has been produced since the early 20th century. The Swan Brewery continues to produce a range of Emu branded beers that include Emu Bitter, Emu Export and Emu Draft. Emu - Austral Ornithology is the quarterly peer-reviewed publication of the Royal Australasian Ornithologists Union, also known as Birds Australia.

The British entertainer Rod Hull was well known for his puppet "Emu", and regularly appeared on television with it. Sheena Knowles's children's picture books, *Edward the Emu* and *Edwina the Emu*, follow the fictional lives of a male Emu and his family in rhyming verse.

See also

Birds of Australia

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Goose

Geese

Kingdom:Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u> Subfamily: <u>Anserinae</u>

Genera: Anser, Branta, Chen, Cereopsis, Cnemiornis (extinct), see also: Swan, Duck,

Anatidae

Goose (plural **geese**) is the general English name for a considerable number of <u>birds</u>, belonging to the family <u>Anatidae</u>. This family also includes <u>swans</u>, most of which are larger than geese, and <u>ducks</u>, which are smaller.

- 1 Introduction
- <u>2 True geese</u>
- 3 Other species called "geese"
- <u>4 Etymology</u>
- 5 See also

Introduction

This article deals with the true geese in the subfamily *Anserinae*. A number of other waterbirds, mainly related to the shelducks, have "goose" as part of their name.

True geese are medium to large birds, always (with the exception of the Nn) associated to a greater or lesser extent with water. Most species in Europe, Asia and North America are strongly <u>migratory</u> as wild birds, breeding in the far north and wintering much further south. However, escapes and introductions have led to resident feral populations of several species.

Geese have been <u>domesticated</u> for centuries. In the West, farmyard geese are descended from the Greylag, but in Asia the Swan Goose has been farmed for at least as long.

All geese eat an exclusively vegetarian diet, and can become pests when flocks feed on arable crops or inhabit ponds or grassy areas in urban evnironments.

Geese mate for life, though a small number will "divorce" and remate. They tend to lay a smaller number of eggs than ducks, however, both parents protect the nest and young, which usually results in a higher survival rate for the young geese, known as **goslings**.

Not all couples are heterosexual, as both females and males will form long-term samesex couples with greater or lesser frequency depending on species. Of the heterosexual couples, a significant proportion are non-breeding despite having an active sexual life. *See Canada Goose*

A group on the ground is called a *gaggle*. When flying, a group of geese is known as a *wedge* or a *skein*.

Geese have appeared in feature films such as "Fly Away Home" which starred Jeff Daniels and Anna Paquin.

True geese

The following are the true goose species.

Genus Anser Brisson 1760, Grey Geese

• Greylag Goose Anser anser

White-fronted Goose A. albifrons

Lesser White-fronted Goose A. erythropus

Bean Goose A. fabalis

Pink-footed Goose A. brachyrhynchus

Bar-headed Goose A. indicus

Swan Goose, A. cygnoides

Genus *Chen* Boie 1822 or *Anser* (depending on authority cited), White Geese

• Snow Goose Chen caerulescens or Anser caerulescens

Ross's Goose, C. rossii or A. rossii

Emperor Goose, C. canagica or A. canagicus

Genus *Branta* Scopoli 1769, Black Geese

• Brent Goose Branta bernicla

Barnacle Goose B. leucopsis

Canada Goose B. canadensis

Cackling Goose B. hutchinsii

Red-breasted Goose B. ruficollis

Hawaiian Goose or Nn. B. sandvicensis

Nn-nui or Woods-walking Goose, B. hylobadistes Conservation status:

Prehistoric

Genus *Cereopsis*

• Cape Barren Goose, Cereopsis novaehollandiae

Genus *Cnemiornis*, New Zealand Geese Conservation status: Prehistoric

• South Island Goose, Cnemiornis calcitrans Conservation status: Prehistoric North Island Goose, Cnemiornis gracilis Conservation status: Prehistoric

Other species called "geese"

There are a number of mainly southern hemisphere birds named as geese which are more correctly placed with the shelducks in the Tadorninae. These are:

 Blue-winged Goose, Cyanochen cyanopterus Andean Goose, Chloephaga melanoptera Magellan Goose, Chloephaga picta Kelp Goose, Chloephaga hybrida

Ashy-headed Goose, Chloephaga poliocephala Ruddy-headed Goose, Chloephaga rubidiceps Orinoco Goose, Neochen jubata Egyptian Goose, Alopochen aegyptiacus

The Spur-winged Goose, *Plectropterus gambensis*, is most closely related to the shelducks, but distinct enough to warrant its own subfamily, the Plectropterinae.

The three perching ducks in the genus *Nettapus* are named as pygmy geese, such as the Cotton Pygmy Goose, *Nettapus javanica*, but are true <u>ducks</u>.

The unusual Magpie-goose is in a family of its own, the Anseranatidae.

Etymology

Goose in its origins is one of the oldest words of the Indo-European languages, the modern names deriving from the proto-Indo-European root, ghans, hence Sanskrit *hamsa* (feminine *hamsi*), Latin *anser*, Greek *khén* etc.

In the Germanic languages, the root word led to Old English gos with the plural gés, German Gans and Old Norse gas. Other modern derivatives are Russian gus and Old Irish géiss; the family name of the cleric Jan Hus is derived from the Czech derivative *husa*.

In non-technical use, the male goose is called a "gander" (Anglo-Saxon *gandra*) and the female is the "goose" (*Webster's Revised Unabridged Dictionary (1913)*)

See also

<u>Domesticated goose</u>, which includes cooking and folklore

Heron

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: Ardeidae Leach, 1820Genera: See text.

The **herons** are wading <u>birds</u> in the **Ardeidae** family. Some are called egrets or bitterns instead of herons.

Within the family, all members of the genera *Botaurus* and *Ixobrychus* are referred to as bitterns, and—including the Zigzag Heron or Zigzag Bittern—are a monophyletic group within the Ardeidae. However, egrets are not a biologically distinct group from the herons, and tend to be named differently because they are mainly white or have decorative plumes.

The classification of the individual heron/egret species is fraught with difficulty, and there is still no clear consensus about the correct placement of many species into either of the two major genera, Ardea and Egretta. Similarly, the relationship of the genera in the family is not completely resolved. For example, the Boat-billed Heron is sometimes classed as a heron, and sometimes given its own family Cochlearidae, but nowadays it is usually retained in the Ardeidae.

Although herons resemble birds in some other families, such as the <u>storks</u>, <u>ibises</u> and spoonbills, they differ from these in flying with their necks retracted, not outstretched.

The members of this family are all primarily associated with wetlands, and prey on fish, frogs and other aquatic species. Some, like the Cattle Egret, also take large insects, and are less tied to watery environments. Some members of this group nest colonially in trees, others, notably the bitterns, use reedbeds.

In February 2005, the Canadian scientist Dr. Louis Lefebvre announced a method of measuring avian IQ in terms of their innovation in feeding habits. Herons were named among the most intelligent birds based on this scale, reflecting a wide variety, flexibility and adaptiveness to acquire food.

- 1 Taxonomy
- 2 References

Taxonomy

Analyses of the skeleton, mainly the skull, suggested that the Ardeidae could be split into a diurnal and a crepuscular/nocturnal group which included the bitterns. From DNA studies and skeletal analyses focusing more on bones of body and limbs, this grouping has been revealed as incorrect (McCracken & Sheldon, 1998). Rather, the similarities in skull morphology reflect convergent evolution to cope with the different challenges of daytime and nighttime feeding. Today, it is believed that three major groups can be distinguished (Sheldon *et al.*, 2000), which are (from the most primitive to the most advanced):

• tiger herons and the boatbill

- bitterns
- day-herons and egrets, and night-herons

FAMILY ARDEIDAE

Subfamily Tigrisomatinae

- Genus Cochlearius
 - o Boat-billed Heron, Cochlearius cochlearius
- Genus *Tigrisoma*
 - Bare-throated Tiger Heron, Tigrisoma mexicanum
 Fasciated Tiger Heron, Tigrisoma fasciatum
 Rufescent Tiger Heron, Tigrisoma lineatum
- Genus *Tigriornis*
 - o White-crested Tiger Heron, *Tigriornis leucolophus*
- Genus Zonerodius
 - o New Guinea Tiger Heron, Zonerodius heliosylus

Subfamily Botaurinae

- Genus Zebrilus
 - o Zigzag Heron, Zebrilus undulatus
- Genus *Ixobrychus*
 - o Little Bittern, Ixobrychus minutus

New Zealand Little Bittern, Ixobrychus novaezelandiae (extinct)

Cinnamon Bittern, Ixobrychus cinnamomeus

Stripe-backed Bittern, Ixobrychus involucris

Least Bittern, Ixobrychus exilis

Yellow Bittern, Ixobrychus sinensis

Schrenck's Bittern, Ixobrychus eurhythmus

Dwarf Bittern, Ixobrychus sturmii

Black Bittern, Ixobrychus flavicollis

- Genus Botaurus
 - o American Bittern, Botaurus lentiginosa.

Great Bittern or European Bittern, Botaurus stellaris

South American Bittern, Botaurus pinnatus

Australasian Bittern, Botaurus poiciloptilus

Subfamily Ardeinae

- Genus Zeltornis (fossil)
- Genus *Nycticorax*
 - Yellow-crowned Night Heron, Nycticorax violaceus or Nyctanassa violacea Bermuda Night Neron, Nycticorax carcinocatactes or Nyctanassa carcinocatactes (extinct)

Black-crowned Night Heron, Nycticorax nycticorax

White-backed Night Heron, Nycticorax leuconotus or Gorsachius leuconotus

Rodrigues Night Heron, Nycticorax megacephalus (extinct)

Réunion Night Heron, Nycticorax duboisi (extinct)

Mauritius Night Heron, Nycticorax mauritianus (extinct)

Ascension Night Heron, Nycticorax olsoni (extinct)

- Genus Gorsachius
 - Nankeen Night Heron or Rufous Night Heron, Gorsachius caledonicus or Nycticorax caledonicus

White-eared Night Heron, Gorsachius magnificus

Japanese Night Heron, Gorsachius goisagi

Malayan Night Heron, Gorsachius melanolophus

- Genus Butorides
 - Green Heron or Green-backed Heron, Butorides virescens Striated Heron, Butorides striatus or Ardea striatus
- Genus Agamia
 - o Agami Heron, Agamia agami
- Genus Philherodias
 - o Capped Heron, Pilherodius pileatus
- Genus Ardeola
 - Indian Pond Heron, Ardeola grayii
 Squacco Heron, Ardeola ralloides
 Chinese Pond Heron, Ardeola bacchus
 Javan Pond Heron, Ardeola speciosa
 Madagascar Pond Heron, Ardeola idae
 Rufous-bellied Heron, Ardeola rufiventris
- Genus Bubulcus
 - o Cattle Egret, Bubulcus ibis or Ardea ibis
- Genus *Proardea* (fossil)
- Genus Ardea
 - o Great Blue Heron, Ardea herodias
 - Grev Heron, Ardea cinerea

Goliath Heron, Ardea goliath

Cocoi Heron, Ardea cocoi

White-necked Heron or Pacific Heron, Ardea pacifica

Black-headed Heron, Ardea melanocephala

Madagascar Heron, Ardea humbloti

White-bellied Heron, Ardea insignis

Great-billed Heron, Ardea sumatrana

Purple Heron, Ardea purpurea

Great Egret or Great White Egret, Ardea alba

Pied Heron, Ardea picata or Egretta picata

Intermediate Egret, Ardea intermedia or Egretta intermedia

Swinhoe's Egret or Chinese Egret, Ardea eulophotes or Egretta eulophotes

- Genus *Syrigma*
 - o Whistling Heron, *Syrigma sibilatrix*
- Genus *Egretta*
 - o Little Egret, Egretta garzetta or Ardea garzetta

Snowy Egret, Egretta thula

Reddish Egret, Egretta rufescens

Slaty Egret, Egretta vinaceigula

Black Heron, Egretta ardesiaca

Tricolored Heron or Louisiana Heron, Egretta tricolor

- o Tricolored Heron or Louisiana Heron, Egretta tricolor
- White-faced Heron, Egretta novaehollandiae or Ardea novaehollandiae Little Blue Heron, Egretta caerulea
 Eastern Reef Egret, Egretta sacra or Ardea sacra
 - Western Reef Heron, Egretta gularis
- Genus undetermined
 - o Easter Island Heron, Ardeidae gen. et sp. indet. (prehistoric)

Other prehistoric and fossil species are included in the respective genus accounts.

The night herons could warrant separation as subfamily **Nycticoracinae**, as it was traditionally done. However, the position of some genera (e.g. *Butorides* or *Syrigma*) is unclear at the moment, and molecular studies have until now suffered from a small number of studied taxa. Especially the relationship among the ardeidine subfamily is very badly resolved. The arrangement presented here should be considered provisional.

References

- McCracken, Kevin G. & Sheldon, Frederick H. (1998): Molecular and osteological heron phylogenies: sources of incongruence. *Auk (journal)* 115: 127–141. PDF fulltext
- Sheldon, Frederick H.; Jones, Clare E. & McCracken, Kevin G. (2000): Relative Patterns and Rates of Evolution in Heron Nuclear and Mitochondrial DNA. *Molecular Biology and Evolution* **17**(3): 437–450. PDF fulltext

Ibis

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes Family: Threskiornithidae

Subfamily: Threskiornithinae Poche, 1904Genera: Threskiornis, Pseudibis, Thaumatibis,

Geronticus, Nipponia, Bostrychia, Theristicus, Cercibis, Mesembrinibis, Phimosus,

Eudocimus, Plegadis, Lophotibis

Ibises are a group of long-legged wading birds in the family Threskiornithidae. They all have long downcurved bills, and usually feed as a group, probing mud for food items, usually crustaceans. Most species nest in trees, often with spoonbills or herons.

According to folklore, the ibis is the last form of wildlife to take shelter prior to a hurricane and the first to reappear after the storm passes. The ibis was also an object of religious veneration in ancient Egypt, particularly associated with the god, Thoth.

The name *ibis* comes from Greek borrowed from Ancient Egyptian *hîb*.

The ibis has gained notoriety in American collegiate football, where an ibis named Sebastian the Ibis is the official mascot of the University of Miami, one of the most successful collegiate football program of the past 25 years.

The ibis family is one of the families in the order Ciconiiformes, which also includes other wading bird families:

Species

- Genus Threskiornis
 - Sacred Ibis, Threskiornis aethiopicus
 Madagascar Sacred Ibis, Threskiornis bernieri
 Réunion Sacred Ibis, Threskiornis solitarius extinct
 Black-headed Ibis, Threskiornis melanocephalus
 Australian White Ibis, Threskiornis molucca
 Straw-necked Ibis, Threskiornis spinicollis
- Genus Pseudibis
 - Indian Black Ibis, Pseudibis papillosa
 White-shouldered Ibis, Pseudibis davisoni
- Genus Thaumatibis
 - o Giant Ibis, Thaumatibis gigantea
- Genus Geronticus
 - Northern Bald Ibis, Geronticus eremita
 Southern Bald Ibis, Geronticus calvus
- Genus Nipponia
 - o Japanese Crested Ibis, Nipponia nippon
- Genus Bostrychia

- Olive Ibis, Bostrychia olivacea
 Dwarf Olive Ibis, Bostrychia bocagei
 Spot-breasted Ibis, Bostrychia rara
 Hadada Ibis, Bostrychia hagedash
 Wattled Ibis, Bostrychia carunculata
- Genus *Theristicus*
 - Plumbeous Ibis, Theristicus caerulescens Buff-necked Ibis, Theristicus caudatus Andean Ibis, Theristicus branickii Black-faced Ibis, Theristicus melanopis
- Genus Cercibis
 - o Sharp-tailed Ibis, Cercibis oxycerca
- Genus Mesembrinibis
 - o Green Ibis, Mesembrinibis cayennensis
- Genus Phimosus
 - o Whispering Ibis, *Phimosus infuscatus*
- Genus Eudocimus
 - American White Ibis, Eudocimus albus Scarlet Ibis, Eudocimus ruber
- Genus Plegadis
 - Glossy Ibis, Plegadis falcinellus White-faced Ibis, Plegadis chihi Puna Ibis, Plegadis ridgwayi
- Genus Lophotibis
 - Madagascar Crested Ibis, Lophotibis cristata

Kingfisher

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Coraciiformes Suborder: **Alcedines**

Families: Alcedinidae, Halcyonidae, Cerylidae

Kingfishers are <u>birds</u> of the three families Alcedinidae (river kingfishers), Halcyonidae (tree kingfishers), and Cerylidae (water kingfishers). There are about 90 species of kingfisher. All have large heads, long, sharp, pointed bills, short legs, and stubby tails. They are found throughout the world.

The taxonomy of the three families is complex and rather controversial. Although commonly assigned to the <u>order</u> Coraciiformes, from this level down confusion sets in.

The kingfishers were traditionally treated as one family, *Alcedinidae* with three subfamilies, but following the 1990s revolution in bird taxonomy, the three former subfamilies are now usually elevated to familial level; a move supported by chromosome and DNA-DNA hybridisation studies, but challenged on the grounds that all three groups are monophyletic with respect to the other Coraciiformes; which leads to them being grouped as the suborder *Alcedines*.

The tree kingfishers have been previously given the familial name *Dacelonidae* but *Halcyonidae* has priority. This group derives from a very ancient divergence from the ancestral stock.

Kingfishers live in both woodland and wetland habitats. The Laughing Kookaburra, at 45 cm the world's largest kingfisher, is a woodland bird, while the European Kingfisher *Alcedo atthis* is always found near fresh water.

Kingfishers that live near water hunt small <u>fish</u> by diving. They also eat crayfish, frogs, and insects. Wood kingfishers eat <u>reptiles</u>. Kingfishers of all three families beat their prey to death, either by whipping it against a tree or by dropping it on a stone.

They are able to see well both in air and under water. To do this, their eyes have evolved an egg-shaped lens able to focus in the two different environments.

The Old World tropics and Australasia are the core area for this group. Europe and North America north of Mexico are very poorly represented with only one common kingfisher (European and Belted Kingfishers respectively), and a couple of uncommon or very local species each: (Ringed Kingfisher and Green Kingfisher in south Texas, Pied Kingfisher and White-breasted Kingfisher in SE Europe).

Even tropical South America has only five species plus wintering Belted Kingfisher. In comparison, the tiny African country of The Gambia has eight resident species in its 120 by 20 mile area.

The six species occurring in the Americas are four closely related green kingfishers in the genus Chloroceryle and two large crested kingfishers in the genus Megaceryle, suggesting that the sparse representation in the western hemisphere evolved from just one or two original colonising species.

Kookaburra

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Coraciiformes Family: Halcyonidae

Genus: Dacelo Leach, 1815 Species: Dacelo gaudichaud, Dacelo leachii, Dacelo novaeguineae,

Dacelo tyro

Kookaburras are very large terrestrial kingfishers native to Australia and New Guinea, the name a loanword from Wiradjuri guuguubarra, which is onomatopoeic of its call.

Kookaburras are best known for their unmistakable call which is uncannily like loud, echoing human laughter — good-natured, if rather hysterical, merriment in the case of the well-known Laughing Kookaburra (Dacelo novaeguineae); and maniacial, almost insane, cackling in the case of the slightly smaller Blue-winged Kookaburra (*Dacelo leachii*). The call has been immortalized as the "ooh ooh AHH AHH AHH AHH AHH" cry that is part of the background audio in countless jungle movies, regardless of where the jungle in the movie is located.

Classification and species

There are four known species of Kookaburra found in Australia, New Guinea and the Aru Islands.

Unusually for close relatives, the Laughing and Blue-winged <u>species</u> are direct competitors in the area where their ranges overlap. This suggests that the two species, though having common stock, evolved in isolation (possibly during a period when Australia and New Guinea were more distant — see Australia-New Guinea) and were only brought back into contact in relatively recent geological times.

Trivia

- "Olly" the Kookaburra was one of the three mascots chosen for the Sydney 2000 Olympics. The other mascots were the Echidna Millie and the Platypus *Syd*.
- Australia has dedicated a series of coins to the Kookaburra since 1990.
- There is also a Kookaburra nursery rhyme in Australia.

Further reading

 Sarah Legge, Kookaburra: King of the Bush, CSIRO Publishing 2004, ISBN 0-643-09063-0

Macaw

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Psittaciformes Family: <u>Psittacidae</u>

Genera: Ara, Anodorhynchus, Cyanopsitta, Propyrrhura, Orthopsittaca, Diopsittaca

Macaws are large colorful New World parrots, classified into six of the many Psittacidae genera: *Ara*, *Anodorhynchus*, *Cyanopsitta*, *Propyrrhura*, *Orthopsittaca*, and *Diopsittaca*. They are the largest birds in the parrot family in length and wingspan, though the flightless Kakapo is heavier.

Parrots are zygodactyl, like woodpeckers, having 4 toes on each foot – two front and two back.

Their native habitats are the forests, especially rain forests, of Mexico and Central and South America. They are called guacamayos in Spanish and araras in Portuguese.

- 1 Species in taxonomic order
- 2 Status
- <u>3 Birds in captivity</u>
- <u>4 Hybrids</u>
- 6 References

Species in taxonomic order

- Anodorhynchus
 - Anodorhynchus glaucus : Glaucous Macaw
 Anodorhynchus hyacinthinus : Hyacinth Macaw
 Anodorhynchus leari : Indigo Macaw or Lear's Macaw
- Cyanopsitta
 - o Cyanopsitta spixii : Little Blue Macaw or Spix's Macaw
- Ara
 - Ara ararauna : Blue-and-yellow Macaw
 Ara glaucogularis : Blue-throated Macaw

Ara militaris: Military Macaw

Ara ambiguus: Buffon's Macaw or Great Green Macaw

Ara macao: Scarlet Macaw or Aracanga

Ara chloroptera: Greenwing Macaw or Red-and-green Macaw

Ara rubrogenys: Red-fronted Macaw

Ara severa : Chestnut-fronted Macaw or Severe Macaw Ara atwoodi : Dominican Green-and-Yellow Macaw Ara erythrocephala : Jamaican Green-and-Yellow Macaw

Ara gossei: Jamaican Red Macaw

Ara guadeloupensis : Lesser Antillean Macaw

Ara tricolor: Cuban Red Macaw

Ara autocthones : Saint Croix Macaw[1]

Orthopsittaca

o Orthopsittaca manilata: Red-bellied Macaw

Propyrrhura

o Propyrrhura couloni: Blue-headed Macaw

Propyrrhura maracana: Illiger's Macaw or Blue-winged Macaw

Propyrrhura auricollis: Golden-collared Macaw

Diopsittaca

o Diopsittaca nobilis : Red-shouldered Macaw or Hahn's Macaw

Status

The majority of macaws are now endangered in the wild. Five species are already extinct, and Spix's Macaw is now considered to be extinct in the wild. The Glaucous Macaw is also probably extinct, with only two reliable records of sightings in the 20th century. The greatest problems threatening the macaw population are the rapid rate of deforestation and the illegal trapping of birds for the bird trade.

Birds in captivity

Macaws eat nuts and fruit. They also gnaw and chew on various objects. They show a large amount of intelligence in their behaviour and require constant intellectual stimulation to satisfy their innate curiosity.

Bonding: Macaws have been said to live for up to 100 years; however, an average of 50 years is probably more accurate. The larger macaws may live up to 65 years. They are monogamous and mate for life. In captivity unmated macaws will bond primarily with one person – their keeper. Pet macaws thrive on frequent interaction, and a lack of this can lead to their mental and physical suffering.

Other sub-bondings also take place and most macaws that are subjected to non-aggressive behavior will trust most humans, and can be handled even by strangers if someone familiar is also alongside.

Captive pet macaws sometimes display difficult behavior, the most common being biting, screaming, and feather-plucking. Feather-plucking does not normally occur in the wild, strongly suggesting that it is the result of a neurosis related to life in captivity.

Most pet macaws had ancestors living in the wild just two or three generations ago, and are not truly domesticated by any reasonable definition. (This is unlike, for example, dogs; some estimates put the domestication of dogs as far back as 40,000 years ago.)

All species of macaws have very powerful, large beaks and are capable of causing considerable harm to both children and adults. They tend to be extremely loud: their voices

are designed to carry over long distances. This makes macaws very demanding birds to keep as a household pet.

Hybrids

A common trend in recent years is hybridising macaws for the pet trade. Hybrids are typical macaws, with the only difference from true species being their genetics and their colors. They tend to have intermediate characteristics between the parents', though the appearance seems to be influenced more by the father's genes. As for their temperament and behaviour, they seem to inherit the best of both parents, assuming both parents are not aggressive. Common hybrids include Harlequins (*Ara ararauna x chloroptera*) and Catalinas (known as Rainbows in Australia, *A. ararauna x macao*).^[2]

References

- 1. * Forshaw, Joseph Michael (1973, 1981). Parrots of the World.
- 2. <u>^ Macaws, Hybrid Names</u>, and pages on individual hybrids <u>ITIS 177653, 177659</u> as of 2002-07-15

Martlet

A **martlet** is a mythical <u>bird</u> often used in heraldry. A martlet looks similar to the <u>swallow</u>, but has short tufts of feathers in the place of legs. (<u>Swifts</u> have such small legs that they were believed to have none at all.)

