

# CHAPTER 1 HOW BIRDS ARE CLASSIFIED



“Silver Gull” or “Seagull” *Chroicocephalus novaehollandiae*

## A BASIC INTRODUCTION TO CLASSIFICATION

Birds can be classified lots of different ways according to size, behaviour, appearance, habitat, or any number of other characteristics.

Scientists, however, classify birds using a single systematic method, developed hundreds of years ago by a Swedish taxonomist called Linnaeus. Under that

system, all living things are divided into Kingdoms. The animal and plant kingdoms hold the complex living organisms. Other kingdoms cover fungi and even simpler organisms right down to single celled microscopic life forms.

The animal kingdom is sub-divided into many different phyla (singular phylum), most of which are simple organisms (including worms, snails and shellfish). The most complex animals fall into phylum called “Craniata”, from which there is

a sub-phylum called “Vertebrata”. The vertebrates are further subdivided into a number of groups called “classes”.

Birds are animals that belong to a class which has the scientific name “AVES”

The Class Aves (birds) is further divided into sub-groups called “superorders” and those superorders are divided into groups called “orders”

## Superorders

There are two superorders of birds. These are described as follows:

- Paleognathae - these include birds that do not fly, but live primarily on land (Ostrich, Emu, Kiwi, Rhea, Tinamou).
- Neognathae - these include all of the remaining living birds. Most of these birds fly. The only ones that do not fly are penguins, but unlike other flightless birds, penguins do have highly functional wings. Instead of using their wings to fly through air, a penguin will use its wings to fly through water.

## Orders

Birds fall into 29 different orders. Some texts (particularly older ones) may only group them into 27 or 28 orders.

## Families, Genera and Species

Birds within each order are further subdivided into families ((several different families together might make up an order).

Families are further divided into genera (singular: genus), and genera are subdivided into species of birds.

Sometimes, there can be relatively superficial differences between birds in the same species - however:

- Birds that belong to the same species tend to interbreed relatively easily with each other.
- Birds that share the same genus may sometimes interbreed - though this is not common.
- Birds in the same family share more biological characteristics than birds belonging to different families.
- When you see the scientific name of any bird, it will commonly be two words. The first of these two words is the genus, and the second is the species.

Example:

***Struthio camelus*** is the scientific name given to ostrich.

- *Struthio* is the genus name for ostrich
- *camelus* is the species name for ostrich

Convention dictates that when you write the scientific name for any bird, it should be presented as follows:

- The genus name should start with a capital letter; then remaining letters are written in lower case.
- The species name should have all letters written in lower case.
- Both words should be written in italics.

## BIRD GROUPS

Birds may be described and distinguished in many