The inability of the martlet to land is often seen to symbolize the constant quest for knowledge and learning, as in the arms of McGill University and the University of Victoria (where the student newspaper is called The Martlet). It has been suggested that this same restlessness is the reason for the use of the martlet in English heraldry as the cadency mark of the fourth son: the first son inherited the estate, the second and third traditionally went into the Church and the Army, and the fourth had no well-defined place.

Centuries after his death, Edward the Confessor was assigned a coat of arms containing five golden martlets; Richard II of England combined this coat with the Plantagenet arms, and it later became the basis of the arms of Westminster Abbey and Westminster School.

The arms of the Valence earls of Pembroke were orled (bordered) with martlets, and subsequently these are also found in the arms of Pembroke College, Cambridge.

The shield of the county of Sussex, England contains six martlets, said to represent the six traditional rapes (administrative sub-divisions) of the county.

Source

A Complete Guide to Heraldry, Arthur Charles Fox Davies. Kessinger Publishing, 2004. ISBN 1417906308

Osprey

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes

Family: Pandionidae Sclater & Salvin, 1873 Genus: Pandion Savigny, 1809 Species: P. haliaetus

Binomial name: Pandion haliaetus (Linnaeus, 1758)

The **Osprey** (*Pandion haliaetus*) is a medium large <u>raptor</u> which is a specialist fish-eater with a worldwide distribution. It occurs in all continents except Antarctica, but in South America only as a non-breeding <u>migrant</u>. It is often known by other colloquial names such as **fishhawk**, **seahawk** or **Fish Eagle**.

An unusual bird with no close relatives, it is the only living species of the genus *Pandion*, which is in turn the only genus in the <u>bird</u> family Pandionidae.

1 Description

2 Classification

2.1 Subspecies

2.2 Prehistoric species

3 Behaviour

3.1 Diet

3.2 Nesting

4 Conservation

5 Popular culture

6 References

Description

The Osprey is 52-60 centimetres (20.5-23.6 in) long with a 152-167 cm (5-5.5 ft) wingspan. It has mainly white underparts and head, apart from a dark mask through the eye, and fairly uniformly brown upperparts. Its short tail and long, narrow wings with four long "finger" feathers (and a shorter fifth) give it a very distinctive appearance.

Juvenile birds are readily identified by the buff fringes to the upperpart plumage, buff tone to the underparts, and streaked crown. By spring, wear on the upperparts makes barring on the underwings and flight feathers a better indicator of young birds. Adult males can be distinguished from females from their slimmer bodies and narrower wings. They also have a weaker or non-existent breast band than the female, and more uniformly pale underwing coverts. It is straightforward to sex a breeding pair, but harder with individual birds

In flight, Ospreys have arched wings and drooping "hands", giving them a diagnostic gull-like appearance. The call is a series of sharp whistles, *cheep*, *cheep*, or *yewk*, *yewk*. Near the nest, a frenzied *cheereek*!

Classification

The Osprey differs in several respects from the other diurnal birds of prey, and has always presented something of a riddle to taxonomists. Here it is treated as the sole member of the family **Pandionidae**, and the family listed in its traditional place as part of the order Falconiformes. Other schemes place it alongside the hawks and eagles in the family Accipitridae—which itself can be regarded as making up the bulk of the order Accipitriformes or else be lumped with the Falconidae into Falconiformes. The Sibley-Ahlquist taxonomy has placed it together with the other diurnal raptors in a greatly enlarged Ciconiiformes, but this has more recently turned out to result in an unnatural paraphyletic classification.

Subspecies

There are four generally recognised subspecies, although differences are small, and ITIS only lists the first two.

- P. h. haliaetus (Linnaeus, 1758) Eurasia
- P. h. carolinensis (Gmelin, 1788), North America. This form has a paler breast than nominate haliaetus.
- P. h. ridgwayi Maynard, 1887, Caribbean islands. This form has a very pale head and breast compared to nominate haliaetus, with only a weak eye mask. It is non-migratory.
- P. h. cristatus (Vieillot, 1816), Australasia. The smallest subspecies, also non-migratory

Ospreys are unusual insofar as a single species occurs nearly worldwide. Even the few subspecies are not unequivocally separable. The reason is apparently that these birds are usually migratory, enabling individuals from populations which breed far apart to meet in the winter quarters, form pairs and thus exchange genetic information between populations. Furthermore, Ospreys are long-lived birds which take a considerable time to reach maturity, which slows down the rate of speciation.

Prehistoric species

There were several prehistoric species of osprey which have been described from <u>fossils</u>: *Pandion* sp. (Early Oligocene of Fayyum, Egypt)

Pandion homalopteron (Middle Miocene of California, USA)

Pandion lovensis (Late Miocene of Florida, USA)

Pandion sp. (Late Miocene/Early Pliocene of Lee Creek Mine, USA)

P. homalopteron was very similar to the living species and possibly even its direct ancestor. However, the biogeography of the fossil ospreys has not been researched well enough to suggest a place where the modern Osprey originated. The genus apparently first appeared in the Mediterranean region, but this is not certain.

Behaviour

Diet

The Osprey is particularly well adapted to its <u>fish</u> diet, with reversible outer toes, closable nostrils to keep out water during dives, and backwards facing scales on the talons which act as barbs to help hold its catch. It locates its prey from the air, often hovering prior to plunging feet-first into the water to seize a fish. As it rises back into flight the fish is turned head forward to reduce drag. The 'barbed' talons are such effective tools for grasping fish that, on occasion, an Osprey may be unable to release a fish that is heavier than expected. This can cause the Osprey to be pulled into the water, where it may either swim to safety or succumb to hypothermia and drown.

Nesting

The Osprey breeds by freshwater lakes, and sometimes on coastal brackish waters. The nest is a large heap of sticks built in trees, rocky outcrops, telephone poles or artificial platforms. In some regions with high Osprey densities, such as Chesapeake Bay, USA, most Ospreys do not start breeding until they are five to seven years old. Many of the tall structures they need to build nests on are already taken. If there are no nesting sites available, young Ospreys may be forced to delay breeding. To ease this problem, posts may be erected to provide more sites.

Ospreys usually mate for life. In spring they begin a five-month period of partnership to raise their young. Females lay 3–4 eggs within a month, and rely on the size of the nest to help conserve heat. The eggs are approximately the size of chicken eggs, and cinnamon colored; they are incubated for about 5 weeks to hatching.

The newly-hatched chicks weigh only 50-60 g (2 oz), but fledge within eight weeks. When food is scarce, the first chicks to hatch are most likely to survive. The typical lifespan is 20-25 years.

European breeders winter in Africa. American and Canadian breeders winter in South America, although some stay in the southernmost USA states such as Florida and California. Australasian Ospreys tend not to migrate.

Conservation

Twenty to thirty years ago, Ospreys in some regions faced possible <u>extinction</u>, because the species could not produce enough young to maintain the population. Since the banning of DDT in many countries in the early 1970s, together with reduced persecution, the Ospreys, as well as other affected <u>bird of prey</u> species have made significant recoveries.

Popular culture

The Osprey is the official bird of Nova Scotia in Canada and Sudermannia in Sweden. It is the official mascot and team name for the University of North Florida and the Richard Stockton College of New Jersey. The bird was depicted on the 1986 series Canadian \$10 note. The Osprey is also the mascot of the Christian Falangist Party of America

References

BirdLife International (2004). <u>Pandion haliaetus</u>. 2006 IUCN Red List of Threatened Species. IUCN 2006. Retrieved on 12 May 2006. Database entry includes justification for why this species is of least concern

Forsman, *The Raptors of Europe and the Middle East*, ISBN 0-85661-098-4 Mullarney, Svensson, Zetterstrom and Grant, *Collins Bird Guide* ISBN 0-00-219728-6

Partridge

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u>†

Genera: Perdix, Alectoris, Lerwa, Bambusicola, Ptilopachus, Rollulus, Haematortyx,

Caloperdix, Arborophila, Xenoperdix, Melanoperdix

†See also Pheasant

Partridges are <u>birds</u> in the <u>pheasant</u> family, <u>Phasianidae</u>. They are a <u>non-migratory</u> Old World group.

These are medium-sized birds intermediate between the large pheasants and the small quails. The partridges are ground-nesting seed-eaters. Many species are hunted for sport or food as game.

Species list

Genus Lerwa

Snow Partridge, Lerwa lerwa

Genus Alectoris

Arabian Partridge, Alectoris melanocephala

Przevalski's Partridge, Alectoris magna

Rock Partridge, Alectoris graeca

Chukar, Alectoris chukar (National bird of Pakistan)

Philby's Partridge, Alectoris philbyi

Barbary Partridge, Alectoris barbara

Red-legged Partridge, Alectoris rufa

Genus Ammoperdix

See-see Partridge, Ammoperdix griseogularis

Sand Partridge, Ammoperdix heyi

Genus Perdix

Grey Partridge, Perdix perdix

Daurian Partridge, Perdix dauurica

Tibetan Partridge, Perdix hodgsoniae

Genus Rhizothera

Long-billed Partridge, Rhizothera longirostris

Genus Margaroperdix

Madagascar Partridge, Margaroperdix madagascarensis

Genus Melanoperdix

Black Wood-partridge, Melanoperdix nigra

Genus Xenoperdix

Rubeho Forest Partridge, Xenoperdix obscuratus

Udzungwa Forest Partridge, Xenoperdix udzungwensis

Genus Arborophila, the hill partridges Common Hill Partridge, Arborophila torqueola Sichuan Hill Partridge, Arborophila rufipectus Chestnut-breasted Hill Partridge, Arborophila mandellii Collared Hill Partridge, Arborophila gingica Rufous-throated Hill Partridge, Arborophila rufogularis White-cheeked Hill Partridge, Arborophila atrogularis Taiwan Hill Partridge, Arborophila crudigularis Hainan Hill Partridge, Arborophila ardens Chestnut-bellied Partridge, Arborophila javanica Grey-breasted Hill Partridge, Arborophila orientalis Brown-breasted Hill Partridge, Arborophila brunneopectus Orange-necked Hill Partridge, Arborophila davidi Chestnut-headed Hill Partridge, Arborophila cambodiana Bornean Hill Partridge, Arborophila hyperythra Red-billed Hill Partridge, Arborophila rubrirostris Green-legged Hill Partridge, Arborophila chloropus Annam Hill Partridge, Arborophila merlini Chestnut-necklaced Hill Partridge, Arborophila charltonii Genus Caloperdix Ferruginous Wood Partridge, Caloperdix oculea Genus Haematortyx Crimson-headed Partridge, Haematortyx sanguiniceps Genus Rollulus Crested Wood Partridge, Rollulus roulroul Genus Ptilopachus Stone Partridge, Ptilopachus petrosus Genus Bambusicola

The partridge in culture

Mountain Bamboo Partridge, *Bambusicola fytchii* Chinese Bamboo Partridge, *Bambusicola thoracica*

The partridge is also the subject of a popular English <u>Christmas</u> song, the <u>Twelve Days of Christmas</u>.

The Sanskrit term *Kapinjala*, rendered as "francoline partridge" or "heathcock" by translators, appears as a mythical bird in the Rigveda (RV 2.42, 43) and is identified as an aspect of Indra.

Peafowl

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u>

Genus: Pavo Linnaeus, 1758, Afropavo Chapin, 1936

Species: Pavo cristatus, Pavo muticus, Afropavo congolensis

The term **peafowl** can refer to any of three <u>species</u> of <u>bird</u> in the <u>genera</u> **Pavo** and **Afropavo** of the <u>pheasant family</u>, <u>Phasianidae</u>. They are most notable for the male's extravagant tail, which it displays as part of courtship. The male is called a **peacock**, the female a **peahen**. Although commonly used, **peacock** is an incorrect term to refer to both sexes.

The three species are:

Indian Peafowl, Pavo cristatus (Asiatic)

Green Peafowl, Pavo muticus (Asiatic)

Congo Peafowl, Afropavo congolensis (African)

- 1 Overview
- 2 Taxonomy
- 3 Food
- 4 Habitat
- 5 Plumage
- 6 Behaviour
- 7 Courtship
- 9 In the media
- 10 See also
- 11 References

Overview

The Asiatic peafowl genus *Pavo* includes the familiar **Indian Peafowl** or **Indian Blue Peafowl** (*Pavo cristatus*) and the much rarer **Green Peafowl** or **Dragonbird** (*Pavo muticus*).

The Congo Peafowl is found in parts of Central Africa.

The **Green Peafowl** breeds from Myanmar east to Java. The IUCN lists the Green Peafowl as vulnerable to extinction due to hunting and a reduction in extent and quality of habitat.

Taxonomy

The two *Pavo* species will hybridize in captivity although their ranges in the wild are non-overlapping.

Some taxonomists believe that the endangered Green Peafowl is actually a complex of five distinct species although they are currently treated as one species with three subspecies [1].

The Congo species has many differences from the *Pavo* peafowl, but they are nevertheless its closest relatives.

Food

Peafowl are omnivorous and consume plant parts, flower petals, seed heads, insects, and other arthropods, as well as reptiles and amphibians.

Although possessing metatarsal spurs—"thorns" used for kicking, they are used only for defence against predators.

Habitat

Asiatic peafowl like the Indian Blue Peafowl and especially the Green Peafowl occupy a similar niche as the roadrunners, Secretary Bird, and Seriema. All of these birds hunt for small animals, minnows, and arthropods on the ground, in shallow streams and frequently in tall grass habitats. Small snakes and other reptiles are the preferred diet of wild peafowl.

Peafowl inhabit tropical savannah and riparian forests where they hunt for small animals in close social units of related birds that may span many generations.

Plumage

The male (peacock) has beautiful iridescent blue-green or green coloured plumage. The so-called "tail" of the peacock, also termed the "train," is in fact not the true tail but highly elongated upper tail coverts. The train feathers have a series of eyes that are best seen when the tail is fanned. Both species have a head crest.

The female (peahen) has a mixture of dull green, brown, and grey in her plumage. She lacks the long tail of the male but has a crest.

Females can also display their plumage to ward off danger to her young or other female competition.

Many of the brilliant colors of the peacock plumage are due to an optical interference phenomenon (Bragg reflection) based on (nearly) periodic nanostructures found in the barbules (fiber-like components) of the feathers.

Different colours correspond to different length scales of the periodic structures. For brown feathers, a mixture of red and blue is required—one color is created by the periodic structure, while the other is a created by a Fabry-Perot interference peak from reflections off the outermost and innermost boundaries of the periodic structure.

Such interference-based *structural color* is especially important in producing the peacock's iridescent hues (which shimmer and change with viewing angle), since interference effects depend upon the angle of light, unlike chemical pigments.

Behaviour

The peafowl are forest birds that nest on the ground. The *Pavo* peafowl are terrestrial feeders but roost in trees. They are weak fliers.

Peafowl are considered to be polygamous. However in captivity, Green Peafowl and African Peafowl are monogamous, with males assisting in nest defense, chick rearing, and chick brooding. The male's bond with offspring may extend indefinitely. First-year chicks that have been weaned by their mothers generally join their father's social unit to forage and rest.

In Green Peafowl, it is impossible to distinguish juvenile and subadult green peafowls from their mothers and hence their polygynous nature is hard to establish. There is some anectodotal evidence suggesting that Green Peafowl may have very complex social lives that may include the adoption of one and two year old juveniles by their three and four year old sub-adult siblings.

Peafowl are unusual amongst the Galliformes in their capacity for sustained flight. All known genera of the peafowl family exhibit complex flight displays.

Each race of the Green Peafowl has its own respective wing shape and flight display behavior. Green Peafowls in Java are often observed flying out to sea where the birds gather on islets some miles from shore.

African Peafowl have unusually large wings in relation to their weight. The wings have a highly unusual shape as well. The African Peafowl or *Afropavo* wing is prominently marked in both sexes in striking patterns and colours.

All known species of peafowl perch on emergent trees that stand above the canopy. Chicks of Indian Peafowl are sometimes carried on the backs of the parent birds as they fly into the security of a tree to roost.

Courtship

Although peafowl are capable of reproducing at the age of 2, peacocks do not reach full maturity until one year later. At the age of 2, the feathers are not fully developed in length and density. While peacocks at that age are physiologically able to mate with peahens, they have very little chance of competing with older peacocks with larger feathers. At the age of 3, peacocks' feathers reach maximum length for their lives, aside from the new feathers that grow after they molt in the late summer.

Mating season starts in the early Spring and ends in the early Autumn. The peacock's courtship rituals include the display of its startling plumage and a loud call. Recent studies have shown that both the frequency and quality of sexual plumage displays by males are reliable indicators of the health status of an individual.

In the media

The US National Broadcasting Company (NBC) has used three variations of the rainbow peacock as its logo since 1956.

See also

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Pelican

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: **Pelecanidae** Rafinesque, 1815 Genus: **Pelecanus** Linnaeus, 1758 Species: **Pelecanus** occidentalis, Pelecanus thagus, Pelecanus erythrorhynchos, Pelecanus onocrotalus, Pelecanus crispus, Pelecanus rufescens, Pelecanus philippensis, Pelecanus conspicillatus

A **pelican** is any of several very large water <u>birds</u> with a distinctive pouch under the beak belonging to the <u>bird family</u> **Pelecanidae**. Along with the <u>darters</u>, cormorants, gannets, boobies, frigatebirds, and tropicbirds, it makes up the order Pelecaniformes. Like other birds in that group, pelicans have all four toes webbed (they are totipalmate). Modern pelicans are found on all continents except Antarctica. They are birds of inland and coastal waters and are absent from polar regions, the deep ocean, oceanic islands, and inland South America.

Pelicans can grow to a wingspan of three meters and weigh 13 kilograms, males being a little larger than females and having a longer bill.

Pelicans have two primary ways of feeding:

Group fishing: used by white pelicans all over the world. They will form a line to chase schools of small fish into shallow water, and then simply scoop them up. Large fish are caught with the bill-tip, then tossed up in the air to be caught and slid into the gullet head first. Plunge-diving: used almost exclusively by the American Brown Pelican, and rarely by white pelicans like the Peruvian Pelican or the Australian Pelican.

Rarely, pelicans will consume animals other than fish. In one documented case, a pelican swallowed a live pigeon.[1] [2]

Pelicans are gregarious and nest colonially, the male bringing the material, the female heaping it up to form a simple structure. Pairs are monogamous for a single season but the pair bond extends only to the nesting area; mates are independent away from the nest.

1 Symbolism

2 Systematics

2.1 Species

3 References

Symbolism

In medieval Europe, the pelican was thought to be particularly attentive to her young, to the point of providing her own blood when no other food was available. As a result, the pelican became a symbol of the Passion of Jesus and of the Eucharist. It also became a symbol in bestiaries for self-sacrifice, and was used in heraldry ("a pelican in her piety" or "a pelican vulning (wounding) herself"). Another version of this is that the Pelican used to kill its young and then resurrect them with its blood, this being analogous to the sacrifice of Jesus. Thus

the symbol of the Irish Blood Transfusion Service (IBTS) is a pelican, and for most of its existence the headquarters of the service was located at Pelican House in Dublin, Ireland.

For example, the emblems of both Corpus Christi College, Cambridge and Corpus Christi College, Oxford are pelicans, showing its use as a medieval Christian symbol {'Corpus Christi' - 'body of Christ'}.

This legend may have arisen because the pelican used to suffer from a disease that left a red mark on its chest. Alternatively it may be that pelicans look as if they are doing that as they often press their bill into their chest to fully empty their pouch.

The symbol is used today on the Louisiana state flag and Louisiana state seal, as the Brown pelican is the Louisiana state bird.

Systematics

Species

From the <u>fossil</u> record, it is known that pelicans have been around for over 40 million years. Prehistoric <u>genera</u> have been named *Protopelicanus* and *Miopelecanus*.

A number of <u>fossil</u> species are also known from the extant genus *Pelecanus*:

Pelecanus alieus (Late Pliocene of Idaho, USA)

Pelecanus cadimurka

Pelecanus cauleyi

Pelecanus gracilis

Pelecanus halieus

Pelecanus intermedius

Pelecanus odessanus

Pelecanus schreiberi

Pelecanus sivalensis

Pelecanus tirarensis

References

<u>^ "Pelican swallows pigeon in park"</u>, BBC News, 25 October 2006. Retrieved on 2006-10-25. <u>^ YouTube: Pelican Eats a Pigeon</u>. Retrieved on 2006-10-27.

Pheasant

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Galliformes Family: <u>Phasianidae</u>†

Genera: Ithaginis, Catreus, Rheinartia, Crossoptilon, Lophura, Argusianus, Pucrasia,

Syrmaticus, Chrysolophus, Phasianus

† See also partridge

Pheasants are a group of large <u>birds</u> in the <u>order</u> Galliformes. In many countries they are hunted as game.

Pheasant are characterised by strong sexual dimorphism, with males being highly ornate with bright colours and adornments such as wattles and long tails. They are usually larger than the females. Males play no part in rearing the young.

There are 35 <u>species</u> of pheasant in 11 different <u>genera</u>. The best-known is the Ringnecked Pheasant (Phasianus colchicus torquatus) which is widespread throughout the world in introduced feral populations and in farm operations. Various other pheasant species are popular in aviaries, such as the Golden Pheasant (*Chrysolophus pictus*).

Species in taxonomic order

This list is ordered to show relationships between species

Blood Pheasant (genus Ithaginis)

Blood Pheasant, (*I. cruentus*)

Koklass (genus Pucrasia)

Koklass Pheasant, (P. macrolopha)

Gallopheasants (genus *Lophura*)

Kalij Pheasant, (*L. leucomelanos*)

White-crested Kalij Pheasant, (L. l. hamiltoni)

Nepal Kalij Pheasant, (L. l. leucomelanos)

Black-backed Kalij Pheasant, (L. l. melanota)

Black Kalij Pheasant, (L. l. moffitti)

Black-breasted Kalij Pheasant, (L. l. lathami)

William's Kalij Pheasant, (L. l. williamsi)

Oates' Kalij Pheasant, (L. l. oatesi)

Crawfurd's Kalij Pheasant, (L. l. crawfurdi)

Lineated Kalij Pheasant, (L. l. lineata)

Silver Pheasant, (L. nycthemera)

(*L. n. nycthemera*)

(L. n. lewisi)

(L. n. annamensis)

(L. n. engelbachi)

(L. n. beli)

(L. n. berliozi)

(L. n. rufripes)

(L. n. ripponi)

(L. n. occidentalis)

(L. n. beaulieui)

(L. n. fokiensis)

(L. n. whiteheadi)

(L. n. omeiensis)

(*L. n. rongjiangensis*)

Imperial Pheasant, (L. imperialis)

Edward's Pheasant, (L. edwardsi)

Swinhoe Pheasant, (L. swinhoii)

Salvadori's Pheasant, (L. inornata)

Crestless Fireback Pheasant, (L. erythrophthalma)

Malayan Crestless Fireback, (L. e. erythrophthalma)

Bornean Crestless Fireback, (L. e. pyronota)

Crested Fireback Pheasant, (L. ignita)

Lesser Bornean Crested Fireback, (L. i. ignita)

Greater Bornean Crested Fireback, (L. i. nobilis)

Vieilott's Crested Fireback, (L. i. rufa)

Delacour's Crested Fireback, (L. i. macartneyi)

Siamese Fireback, (L. diardi)

Bulwer's Wattled Pheasant, (L. bulweri)

Eared Pheasants (genus *Crossoptilon*)

White-eared Pheasant, (C. crossoptilon)

Brown Eared Pheasant, (C. mantchuricum)

Blue Eared Pheasant, (C. auritum)

Cheer (genus Catreus)

Cheer Pheasant, (*C. wallichi*)

Long-tailed Pheasants (genus Syrmaticus)

Reeve's Pheasant, (S. reevesi)

Elliot's Pheasant, (S. ellioti)

Bar-tailed Pheasant, (S. humiae)

Mikado Pheasant, (S. mikado)

Copper Pheasant, (S. soemmerringi)

True Pheasants (genus *Phasianus*)

Green Pheasant (*P. versicolor*)

Common Pheasant, (*P. colchicus*)

Pheasant (P.c. colchicus)

Ringnecked Pheasant (P.c. torquatus)

Ruffed Pheasants (genus *Chrysolophus*)

Golden Pheasant, (C. pictus)

Lady Amherst's Pheasant, (C. amherstiae)

Peacock Pheasants (genus *Polyplectron*)

Bronze-tailed Peacock Pheasant, (P. chalcurum)
Mountain Peacock Pheasant, (P. inopinatum)
Germain's Peacock Pheasant, (P. germaini)
Grey Peacock Pheasant (P. bicalcaratum)
Malaysian Peacock Pheasant, (P. malacense)
Bornean Peacock Pheasant, (P. schleiermacheri)
Palawan Peacock Pheasant, (P. emphanum)
Crested Argus (genus Rheinartia)
Crested Argus Pheasant, (R. ocellata)
Great Argus (genus Argusianus)
Great Argus Pheasant, (A. argus)

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Puffin

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Alcidae

Genus: Fratercula Brisson, 1760 Species: Fratercula arctica, Fratercula corniculata,

Fratercula cirrhata

For prehistoric species, see article text.

The common name **puffin** describes any of three <u>auk</u> species (or **alcids**) in the <u>bird</u> genus *Fratercula* (Latin: *little brother* - probably a reference to their black and white plumage which resembles monastic robes) with a brightly colored beak in the breeding season. These are pelagic <u>seabirds</u> that feed primarily by diving. They breed in large colonies on coastal cliffs or offshore islands, nesting in crevices among rocks or in burrows in the soil.

Puffins are chunky birds with large bills. They shed the colourful outer parts of their bills after the mating season, leaving a smaller and duller beak. Their short wings are adapted for flying under water. In the air, they beat their wings rapidly (up to 100 times per minute) in swift flight, often flying low over the ocean's surface.

Breeding

The male Atlantic Puffin builds the nest and exhibits strong nest site fidelity. Both sexes of the Horned Puffin help to construct their nest. The burrows of the Atlantic and Horned Puffin are usually only about 1 metre (3 feet) deep, ending in a chamber, but the tunnel leading to a Tufted Puffin burrow may be up to 2.75 metres (9 feet) in length. The Atlantic Puffin burrow is usually lined with material such as grass, leaves and feathers but is occasionally unlined. The eggs of the Atlantic Puffin are creamy white but can be occasionally tinged in lilac.

Unlike many animals, puffins form long-term pair bonds. The female lays a single egg, and both parents incubate the egg and feed the chick. The incubating parent holds the egg against their brood path with their wings. The chicks fledge at night. After fledging, the chicks spend the first few years of their lives at sea, returning to breed after three to six years.

Like many auks, puffins eat both <u>fish</u> and zooplankton, but feed their chicks primarily with small marine fish. The puffins are distinct in their ability to hold several (sometimes over a dozen) small fishes at a time, crosswise in their bill. This allows them to take longer foraging trips, since they can come back with more energy for their chick than a bird that can only carry one fish at a time.

Species

Three species are recognized today:

Atlantic Puffin, Fratercula arctica Horned Puffin, Fratercula corniculata Tufted Puffin, Fratercula cirrhata

The genus *Fratercula* probably evolved in the northern Pacific, like most lineages of auks. However, at least 2 undescribed prehistoric species are known to have occurred in the western Atlantic comparatively soon after the genus' emergence:

Fratercula sp. 1 (Yorktown Early Pliocene of Lee Creek Mine, USA)

Fratercula sp. 2 (Yorktown Early Pliocene of Lee Creek Mine, USA)

Another extinct species, Dow's Puffin (Fratercula dowi) was found on the Channel Islands of California until the Late Pleistocene or Early Holocene. It is possible that it became extinct due to overhunting and egg-collecting by early human settlers.

Rooster

A **rooster** is a male <u>chicken</u>, the female being a <u>hen</u>. A young cock is called a **rooster** or a **cockerel**. The term "rooster" is reputedly so used because the cock is said to roost over clutches of <u>eggs</u> to guard them. In fact, "roosting" is the action of perching aloft to sleep at night, and is done by both sexes. The cock is non-monogamous, and cannot guard several nests of eggs at once. He guards the general area where his hens are nesting, and will attack other roosters who enter his territory. During the daytime, he often sits on a high perch, usually 4-5 feet off the ground, to serve as a lookout for his flock. He will sound a distinctive alarm call if predators are nearby.

- 1 Name
- 2 Crowing
- 3 Cultural references
- 4 Capons
- 5 Cocks as domestic pets
- 6 Symbol of France
- 7 Cockfight
- 8 Sources

Name

"Cock" is the original name for the male and is still in use in parts of the English-speaking world, but has largely been dropped in North America and Australia in favor of "rooster." According to H. L. Mencken's The American Language, the euphemism "rooster" took precedence over "cock" in the United States during the Victorian era (and parts of the bird were similarly renamed, such as the "drumstick" for "leg") to avoid ostensibly sexually provocative language ("cock" is a coarse slang term for the penis). However, the term "cocky", an American slang adjective meaning "arrogant", and which is derived from the "proud" strutting walk of the bird, is still considered acceptable in polite conversation.

Male **Pheasants** are often called Roosters as well.

Crowing

The cock is often pictured in art as crowing at the break of dawn, and this is accurate. He can often be seen sitting on fence posts or other objects, where he crows to proclaim his territory. However, he will also crow during the rest of the day, and even sometimes on a bright moonlit night. He has several other calls as well, and can cluck the same as a hen.

The sound made by the cock is spelt (onomatopoeia) as "cock-a-doodle-doo" in English, but otherwise in some other languages, such as: Arabic kookookoo-koo, Bulgarian :C:C@83C (kukurigu), Catalan Co-co-ro-co, Chinese goh-geh-goh, Danish kykeliky, Dutch kukeleku,

Esperanto kokeriko, Finnish kukkokiekuu, French cocorico, German kikeriki, Greek kikiriku, Hebrew ku-ku-ri-ku, Indonesian kukuruyuk, Italian chicchirichi`, Japanese ko-ke kokkoh, Korean k'ok'iyo, Lithuanian ka-ka-rie-ku, Latvian ki-ke-ri-gk, Norwegian kykkeliky, Polish kukuryku, Portuguese Co'co'ro'co'co', Romanian cucurigu, Russian ku-ka-rye-ku, Sanskrit >, Serbian ku-ku-ri-ku, Slovak kikiriki', Spanish qui-qui-ri-qui', Swahili KokoRikoo koo, Swedish kuckeliku, Gujarati kuk-de-kuk, Tamil ko-ka-ra-ko, Thai yeki-yeki-yek, Czech kykyriki', Turkish üü-ürü-üüü and in Urdu kuk-roo-koon or kuk-roo-kroon.

Cultural references

The Talmud refers to learning "courtesy from the rooster" (eruvin 100b). This reference may be attributed to the behaviour of a cock when he finds something good to eat: he calls his flock to eat first. This call is distinctive from regular clucking or crowing. While giving this call, he will repeatedly pick up a morsel of food and drop it again to attract the attention of the hens. A mother hen uses a similar call and action to teach her chicks to feed.

At another place in the Talmud (êÜÞÕÓ ÑÑÜÙ ÞáÛê ÑÙæÔ Óã Ö âÞÕÓ Đ) it is said about the rooster: "[...] Everything that fullfills its task at daytime, is born at daytime - this is the rooster". ...

And again at another place in the Talmud (êÜÞÕÓ ÑÑÜÙ ÞáÛê ÑèÛÕê Óã Ö âÞÕÓ Đ) the rooster is seen as an indicator of the short moment in the day where God could be angry and would permit the cursing of a person by another: "[...] And when is he [God] angry? - Abaye says: In [one moment of] those first three hours of the day, when the comb of the cock is white and it stands on one foot. Why, in each hour it stands thus? - In each hour it has red streaks, but in this moment it has no red streaks at all. (However, this does not seem to apply to actual biology, because a cock's comb does not change color in the morning. It might be a literary hyperbole intended to say that God does not permit cursing others, since the moment described does not actually exist. And indeed, this next story supports that view):

In the neighbourhood of R. Joshua b. Levi there was a Sadducee who used to annoy him very much with [his interpretation of] texts. One day the Rabbi took a cock, placed it between the legs of his bed and watched it. He thought: When this moment arrives I shall curse him. When the moment arrived he was dozing. [On waking up] he said: We learn from this that it is not proper to act in such a way. ..." (The translation here is taken from the Soncino edition of the Babylonian Talmud)

Also the Greek philosopher Socrates has an interesting connection to a rooster: After he has already drunken the poison in his cell in Athens (at the end of the Platonic Dialogue Phaidon) his last words are: "O Kriton, we still owe a rooster to Asclepius".

Capons

A **capon** is a castrated rooster. In this procedure the testes of the cock are completely removed; a surgical procedure is required for this as its sexual organs are not external (most

birds, the cock included, do not possess a penis). As a result of this procedure certain male physical characteristics will develop, but stunted:

The comb and wattles cease growing after castration, so the head of a capon looks small.

The hackle, tail and saddle **feathers** grow unusually long.

Caponization also affects the disposition of the bird. Removal of the bird's testes eliminates the male sex hormones, lessening the male sex instincts changing their behaviour: the birds become more docile and less active and tend not to fight.

This procedure produces a unique type of poultry meat which is favoured by a specialised market. The meat of normal uncastrated cocks has a tendency to become coarse, stringy and tough as the birds age. This process does not exist in the capon. As caponized cocks grow slower than entire males they accumulate more body fat; the concentration of fat in both the light and dark areas of the capon meat is greater than in that of the uncastrated males; overall, it is often thought that capon meat is more tender, juicier and more flavorful than regular chicken.

Cocks as domestic pets

While it is not as common in cities as in small towns or farms, some people do keep domestic cocks. It's debatable whether or not this kind of environment is adequate for these birds. However, cocks are common in Hawaii. Some general tips for raising and keeping the well being of domestic cocks include:

Giving them a wide and open area to live and walk about, allowing them plenty of space to "roost"

At night, keep them in a simple but comfortable structure or bed, allowing them space to crow at dawn.

Try to keep their sleeping space dark. Cocks usually crow at the first sight of light, which could be annoying to neighbours.

Feed them cracked corn, sold at any live **poultry** house.

Clean their living space frequently.

Prevent interaction between cocks whenever possible.

Symbol of France

The cock is a national symbol of France and is used as an (unofficial) national mascot, in particular for sports teams (such as <u>football (soccer)</u> and rugby union). Its origin appears to be from the play on words between the Latin name for the bird (Gallus gallus) and Gaul (Gallia), the Roman name for most of what is now France. A rooster was chosen to be the mascot of the 1998 <u>FIFA World Cup</u>.

Cockfight

A cockfight is a contest held in a ring called a cockpit between two gamecocks. Gamecocks are not typical farm chickens. The roosters are specially bred and trained for increased stamina and strength. The comb and wattle is cut off of a young gamecock because if left intact, it would be a disadvantage during a match. Sometimes they are given drugs to increase their stamina or thicken their blood, which increases their chances of winning. They possess an inherent aggression toward all males of the same species, and do not have to be trained to fight. It is a natural instinct and they will fight to the death with no training. Some people refer to *conditioning* as "training" and this has caused much confusion. **Conditioning** is giving an especially healthy diet and strengthening exercises to the gamecock before a contest. Cockfighting is considered a traditional sporting event by some, and an example of animal cruelty by others. Usually wagers are made on the outcome of the match, with the surviving or last-bird-standing being declared the winner.

Sources

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Secretary Bird

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Falconiformes

Family: Sagittariidae R. Grandori & L. Grandori, 1935 Genus: Sagittarius Hermann, 1783 Species: S.

serpentarius

Binomial name: *Sagittarius serpentarius* (J. F. Miller, 1779)

The **Secretary Bird**, *Sagittarius serpentarius*, is an extraordinary <u>bird of prey</u>. Endemic to Africa, this mostly terrestrial bird is usually found in the open grasslands and savannas of the sub-Sahara.[2] It is a large bird of prey in the order Falconiformes, which also includes many other diurnal <u>raptors</u> such as <u>kites</u>, buzzards, <u>vultures</u>, and <u>harriers</u>, but it is so distinctive that it is given its own family, Sagittaridae. The Secretary Bird enjoys a certain fame in Africa, specifically Sudan and South Africa, where it serves as a prominent Emblem on both countries' Coat of Arms.

- 1 General Appearance
- 2 Evolution
- 3 Habitat
- 4 Diet
- **5** Reproductive Strategies
- **6 Rearing of Young**
- 7 Threats
- 8 Cultural significance

General Appearance

The Secretary Bird is instantly recognizable as having an eagle-like body on crane-like legs which increases the bird's height to around 1.3 m (four feet) tall. This 140 cm long bird has an eagle-like head with a hooked bill, but has rounded wings. From a distance or in flight it resembles a crane more than a bird of prey. The tail has two elongated central feathers that extend beyond the feet during flight, as well as long flat plumage creating a posterior crest. [4] It likely gets its English name from its crest of long feathers which make it appear to be carrying quill pens behind its ears, as secretaries once did. A more recent hypothesis is that this is a French corruption of the Arabic saqr-et-tair or "hunter-bird." [5]

The genus name, *Sagittarius* refers to the same feature, but in this case likened to an archer's arrows. *Serpentarius* reflects the fact that this is a specialist predator of snakes. Secretary Bird flight feathers and thighs are black, while most of the coverts are grey with some being white. Sexes look alike, although the male has longer head plumes and tail feathers. Adults have a featherless red face as opposed to the yellow colored facial skin in young.

Evolution

Recent cladistic analysis has shown Sagittaridae to be an older group than <u>Accipitridae</u> and <u>Falconidae</u>, but a younger divergence than Cathartidae.^[8] Studies are still being conducted due to the pecularity of the single species group and recent molecular biology techniques in taxonomic organization.

Habitat

Secretary Birds are endemic to sub-Saharan Africa and are <u>non-migratory</u> (although they may follow food sources). Their range is from Senegal to Somalia and south to the Cape of Good Hope. [10] These birds are also found at a variety of elevations, from the coastal plains to the highlands. Secretary Birds prefer open grasslands and savannahs rather than forests and dense shrubbery which may impede their cursorial existence. While the birds roost on the local Acacia trees at night, they spend much of the day on the ground, returning to roosting sites just before dark.

Diet

The Secretary Bird is largely terrestrial, hunting its prey on foot, and besides the caracaras (such as Polyborus plancus) is the only bird of prey to do so habitually. Adults hunt in pairs and sometimes as loose familial flocks, stalking through the habitat with long strides. Prey consists of insects, small mammals, lizards, snakes, young birds, bird eggs, and sometimes dead animals killed in brush fires. Larger herbivores are not hunted, although there are some reports of Secretary Birds killing young gazelles. 1121

Young are fed liquified and regurgitated insects directly by the male or female parent and are eventually weaned to small mammals and reptile fragments regurgitated onto the nest itself. The above foodstuffs are originally stored in the crop of the adults.[14]

Secretary Birds have two distinct feeding strategies that are both executed on land. They can either catch prey by chasing it and striking with the bill or stomping on prey until it is rendered stunned or unconscious enough to swallow. Studies of this latter strategy have helped construct the possible feeding mechanisms employed by dinosaur-like terror birds that once walked the earth five million years ago.

Reproductive Strategies

Secretary Birds associate in monogamous pairs. During courtship, they exhibit a nuptial display by soaring high with undulating flight patterns and calling with guttural croaking. Males and females can also perform a grounded display by chasing each other with their

wings up and back, much like the way they chase prey. They usually mate on the ground, although some do so in Acacia trees.

Rearing of Young

Nests are built on top of Acacia trees, and are usually 5-7 m (15-20 feet) high. Both the male and female visit the nest site for almost half a year before egg laying takes place. The nest is around 2.5 m (eight feet) wide and 30 cm (one foot) deep, and is constructed as a relatively flat basin of sticks.

Secretary birds lay two to three oval, pale-green eggs over the course of two to three days, although the third egg is most often unfertilized. These eggs are incubated primarily by the female for 45 days until they hatch. The Secretary Birds are facultatively fratricidal.^{112]}

The downy young can feed autonomously after 40 days, although the parents still feed the young after that time. At 60 days, the young start to flap their wings, and by day 65-80 are able to fledge. Fledging is accomplished by jumping out of the nest or using a semi-controlled fall via fervent wing flapping to the ground. After this time, the young are quickly taught how to hunt through expeditions with their parents and are considered independent soon after.

Threats

Young are predated by crows and <u>kites</u> as they are vulnerable in *Acacia* tree tops. [19] As a population, the Secretary Bird is mainly threatened by loss of habitat and deforestation. [20] In 1968 the species became protected under the Africa Convention on the Conservation of Nature and Natural Resources. [21]

Cultural significance

The Secretary Bird is the national emblem of Sudan as well as a prominent feature on the Coat of Arms of South Africa. In Sudan, It is featured in the middle white strip of the Presidential Flag, as well as being the main object on the Presidential seal and featuring heavily in Sudanese military insignia. The Secretary Bird on the Presidential Flag and Seal has its head turned to the right, with its distinctive crest clearly visible and its wings spread out with a white banner between its outstretched wings reading 'Victory is Ours' - available at [1].

In South Africa, the Secretary Bird, while not the official bird of South Africa, is featured as a symbol on the national coat of arms, represents vigilance and military might, as well as the rise and pride of modern South Africa. [2]

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Snipe

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes Family: *Scolopacidae*

Genera: Coenocorypha, Gallinago, Lymnocryptes

A **Snipe** is any of 18 very similar <u>wading</u> bird species characterised by a very long slender bill and cryptic <u>plumage</u>.

They search for invertebrates in the mud with a "sewing-machine" action of their long bills.

Most have distinctive displays, usually given at dawn or dusk.

There are two southern snipe species in the genus *Coenocorypha*, 15 typical snipes in the genus *Gallinago* and the very small Jack Snipe, *Lymnocryptes minimus*.

Some snipe species have been hunted for food and sport since the invention of the shotgun. They can be extremely difficult targets, confounding even very skilled hunters with their erratic flight, their unexpected flushes, their excellent natural camouflage and the treacherous and difficult terrain they typically inhabit.

The elusive nature of the snipe is well-known among hunters. In the days of market hunting, the most skilled hunters of all would often bring many Common Snipe to market earning the moniker "sniper" as a badge of respect for the difficulty in shooting this amazing little bird. The term has evolved into the modern usage sniper, referring to a skilled antipersonnel sharpshooter. In addition, the often-unsuccessful nature of a snipe hunt lead to the <u>practical joke</u> of the same name.

Species are:

Chatham Snipe, Coenocorypha pusilla

Subantarctic Snipe, Coenocorypha aucklandica

 ${\it Campbell\ Island\ Snipe,\ Coenocorypha\ sp.}$

Jack Snipe, Lymnocryptes minimus

Solitary Snipe, Gallinago solitaria

Latham's Snipe, Gallinago hardwickii

Wood Snipe, Gallinago nemoricola

Pintail Snipe, Gallinago stenura

Swinhoe's Snipe, Gallinago megala

African Snipe, Gallinago nigripennis

Madagascar Snipe, Gallinago macrodactyla

Great Snipe, Gallinago media

Common Snipe, Gallinago gallinago

The American race, G. g. delicata is sometimes considered a separate species, Wilson's

South American Snipe, Gallinago paraguaiae

Noble Snipe, Gallinago nobilis Giant Snipe, Gallinago undulata

Fuegian Snipe, Gallinago stricklandii Andean Snipe, Gallinago jamesoni Imperial Snipe, Gallinago imperialis

Spotted Eagle Owl

Conservation status Least concern

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Strigiformes Family: Strigidae Genus: *Bubo*

Species: **B. africanus**

Binomial name: Bubo africanus Temminck, 1821

Spotted Eagle Owl (*Bubo africanus*) is a species of the Horned owls. It is a medium sized owl and one of the smallest of the Eagle owls. Its height is forty-five cm (18 inch) and its weight is from 480 to 850g (1 to 1.8 pounds). They have a 33cm (13 in) wing span. The facial disk is off white to a pale ochre and the eyes are yellow. They have prominent ear tufts and the upper body is dusky brown with lower parts off white with brown bars. Prior to 1999 the Spotted Eagle owl was classed as a subspecies with the Vermiculated Eagle Owl but is now classed as a separate species. They are carnivorous and their prey consists of small mammals, birds, insects and reptiles.

1 Habitat
2 Reproduction
References

Habitat

They inhabit most of Africa south of the Sahara desert away from dense forests. They are nocturnal hunters spending the day concealed in trees, rock ledges or abandoned burrows. They are found in areas with rocky outcroppings, scrub land open woods and semi deserts. Spotted eagle owls do not avoid populated areas. They will often hunt near roads and are often struck by vehicles. The major cause of death is pesticides used in agriculture for insect and rodent control.

Reproduction

Spotted eagle owls mate for life. They are able to breed at around one year of age. They make their nest on the ground and have been known to nest on window ledges of buildings. Breeding begins in July continuing to the first weeks February. The female lays two to four eggs and she does the incubation leaving the nest only to eat what the male has brought food. The incubation period lasts approximately thirty two days. The young owls can fly at around seven weeks of age. Five weeks later at twelve weeks the young owls leave the nest. They have a life span of up to ten years in the wild and up to twenty in captivity.

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Stork

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Ciconiiformes

Family: Ciconiidae Gray, 1840Genera: See text.

Storks are large, long-legged, long-necked wading birds with long stout bills, belonging to the family **Ciconiidae**. They occur in most of the warmer regions of the world and tend to live in drier habitats than the related herons, spoonbills and <u>ibises</u>; they also lack the powder down that those groups use to clean off <u>fish</u> slime. Storks have no syrinx and are mute, giving no bird call; bill-clattering is an important mode of stork communication at the nest. Many species are migratory. Most storks eat frogs, fish, insects, earthworms, and small birds or mammals. There are 19 <u>species</u> of storks in six <u>genera</u>.

Storks tend to use soaring, gliding flight, which conserves energy. Soaring requires thermal air currents. Ottomar Anschütz's famous 1884 albumen photographs of storks inspired the design of Otto Lilienthal's experimental gliders of the late 19th century. Storks are heavy with wide wingspans, and the Marabou Stork, with a wingspan of 3.2 m (10.5 feet), shares the distinction of "longest wingspan of any land bird" with the <u>Andean Condor</u>.

Their nests are often very large and may be used for many years. Some have been known to grow to over 2 m (6 feet) in diameter and about 3 m (10 feet) in depth. Storks were once thought to be monogamous, but this is only true to a limited extent. They may change mates after migrations, and migrate without them. They tend to be attached to nests as much as partners.

Storks' size, serial monogamy, and faithfulness to an established nesting site contribute to their prominence in mythology and culture.

- 1 Etymology
- 2 Species
- 3 Symbolism of storks
- 4 Mythology of storks

Etymology

The modern English word comes from Old English "storc", which is in turn related to "stark", probably in reference to the bird's stiff or rigid posture.

Originally from Proto Germanic *sturkaz (compare Old Norse storkr, and Old High German storah, all meaning stork). Nearly every Germanic language has a form of this proto language to indicate the stork; the Dutch exception, apparently originating in a euphemism, may signify the presence of a deep-seated taboo: compare "bear".

Language | Word used for "Stork"

Danish: storkGerman: StorchLow Saxon: StorkDutch: Ooievaar*

Norwegian: *stork*Swedish: *Stork** Dutch is an exception within the Germanic language group.

Old Church Slavonic struku, Russian AB5@E (pronounced sterkh, meaning Siberian White Crane), Lithuanian starkus, Hungarian eszterag (rarely used; commonly gólya) and Albanian *sterkjok* are all Germanic loan-words.

Rarely the word's origin is linked to Greek torgos meaning "vulture".

The fable that babies are brought by storks is mainly from Dutch and Northern German nursery stories, no doubt from the notion that storks nesting on one's roof meant good luck, often in the form of family happiness.

Species

Family Ciconiidae

Genus Mycteria

Milky Stork (Mycteria cinerea)

Yellow-billed Stork (Mycteria ibis)

Painted Stork (Mycteria leucocephala)

Wood Stork (Mycteria americana)

Genus Anastomus

Asian Openbill Stork, Anastomus oscitans

African Openbill Stork, Anastomus lamelligerus

Genus Ciconia

Abdim's Stork, Ciconia abdimii

Woolly-necked Stork, Ciconia episcopus

Storm's Stork, Ciconia stormi

Maguari Stork, Ciconia maguari

Oriental White Stork, Ciconia boyciana

White Stork Ciconia ciconia

Black Stork Ciconia nigra

Genus Ephippiorhynchus

Black-necked Stork, Ephippiorhynchus asiaticus

Saddle-billed Stork, Ephippiorhynchus senegalensis

Genus Jabiru

Jabiru Jabiru mycteria

Genus Leptoptilos

Lesser Adjutant, Leptoptilos javanicus

Greater Adjutant, Leptoptilos dubius

Marabou Stork, Leptoptilos crumeniferus

Symbolism of storks

The white stork is the symbol of The Hague in the Netherlands and the unofficial symbol of Poland, where about 25 percent of European storks breed.

In Western culture the White Stork is a symbol of childbirth. In Victorian times the details of human reproduction were difficult to approach, especially in reply to a child's query of "Where did I come from?"; "The stork brought you to us" was the tactic used to avoid discussion of sex. This habit was derived from the once popular superstition that storks were the harbingers of happiness and prosperity.

The image of a stork bearing an infant wrapped in a sling held in its beak is common in popular culture. The small pink or reddish patches often found on a newborn child's eyelids, between the eyes, upper lip, and the nape of the neck, which are clusters of developing veins that soon fade, are sometimes still called "stork bites".

Vlasic brand pickles in North America use this child-bearing stork as a mascot.

Mythology of storks

Most of these myths tend to refer to the White Stork.

In Ancient Egypt the stork was associated with the human ba; they had the same phonetic value. The ba was the unique individual character of each human being: a stork with a human head was an image of the ba-soul, which unerringly migrates home each night, like the stork, to be reunited with the body during the Afterlife. [1]

The motto "Birds of a feather flock together" is appended to Aesop's fable of the farmer and the stork his net caught among the cranes that were robbing his fields of grain. The stork vainly pleaded to be spared, being no crane.

The Hebrew word for stork was equivalent to "kind mother", and the care of storks for their young, in their highly visible nests, made the stork a widespread emblem of parental care. It was widely noted in ancient natural history that a stork pair will be consumed with the nest in a fire, rather than fly and abandon it.

In Greek mythology, Gerana was an Æthiope, the enemy of Hera, who changed her into a stork, a punishment Hera also inflicted on Antigone, daughter of Laomedon of Troy (Ovid, Metamorphoses 6.93). Stork-Gerana tried to abduct her child, Mopsus. This accounted, for the Greeks, for the mythic theme of the war between the pygmies and the storks. In popular Western culture, there is a common image of a stork bearing an infant wrapped in cloths held in its beak; the stork, rather than absconding with the child Mopsus, is pictured as delivering the infant, an image of childbirth.

The stork is alleged in folklore to be monogamous although in fact this monogamy is "serial monogamy", the bond lasting one season: see above. For Early Christians the stork became an emblem of a highly respected "white marriage", that is, a chaste marriage. This symbolism endured to the seventeenth century, as in Henry Peacham's emblem book *Minerva Britanna* (1612) (see link).

Though "Stork" is rare as an English surname, the Czech surname "apek" means "little stork".

For the Chinese, the stork was able to snatch up a worthy man, like the flute-player Lan Ts'ai Ho, and carry him to a blissful life.

In Norse mythology, Hoenir gives to mankind the spirit gift, the óðr that includes will and memory and makes us human (see Rydberg link). Hoenir's epithets langifótr "long-leg" and aurkonungr "mire-king" identify him possibly as a kind of stork. Such a Stork King figures in northern European myths and fables. However, it is possible that there is confusion here between the White Stork and the more northerly-breeding Common Crane, which superficially resembles a stork but is completely unrelated.

In Bulgarian folklore, the stork is a symbol of the coming spring (as this is the time when the birds return to nest in Bulgaria after their winter migration) and in certain regions of Bulgaria it plays a central role in the custom of Martenitsa: when the first stork is sighted it is time to take off the red-and-white Martenitsa tokens, for spring is truly come.

A series of sightings of a mysterious pterodactyl-like creature in South Texas' Rio Grande Valley in the 1970s has been attributed to an errant giant stork that become lost during a migratory flight and wound up in an unfamiliar region (see Big Bird, Texas).

Swan

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Anseriformes Family: <u>Anatidae</u> Subfamily: <u>Anserinae</u>

Genera and species:

Cygnus Bechstein 1803

C. cygnus

C. buccinator

C. columbianus

C. (c.) bewickii

C. olor

C. atratus

C. (a.) sumnerensis

C. melancoryphus

Coscoroba Reichenbach 1853

C. coscoroba

Sarcidiornis

Sarcidiornis mauritania (mauritianus)

Swans are large water <u>birds</u> of the <u>family Anatidae</u>, which also includes <u>geese</u> and <u>ducks</u>. Swans are grouped with the closely related geese in the <u>subfamily Anserinae</u>.

Swans usually mate for life, though "divorce" does sometimes occur, particularly following nesting failure. The number of eggs in each clutch is between 3–8.

The word is derived from Old English *swan*, akin to German *schwan*, in turn derived from Indo-European root *swen (to sound, to sing), whence Latin derives *sonus* (sound). (Webster's New World Dictionary) Young swans are known as *cygnets*, from the Latin word for swan, *cygnus*. An adult male is a "cob", an adult female is a "pen".

- 1 Coloration
- 2 Systematics and evolution
- 3 Role in culture

Coloration

The Northern Hemisphere species of swan have pure white plumage, but the Southern Hemisphere species are patterned with black. The Australian Black Swan (Cygnus atratus) is completely black except for the white flight feathers on its wings, and the South American Black-necked Swan has a black neck. The Coscoroba Swan, also from southern South America, has black tips to the primary feathers.

The legs of swans are dark blackish grey, except for the two South American species, which have pink legs. Bill colour varies; the four subarctic species have black bills with varying amounts of yellow, and all the others are patterned red and black. The Mute Swan and Black-necked Swan have a lump at the base of the bill on the upper mandible.

Systematics and evolution

All evidence suggests that the genus *Cygnus* evolved in Europe or western Eurasia during the Miocene, spreading all over the Northern Hemisphere until the Pliocene. When the southern species branched off is not known. The Mute Swan apparently is closest to the Southern Hemisphere Cygnus; its habits of carrying the neck curved (not straight) and the wings fluffed (not flush) as well as its bill color and knob indicate that its closest living relative is actually the Black Swan. Given the biogeography and appearance of the subgenus Olor it seems likely that these are of a more recent origin, as evidenced by their modern ranges (which were mostly uninhabitable during the last ice age) and great similarity between the taxa. Also, the relationships of the Coscoroba Swan remain rather obscure; it apparently represents the most early divergence as it is in some aspects more similar to geese and shelducks.

Genus Coscoroba

Coscoroba Swan, Coscoroba coscoroba, South America

Genus Cygnus

Subgenus Cygnus

Mute Swan, *Cygnus olor*, is a common temperate Eurasian species, often semi-domesticated; descendants of domestic flocks are naturalized in the United States and elsewhere.

Subgenus Chenopis

Black Swan, Cygnus atratus of Australia, and introduced in New Zealand.

New Zealand Swan, Cygnus (atratus) sumnerensis, an extinct subspecies of the Black Swan from New Zealand and the Chatham Islands.

Subgenus Sthenelides

Black-necked Swan, *Cygnus melancoryphus* of South America.

Subgenus Olor

Whooper Swan, Cygnus cygnus breeds in Iceland and subarctic Europe and Asia, migrating to temperate Europe and Asia in winter.

Trumpeter Swan, Cygnus buccinator is a North American species very similar to the Whooper Swan (and sometimes treated as a subspecies of it), which was hunted almost to extinction but has since recovered

Whistling Swan, Cygnus columbianus is a small swan which breeds on the North American tundra, further north than other swans. It winters in the USA.

Bewick's Swan, Cygnus (columbianus) bewickii is the Eurasian form which migrates from Arctic Russia to western Europe and eastern Asia (China, Japan) in winter. It is often considered a subspecies of C. columbianus, creating the species Tundra Swan.

Genus Sarcidiornis

Mascarene Swan, *Sarcidiornis mauritania*(*mauritianus*) an extinct species which lived in the Mascarene Islands, last observed in Mauritius in 1668 [1].

The fossil record of the genus *Cygnus* is quite impressive, although allocation to the subgenera is often tentative; as indicated above, at least the early forms probably belong to the *C. olor* - Southern Hemisphere lineage. A number of prehistoric species have been described, mostly from the Northern Hemisphere. Among them were the giant Siculo-Maltese C. falconeri and C. equitum which were taller (though not heavier) than the contemporary local dwarf elephants (Elephas falconeri).

Fossil Swans

Cygnus atavus (Middle Miocene of Germany)

Cygnus csakvarensis (Late Miocene of Hungary) - formerly Cygnanser

Cygnus mariae (Early Pliocene of Wickieup, USA)

Cygnus verae (Early Pliocene of Sofia, Bulgaria)

Cygnus liskunae (Middle Pliocene of W Mongolia)

Cygnus hibbardi (?Early Pleistocene of Idaho, USA)

Cygnus sp. (Early Pleistocene of Dursunlu, Turkey)

Cygnus equitum (Middle Pleistocene of Malta and Sicily, Mediterranean)

Giant Swan, Cygnus falconeri (Middle Pleistocene of Malta and Sicily, Mediterranean)

Cygnus paloregonus (Pleistocene of Oregon, USA)

Cygnus sp. (Pleistocene of Australia)

Cygnus americanus

Cyanus lacustris

Cygnus matthewi

The supposed fossil swans "Cygnus" bilinicus and "Cygnus" herrenthalsi were, respectively, a stork and some large bird of unknown affinity (due to the bad state of preservation of the referred material).

Role in culture

Many of the cultural aspects refer to the Mute Swan of Europe. Perhaps the best known story about a swan is The Ugly Duckling fable. The story centers around a duckling who is mistreated until it becomes evident he is a swan and is accepted into the habitat. He was mistreated because real ducklings are, according to many, more attractive than a cygnet, yet cygnets become swans, which are very attractive creatures. Swans are often a symbol of love or fidelity, because of their long-lasting monogamist relationships. See the famous swan-related operas Lohengrin and Parsifal.

In the TV series LOST the formal name of the Hatch is "Station 3: The Swan", the swan is the Electromagnetic station of the DHARMA Initiative.

Swans feature strongly in mythology. In Greek mythology, the story of Leda and the Swan recounts that Helen of Troy was conceived in a union of Zeus disguised as a swan and Leda, Queen of Sparta. The Irish legend of the Children of Lir is about a mother transforming her children into swans for 900 years. Myths also exist about swans themselves. It was once

believed that upon death, the otherwise silent Mute swan would sing beautifully- hence the phrase swan song.

Swans are revered in many religions and cultures, especially Hinduism. The Sanskrit word for swan is hamsa or hansa, and it is the vehicle of many deities like the goddess Saraswati. It is mentioned several times in the Vedic literature, and persons who have attained great spiritual capabilities are sometimes called Paramahamsa ('Great Swan') on account of their spiritual grace and ability to travel between various spiritual worlds. In the Vedas, swans are said to reside in the summers in the Manasarovar lake and migrate to Indian lakes for the winter, eat pearls, and separate milk from water in a mixture of both. Hindu iconography typically shows the Mute Swan. It is wrongly supposed by many historians that the word hamsa only means a goose, since today swans are no longer found in India, not even in most zoos. However, ornithological checklists clearly classify several species of swans as vagrant birds in India.

One Chinese idiom about swans is how "a toad wants to eat swan flesh!". This idiom is used derisively on men who desire women who are beyond their station in terms of wealth, social class or beauty.

Today swans are used symbolically or as brands. The Sydney Swans AFL Team uses a swan as its club emblem/mascot, and Swansea City A.F.C.'s mascot is a swan called Cyril the Swan. The Bonny Swans is a song on Loreena McKennitt's 1994 album, The Mask and Mirror.

Toucan

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Piciformes

Family: Ramphastidae Vigors, 1825Genera: Aulacorhynchus, Pteroglossus, Baillonius,

Andigena, Selenidera, Ramphastos

Toucans are near passerine birds from the neotropics. They are brightly marked and have enormous colorful bills. The family includes six genera and about 40 species.

Toucans range in size from 18 to 63 cm (7 to 25 in). A bit bigger than a crow, their body is short and thick and the tail is rounded. The tail varies in length from half the length to the whole length of the body. The neck is short and thick while at the base of the head is a huge, brightly-colored beak that measures in some large species, more than half the length of the body. A toucan's tongue is long, narrow, and singularly frayed on each side, adding to its sensibility as an organ of taste.

The legs of a toucan are strong and rather short. Their toes are arranged in pairs with the first and fourth toe turned backward. Both males and females are the same color. The feathers in the genus containing the largest toucans are generally coloured black, with touches of white, yellow, and scarlet. The underparts of the araçaris (smaller toucans) are yellow, crossed by one or more black or red bands, and the edges of the beak are saw-toothed. The toucanets have mostly green plumage with blue markings.

Toucans are frugivorous (fruit-eating), but will take insects and other small prey such as small lizards. However, many other birds consume these foods without the giant bill to help them. So what is the function of the beak in feeding? One likely use is to specialize on prey such as nestlings and bats in treeholes. In this view, the beak is an adaptation to allows the bird to reach deep into the treehole and thereby access food unavailable to birds that would otherwise compete for similar food reasources.

They are arboreal and nest in tree holes laying 2–4 white eggs. The young hatched are completely naked, without any down. They are resident breeders and do not <u>migrate</u>. Toucans are usually found in pairs or small flocks.

The name of this bird group is derived from Tupi tucana, via French.

- 1 Toucans in advertising
- 2 Toucans in fiction
- 3 Species list

Toucans in advertising

Toucans were used to advertise Guinness stout (using the slogan 'See what toucan do'), and many collectables such as postcards and models with Guinness toucans on them may be found. Toucan Sam is the mascot of Kellogg's Froot Loops cereal. Y107 in Nashville used a "Tookie Bird" as their mascot.

There is a European phone company called Toucan. Toucan is part of IDT Telecom, a subsidiary of global telecoms provider IDT Corp. They provide phone service, dial-up, and broadband internet service as well as mobile services in the Netherlands and the UK including Northern Ireland, Scotland, and Wales, bringing state-of the art communications to Europe, USA, Latin America, Africa, and Asia. They have call centers in England, Ireland, India, and Israel.

Toucans in fiction

A humorous derivation of the name of the bird features in David McKee's children's book "Two Can Toucan".

Wulffmorgenthaler comic strip features a character named 'Toucan kid', who is an offspring of a human and a toucan.

Tookie Tookie, George's pet Toucan from George of the Jungle.

Species list

Aulacorhynchus

Emerald Toucanet, Aulacorhynchus prasinus

Groove-billed Toucanet, Aulacorhynchus sulcatus

Chestnut-tipped Toucanet, Aulacorhynchus derbianus

Crimson-rumped Toucanet, Aulacorhynchus haematopygus

Yellow-browed Toucanet, Aulacorhynchus huallagae

Blue-banded Toucanet, Aulacorhynchus coeruleicinctis

Pteroglossus

Lettered Aracari, Pteroglossus inscriptus

Green Aracari, Pteroglossus viridis

Red-necked Aracari, Pteroglossus bitorquatus

Ivory-billed Aracari, Pteroglossus azara

Brown-mandibled Aracari, Pteroglossus mariae

Chestnut-eared Aracari, Pteroglossus castanotis

Black-necked Aracari, Pteroglossus aracari

Collared Aracari, Pteroglossus torquatus

Fiery-billed Aracari, Pteroglossus frantzii

Stripe-billed Aracari, Pteroglossus sanguineus

Pale-mandibled Aracari, Pteroglossus erythropygius

Many-banded Aracari, Pteroglossus pluricinctus

Curl-crested Aracari, Pteroglossus beauharnaesii

Baillonius

Saffron Toucanet, Baillonius bailloni

Andigena

Plate-billed Mountain Toucan, Andigena laminirostris

Gray-breasted Mountain Toucan, Andigena hypoglauca

Hooded Mountain Toucan, Andigena cucullata Black-billed Mountain Toucan, Andigena nigrirostris Selenidera

Yellow-eared Toucanet, Selenidera spectabilis Golden-collared Toucanet, Selenidera reinwardtii Tawny-tufted Toucanet, Selenidera nattereri Guianan Toucanet, Selenidera culik Spot-billed Toucanet, Selenidera maculirostris Gould's Toucanet, Selenidera gouldii Ramphastos

Keel-billed Toucan, Ramphastos sulfuratus Choco Toucan, Ramphastos brevis

Citron-throated Toucan, Ramphastos citreolaemus

Channel-billed Toucan, Ramphastos vitellinus

Yellow-ridged Toucan, Ramphastos vitellinus culminatus

Red-breasted Toucan, Ramphastos dicolorus

Chestnut-mandibled Toucan, Ramphastos swainsonii

Black-mandibled Toucan, Ramphastos ambiguus

White-throated Toucan, Ramphastos tucanus, includes

Red-billed Toucan, R. t. tucanus

Cuvier's Toucan, R. t. cuvieri

Toco Toucan, Ramphastos toco

Vulture

Kingdom: Animalia Phylum: Chordata

Class: Aves

Orders: Falconiformes (Fam. Accipitridae (part)), Ciconiiformes (Fam. Cathartidae)

Vultures are scavenging <u>birds</u>, feeding mostly on the carcasses of dead animals. Vultures are found in every continent except Antarctica and Oceania.

A particular characteristic of many vultures is a bald head, devoid of <u>feathers</u>. This is likely because a feathered head would become spattered with blood and other fluids, and thus be difficult to keep clean. This feature also allows quick cleaning in a nearby river.

Vultures fall into two groups. The <u>Old World vultures</u> found in Africa, Asia and Europe belong to the family <u>Accipitridae</u>, which also includes eagles, <u>kites</u>, buzzards and <u>hawks</u>. They find carcasses exclusively by sight.

<u>New World vultures</u> and <u>condors</u> are not at all closely related to the superficially similar Accipitridae, but belong in the family Cathartidae, which is quite close to the storks. Several species have a good sense of smell, unusual for <u>raptors</u>.

The similarities between the two groups are due to convergent evolution rather than a close relationship.

A group of vultures is occasionally called a *venue*. When circling in the air, a group of vultures is called a *kettle*.

1 Feeding

2 Threat due to diclofenac poisoning

3 Vultures in culture

3.1 Ancient Egypt

4 See also

Feeding

Vulture seldom attack a healthy living animal, but may kill the wounded or sick. Vast numbers have been seen upon battlefields. They gorge themselves when prey is abundant, till their crop forms a projection, and sit, sleepy or half torpid, to digest their food. They do not carry food to their young in their claws, but disgorge it from the crop. These birds are of great value as scavengers, especially in hot regions.

Threat due to diclofenac poisoning

The vulture population in India has declined by up to 95% recently and two or three of the species of vulture in South Asia are nearing extinction. The cause was found to be due to the practice of giving working animals the non-steroidal anti-inflammatory drug (NSAID)

diclofenac, which has a pain killing action. Diclofenac administration keeps animals that are ill or in pain working on the land for longer. Diclofenac accumulates in the animals' bodies; when the ill animals die, their carcasses will still contain the diclofenac. Farmers leave the dead animals out in the open, relying on vultures to tidy up. Diclofenac present in carcasses it also eaten by the vultures, but unfortunately vultures are very sensitive to diclofenac and suffer kidney failure and death as a result of diclofenac poisoning.

The decline has led to general hygiene problems in India as carcasses of dead animals now tend to rot, or be eaten by rats or wild dogs, rather than be tidied up by vultures. In addition, there are particular problems for certain human communities, such as the Parsi, that have sky burials where the human dead are put on the top of Towers of Silence where vultures eat and clean the bodies and leave only dry bones.

Meloxicam – another NSAID similar to diclofenac – has been found to be harmless to vultures and should prove to be an acceptable alternative. The Government of India has banned diclofenac, but it continues to be sold over a year later.

Vultures in culture

Ancient Egypt

In Southern Africa, the name for a Nubian Vulture is synonymous with the term applied to lovers, because these vultures are always seen in pairs, mother and child remaining closely bonded together. Pairing, bonding, protecting, and loving are essential attributes associated with a vulture. The vulture was thought to be close to the gods who resided in the sky because of its immense size and its ability to soar high up in the sky. The Egyptians considered the vulture to be an excellent mother, and its wide wingspan was seen as allencompassing and providing a protective cover to its infants. The vulture hieroglyph

Western culture

In contrast to many other birds of prey, vultures have often been considered repulsive in Western culture, due to their association with death. Sensationalistic journalists looking for news about bloody crimes are sometimes called "vultures". Financial investors who look for indebted companies or countries to buy securities at low prices are known as vulture funds. Lawyers who profit off death, such as inheritance, wrongful death, or life insurance lawyers, may also be called "vultures". A prominent Spider-Man supervillain is known as the Vulture.

See also

"India's Vultures Fall Prey to a Drug in the Cattle They Feed On", New York Times, Amelia Gentleman, March 28, 2006.

Oology

Oology, or **oölogy** is the branch of zoology that deals with the study of <u>eggs</u>, especially <u>birds'</u> eggs. It can also be applied to the hobby of collecting wild birds' eggs (which is now illegal in many jurisdictions). Oology includes the study of the breeding habits of birds, and the study of their nests. (The study of birds' nests is sometimes called caliology).

Birds' eggs are conveniently classified as marked or unmarked, according to the ground color. Birds which lay their eggs in holes in trees or in the ground almost always have white, unspotted eggs. Birds which build in trees generally have blue or greenish eggs, either spotted or unspotted, while birds that build in bushes, near the ground, are likely to lay speckled eggs.

Publications

Thomas Mayo Brewer, (1814-80), an American ornithologist, wrote most of the biographical sketches in the *History of North American Birds*, by Baird, Brewer, and Ridgway (1874-84). He has been called "the father of American oölogy". He wrote *North American Oölogy* which was partially-published in 1857.

T. G. Gentry, *Nests and Eggs of the Birds of the United States*, (Philadelphia, 1885). Oliver Davie, *Nests and Eggs of North American Birds*, (fifth edition, Columbus, 1898). William Chapman Hewitson, *Illustrations of Eggs of British Birds*, (third edition, London, 1856).

Alfred Newton, Dictionary of Birds, (New York, 1893-96).

See also

ornithology Egg (biology)

Egg

In most <u>birds</u> and <u>reptiles</u>, an **egg** (Latin *ovum*) is the zygote, resulting from fertilization of the ovum. It nourishes and protects the embryo. **Oviparous** animals are animals that lay eggs, with little or no other development within the mother. This is the reproductive method of many <u>fish</u>, amphibians and reptiles, all birds, the monotremes, and most insects and arachnids.

Reptile eggs, bird eggs, and monotreme eggs, which are laid out of water, are surrounded by a protective shell, either flexible or inflexible.

The 1.5 kg <u>ostrich</u> egg contains the largest existing single cell currently known, though the extinct Aepyornis and some dinosaurs had larger eggs. The bee hummingbird produces the smallest known bird egg, which weighs half a gram. The eggs laid by some reptiles and most fish are even smaller, and those of insects and other invertebrates are much smaller still.

The study or collecting of eggs, in particular bird eggs, is called <u>oology</u>.

- 1 Bird eggs
- 1.1 Shell structure
- **1.2 Shape**
- 1.3 Predation
- 2 Fish eggs
- 3 Mammal eggs
- 4 Reptile eggs
- 5 Amphibian eggs
- 6 References
- 7 See also

Bird eggs

Usually after fertilization, the bird egg is laid by the female and is incubated for a time that varies according to the species; then a single young hatches from each egg. Average clutch sizes range from one (as in <u>condors</u>) to about 17 (the Grey Partridge). Some birds lay

eggs even when not fertilized, and it is not uncommon for pet owners to find their lone bird nesting on a clutch of infertile eggs.

Shell structure

Eggs are usually smooth, but there are exceptions. A <u>cormorant</u>'s egg, for example, is quite rough and is very chalky. In contrast, tinamous have very shiny eggs, and <u>ducks</u> have oily and waterproof eggs. Another variation is the very heavily pitted eggs of <u>cassowaries</u>.

There are tiny pores in the shells of eggs to allow the unborn animal to breathe. The domestic hen's egg has around 7500 pores.

Shape

Most bird eggs have an oval shape, with one end rounded and the other more pointy. This shape results from the egg being forced through the oviduct. Muscles contract the oviduct behind the egg, pushing it forward. The egg's wall is still shapeable, and the pointy end develops at the back side. Highly conical eggs are often seen in cliff-nesting birds. They are less likely to roll off, tending instead to roll around in a tight circle, and thus are believed to have been selected for by evolution. In contrast many hole nesting birds have nearly spherical eggs.

Predation

There are numerous animals that feed on eggs. Principal predators of the Black Oystercatcher's eggs, for example, include raccoons, skunks, mink, river and sea otters, gulls, crows and foxes.

The Stoat (Mustela erminea) and Long-tailed Weasel (M. frenata) steal ducks' eggs. Other mammals, like humans, also eat bird eggs. The egg-eating snakes (genera Dasypeltis and Elachistodon) specialize in eating eggs.

Brood parasitism also occurs in birds when one species lays its eggs in the nest of another. In some cases, the host's eggs are removed or eaten by the female, or expelled by her chick. Brood parasites include the cowbirds and many Old World cuckoos, most famously the Common Cuckoo.

References

Marine Biology notes from School of Life Sciences, Napier University.

<u>Speckles Make Bird Eggs Stronger, Study Finds</u> John Pickrell, National Geographic News, 11 Oct 2005.

Andrew Gosler, Yet even more ways to dress eggs in British Birds, vol 99 no 7, July 2006

See also

Egg

<u>Oology</u> - the study or collecting of eggs.

Ornithology

Ornithology (from the Greek *ornis* = bird and *logos* = word/science) is the branch of zoology concerned with the scientific study of <u>birds</u>. Several aspects of the study of ornithology differ from closely related disciplines, perhaps because of the high visibility and the aesthetic appeal of birds. Most marked among these is the extent of field studies undertaken by amateur volunteers working within the parameters of strict scientific methodology.

1 Fields of study

3 National associations and societies

3.1 Africa

3.2 Asia

3.3 Europe

3.4 North America

3.5 Oceania

3.6 South America

4 Publications and magazines

6 See also

Fields of study

The areas of study that are included under ornithology are numerous and no list can attempt to be exhaustive. The following is a broad classification of some of the fields within contemporary ornithology.

Field Ornithology

Ecological studies

Studies of individuals

Studies of populations

Studies of communities

Behavioral studies

Laboratory Ornithology

Physiological studies

Genetic studies

The techniques used in ornithology are varied and changing. Early ornithological studies were based on specimen shooting and skins. Ornithology has subsequently become largely observation based. Optical instruments have been very important in ornithology; however approaches such as the use of radar and radio tracking are also used. Use of ringing and other marking techniques have helped in studies of migration and behavior.

Birds have served as important model organisms in the evolution of modern biological ideas. Key ideas include that of speciation, as noted by Charles Darwin from his observation of the <u>finches</u> on the Galapagos Islands. The first attempt to formally define the concept of biological species was also developed using birds as model organisms by Ernst Mayr. Birds

have also been the subject of numerous evolutionary studies that have helped in understanding the plasticity of species and the limitations of attempts to define species.

Many advances in ecology have also been made based on the study of birds. These include theories of island biogeography, models of extinction and species-area relationships.

Birds have also served as models for behavioural studies including studies of mate selection, territoriality, foraging behaviour and parental investment. Other aspects of special interest include their ability to navigate in migrations.

National associations and societies

Africa

South Africa

Asia

India

Bombay Natural History Society (BNHS): Located at Mumbai (formerly Bombay), the oldest non-government Organization in the area of natural history in the Indian subcontinent. Salim Ali Centre for Ornithology and Natural History (SACON) Located near Coimbatore. Zoological Survey of India, Calcutta. The government department meant to document and study the fauna of India.

Iapan

The Ornithological Society of Japan (OSJ) - [1]
Wild Bird Society of Japan (WBSJ) - [2]
Japanese Society for Preservation of Birds (JSPB) - [3]
Yamashina Institute for Ornithology - [4]

Europe

Estonia

Estonian Ornithological Society - [5]

Ireland

Bird Watch Ireland

Lithuania

Lithuanian Ornithological Society - [6]

Slovenia

Society for Observation and Study of Birds of Slovenia (*Društvo za opazovanje in prou evanje ptic Slovenije*) (DOPPS)

United Kingdom
British Ornithologists' Club
British Ornithologists' Union
British Trust for Ornithology (BTO)
The British Birds Rarities Committee
The Rare Birds Breeding Panel (RBBP)
Royal Society for the Protection of Birds (RSPB)
Wildfowl and Wetlands Trust (WWT)

North America

Canada

Bird Studies Canada

The Society of Canadian Ornithologists - Société des ornithologistes du Canada

USA

The Ornithological Council

American Birding Association

American Ornithologists' Union (AOU)

Association of Field Ornithologists

Cooper Ornithological Society

National Audubon Society

Wilson Ornithological Society

Pacific Seabird Group

Raptor Research Foundation

The Water bird Society

Mexico

<u>CIPAMEX</u>, La Sección Mexicana del Consejo Internacional para la Preservación de las Aves, A.C.

Oceania

Australia

Birds Australia

New Zealand

Ornithological Society of New Zealand

Royal Forest and Bird Protection Society of New Zealand

South America

Brazil

Brazilian Ornithological Records Committee - CBRO

Brazilian Ornithological Society - SBO

Publications and magazines

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Acrocephalus, DOPPS (Slovenia)
Ardeola, Sociedad Española de Ornitología (Spain) - [7]
Audubon Magazine (USA) - [8]
The Auk, American Ornithologists' Union (USA) - Post-1999 volumes [9]; complete volumes
1-116 (1884-1999) as free DiVu and PDF files at SORA [10]
BirdingASIA (formerly OBC Bulletin), Oriental Bird Club - [11], OBC Bulletin [12]
Bird Study (UK) - [13]
Birds & Blooms - [14]
British Birds (UK)
Bulletin of the British Ornithologists' Club (UK) - [15]
The Condor, Cooper Ornithological Society (USA) - Post-2000 volumes [16]; complete
volumes 1-102 (1899-2000) as free DjVu and PDF files at SORA [17]
'Elepaio, Hawaii Audubon Society (USA) - Free full-text access to last 2 volumes [18]
Emu, Royal Australasian Ornithologists Union (Australia) - [19]
Forktail, Oriental Bird Club - [20]
Hirundo (Estonia) - [21]
Ibis, British Ornithologists Union (UK) - [22]
Irish Birds (Ireland)
Journal of Avian Biology, Nordic Society Oikos [23]
The Journal of Field Ornithology, Association of Field Ornithologists (USA) - Complete
volumes 51-70 (1980-1999) and predecessor publication Bird-Banding as free DiVu and PDF
files at SORA [24]
Iapanese Journal of Ornithology (Japan) - [25]
Journal of the Yamashina Institute for Ornithology (Japan) - [26]
Kukila (Bulletin of the Indonesian Ornithological Society) - [27]
Marine Ornithology - Free full-text access to volumes 16 and later (1988-present) [28]
Ostrich (South Africa)
Ornithos (France) - [29]
Revista Brasileira de Ornitologia, SBO (Brasil) - [30]
Revista Ornitología Colombiana, ACO (Colombia) - Free full-text access [31]
Te Manu, Société d'Ornithologie de Polynésie - Free back issues [32]
The Wilson Bulletin, Wilson Ornithological Society (USA) - Complete volumes 1-111 (1889-
1999) as free DiVu and PDF files at SORA [33]
Handbook of the Birds of the World, Volumes 1-16 [34]
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See also

Bird migration Birdwatching

Poultry

Poultry is the class of domesticated fowl (birds) used for food or for their eggs. These most typically are members of the orders Galliformes (such as <u>chickens</u> and turkeys), and Anseriformes (waterfowl such as <u>ducks</u> and <u>geese</u>).

The word *poultry* is often used to refer to the meat of these birds. In a more general sense, it may refer to the meat of other birds, such as <u>pigeons</u> or <u>doves</u>, or game birds like <u>pheasants</u>.

Cuts of poultry

The meatiest parts of a bird are the flight muscles on its chest, called **breast** meat, and the walking muscles on the first and second segments of its legs, called the **thigh** and **drumstick** respectively.

In chickens and turkeys, the flight muscles, not adapted for sustained use, have less oxygen-carrying myoglobin than the walking muscles, and are thus lighter in color. This is the distinction between "white meat" and "dark meat". Waterfowl are adapted for sustained flight, and their breast meat is dark.

Seabird

Seabirds are <u>birds</u> that have adapted to life in the marine environment. Whilst seabirds vary greatly in lifestyle, behaviour and physiology, they often exhibit striking convergent evolution, as the same environmental problems and feeding niches have resulted in similar adaptations. The first seabirds evolved in the Cretaceous, and modern seabird families emerged in the Paleogene.

Seabirds live longer, breed later and have fewer young than other birds do, but they invest a great deal of time in those young that they do have. Most species nest in colonies, which can vary in size from a few dozen birds to many millions. They are famous for undertaking long annual <u>migrations</u>, crossing the equator or circumnavigating the Earth in some cases. They feed both at the ocean's surface and below it, and even feed on each other. Seabirds can be highly pelagic, coastal, or in some cases spend a part of the year away from the sea entirely.

Seabirds and humans have a long history together: they have provided food to hunters, guided fishermen to fishing stocks and led sailors to land. Many species are currently threatened by human activities, and conservation efforts are underway.

- 1 Classification of species as seabirds
- 2 Evolution and fossil record
- 3 Characteristics
- 3.1 Adaptations to life at sea
- 3.2 Diet and feeding
- 3.2.1 Surface feeding
- 3.2.2 Pursuit diving
- 3.2.3 Plunge diving
- 3.2.4 Kleptoparasitism, scavenging and predation
- 3.3 Life history
- 3.4 Breeding and colonies
- 3.5 Migration
- 3.6 Away from the sea
 - 4 Relationship with humans
- 4.1 Seabirds and fisheries
- 4.2 Exploitation
- 4.3 Other threats
- 4.4 Conservation
- 4.5 Role in culture
 - 5 Seabird families
 - 6 References

Classification of species as seabirds

There exists no one definition of which groups, families and species are seabirds, and most definitions are in some way arbitrary. In the words of two seabird scientists, "The one common characteristic that all seabirds share is that they feed in saltwater; but, as seems to be true with any statement in biology, some do not." However, by convention all of the penguins and procellariiformes, all of the Pelecaniformes except the darters, and some of the Charadriiformes (the skuas, gulls, terns, auks and skimmers) are classified as seabirds. The phalaropes are usually included as well, since although they are waders ("shorebirds" in North America), two of the three species are oceanic for nine months of the year, crossing the equator to feed pelagically.

Loons and grebes, which nest on lakes but winter at sea, are usually categorised as water birds, not seabirds. Although there are a number of sea ducks in the family *Anatidae* which are truly marine in the winter, by convention they are usually excluded from the seabird grouping. Many waders (or shorebirds) and herons are also highly marine, living on the sea's edge, but are also not treated as seabirds.

Evolution and fossil record

Seabirds, by virtue of living in a geologically depositional environment (that is, in the sea where sediments are readily laid down), are well represented in the fossil record.[1] They are first known to occur in the Cretaceous era, the earliest being the Hesperornithiformes, like Hesperornis regalis, a flightless loon-like seabird that dove in a similar fashion to grebes and loons (using its feet to move underwater) but had a beak filled with sharp teeth.

While *Hesperornis* is not thought to have left descendants, the earliest extant seabirds also occurred in the Cretaceous, with a species called Tytthostonyx glauconiticus, which has been placed in the Procellariiformes. In the Paleogene the seas were dominated by early Procellariidae, giant penguins and two extinct families, the Pelagornithidae and the Plotopteridae (a group of large seabirds that looked like the penguins).[4] Modern genera began their wide radiation in the Miocene, although the genus Puffinus (which includes today's Manx Shearwater and Sooty Shearwater) dates back to the Oligocene.[1] The highest diversity of seabirds apparently existed during the Late Miocene and the Pliocene. At the end of the latter, the oceanic food web had undergone a period of upheaval due to extinction of considerable numbers of marine species; subsequently, the spread of marine mammals seems to have prevented seabirds from reaching their erstwhile diversity.

Characteristics

Adaptations to life at sea

Seabirds have made numerous adaptations to living on and feeding in the sea. Wing morphology has been shaped by the niche an individual species or family has evolved, so that looking at a wing's shape and loading can tell a scientist about its life feeding behaviour. Longer wings and low wing loading are typical of more pelagic species, whilst diving species have shorter wings.[7] Species such as the Wandering Albatross, which forage over huge areas of sea, have a reduced capacity for powered flight and are dependent on a type of gliding called dynamic soaring (where the wind deflected by waves provides lift) as well as slope soaring.[8] Seabirds also almost always have webbed feet, to aid movement on the surface as well as assisting diving in some species. The Procellariiformes are unusual amongst birds in having a strong sense of smell (olfaction), which is used to find widely distributed food in a vast ocean, and possibly to locate their colonies.

Salt glands are used by seabirds to deal with the salt they ingest by drinking and feeding (particularly on crustaceans), and to help them osmoregulate.[10] The excretions from these glands (which are positioned in the head of the birds, emerging from the nasal cavity) are almost pure NaCl.

With the exception of the <u>cormorants</u> and some terns, and in common with most other birds, all seabirds have waterproof <u>plumage</u>. However, compared to land birds, they have far more feathers protecting their bodies. This dense plumage is better able to protect the bird from getting wet, and cold is kept out by a dense layer of down feathers. The cormorants possess a layer of unique feathers that retain a smaller layer of air (compared to other diving birds) but otherwise soak up water.[11] This allows them to swim without fighting the buoyancy that retaining air in the feathers causes, yet retain enough air to prevent the bird losing excessive heat through contact with water.

The plumage of most seabirds is less colourful than that of land birds, restricted in the main to variations of black, white or grey. A few species sport colourful plumes (such as the tropicbirds or some penguins), but most of the colour in seabirds appears in the bills and legs. The plumage of seabirds is thought in many cases to be for camouflage, both defensive (the colour of US Navy battleships is the same as that of Antarctic Prions, and in both cases it reduces visibility at sea) and aggressive (the white underside possessed by many seabirds helps hide them from prey below).

Diet and feeding

Seabirds evolved to exploit different food resources in the world's seas and oceans, and to a great extent, their physiology and behaviour have been shaped by their diet. These evolutionary forces have often caused species in different families and even orders to evolve

similar strategies and adaptations to the same problems, leading to remarkable convergent evolution, such as that between <u>auks</u> and <u>penguins</u>. There are four basic feeding strategies, or ecological guilds, for feeding at sea: surface feeding, pursuit diving, plunge diving, and predation of higher vertebrates; within these guilds there are multiple variations on the theme.

Surface feeding

Many seabirds feed on the ocean's surface, as the action of marine currents often concentrates food such as krill, <u>fish</u>, squid or other prey items within reach of a dipped head.

Surface feeding itself can be broken up into two different approaches, surface feeding while flying (for example as practiced by gadfly petrels, frigate-birds and storm-petrels), and surface feeding whilst swimming (examples of which are practiced by fulmars, gulls, many of the shearwaters and gadfly petrels). Surface feeders in flight include some of the most acrobatic of seabirds, which either snatch morsels from the water (as do frigate-birds and some terns), or "walk", pattering and hovering on the water's surface, as some of the storm-petrels do.[12] Many of these do not ever land in the water, and some, such as the frigatebirds, have difficulty getting airborne again should they do so.[13] Another seabird family that does not land while feeding is the skimmer, which has a unique fishing method: flying along the surface with the lower mandible in the water—this shuts automatically when the bill touches something in the water. The skimmer's bill reflects its unusual lifestyle, with the lower mandible uniquely being longer than the upper one.

Surface feeders that swim often have unique bills as well, adapted for their specific prey. Prions have special bills with filters called lamellae to filter out plankton from mouthfuls of water, and many albatrosses and petrels have hooked bills to snatch fast-moving prey. Gulls have more generalised bills that reflect their more opportunistic lifestyle.

Pursuit diving

Pursuit diving exerts greater pressures (both evolutionary and physiological) on seabirds, but the reward is a greater area in which to feed than is available to surface feeders. Propulsion underwater can be provided by wings (as used by penguins, auks, diving petrels, and some other species of petrel) or feet (as used by cormorants, grebes, divers and several types of fish-eating ducks). Wing-propelled divers are generally faster than foot-propelled divers.[1] In both cases the use of wings or feet for diving has limited their utility in other situations: divers and grebes walk with extreme difficulty (if at all), penguins cannot fly, and auks have sacrificed flight efficiency in favour of underwater diving. For example, the razorbill (an Atlantic auk) requires 64% more energy to fly than a petrel of equivalent size.[15] Many shearwaters are intermediate between the two, having longer wings than typical wing-propelled divers but heavier wing loadings than the other surface-feeding procellariids, leaving them capable of diving to considerable depths while still being efficient long-distance travellers. The most impressive diving exhibited by shearwaters is found in the Short-tailed Shearwater, which has been recorded diving below 70 m.[16] Some albatross species are also capable of some limited diving, with Light-mantled Sooty

Albatrosses holding the record at 12 m.[127] Of all the wing-propelled pursuit divers, the most efficient in the air are the albatrosses, and it is no coincidence that they are the poorest divers. This is the dominant guild in polar and subpolar environments, as it is energetically inefficient in warmer waters. With their poor flying ability, many wing-propelled pursuit divers are more limited in their foraging range than other guilds, especially during the breeding season when hungry chicks need regular feeding.

Plunge diving

Gannets, boobies, tropicbirds, some terns and Brown Pelicans all engage in plunge diving, taking fast moving prey by diving into the water from flight. Plunge diving allows birds to use the energy from the momentum of the dive to combat natural buoyancy (caused by air trapped in plumage), and thus uses less energy than the dedicated pursuit divers, allowing them utilise more widely distributed food resources, for example, in impoverished tropical seas. In general, this is the most specialised method of hunting employed by seabirds; other non-specialists (such as gulls and skuas) may employ it but do so with less skill and from lower heights. In Brown Pelicans the skills of plunge diving take several years to fully develop—once mature, they can dive from 20 m (70 ft) above the water's surface, shifting the body before impact to avoid injury.[19] It has been suggested that plunge divers are restricted in their hunting grounds to clear waters that afford a view of their prey from the air,[20] and while they are the dominant guild in the tropics, the link between plunge diving and water clarity is inconclusive.[21] Some plunge divers (as well as some surface feeders) are dependent on dolphins and tuna to push shoaling fish up towards the surface.[22]

Kleptoparasitism, scavenging and predation

This catch-all category refers to other seabird strategies that involve the next trophic level up. Kleptoparasites are seabirds that make a part of their living stealing food of other seabirds. Most famously, frigate-birds and skuas engage in this behaviour, although gulls, terns and other species will steal food opportunistically.[23] The nocturnal nesting behaviour of some seabirds has been interpreted as arising due to pressure from this aerial piracy.[24] Kleptoparasitsim is not thought to play a significant part of the diet of any species, and is instead a supplement to food obtained by hunting.[1] A study of Great Frigatebirds stealing from Masked Boobies estimated that the frigatebirds could at most obtain 40% of the food they needed, and on average obtained only 5%.[25] Many species of gull will feed on seabird and sea mammal carrion when the opportunity arises, as will giant petrels. Some species of albatross also engage in scavenging: an analysis of regurgitated squid beaks has shown that many of the squid eaten are too large to have been caught alive, and include midwater species likely to be beyond the reach of albatrosses. Some species will also feed on other seabirds; for example, gulls, skuas and giant petrels will often take eggs, chicks and even small seabirds from nesting colonies.

Life history

Seabirds' life histories are dramatically different from those of land birds. In general, they are K-selected, live much longer (anywhere between 20 and 60 years), they delay breeding for longer (for up to 10 years), and invest more effort into fewer young.[1][28] Most species will only have one clutch a year, unless they lose the first (with a few exceptions, like the Cassin's Auklet),[29] and many species (like the tubenoses and <u>sulids</u>), only one egg a year.[14]

Care of young is protracted, extending for as long as six months, among the longest for birds. For example, once Common Guillemot chicks fledge, they remain with the male parent for several months at sea. [15] The frigatebirds have the longest period of parental care of any bird, with the chicks fledging after four to six months and with continued assistance after that for up to 14 months. [30] Due to the extended period of care, breeding occurs every two years rather than annually for some species. This life-history strategy has probably evolved both in response to the challenges of living at sea (collecting widely scattered prey items), the frequency of breeding failures due to unfavourable marine conditions, and the relative lack of predation compared to that of land-living birds. [1]

Because of the greater investment in raising the young and because foraging for food may occur far from the nest site, in all seabird species except the phalaropes, both parents participate in caring for the young, and pairs are typically at least seasonally monogamous. Many species, such as gulls, auks and penguins, retain the same mate for several seasons, and many petrel species mate for life. [14] The albatrosses and procellariids which mate for life can take many years to form a pair bond before they breed, and the albatrosses have an elaborate breeding dance that is part of pair-bond formation. [31]

Breeding and colonies

Ninety-five per cent of seabirds are colonial,¹¹¹ and seabird colonies are amongst the largest bird colonies in the world, providing one of Earth's great wildlife spectacles. Colonies of over a million birds have been recorded, both in the tropics (such as Kiritimati in the Pacific) and in the polar latitudes (as in Antarctica). Seabird colonies occur exclusively for the purpose of breeding; non-breeding birds will only collect together outside the breeding season in areas where prey species are densely aggregated.

Seabird colonies are highly variable. Individual nesting sites can be widely spaced, as in an albatross colony, or densely packed as with a murre colony. In most seabird colonies, several different species will nest on the same colony, often exhibiting some niche separation. Seabirds can nest in trees (if any are available), on the ground (with or without nests), on cliffs, in burrows under the ground and in rocky crevices. Competition can be strong both within species and between species, with aggressive species such as Sooty Terns pushing less dominant species out of the most desirable nesting spaces.[32] The tropical Bonin Petrel nests during the winter to avoid competition with the more aggressive Wedge-

tailed Shearwater. When the seasons overlap, the Wedge-tailed Shearwaters will kill young Bonin Petrels in order to use their burrows.[33]

Many seabirds show remarkable site fidelity, returning to the same burrow, nest or site for many years, and they will defend that site from rivals with great vigour.[1] This increases breeding success, provides a place for returning mates to reunite, and reduces the costs of prospecting for a new site.[34] Young adults breeding for the first time usually return to their natal colony, and often nest close to where they hatched. This tendency, known as philopatry, is so strong that a study of Laysan Albatrosses found that the average distance between hatching site and the site where a bird established its own territory was 22 m;[35] another study, this time on Cory's Shearwaters nesting near Corsica, found that of nine out of 61 male chicks that returned to breed at their natal colony bred in the burrow they were raised in, and two actually bred with their own mother.[36]

Colonies are usually situated on islands, cliffs or headlands which land mammals have difficulty accessing.[37] This is thought to provide protection to seabirds, which are often very clumsy on land. Coloniality often arises in types of bird which do not defend feeding territories (such as swifts, which have a very variable prey source); this may be a reason why it arises more frequently in seabirds.[1] There are other possible advantages: colonies may act as information centres, where seabirds returning to the sea to forage can find out where prey is by studying returning individuals of the same species. There are disadvantages to colonial life, particularly the spread of disease. Colonies also attract the attention of predators, principally other birds, and many species attend their colonies nocturnally to avoid predation.^[38]

Migration

Like many birds, seabirds often <u>migrate</u> after the breeding season. Of these, the trip taken by the Arctic Tern is the farthest of any bird, crossing the equator in order to spend the Austral summer in Antarctica. Other species also undertake trans-equatorial trips, both from the north to the south, and from south to north. The population of Elegant Terns, which nest off Baja California, splits after the breeding season with some birds travelling north to the coast of central California and some travelling as far south as Peru and Chile to feed in the Humboldt Current.[39] The Sooty Shearwater undertakes an annual migration cycle that rivals that of the Arctic Tern; birds that nest in New Zealand and Chile and spend the northern summer feeding in the North Pacific off Japan, Alaska and California, an annual round trip of 40,000 miles (64,000 km).[40]

Other species also migrate shorter distances away from the breeding sites, their distribution at sea determined by the availability of food. If oceanic conditions are unsuitable, seabirds will emigrate to more productive areas, sometimes permanently if the bird is young. [41] After fledging, juvenile birds often disperse further than adults, and to different areas, so are commonly sighted far from a species' normal range. Some species, such as the auks, do not have a concerted migration effort, but drift southwards as the winter

approaches.[15] Other species, such as some of the storm-petrels, diving petrels and <u>cormorants</u>, never disperse at all, staying near their breeding colonies year round.

Away from the sea

Whilst the definition of seabirds suggests that the birds in question spend their lives on the ocean, many seabird families have many species that spend some or even most of their lives inland away from the sea. Most strikingly, many species breed many tens, hundreds or even thousands of miles inland. Some of these species still return to the ocean to feed; for example, the Snow Petrel, the nests of which have been found 300 miles inland on the Antarctic mainland, are unlikely to find anything to eat around their breeding sites.[42] The Marbled Murrelet nests inland in old growth forest, seeking huge conifers with large branches to nest on.[43] Other species, such as the California Gull, nest and feed inland on lakes, and then move to the coasts in the winter.[44] Some cormorant, pelican, gull and tern species have individuals that never visit the sea at all, spending their lives on lakes, rivers, swamps and, in the case of some of the gulls, cities and agricultural land. In these cases it is thought that these terrestrial or freshwater birds evolved from marine ancestors.[7] Some seabirds, principally those that nest in tundra-like skuas and phalaropes, will migrate over land as well.

The more marine species, such as petrels, auks, and gannets, are more restricted in their habits, but are occasionally seen inland as vagrants. This most commonly happens to young inexperienced birds, but can happen in great numbers to exhausted adults after large storms, an event known as a wreck, [45] where they provide prized sightings for birders.

Relationship with humans

Seabirds and fisheries

Seabirds have had a long association with both fisheries and sailors, and both have drawn benefits and disadvantages from the relationship.

Fishermen have traditionally used seabirds as indicators of both fish shoals,[22] underwater banks that might indicate fish stocks, and of potential landfall. In fact, the known association of seabirds with land was instrumental in allowing the Polynesians to locate tiny landmasses in the Pacific.[1] Seabirds have provided food for fishermen away from home, as well as bait. Famously, tethered cormorants have been used to catch fish directly. Indirectly, fisheries have also benefited from guano from colonies of seabirds acting as fertiliser for the surrounding seas.

Negative effects on fisheries are mostly restricted to raiding by birds on aquaculture,[46] although long-lining fisheries also have to deal with bait stealing. There have been claims of prey depletion by seabirds of fishery stocks, and while there is some evidence of this, the

effects of seabirds are considered smaller than that of marine mammals and predatory fish (like tuna). \footnote{marine}

Some seabird species have benefited from fisheries, particularly from discarded fish and offal. These discards compose 30% of the food of seabirds in the North Sea, for example, and compose up to 70% of the total food of some seabird populations.[47] This can have other impacts; for example, the spread of the Northern Fulmar through the British Isles is attributed in part to the availability of discards.[48] Discards generally benefit surface feeders, such as gannets and petrels, to the detriment of pursuit divers like penguins.

Fisheries also have negative effects on seabirds, and these effects, particularly on the long-lived and slow-breeding <u>albatrosses</u>, are a source of increasing concern to conservationists. The bycatch of seabirds entangled in nets or hooked on fishing lines has had a big impact on seabird numbers; for example, an estimated 100,000 albatrosses are hooked and drown each year on tuna lines set out by long-line fisheries.[49] [50] Overall, many hundreds of thousands of birds are trapped and killed each year, a source of concern for some of the rarest species (for example, only 1,000 Short-tailed Albatrosses are known to still exist). Seabirds are also thought to suffer when overfishing occurs.

Exploitation

The hunting of seabirds and the collecting of seabird eggs have contributed to the declines of many species, and the extinction of several, including the Great Auk and the Spectacled Cormorant. Seabirds have been hunted for food by coastal peoples throughout history—one of the earliest instances known is in southern Chile, where archaeological excavations in middens has shown hunting of albatrosses, cormorants and shearwaters from 5000 BP.[51] This pressure has led to some species becoming extinct in many places; in particular, at least 20 species of an original 29 no longer breed on Easter Island. In the 19th century, the hunting of seabirds for fat deposits and feathers for the millinery trade reached industrial levels. Muttonbirding (harvesting shearwater chicks) developed as important industries in both New Zealand and Tasmania, and the name of one species, the Providence Petrel, is derived from its seemingly miraculous arrival on Norfolk Island where it provided a windfall for starving European settlers.[52] In the Falkland Islands, hundreds of thousands of penguins were harvested for their oil each year. Seabird eggs have also long been an important source of food for sailors undertaking long sea voyages, as well as being taken when settlements grow in areas near a colony. Eggers from San Francisco took almost half a million eggs a year from the Farallon Islands in the mid-19th century, a period in the islands' history from which the seabird species are still recovering.[53]

Both hunting and egging continue today, although not at the levels that occurred in the past, and generally in a more controlled manner. For example, the Mori of Stewart Island/Rakiura continue to harvest the chicks of the Sooty Shearwater as they have done for centuries, using traditional methods (called kaitiakitanga) to manage the harvest, but now work with the University of Otago in studying the populations. In Greenland, however, uncontrolled hunting is pushing many species into steep decline. [54]

Other threats

Other human factors have led to declines and even extinctions in seabird populations, colonies and species. Of these, perhaps the most serious are introduced species. Seabirds, breeding predominantly on small isolated islands, have lost many predator defence behaviours.[37] Feral cats are capable of taking seabirds as large as albatrosses, and many introduced rodents, such as the Pacific rat, can take eggs hidden in burrows. Introduced goats, cattle, rabbits and other herbivores can lead to problems, particularly when species need vegetation to protect or shade their young.[55] Disturbance of breeding colonies by humans is often a problem as well—visitors, even well-meaning tourists, can flush brooding adults off a colony leaving chicks and eggs vulnerable to predators.

The build-up of toxins and pollutants in seabirds is also a concern. Seabirds, being apex predators, suffered from the ravages of DDT until it was banned; among other effects, DDT was implicated in embryo development problems and the skewed sex ratio of Western Gulls in southern California.[56] Oil spills are also a threat to seabird species, as both a toxin and because the <u>feathers</u> of the birds become saturated by the oil, causing them to lose their waterproofing.[57] Oil pollution threatens species with restricted ranges or already depressed populations.

Conservation

The threats faced by seabirds have not gone unnoticed by scientists or the conservation movement. As early as 1903, Theodore Roosevelt was convinced of the need to declare Pelican Island in Florida a National Wildlife Refuge to protect the bird colonies (including the nesting Brown Pelicans),[58] and in 1909 he protected the Farallon Islands. Today many important seabird colonies are given some measure of protection, from Heron Island in Australia to Triangle Island in British Columbia.

Island restoration techniques, pioneered by New Zealand, enable the removal of exotic invaders from increasingly large islands. Feral cats have been removed from Ascension Island, Arctic Foxes from many islands in the Aleutians,[59] and rats from Campbell Island. The removal of these introduced species has led to increases in numbers of species under pressure and even the return of extirpated ones. After the removal of cats from Ascension Island, seabirds began to nest there again for the first time in over a hundred years.^[60]

Seabird mortality caused by long-line fisheries can be massively reduced by techniques such as setting long-line bait at night, dying the bait blue, setting the bait underwater, increasing the amount of weight on lines and by using bird scarers, and their deployment is increasingly required by many national fishing fleets. The international ban on the use of drift nets has also helped reduce the mortality of seabirds and other marine wildlife.

One of the Millennium Projects in the UK was the Scottish Seabird Centre, near the important bird sanctuaries on Bass Rock, Fidra and the surrounding islands. The area is

home to huge colonies of gannets, puffins, skuas and other seabirds. The centre allows visitors to watch live video from the islands as well as learn about the threats the birds face and how we can protect them, and has helped to significantly raise the profile of seabird conservation in the UK. Seabird tourism can provide income for costal communities as well as raise the profile of seabird conservation, for example the Northern Royal Albatross colony at Taiaroa Head in New Zealand attracts 40,000 visitors a year.

The plight of albatross and large seabirds, as well as other marine creatures, being taken as bycatch by long-line fisheries, has been addressed by a large number of NGOs (including BirdLife International and the RSPB). This led to the Agreement on the Conservation of Albatrosses and Petrels, a legally binding treaty designed to protect these threatened species, which has been ratified by eight countries as of 2006 (namely Australia, Ecuador, France, New Zealand, Peru, South Africa, Spain, and the United Kingdom). [62]

Role in culture

Many seabirds are little studied and poorly known, due to living far out to sea and breeding in isolated colonies. Some seabirds have made the break into popular consciousness, most particularly, the <u>albatrosses</u> and <u>gulls</u>. The albatrosses have been described as "the most legendary of birds", [63] and have a variety of myths and legends associated with them, and today it is widely considered unlucky to harm them, although the notion that sailors believed that is a myth. [64] This myth derives from Samuel Taylor Coleridge's famous poem, "The Rime of the Ancient Mariner", where a sailor is punished for harming an albatross by wearing the dead bird around his neck. Sailors did, however, consider it unlucky to touch a storm-petrel, especially one that has landed on the ship. [63]

Gulls are one of the most commonly seen seabirds, given their use of human-made habitats (such as cities and dumps) and their often fearless nature. They therefore also have made it into the popular consciousness, if only as the "flying rats" berated in Finding Nemo. They have been used metaphorically, as in Jonathan Livingston Seagull, by Richard Bach, or to denote a closeness to the sea, such as their use in the The Lord of the Rings, both in the insignia of Gondor, and therefore Númenor (used in the design of the film), and to call Legolas to, and across, the sea. Other species have also made an impact; pelicans have long been associated with mercy and altruism because of an early Western Christian myth that they split open their breast to feed their starving chicks.

Seabird families

The following are the groups of <u>birds</u> normally classed as seabirds. **Sphenisciformes** (Antarctic and southern waters; 16 species) Spheniscidae <u>penguins</u>

Procellariiformes (Tubenoses: pan-oceanic and pelagic; 93 species) Diomedeidae albatrosses

Procellariidae fulmars, prions, shearwaters, gadfly and other petrels

Pelacanoididae diving petrels

Hydrobatidae storm-petrels

Pelecaniformes (Worldwide; 57 species)

Pelecanidae pelicans

Sulidae gannets and boobies

Phalacrocoracidae cormorants

Fregatidae <u>frigatebirds</u>

Phaethontidae tropicbirds

Charadriiformes (Worldwide; 305 species, but only the families listed are classed as seabirds.)

Stercorariidae skuas

Laridae gulls

Sternidae terns

Rhynchopidae skimmers

Alcidae auks

For an alternative taxonomy of these groups, see also Sibley-Ahlquist taxonomy.

See also <u>list of birds</u>.

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Albatrosses

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Procellariiformes

Family: **Diomedeidae** G.R. Gray, 1840Genera: *Diomedea, Thalassarche, Phoebastria, Phoebetria* **Albatrosses**, of the biological family **Diomedeidae**, are large <u>seabirds</u> allied to the procellariids, storm-petrels and diving-petrels in the order Procellariiformes (the tubenoses). They range widely in the Southern Ocean and the North Pacific. They are absent from the North Atlantic, although fossil remains show they once occurred there too. Albatrosses are amongst the largest of <u>flying</u> birds, and the great albatrosses (genus *Diomedea*) have the largest wingspans of any extant birds. The albatrosses are usually regarded as falling into four genera, but there is disagreement over the number of species.

Albatrosses are highly efficient in the air, using dynamic soaring and slope soaring to cover great distances with little exertion. They feed on squid, fish and krill by either scavenging, surface seizing or diving. Albatrosses are colonial, nesting for the most part on remote oceanic islands, often with several species nesting together. Pair bonds between males and females form over several years, with the use of ritualised dances, and will last for the life of the pair. A breeding season can take over a year from laying to fledging, with a single egg laid in each breeding attempt.

Of the 21 species of albatrosses recognised by the IUCN, 19 are threatened with extinction. Numbers of albatrosses have declined in the past due to harvesting for feathers, but today the albatrosses are threatened by introduced species such as rats and feral cats that attack eggs, chicks and nesting adults; by pollution; by a serious decline in fish stocks in many regions largely due to overfishing; and by long-line fishing. Long-line fisheries pose the greatest threat, as feeding birds are attracted to the bait and become hooked on the lines and drown. Governments, conservation organisations and fishermen are all working towards reducing this by-catch.

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Albatross biology

Taxonomy and evolution

The albatrosses comprise between 13 and 24 species (the number of species is still a matter of some debate, 21 being the most commonly accepted number) in 4 genera. The four genera are the great albatrosses (Diomedea), the mollymawks (Thalassarche), the North Pacific albatrosses (Phoebastria), and the sooty albatrosses or sooties (*Phoebetria*). Of the four genera, the North Pacific albatrosses are considered to be a sister taxon to the great albatrosses, while the sooty albatrosses are considered closer to the mollymawks.

The taxonomy of the albatross group has been a source of a great deal of debate. The Sibley-Ahlquist taxonomy places seabirds, <u>birds of prey</u> and many others in a greatly enlarged order Ciconiiformes, whereas the ornithological organisations in North America, Europe, South Africa, Australia and New Zealand retain the more traditional order Procellariiformes. The albatrosses can be separated from the other Procellariiformes both genetically and through morphological characteristics, size, their legs and the arrangement of their nasal tubes (*see Morphology and flight*).

Within the family the assignment of genera has been debated for over a hundred years. Originally placed into a single genus, *Diomedea*, they were rearranged by Reichenbach into four different genera in 1852, then lumped back together and split apart again several times, acquiring 12 different genus names in total (though never more than eight at one time) by 1965 (*Diomedea*, *Phoebastria*, *Thalassarche*, *Phoebetria*, *Thalassageron*, *Diomedella*, *Nealbutrus*, *Rhothonia*, *Julietata*, *Galapagornis*, *Laysanornis*, and *Penthirenia*).

By 1965, in an attempt to bring some order back to the classification of albatrosses, they were lumped into two genera, *Phoebetria* (the sooty albatrosses which most closely seemed to resemble the procellarids and were at the time considered "primitive") and *Diomedea* (the rest). Though there was a case for the simplification of the family (particularly the nomenclature), the classification was based on the morphological analysis of Elliott Coues in 1866, and paid little attention to more recent studies and even ignored some of Coues's suggestions.

More recent research by Gary Nunn of the American Museum of Natural History (1996) and other researchers around the world studied the mitochondrial DNA of all 14 accepted species, finding that there were four, not two, monophyletic groups within the albatrosses.[2] They proposed the resurrection of two of the old genus names, Phoebastria for the North Pacific albatrosses and Thalassarche for the mollymawks, with the great albatrosses retaining Diomedea and the sooty albatrosses staying in Phoebetria. Both the British Ornithologists' Union and the South African authorities split the albatrosses into four genera as Nunn suggested, and the change has been accepted by the majority of researchers.

While there is some agreement on the number of genera, there is less agreement on the number of species. Historically, up to 80 different taxa have been described by different

researchers; most of these were incorrectly identified juvenile birds. Based on the work on albatross genera, Robertson and Nunn went on in 1998 to propose a revised taxonomy with 24 different species, compared to the 14 then accepted. This interim taxonomy elevated many established subspecies to full species, but was criticised for not using, in every case, peer reviewed information to justify the splits. Since then further studies have in some instances supported or disproved the splits; a 2004 paper analysing the mitochondrial DNA and microsatellites agreed with the conclusion that the Antipodean Albatross and the Tristan Albatross were distinct from the Wandering Albatross, per Robertson and Nunn, but found that the suggested Gibson's Albatross, Diomedea gibsoni, was not distinct from the Antipodean Albatross.[5] For the most part, an interim taxonomy of 21 species is accepted by the IUCN and many other researchers, though by no means all — in 2004 Penhallurick and Wink called for the number of species to be reduced to 13 (including the lumping of the Amsterdam Albatross with the Wandering Albatross), all although this paper was itself controversial (including the issue).

Sibley and Ahlquist's molecular study of the evolution of the bird families has put the radiation of the Procellariiformes in the Oligocene period (35–30 million years ago), though this group probably originated earlier, with a fossil sometimes attributed to the order, a seabird known as Tytthostonyx, being found in late Cretaceous rocks (70 mya). The molecular evidence suggests that the storm-petrels were the first to diverge from the ancestral stock, and the albatrosses next, with the procellarids and diving petrels separating later. The earliest fossil albatrosses were found in Eocene to Oligocene rocks, although some of these are only tentatively assigned to the faimly and none appear to be particularly close to the living forms. They are Murunkus (Middle Eocene of Uzbekistan), Manu (early Oligocene of New Zealand), and an undescribed from from the Late Oligocene of South Carolina. Similar to the last was Plotornis, formerly often considered a petrel but now accepted as an albatross. It is from the Middle Miocene of France, a time when the split between the four modern genera was already underway as evidenced by Phoebastria californica and Diomedea milleri, both being mid-Miocene species from Sharktooth Hill, California. These show that the split between the great albatrosses and the North Pacific albatrosses occurred by 15 mya. Similar fossil finds in the southern hemisphere put the split between the sooties and mollymawks at 10 mya.[8] The fossil record of the albatrosses in the northern hemisphere is more complete than that of the southern, and many fossil forms of albatross have been found in the North Atlantic, which today has no albatrosses. The remains of a colony of Short-tailed Albatrosses have been uncovered on the island of Bermuda,[9] and the majority of fossil albatrosses from the North Atlantic have been of the genus Phoebastria (the North Pacific albatrosses); one, Phoebastria anglica, has been found in deposits in both North Carolina and England. See the genus accounts for more data on fossil species.

Morphology and flight

The albatrosses are a group of large to very large <u>birds</u>; they are the largest of the procellariiformes. The <u>bill</u> is large, strong and sharp-edged, the upper mandible terminating in a large hook. This bill is composed of several horny plates, and along the sides are the two "tubes", long nostrils that give the order its name. The tubes of all albatrosses are along the sides of the bill, unlike the rest of the Procellariiformes where the tubes run along the top of the bill. These tubes allow the albatrosses to have an acute sense of smell, an unusual ability for birds. Like other Procellariiformes they use this olfactory ability while foraging in order to locate potential food sources.[10] The feet have no hind toe and the three anterior toes are completely webbed. The legs are strong for Procellariiformes, in fact, almost uniquely amongst the order in that they and the giant petrels are able to walk well on land.

The adult <u>plumage</u> of most of the albatrosses is usually some variation of dark upperwing and back, white undersides, often compared to that of a <u>gull</u>. Of these, the species range from the Southern Royal Albatross which is almost completely white except for the ends of the wings, to the Amsterdam Albatross which has an almost juvenile-like breeding plumage with a great deal of brown, particularly a strong brown band around the chest. Several species of mollymawks and North Pacific albatrosses have face markings like eye patches or have grey or yellow on the head and nape. Three albatross species, the Black-footed Albatross and the two sooty albatrosses, vary completely from the usual patterns and are almost entirely black (or dark grey in the case of the Light-mantled Sooty Albatross). Albatrosses take several years to get their full adult breeding plumage.

The wingspans of the largest great albatrosses (genus Diomedea) are the largest of any bird, exceeding 340 cm (over 11 feet), although the other species' wingspans are considerably smaller. The wings are stiff and cambered, with thickened streamlined leading edges. Albatrosses travel huge distances with two techniques used by many long-winged seabirds, dynamic soaring and slope soaring. Dynamic soaring enables them to minimise the effort needed by gliding across wave fronts gaining energy from the vertical wind gradient. Slope soaring is more straightforward: the albatross turns to the wind, gaining height, from where it can then glide back down to the sea. Albatross have high glide ratios, around 1:22 to 1:23, meaning that for every metre they drop, they can travel forward 22 metres. They are aided in soaring by a shoulder-lock, a sheet of tendon that locks the wing when fully extended, allowing the wing to be kept up and out without any muscle expenditure, a morphological adaptation they share with the giant petrels.

Albatrosses combine these soaring techniques with the use of predictable weather systems; albatrosses in the southern hemisphere flying north from their colonies will take a clockwise route, and those flying south will fly counterclockwise.[12] Albatrosses are so well adapted to this lifestyle that their heart rates while flying are close to their basal heart rate when resting. This efficiency is such that the most energetically demanding aspect of a foraging trip is not the distance covered, but the landings, take-offs and hunting they undertake having found a food source.[13] This efficient long-distance travelling underlies the albatross's success as a long-distance forager, covering great distances and expending little

energy looking for patchily distributed food sources. Their adaptation to gliding flight makes them dependent on wind and waves, however, as their long wings are ill-suited to powered flight and most species lack the muscles and energy to undertake sustained flapping flight. Albatrosses in calm seas are forced to rest on the ocean's surface until the wind picks up again. They also sleep while resting on the surface (and not while on the wing as is sometimes thought). The North Pacific albatrosses can use a flight style known as flap-gliding, where the bird progresses by bursts of flapping followed by gliding. When taking off, albatrosses need to take a run up to allow enough air to move under the wing to provide lift.

Distribution and range at sea

Most albatrosses range in the southern hemisphere from Antarctica to Australia, South Africa and South America. The exceptions to this are the four North Pacific albatrosses, of which three occur exclusively in the North Pacific, from Hawaii to Japan, California and Alaska; and one, the Waved Albatross, breeds in the Galapagos Islands and feeds off the coast of South America. The need for wind in order to glide is the reason albatrosses are for the most part confined to higher latitudes; being unsuited to sustained flapping flight makes crossing the doldrums extremely difficult. The exception, the Waved Albatross, is able to live in the equatorial waters around the Galapagos Islands because of the cool waters of the Humboldt Current and the resulting winds.

It is not known for certain why the albatrosses became extinct in the North Atlantic, although rising sea levels due to an interglacial warming period are thought to have submerged the site of a Short-tailed Albatross colony that has been excavated in Bermuda.[9] Some southern species have occasionally turned up as vagrants in the North Atlantic and can become exiled, remaining there for decades. One of these exiles, a Black-browed Albatross, returned to gannet colonies in Scotland for many years in a lonely attempt to breed.[15]

The use of satellite tracking is teaching scientists a great deal about the way albatrosses forage across the ocean in order to find food. They undertake no annual migration, but disperse widely after breeding, in the case of southern hemisphere species, often undertaking circumpolar trips.[16] There is also evidence that there is separation of the ranges of different species at sea. A comparison of the foraging niches of two related species that breed on Campbell Island, the Campbell Albatross and the Grey-headed Albatross, showed the Campbell Albatross primarily fed over the Campbell Plateau whereas the Grey-Headed Albatross fed in more pelagic, oceanic waters. Wandering Albatrosses also react strongly to bathymetry, feeding only in waters deeper than 1000 m (3281 feet); so rigidly did the satellite plots match this contour that one scientist remarked, "It almost appears as if the birds notice and obey a 'No Entry' sign where the water shallows to less than 1000 m".[8] There is also evidence of different ranges for the two sexes of the same species; a study of Tristan Albatrosses breeding on Gough Island showed that males foraged to the west of Gough and females to the east.

Diet

The albatross diet is dominated by cephalopods, fish and crustaceans, although they will also scavenge carrion and feed on other zooplankton.[12] It should be noted that for most species, a comprehensive understanding of diet is only known for the breeding season, when the albatrosses regularly return to land and study is possible. The importance of each of these food sources varies from species to species, and even from population to population; some concentrate on squid alone, others take more krill or fish. Of the two albatross species found in Hawaii, one, the Black-footed Albatross, takes mostly fish while the Laysan feeds on squid.

The use of dataloggers at sea that record ingestion of water against time (providing a likely time of feeding) suggest that albatross predominantly feed during the day. Analysis of the squid beaks regurgitated by albatrosses has shown that many of the squid eaten are too large to have been caught alive, and include mid-water species likely to be beyond the reach of albatross, suggesting that, for some species (like the Wandering Albatross), scavenged squid may be an important part of the diet. The source of these dead squid is a matter of debate; some certainly comes from squid fisheries, but in nature it primarily comes from the die-off that occurs after squid spawning and the vomit of squid-eating whales (sperm whales, pilot whales and Southern Bottlenose Whales). The diet of other species, like the Black-browed Albatross or the Grey-headed Albatross, is rich with smaller species of squid that tend to sink after death, and scavenging is not assumed to play a large role in their diet.

Until recently it was thought that albatross were predominantly surface feeders, swimming at the surface and snapping up squid and fish pushed to the surface by currents, predators or death. The deployment of capillary depth recorders, which record the maximum dive depth undertaken by a bird (between attaching it to a bird and recovering it when it returns to land), has shown that while some species, like the Wandering Albatross, do not dive deeper than a metre, some species, like the Light-mantled Sooty Albatross, have a mean diving depth of almost 5 m and can dive as deep as 12.5 m.[18] In addition to surface feeding and diving, they have now also been observed plunge diving from the air to snatch prey.[19]

Breeding

Albatrosses are colonial, usually nesting on isolated islands; where colonies are on larger landmasses, they are found on exposed headlands with good approaches from the sea in several directions, like the colony on the Otago Peninsula in Dunedin, New Zealand. Colonies vary from the very dense aggregations favoured by the mollymawks (Black-browed Albatross colonies on the Falkland Islands have densities of 70 nests per 100 m²) to the much looser groups and widely spaced individual nests favoured by the sooty and great albatrosses. All albatross colonies are on islands that historically were free of land mammals.

Albatrosses are highly philopatric, meaning they will usually return to their natal colony to breed. This tendency to return is so strong that a study of Laysan Albatross showed that the average distance between hatching site and the site where a bird established its own territory was 22 metres.[20]

Like most seabirds, albatrosses are K-selected with regard to their life history, meaning they live much longer than other birds, they delay breeding for longer, and invest more effort into fewer young. Albatrosses are very long lived; most species survive upwards of 50 years, the oldest recorded being a Northern Royal Albatross that was ringed as an adult and survived for another 51 years, giving it an estimated age of 61. [21] Given that most albatross ringing projects are considerably younger than that, it is thought likely that other species will prove to live that long and even longer.

Albatrosses reach sexual maturity slowly, after about five years, but even once they have reached maturity, they will not begin to breed for another couple of years (even up to 10 years for some species). Young non-breeders will attend a colony prior to beginning to breed, spending many years practicing the elaborate breeding rituals and "dances" that the family is famous for.[22] Birds arriving back at the colony for the first time already have the stereotyped behaviours that compose albatross language, but can neither "read" that behaviour as exhibited by other birds nor respond appropriately.[12] After a period of trial and error learning, the young birds learn the syntax and perfect the dances. This language is mastered more rapidly if the younger birds are around older birds.

The repertoire of behaviour involves synchronised performances of various actions such as preening, pointing, calling, bill clacking, staring, and combinations of such behaviours (like the sky-call).[23] When a bird first returns to the colony it will dance with many partners, but after a number of years the number of birds an individual will interact with drops, until one partner is chosen and a pair is formed. They then continue to perfect an individual language that will eventually be unique to that one pair. Having established a pair bond that will last for life, however, most of that dance will never be used ever again.

Albatrosses are thought to undertake these elaborate and painstaking rituals to ensure that the correct partner has been chosen and to perfect recognition of their partner, as egg laying and chick rearing is a huge investment. Even species that can complete an egg-laying cycle in under a year seldom lay eggs in consecutive years. The great albatrosses (like the Wandering Albatross) take over a year to raise a chick from laying to fledging. Albatrosses lay a single egg in a breeding season; if the egg is lost to predators or accidentally broken, then no further breeding attempts are made that year. The "divorce" of a pair is a rare occurrence, usually only happening after several years of breeding failure.

All the southern albatrosses create large nests for their egg, whereas the three species in the north Pacific make more rudimentary nests. The Waved Albatross, on the other hand, makes no nest and will even move its egg around the pair's territory, as much as 50 m, sometimes causing it to lose the egg.[24] In all albatross species, both parents incubate the egg in stints that last between one day and three weeks. Incubation lasts around 70 to 80 days (longer for the larger albatrosses), the longest incubation period of any bird. It can be an energetically demanding process, with the adult losing as much as 83 g of body weight a day.^[25]

After hatching, the chick is brooded and guarded for three weeks until it is large enough to defend and thermoregulate itself. During this period the parents feed the chick small meals when they relieve each other from duty. After the brooding period is over, the chick is fed in regular intervals by both parents. The parents adopt alternative patterns of short and long foraging trips, providing meals that weigh around 12% of their body weight (around 600 g). The meals are composed of both fresh squid, fish and krill, as well as stomach oil, an energy-rich food that is lighter to carry than undigested prey items. [26] This oil is created in a stomach organ known as a proventriculus from digested prey items by most tubenoses, and gives them their distinctive musty smell.

Albatross chicks take a long time to fledge. In the case of the great albatrosses, it can take up to 280 days; even for the smaller albatrosses, it takes anywhere between 140 and 170 days. Like many seabirds, albatross chicks will gain enough weight to be heavier than their parents, and prior to fledging they use these reserves to build up body condition (particularly growing all their flight feathers), usually fledging at the same weight as their parents. Albatross chicks fledge on their own and receive no further help from their parents, who return to the nest after fledging, unaware their chick has left. Studies of juveniles dispersing at sea have suggested an innate migration behaviour, a genetically coded navigation route, which helps young birds when they are first out at sea. [28]

Albatrosses and humans

Etymology

The name *albatross* is derived from the Arabic *al-câdous* or *al-!accs* (a <u>pelican</u>; literally, "the diver"), which travelled to English via the Portuguese form *alcatraz* ("gannet"). The OED notes that the word alcatraz was originally applied to the frigatebird; the modification to albatross was perhaps influenced by Latin *albus*, meaning "white", in contrast to frigatebirds which are black.[12] The Portuguese word *albatroz* is of English origin.

They were once commonly known as **Goonie birds** or **Gooney birds**, particularly those of the North Pacific. In the southern hemisphere, the name **mollymawk** is still well established in some areas, which is a corrupted form of *malle-mugge*, an old Dutch name for the Northern Fulmar. The name Diomedea, assigned to the albatrosses by Linnaeus, references the mythical metamorphosis of the companions of the Greek warrior Diomedes into birds.

Albatrosses and culture

Albatrosses have been described as "the most legendary of all birds".[27] An albatross is a central emblem in The Rime of the Ancient Mariner by Samuel Taylor Coleridge; a captive

albatross is also a metaphor for the poète maudit in a poem of Charles Baudelaire. It is from the former poem that the usage of albatross as a metaphor is derived; someone with a burden or obstacle is said to have 'an albatross around their neck', the punishment given in the poem to the mariner who killed the albatross. In part due to the poem, there is a widespread myth that sailors believe it disastrous to shoot or harm an albatross; in truth, however, sailors regularly killed and ate them,[15] but they were often regarded as the souls of lost sailors. More recently, they have become part of popular culture, for example, in a Monty Python sketch, or the song "Echoes" by Pink Floyd. In the movie Serenity, the character River was referred to as an albatross by The Operative, reflecting the widespread adoption of the word as a metaphor.

Albatrosses are popular birds for birdwatchers and their colonies popular destinations for ecotourists. Regular birdwatching trips are taken out of many costal towns and cities, like Monterey, Kaikoura, Wollongong and Sydney, to see pelagic seabirds, and albatrosses are easily attracted to these sightseeing boats by the deployment of fish oil into the sea. Visits to colonies can be very popular; the Northern Royal Albatross colony at Taiaroa Head in New Zealand attracts 40,000 visitors a year, and more isolated colonies are regular attractions on cruises to sub-Antarctic islands.

Threats and conservation

In spite of often being accorded legendary status, albatrosses have not escaped either indirect or direct pressure from humans. Early encounters with albatrosses by Polynesians and Aleut Indians resulted in hunting and in some cases extirpation from some islands (such as Easter Island). As Europeans began sailing the world, they too began to hunt albatross, "fishing" for them from boats to serve at the table or blasting them for sport.[29] This sport reached its peak on emigration lines bound for Australia, and only died down when ships became too fast to fish from, and regulations stopped the discharge of weapons for safety reasons. In the 19th century, albatross colonies, particularly those in the North Pacific, were harvested for the feather trade, leading to the near extinction of the Short-tailed Albatross.

Of the 21 albatross species recognised by IUCN on their Red List, 19 are threatened, and the other two are near threatened.[30] Two species (as recognised by the IUCN) are considered critically endangered: the Amsterdam Albatross and the Chatham Albatross. One of the main threats is commercial long-line fishing,[31] as the albatrosses and other seabirds which will readily feed on offal are attracted to the set bait become hooked on the lines and drown. An estimated 100,000 albatross per year are killed in this fashion. Unregulated pirate fisheries exacerbate the problem.

Another threat to albatrosses is introduced species, such as rats or feral cats, which directly attack the albatross or its chicks and eggs. Albatrosses have evolved to breed on islands where land mammals are absent and have not evolved defences against them. Even species as small as mice can be detrimental; on Gough Island the chicks of Tristan Albatrosses are attacked and eaten alive by introduced house mice that are almost 300 times smaller than they are.[32] Introduced species can have other indirect effects: cattle

overgrazed essential cover on Amsterdam Island threatening the Amsterdam Albatross; on other islands introduced plants reduce potential nesting habitat.

Ingestion of plastic flotsam is another problem, one faced by many seabirds. The amount of plastic in the seas has increased dramatically since the first record in the 1960s, coming from waste discarded by ships, offshore dumping, litter on beaches and waste washed to sea by rivers. It is impossible to digest and takes up space in the stomach or gizzard that should be used for food, or can cause an obstruction that starves the bird directly. Studies of birds in the North Pacific have shown that ingestion of plastics results in declining body weight and body condition.[33] This plastic is sometimes regurgitated and fed to chicks; a study of Laysan Albatross chicks on Midway Atoll showed large amounts of ingested plastic in naturally dead chicks compared to healthy chicks killed in accidents.[34] While not the direct cause of death, this plastic causes physiological stress and causes the chick to feel full during feedings, reducing its food intake and the chances of survival.

Scientists and conservationists (most importantly BirdLife International and their partners, who run the Save the Albatross campaign) are working with governments and fishermen to find solutions to the threats albatrosses face. Techniques such as setting long-line bait at night, dying the bait blue, setting the bait underwater, increasing the amount of weight on lines and using bird scarers can all reduce the seabird by-catch.[35] For example, a collaborative study between scientists and fishermen in New Zealand successfully tested an underwater setting device for long-liners which set the lines below the reach of vulnerable albatross species.[36] The use of some of these techniques in the Patagonian Toothfish fishery in the Falkland Islands is thought to have reduced the number of Blackbrowed Albatross taken by the fleet in the last 10 years.[37] Conservationists have also worked on the field of island restoration, removing introduced species that threaten native wildlife, which protects albatrosses from introduced predators.

One important step towards protecting albatrosses and other <u>seabirds</u> is the 2001 treaty the Agreement on the Conservation of Albatrosses and Petrels, which came into force in 2004 and has been ratified by eight countries, Australia, Ecuador, New Zealand, Spain, South Africa, France, Peru and the United Kingdom. The treaty requires these countries to take specific actions to reduce by-catch, pollution and to remove introduced species from nesting islands. The treaty has also been signed but not ratified by another three countries, Argentina, Brazil and Chile.

Species

Current thinking divides the albatrosses into four genera. The number of species is a matter of some debate. The IUCN and BirdLife International among others recognise the interim taxonomy of 21 extant species, other authorities retain the more traditional 14 species, and one recent paper proposed a reduction to 13:

Great albatrosses (*Diomedea*)
Wandering Albatross D. exulans
Antipodean Albatross D. (exulans) antipodensis
Amsterdam Albatross D. (exulans) amsterdamensis

Northern Royal Albatross D. (epomorpha) sanfordi Southern Royal Albatross D. epomophora North Pacific albatrosses (*Phoebastria*) Waved Albatross P. irrorata

Tristan Albatross D. (exulans) dabbenena

Short-tailed Albatross P. albatrus Black-footed Albatross P. nigripes

Laysan Albatross P. immutabilis

Mollymawks (Thalassarche)

Black-browed Albatross T. melanophris

Campbell Albatross T. (melanophris) impavida

Shy Albatross T. cauta

Chatham Albatross T. (cauta) eremita

Salvin's Albatross T. (cauta) salvini

Grey-headed Albatross T. chrysostoma

Atlantic Yellow-nosed Albatross T. chlororhynchos

Indian Yellow-nosed Albatross T. (chlororhynchos) carteri

Buller's Albatross T. bulleri

Sooty albatrosses (Phoebetria)

Dark-mantled Sooty Albatross P. fusca

Light-mantled Sooty Albatross P. palpebrata.

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Gannets

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Pelecaniformes

Family: Sulidae

Genus: Morus Linnaeus, 1753 Species: Morus bassanus, Morus capensis, Morus serrator

Gannets are seabirds in the <u>family Sulidae</u>, closely related to the boobies. The gannets are large black and white <u>birds</u> with long pointed wings and long bills. Northern gannets are the largest seabirds in the North Atlantic, with a wingspan of up to 2 meters. The other two species occur in the temperate seas around southern Africa and southern Australia and New Zealand.

Gannets hunt <u>fish</u> by diving from a height into the sea and pursuing their prey underwater. Gannets have a number of adaptations which enable them to do this: they have no external nostrils; they have air sacs in their face and chest under their skin which act like bubble-wrap, cushioning the impact with the water; their eyes are positioned far enough forward on their face to give them binocular vision, allowing them to accurately judge distances. Gannets can dive from a height of 30m, achieving speeds of 100 km/h as they strike the water, enabling them to catch fish much deeper than most airborne birds.

The gannet's supposed capacity for eating large quantities of <u>fish</u> has led to "gannet" becoming a disapproving description of somebody who eats excessively, similar to a glutton.

Mating and nesting

Gannets are colonial breeders on islands and coasts, which normally lay one chalky blue egg. It takes five years for gannets to reach maturity. First-year birds are completely black, and subsequent sub-adult plumages show increasing amounts of white.

The most important nesting ground for Northern gannets is the United Kingdom with about two thirds of the world's population. These live mainly in Scotland. The rest of the world's population is divided between Canada, Ireland, Faroe Islands and Iceland, with small numbers in France (they are often seen in the Bay of Biscay), the Channel Islands and Norway. The biggest Northern gannet colony is in the Scottish islands of St Kilda; this colony alone comprises 20% of the entire world's population. Bass Rock in the Firth of Forth is also famous for its large gannet population.

Systematics and evolution

The three gannet <u>species</u> are now usually placed in the genus *Morus*, Abbott's Booby in Papasula, and the remaining boobies in Sula, but some authorities consider that all nine sulid species should be considered congeneric, in *Sula*. At one time, the gannets were considered to be a single species.

Northern Gannet Morus bassanus or Sula bassana Cape Gannet Morus capensis or Sula capensis Australian Gannet Morus serrator or Sula serrator

Most fossil gannets are from the Late Miocene or Pliocene, a time when the diversity of <u>seabirds</u> in general was much higher than today. It is not completely clear what caused the decline in species at the end of the Pleistocene; increased competition due to the spread of marine mammals and/or supernova activity which led to mass extinctions of marine life are usually assumed to have played a role.

Interestingly, the genus *Morus* is much better documented in the fossil record than Sula, which on the other hand is more numerous today. The reasons are not clear; it might be that boobies were better-adapted or simply "lucky" to occur in the right places for dealing with the challenges of the Late Pliocene ecological change, or it could simply be that many more fossil boobies still await discovery. It is interesting to note, however, that gannets are today restricted to temperate oceans whereas boobies are also found in tropical waters, but that several of the prehistoric gannet species had a more equatorial distribution than their congeners of today.

Fossil species of gannets are:

Morus loxostylus (Early Miocene of EC USA)

Morus olsoni (Middle Miocene of Romania)

Morus lompocanus (Miocene of Lompoc, USA)

Morus vagabundus (Miocene of California)

Morus sp. (Temblor Late Miocene of Sharktooth Hill, USA)

Morus sp. 1 (Late Miocene/Early Pliocene of Lee Creek Mine, USA)

Morus sp. 2 (Late Miocene/Early Pliocene of Lee Creek Mine, USA)

Del Rey Gannet, *Morus reyanus* (Late Pleistocene of W USA)

Morus atlanticus - probably synonym of loxostylus

Morus magnus

Morus peninsularis

Morus peruvianus

Gulls

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Suborder: Lari

Family: Laridae Vigors, 1825Genera: Larus, Rissa, Pagophila, Rhodostethia, Xema, Creagus

Gulls are <u>birds</u> in the family Laridae. They are most closely related to the <u>terns</u> (family Sternidae), <u>auks</u> and skimmers, and more distantly to the <u>waders</u>. Most gulls belong to the large <u>genus</u> *Larus*.

They are in general medium to large <u>birds</u>, typically grey or white, often with black markings on the head or wings. They have stout, longish <u>bills</u> and webbed feet.

Most gulls, particularly *Larus* species, are ground nesting carnivores, which will take live food or scavenge opportunistically. The live food often includes crabs and small fish. Apart from the kittiwakes, gulls are typically coastal or inland species, rarely venturing far out to sea. The large species take up to four years to attain full adult plumage, but two years is typical for small gulls.

Gulls — the larger species in particular — are resourceful and highly-intelligent birds, demonstrating complex methods of communication and a highly-developed social structure. Certain species (e.g. the Herring Gull) have exhibited tool use behaviour. Many species of gull have learned to co-exist successfully with man and have thrived in human habitats. Others rely on Kleptoparasitism to get their food.

Two terms are in common usage among gull enthusiasts for subgroupings of the gulls: **Large white-headed gulls** for the 16 Herring Gull-like species from Great Black-backed Gull to Lesser Black-backed Gull in the taxonomic list below

White-winged gulls for the two Arctic-breeding species Iceland Gull and Glaucous Gull

Hybridisation between species of gull occurs quite frequently, although to varying degrees depending on the species involved (see Hybridisation in gulls). The taxonomy of the large white-headed gulls is particularly complicated.

In common usage, members of various gull species are often called *sea gulls* or *seagulls*. This name is used by laypeople to refer to a common local species or all gulls in general, and has no fixed taxonomic meaning.

1 Species list in taxonomic order 1.1 Family Laridae 3 Reference

Species list in taxonomic order

The American Ornithologists' Union combines Sternidae, Stercorariidae, and Rhynchopidae as subfamilies in the family Laridae.

Family Laridae

Genus Larus

Dolphin Gull, Larus scoresbii Pacific Gull, Larus pacificus Belcher's Gull, Larus belcheri Olrog's Gull, Larus atlanticus Black-tailed Gull, Larus crassirostris Grev Gull, Larus modestus Heermann's Gull, Larus heermanni White-eyed Gull, Larus leucophthalmus Sooty Gull, Larus hemprichii Common Gull or Mew Gull, Larus canus Audouin's Gull. Larus audouinii Ring-billed Gull, Larus delawarensis California Gull. Larus californicus Great Black-backed Gull. Larus marinus Kelp Gull, Larus dominicanus Glaucous-winged Gull, Larus glaucescens Western Gull. Larus occidentalis Yellow-footed Gull, Larus livens Glaucous Gull, Larus hyperboreus Iceland Gull, Larus glaucoides Thayer's Gull, Larus thayeri Herring Gull, Larus argentatus Heuglin's Gull, Larus heuglini American Herring Gull, Larus smithsonianus Yellow-legged Gull, Larus michahellis

Caspian Gull, Larus cachinnans
East Siberian Herring Gull, Larus vegae
Armenian Gull, Larus armenicus
Slaty-backed Gull, Larus schistisagus
Lesser Black-backed Gull, Larus fuscus
Great Black-headed Gull, Larus ichthyaetus
Brown-headed Gull, Larus brunnicephalus
Grey-headed Gull, Larus cirrocephalus
Hartlaub's Gull, Larus hartlaubii
Silver Gull, Larus novaehollandiae
Red-billed Gull, Larus scopulinus
Black-billed Gull, Larus bulleri
Brown-hooded Gull, Larus maculipennis
Black-headed Gull, Larus ridibundus

Slender-billed Gull, Larus genei
Bonaparte's Gull, Larus philadelphia
Saunders' Gull, Larus saundersi
Andean Gull, Larus serranus
Mediterranean Gull, Larus melanocephalus
Relict Gull, Larus relictus
Lava Gull, Larus fuliginosus
Laughing Gull, Larus atricilla
Franklin's Gull, Larus pipixcan
Little Gull, Larus minutus

Genus Rissa

Kittiwake or Black-legged Kittiwake, Rissa tridactyla Red-legged Kittiwake, Rissa brevirostris **Genus Pagophila** Ivory Gull, Pagophila eburnea **Genus Rhodostethia** Ross's Gull. Rhodostethia rosea

Genus Xema
Sabine's Gull, Xema sabini
Genus Creagrus

Swallow-tailed Gull, Creagrus furcatus

Reference

Olsen, Klaus Malling & **Larsson**, Hans (1995): *Terns of Europe and North America*. Christopher Helm, London. ISBN 0-7136-4056-1 Gull videos on the Internet Bird Collection

Larus

Scientific classification

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Laridae

Genus: Larus Linnaeus, 1758 species: Many, see list

Larus is a large genus of <u>seabirds</u> to which most <u>gulls</u> belong. It has a world-wide distribution, and many of its species are abundant and well-known birds in their ranges.

They are in general medium to large <u>birds</u>, typically grey or white, often with black markings on the head or wings. They have stout, longish <u>bills</u> and webbed feet.

The taxonomy of the large gulls in the Herring and Lesser Black-backed complex is very complicated, different authorities recognising between two and eight species.

List of species in taxonomic order

Dolphin Gull. Larus scoresbii Pacific Gull, Larus pacificus Belcher's Gull, Larus belcheri Olrog's Gull, Larus atlanticus Black-tailed Gull. Larus crassirostris Grey Gull, Larus modestus Heermann's Gull, Larus heermanni White-eved Gull, Larus leucophthalmus Sooty Gull, Larus hemprichii Common Gull or Mew Gull. Larus canus Audouin's Gull. Larus audouinii Ring-billed Gull, Larus delawarensis California Gull, Larus californicus Great Black-backed Gull, Larus marinus Kelp Gull, Larus dominicanus Glaucous-winged Gull, Larus glaucescens Western Gull, Larus occidentalis Yellow-footed Gull, Larus livens Glaucous Gull, Larus hyperboreus Iceland Gull, Larus glaucoides Thayer's Gull, Larus thayeri Herring Gull, Larus argentatus Heuglin's Gull, Larus heuglini American Herring Gull, Larus smithsonianus Yellow-legged Gull, Larus michahellis Caspian Gull, Larus cachinnans East Siberian Herring Gull, Larus vegae

Armenian Gull, Larus armenicus Slaty-backed Gull, Larus schistisagus Lesser Black-backed Gull. Larus fuscus Great Black-headed Gull, Larus ichthyaetus Brown-headed Gull, Larus brunnicephalus Grev-headed Gull, Larus cirrocephalus Hartlaub's Gull, Larus hartlaubii Silver Gull. Larus novaehollandiae Red-billed Gull, Larus scopulinus Black-billed Gull, Larus bulleri Brown-hooded Gull, Larus maculipennis Black-headed Gull, Larus ridibundus Slender-billed Gull, Larus genei Bonaparte's Gull, Larus philadelphia Saunders' Gull, Larus saundersi Andean Gull. Larus serranus Mediterranean Gull, Larus melanocephalus Relict Gull. Larus relictus Lava Gull, Larus fuliginosus Laughing Gull, Larus atricilla Franklin's Gull, Larus pipixcan Little Gull, Larus minutus

Ring species

A classic example of ring species is the Larus gulls circumpolar species ring. The range of these gulls forms a ring around the North Pole. The Herring gull, which lives primarily in Great Britain, can breed with the American Herring gull (living in North America), which can also breed with the Vega Herring gull, which can breed with Birula's gull, which can breed with Heuglin's gull, which can breed with the Siberian lesser black-backed gull (all four of these live across the top of Siberia), which can breed with the Lesser Black-backed Gull back in Northern Europe, including Great Britain. However, the Lesser Black-backed gull and Herring gull are sufficiently different that they cannot interbreed; thus the group of gulls forms a ring species. A recent genetic study has shown that this example is far more complicated than presented here. For more information about this, see "The herring gull complex is not a ring species", D Liebers, P de Knijff, AJ Helbig, *Biological Sciences*, 2004 Volume 271.

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Pterodroma

Gadfly Petrels

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Procellariiformes Family: Procellariidae

Genus: *Pterodroma* Bonaparte, 1856Species: About 35, see text.

The **gadfly petrels** are <u>seabirds</u> in the <u>bird</u> order Procellariiformes. These medium to large petrels feed on food items picked from the ocean surface.

The short, sturdy bills of the *Pterodroma* species in this group, about 35 altogether, are adapted for soft prey taken at the surface; they have twisted intestines for digesting marine animals which have unusual biochemistries.

Their complex wing and face marking are probably for interspecific recognition.

These <u>birds</u> nest in colonies on islands and are pelagic when not breeding. One white egg is laid usually in a burrow or on open ground. They are nocturnal at the breeding colonies.

Species

The taxonomy of the gadfly petrels is being reformed at the moment. Several genera have been split off over time, as they are closer to the procellarine and Puffinus shearwaters. Some subspecies have been raised to full species rank. The arrangement given here is traditional, but annotates the changes proposed by Austin (1998) and Bretagnolle *et al.* (1998). For the current taxonomy, see also Brooke (2004).

Genus Pterodroma

Barau's Petrel, Pterodroma baraui

Herald Petrel, Pterodroma arminjoniana

Juan Fernandez Petrel, Pterodroma externa

Kermadec Petrel, Pterodroma neglecta

Galapagos Petrel, Pterodroma phaeopygia

Hawaiian Petrel, Pterodroma sandwichensis

Henderson Petrel, Pterodroma atrata

Herald Petrel, Pterodroma heraldica

Phoenix Petrel, Pterodroma alba

Fea's Petrel, Pterodroma feae

Zino's Petrel or Madeira Petrel, Pterodroma madeira

Canary Islands Petrel, Pterodroma sp. (prehistoric) - possibly extirpated population of extant species

Soft-plumaged Petrel, Pterodroma mollis

Bermuda Petrel, Pterodroma cahow

Black-capped Petrel, Pterodroma hasitata

Jamaica Petrel, Pterodroma caribbaea (probably extinct)

Atlantic Petrel, Pterodroma incerta

White-headed Petrel, Pterodroma lessonii

Magenta Petrel, Pterodroma magentae

Great-winged Petrel, Pterodroma macroptera

Providence Petrel, Pterodroma solandri

Murphy's Petrel, Pterodroma ultima

Mottled Petrel, Pterodroma inexpectata

Pycroft's Petrel, Pterodroma pycrofti

Steineger's Petrel, Pterodroma longirostris

Collared Petrel, Pterodroma brevipes

Gould's Petrel, Pterodroma leucoptera

Mangareva Petrel, Pterodroma cf. leucoptera (possibly extinct)

Cook's Petrel, Pterodroma cookii

Mas a Tierra Petrel, Pterodroma defilippiana

Bonin Petrel, Pterodroma hypoleuca

White-necked Petrel, Pterodroma cervicalis

Falla's Petrel, Pterodroma occulta

Black-winged Petrel, Pterodroma nigripennis

Chatham Petrel. Pterodroma axillaris

Chatham Extinct Petrel, Pterodroma sp. (prehistoric)

Henderson Island Petrel, Pterodroma sp. (prehistoric)

O'ahu Petrel, Pterodroma jugabilis (prehistoric)

Now *Lugensa* (allied to *Puffinus*)

Kerguelen Petrel, Pterodroma brevirostris

Now *Pseudobulweria* (allied to *Puffinus*)

Fiji Petrel Pterodroma macgillivrayi

Tahiti Petrel. Pterodroma rostrata

Beck's Petrel, Pterodroma becki

Mascarene Petrel, Pterodroma aterrima

St Helena Petrel, Pterodroma rupinarum (extinct)

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Shearwaters

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Procellariiformes Family: Procellariidae

Genera: Procellaria, Calonectris, Puffinus

Shearwaters are medium-sized long-winged <u>seabirds</u>. There are more than 25 <u>species</u> of shearwaters, four large species in the <u>genus</u> Procellaria, three large species in the genus Calonectris, and 19 mostly smaller species in the genus Puffinus. Those in Procellaria are usually called "petrel", though they are thought to be more closely to the shearwaters than to the other petrels.

These birds are most common in temperate and cold waters. They are pelagic outside the breeding season.

These tubenose birds fly with stiff wings, and use a "shearing" flight technique to move across wave fronts with the minimum of active flight. Some small species, like Manx Shearwater are cruciform in flight, with their long wing held directly out from their bodies.

Many are long-distance migrants, perhaps most spectacularly Sooty Shearwaters, which cover distances in excess of 14,000 km from their breeding colony on the Falkland Islands (52°S 60°W) north to 65°-70°N in the North Atlantic Ocean off north Norway. Short-tailed Shearwaters perform an even longer "figure of 8" loop migration in the Pacific Ocean from Tasmania to as far north as the Arctic Ocean off northwest Alaska.

They are also extraordinarily long-lived. A Manx Shearwater breeding on Copeland Island, Northern Ireland, is currently (2003/2004) the oldest known wild bird in the world: ringed as an adult (at least 5 years old) in July 1953, it was retrapped in July 2003, at least 55 years old. Manx Shearwaters migrate over 10,000 km to South America in winter, using waters off southern Brazil and Argentina, so this bird has covered a *minimum* of 1,000,000 km on migration alone.

Shearwaters come to islands and coastal cliffs only to breed. They are nocturnal at the colonial breeding sites, preferring moonless nights. This is to minimise predation. They nest in burrows and often give eerie contact calls on their nighttime visits. They lay a single white egg.

They feed on fish, squid and similar oceanic food. Some will follow fishing boats to take scraps, notably Sooty Shearwater; these species also commonly follow whales to feed on fish disturbed by them.

Shearwaters are part of the <u>family</u> Procellariidae, which also includes fulmars, prions and petrels.

The Sibley-Ahlquist taxonomy gives a radically different scientific arrangement for this group based on DNA studies.

List of species

Genus Procellaria

Grey Petrel, P. cinerea

White-chinned Petrel, P. aequinoctialis

Black Petrel, P. parkinsoni

Westland Petrel, P. westlandica

Genus Calonectris

Streaked Shearwater, C. leucomelas

Cory's Shearwater, C. diomedea

Cape Verde Shearwater, C. edwardsii

Genus Puffinus

Wedge-tailed Shearwater, P. pacificus

Buller's Shearwater, P. bulleri

Flesh-footed Shearwater, P. carneipes

Pink-footed shearwater, P. creatopus

Great Shearwater, P. gravis

Sooty Shearwater, P. griseus

Short-tailed Shearwater or Mutton bird, P. tenuirostris

Heinroth's Shearwater, P. heinrothi

Christmas Shearwater, P. nativatis

Fluttering Shearwater, P. gavia

Hutton's Shearwater, P. huttoni

Manx Shearwater, P. puffinus

Yelkouan Shearwater, P. yelkouan

Balearic Shearwater, P. mauretanicus

Black-vented Shearwater, P. opisthomelas

Townsend's Shearwater, P. auriculatus

Hawaiian Shearwater, P. newelli

Audubon's Shearwater, P. lherminieri

North Atlantic Little Shearwater P. baroli

Little Shearwater, P. assimilis

Skuas

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: **Stercorariidae** Gray, 1871Genus: **Stercorarius** Brisson, 1760

The **skuas** are <u>seabirds</u> in the family **Stercorariidae**. The three smaller skuas are called **jaegers** in North America.

The name *skua* comes from Faroese *skúgvur* [ÈsgjgvŠy] (*Stercorarius skua*), and the island of Skúvoy is renown for its colony of that bird. Jaeger is derived from the German word *Jäger*, meaning *hunter*.

Skuas nest on the ground in temperate and arctic regions and are long-distance migrants. Outside the breeding season they take fish, offal and carrion. Many are partial kleptoparasites, chasing gulls, terns and other seabirds to steal their catches; the larger species also regularly kill and eat adult birds, up to the size of Great Black-backed Gulls. On the breeding grounds they commonly eat lemmings, and the eggs and young of other birds.

They are in general medium to large <u>birds</u>, typically with grey or brown plumage, often with white markings on the wings. They have longish bills with a hooked tip, and webbed feet with sharp claws. They look like large dark gulls, but have a fleshy cere above the upper mandible. They are strong, acrobatic fliers.

Skuas are related to gulls, waders, auks and skimmers. In the three smaller species (all Holarctic), breeding adults have the two central tail feathers obviously elongated and at least some adults have white on the underparts and pale yellow on the neck, characteristics that the larger species (all native to the Southern Hemisphere except for the Great Skua) do not share. Therefore the skuas are often split into two genera with only the smaller species retained in Stercorarius, and the large species placed in Catharacta. However, there is no genetic basis for this separation. The Pomarine and Great Skuas' mitochondrial DNA (which is inherited from the mother only) is in fact more closely related to each other than it is to either Arctic or Long-tailed Skuas, or to the Southern Hemisphere species. Thus, hybridization must have played a considerable role in the evolution of the diversity of Northern Hemisphere skuas.

"Skua" is also a slang term at American Antarctic research stations such as the McMurdo Station or the Amundsen-Scott South Pole Station. It is named for the bird, and it means to salvage or scavenge for equipment or gear.

Species

Long-tailed Skua or Long-tailed Jaeger, Stercorarius longicaudus Arctic Skua or Parasitic Jaeger, Stercorarius parasiticus Pomarine Skua or Pomarine Jaeger, Stercorarius pomarinus Chilean Skua, Stercorarius chilensis South Polar Skua, Stercorarius maccormicki Brown Skua, Stercorarius antarctica Great Skua Stercorarius skua

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Seabirds by Harrison, ISBN 0-7470-1410-8

Terns

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Suborder: Lari

Family: **Sternidae** Bonaparte, 1838Genera: *Anous, Procelsterna, Gygis, Onychoprion, Sternula,*

Phaetusa, Hydroprogne, Gelochelidon, Larosterna , Chlidonias, Thalasseus, Sterna z

Terns are <u>seabirds</u> in the family **Sternidae**, previously considered a subfamily (Sterninae) of the <u>gull</u> family Laridae (van Tuinen et al., 2004). They form a lineage with the gulls and skimmers which in turn is related to skuas and <u>auks</u>. Terns have a worldwide distribution.

Most terns were formerly treated as belonging into one large genus Sterna, with the other genera being small, but analysis of DNA sequences supports the splitting of *Sterna* into several smaller genera (see list, below) (del Hoyo *et al.*, 1996; Bridge *et al.* 2005; Collinson 2006).

Many terns breeding in temperate zones are long-distance <u>migrants</u>, and the Arctic Tern probably sees more daylight than any other creature, since it migrates from its northern breeding grounds to Antarctic waters. One Arctic Tern, ringed as a chick (not yet able to fly) on the Farne Islands off the Northumberland coast in eastern Britain in summer 1982, reached Melbourne, Australia in October 1982, a sea journey of over 22,000 km (14,000 miles) in just three months from fledging - an average of over 240 km per day, and one of the longest journeys ever recorded for a bird.

They are in general medium to large <u>birds</u>, typically with grey or white plumage, often with black markings on the head. They have longish bills and webbed feet. They are lighter bodied and more streamlined than gulls, and look elegant in flight with long tails and long narrow wings. Terns in the genus *Sterna* have deeply forked tails, those in *Chlidonias* and *Larosterna* shallowly forked tails, while the **noddies** (genera *Anous, Procelsterna, Gygis*) have unusual 'notched wedge' shaped tails, the longest tail feathers being the middle-outer, not the central nor the outermost.

Most terns (*Sterna* and the noddies) hunt fish by diving, often hovering first, but the marsh terns (*Chlidonias*) pick insects of the surface of fresh water. Terns only glide infrequently; a few species, notably Sooty Tern, will soar high above the sea. Apart from bathing, they only rarely swim, despite having webbed feet.

Terns are generally long-lived birds, with several species now known to live in excess of 25-30 years.

Classification and species list

A recent study (Thomas *et al.*, 2004) of part of the cyt b gene sequence found a closer relationship between terns and the Thinocori, some species of aberrant waders. These results are in disagreement with other molecular and morphological studies (see Paton &

Baker, 2006) and are best interpreted to prove an extraordinary amount of molecular convergent evolution between the terns and these waders, or as retention of an ancient genotype.

According the mtDNA studies and review by Bridge *et al* (2005), the genera and species of terns are as follows:

Genera *Anous, Procelsterna, Gygis* - noddies. A tropical group, characterised by the notchwedge shaped (not forked) tail; coastal and pelagic oceanic.

Brown Noddy Anous stolidus

Black Noddy Anous minutus

Lesser Noddy Anous tenuirostris

Blue Noddy Procelsterna cerulea

Grey Noddy Procelsterna albivitta

White Tern Gygis alba

Little White Tern Gygis microrhyncha

Genus *Onychoprion* - "brown-backed" terns

Grey-backed Tern Onychoprion lunata

Bridled Tern Onychoprion anaethetus

Sooty Tern Onychoprion fuscata

Aleutian Tern Onychoprion aleutica

Genus Sternula - little white terns

Fairy Tern Sternula nereis

Damara Tern Sternula balaenarum

Little Tern Sternula albifrons

Saunders's Tern Sternula saundersi (formerly considered a subspecies of Little Tern)

Least Tern Sternula antillarum (formerly considered a subspecies of Little Tern)

Yellow-billed Tern Sternula superciliaris

Peruvian Tern Sternula lorata

Genus *Phaetusa* - Large-billed Tern

Large-billed Tern *Phaetusa simplex*

Genus *Hydroprogne* - Caspian Tern

Caspian Tern Hydroprogne caspia

Genus *Gelochelidon* - Gull-billed Tern

Gull-billed Tern Gelochelidon nilotica

Genus Larosterna - Inca Tern

Inca Tern Larosterna inca

Genus *Chlidonias* - marsh terns

Black Tern Chlidonias niger

White-winged Tern or White-winged Black Tern Chlidonias leucopterus

Whiskered Tern Chlidonias hybridus

Black-fronted Tern Chlidonias albostriatus (ex-Sterna albostriata)

Genus *Thalasseus* - crested terns

Lesser Crested Tern Thalasseus bengalensis

Royal Tern Thalasseus maximus

Greater Crested Tern or Swift Tern, Thalasseus bergii

Chinese Crested Tern Thalasseus bernsteini

Elegant Tern Thalasseus elegans Sandwich Tern Thalasseus sandvicensis Genus Sterna - large white terns Forster's Tern Sterna forsteri Trudeau's Tern Sterna trudeaui Common Tern Sterna hirundo Roseate Tern Sterna dougallii White-fronted Tern Sterna striata Black-naped Tern Sterna sumatrana South American Tern Sterna hirundinacea Antarctic Tern Sterna vittata Kerguelen Tern Sterna virgata Arctic Tern Sterna paradisaea River Tern Sterna aurantia Black-bellied Tern Sterna acuticauda (possibly Chlidonias) White-cheeked Tern Sterna repressa (possibly Chlidonias)

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Shorebirds

Waders

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes Suborder: **Charadrii**

Families: Scolopacidae, Rostratulidae, Jacanidae, Thinocoridae, Pedionomidae, Burhinidae

, Chionididae, Pluvianellidae, Ibidorhynchidae, Recurvirostridae, Haematopodidae,

Charadriidae

Waders, called **Shorebirds** in North America (where "wader" is used to refer to long-legged wading <u>birds</u> such as <u>storks</u> and herons), are members of the order Charadriiformes, excluding the more marine web-footed <u>seabird</u> groups. The latter are the skuas (Stercoraracidae), <u>gulls</u> (Laridae), <u>terns</u> (Sternidae), skimmers (Rhynchopidae), and <u>auks</u> (Alcidae). Also, the pratincoles (Glareolidae) and the <u>Crab Plover</u> (Dromadidae), which look more similar to waders, are closely related to the seabirds.

This leaves about 210 species, most of which are associated with wetland or coastal environments. Many species of Arctic and temperate regions are strongly <u>migratory</u>, but tropical birds are often resident, or move only in response to rainfall patterns. Some of the Arctic species, such Little Stint are amongst the longest distance migrants, wintering in the southern hemisphere.

The majority of species eat small invertebrates picked out of mud or exposed soil. Different lengths of bills enable different species to feed in the same habitat, particularly on the coast, without direct competition for food. Many waders have sensitive nerve endings at the end of their bills which enable them to detect prey items hidden in mud or soft soil. Some larger species, particularly those adapted to drier habitats will take larger prey including insects and small reptiles.

Many of the smaller species found in coastal habitats, particularly but not exclusively the calidrids, are often named as "Sandpipers", but this term does not have a strict meaning, since the Upland Sandpiper is a grassland species.

In the Sibley-Ahlquist taxonomy, waders and many other groups are subsumed into a greatly enlarged Ciconiiformes order. However, the classification of the Charadriiformes is one of the weakest points of the Sibley-Ahlquist taxonomy, as DNA-DNA hybridization has turned out to be incapable of properly resolving the interrelationships of the group. Formerly, the waders formed the suborder Charadrii, but this has turned out to be a "wastebin" taxon, uniting no less than four charadriiform lineages in a paraphyletic assemblage. Following recent studies (Ericson *et al.*, 2003; Paton *et al.*, 2003; Thomas *et al.*, 2004a, b; van Tuinen *et al.*, 2004; Paton & Baker, 2006), the waders may be more accurately subdivided as follows:

Suborder **Scolopaci**

Family <u>Scolopacidae</u>: snipe, sandpipers, phalaropes, and allies

Suborder Thinocori

Family Rostratulidae: painted snipe

Family Jacanidae: jacanas

Family Thinocoridae: seedsnipe

Family Pedionomidae: Plains Wanderer

Suborder Chionidi

Family Burhinidae: thick-knees Family Chionididae: sheathbills

Family Pluvianellidae: Magellanic Plover

Suborder Charadrii

Family Ibidorhynchidae: Ibisbill Family Recurvirostridae: avocets

Family Haematopodidae: oystercatchers Family Charadriidae: plovers and lapwings

In keeping more in line with the traditional grouping, the Thinocori could be included in the Scolopaci, and the Chionidi in the Charadrii. However, the increasing knowledge about the early evolutionary history of modern birds suggests that the assumption of Paton *et al.* (2003) and Thomas *et al.* (2004b) of 4 distinct "wader" lineages (= suborders) already being present around the C-T boundary is correct.

See also

list of birds

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Recurvirostridae

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes

Family: Recurvirostridae, Bonaparte, 1854Species: Recurvirostra avosetta, Recurvirostra americana, Recurvirostra novaehollandiae, Recurvirostra andina, Himantopus himantopus, Himantopus novaezelandiae, Cladorhynchus leucocephalus

Recurvirostridae is a family of <u>birds</u> in the <u>wader</u> suborder Charadrii. It contains two distinct groups:

The <u>avocets</u>, with long legs and long up curved bills which they sweep from side to side when feeding in the brackish or saline wetlands they prefer.

The stilts, which have extremely long legs and long thin bills.

Recurvirostra

Avocets

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Charadriiformes Family: Recurvirostridae

Genus: *Recurvirostra*, Linnaeus, 1758 Species: *Recurvirostra avosetta*, *Recurvirostra*

americana, Recurvirostra novaehollandiae, Recurvirostra andina

The four species of **Avocets** are <u>waders</u> in the same <u>bird</u> family as the stilts. They are found in warm or hot climates.

They have long legs and long, thin, upcurved bills which they sweep from side to side when feeding in the brackish or saline wetlands they prefer. The <u>plumage</u> is pied, sometimes also with some red.

The avocets have webbed feet and they will readily swim. Their diet consists of aquatic insects and other small creatures.

They nest on the ground in loose colonies. In estuarine settings they may feed on exposed bay muds or mudflats.

The four species, all in the genus *Recurvirostra* are:

Pied Avocet, Recurvirostra avosetta

American Avocet, Recurvirostra americana

Red-necked Avocet, Recurvirostra novaehollandiae

Andean Avocet, Recurvirostra andina

Swifts

Kingdom: Animalia Phylum: Chordata

Class: Aves

Order: Apodiformes

Family: Apodidae Hartert, 1897Genera: Many; see text.

The **swifts** are <u>birds</u> superficially similar to <u>swallows</u> but are actually not closely related to those <u>passerine</u> species at all; swifts are in the separate order Apodiformes, which they formerly shared with the <u>hummingbirds</u>.

The resemblances between the swifts and swallows are due to convergent evolution reflecting similar life styles based on catching insects in flight.

The family scientific name comes from the Greek $\pm \lambda_i$, apous, meaning "without feet", since swifts have very short legs and never settle voluntarily on the ground, perching instead on vertical surfaces. The tradition of depicting swifts without feet continued into the Middle Ages, as seen in the heraldic martlet.

Swifts are the most aerial of birds and some, like the Common Swift, even sleep and mate on the wing. Larger species, such as white-throated needletail, are amongst the fastest flyers in the animal kingdom. One group, the Swiftlets or Cave Swiftlets have developed a form of echolocation for navigating through dark cave systems where they roost. One species, *Aerodramus papuensis* has recently been discovered to use this navigation at night outside its cave roost also.

Like swallows and martins, the swifts of temperate regions are strongly <u>migratory</u> and winter in the tropics.

Many swifts have a characteristic shape, with a short forked tail and very long swept-back wings that resemble a crescent or a boomerang. The flight of some species is characterised by a distinctive "flicking" action quite different from swallows.

The nest of many species is glued to a vertical surface with saliva, and the genus Aerodramus use only that substance, which is the basis for bird's nest soup.

Systematics and evolution

The treeswifts are closely related to the true swifts, but form a separate family, the Hemiprocnidae.

In the Sibley-Ahlquist taxonomy, the old order Apodiformes is split. Swifts remain in that order, but hummingbirds are put into a new order, Trochiliformes. This might be correct, but further research on the interrelationships and evolutionary history of the Apodiformes is necessary.

The taxonomy of this group is in general complicated, with genus and species boundaries widely disputed, especially amongst the swiftlets. Analysis of behavior and vocalizations is marred by common parallel evolution, while analyses of different morphological traits and of various DNA sequences have yielded equivocal and partly contradictory results (Thomassen *et al.*, 2005).

The Apodiformes diversified during the Eocene, at the end of which the extant families were present; fossil genera are known from all over temperate Europe, between today's Denmark and France, such as the primitive Scaniacypselus (Early - Middle Eocene) and the more modern Procypseloides (Late Eocene/Early Oligocene - Early Miocene). A prehistoric genus sometimes assigned to the swifts, *Primapus* (Early Eocene of England), might also be a more distant ancestor.

Species list: Family Apodidae

Tribe Cypseloidini

Genus Cypseloides
Chestnut-collared Swift, Cypseloides rutilus
Tepui Swift, Cypseloides phelpsi
Black Swift, Cypseloides niger
White-chested Swift, Cypseloides lemosi
Rothschild's Swift, Cypseloides rothschildi
Sooty Swift, Cypseloides fumigatus
Spot-fronted Swift, Cypseloides cherriei
White-chinned Swift, Cypseloides cryptus
White-fronted Swift, Cypseloides storeri
Great Dusky Swift, Cypseloides senex
Genus Streptoprocne
White-collared Swift, Streptoprocne zonaris
Biscutate Swift, Streptoprocne biscutata
White-naped Swift, Streptoprocne semicollaris

Tribe Collocaliini - swiftlets

Genus Collocalia Glossy Swiftlet, Collocalia esculenta Grey-rumped Swiftlet, Collocalia (esculenta) marginata Cave Swiftlet, Collocalia linchi Pygmy Swiftlet, Collocalia troglodytes Genus Aerodramus Seychelles Swiftlet, Aerodramus elaphrus Mascarene Swiftlet, Aerodramus francicus Indian Swiftlet, Aerodramus unicolor Philippine Swiftlet, Aerodramus mearnsi Moluccan Swiftlet. Aerodramus infuscatus Mountain Swiftlet, Aerodramus hirundinaceus White-rumped Swiftlet, Aerodramus spodiopygius Australian Swiftlet, Aerodramus terraereginae Himalayan Swiftlet, Aerodramus brevirostris Indochinese Swiftlet, Aerodramus rogersi

Volcano Swiftlet, Aerodramus vulcanorum

Whitehead's Swiftlet, Aerodramus whiteheadi

Bare-legged Swiftlet, Aerodramus nuditarsus

Mayr's Swiftlet, Aerodramus orientalis

Palawan Swiftlet, Aerodramus palawanensis

Mossy-nest Swiftlet, Aerodramus salangana

Uniform Swiftlet, Aerodramus vanikorensis

Palau Swiftlet, Aerodramus pelewensis

Guam Swiftlet, Aerodramus bartschi

Caroline Islands Swiftlet, Aerodramus inquietus

Mangaia Swiftlet, Aerodramus manuoi (prehistoric)

Atiu Swiftlet, Aerodramus sawtelli

Polynesian Swiftlet, Aerodramus leucophaeus

Marquesan Swiftlet, Aerodramus ocistus

Black-nest Swiftlet, Aerodramus maximus

Edible-nest Swiftlet, Aerodramus fuciphagus

German's Swiftlet, Aerodramus germani

Papuan Swiftlet, Aerodramus papuensis (probably a distinct genus)

Genus Hydrochous

Waterfall Swift, *Hydrochous gigas*

Genus Schoutedenapus

Scarce Swift, Schoutedenapus myoptilus

Schouteden's Swift, Schoutedenapus schoutedeni

Tribe Chaeturini - needletails

Genus Mearnsia

Philippine Spinetail, Mearnsia picina

Papuan Spinetail, Mearnsia novaeguineae

Genus Zoonavena

Malagasy Spinetail, Zoonavena grandidieri

Sao Tome Spinetail, Zoonavena thomensis

White-rumped Needletail, Zoonavena sylvatica

Genus Telacanthura

Mottled Spinetail, Telacanthura ussheri

Black Spinetail, Telacanthura melanopygia

Genus Rhaphidura

Silver-rumped Needletail, Rhaphidura leucopygialis

Sabine's Spinetail, Rhaphidura sabini

Genus Neafrapus

Cassin's Spinetail, Neafrapus cassini

Bat-like Spinetail, Neafrapus boehmi

Genus *Hirundapus*

White-throated Needletail, Hirundapus caudacutus

Silver-backed Needletail, Hirundapus cochinchinensis

Brown-backed Needletail, Hirundapus giganteus

Purple Needletail, Hirundapus celebensis

Genus Chaetura

Band-rumped Swift, Chaetura spinicauda

Lesser Antillean Swift, Chaetura martinica

Gray-rumped Swift, Chaetura cinereiventris

Pale-rumped Swift, Chaetura egregia

Chimney Swift, Chaetura pelagica

Vaux's Swift, Chaetura vauxi

Chapman's Swift, Chaetura chapmani

Short-tailed Swift, Chaetura brachyura

Ashy-tailed Swift, Chaetura andrei

Tribe Apodini - typical swifts

Genus Aeronautes

White-throated Swift, Aeronautes saxatalis

White-tipped Swift, Aeronautes montivagus

Andean Swift, Aeronautes andecolus

Genus Tachornis

Tachornis uranoceles (<u>fossil</u>; Late Pleistocene of Puerto Rico)

Antillean Palm Swift, Tachornis phoenicobia

Pygmy Swift, Tachornis furcata

Fork-tailed Palm Swift, Tachornis squamata

Genus Panyptila

Lesser Swallow-tailed Swift, Panyptila cayennensis

Great Swallow-tailed Swift, Panyptila sanctihieronymi

Genus Cypsiurus

Asian Palm Swift, Cypsiurus balasiensis

African Palm Swift, Cypsiurus parvus

Genus Apus

Apus gaillardi (fossil)

Apus wetmorei (fossil)

Alpine Swift, Apus melba

Mottled Swift, Apus aequatorialis

Alexander's Swift, Apus alexandri

Common Swift, Apus apus

Plain Swift, Apus unicolor

Nyanza Swift, Apus niansae

Pallid Swift, Apus pallidus

African Swift, Apus barbatus

Forbes-Watson's Swift, Apus berliozi

Bradfield's Swift, Apus bradfieldi

Madagascar Swift, Apus balstoni

Pacific Swift, Apus pacificus

Dark-rumped Swift, Apus acuticauda

Little Swift, Apus affinis

House Swift, Apus nipalensis Horus Swift, Apus horus White-rumped Swift, Apus caffer Bates' Swift Apus batesi

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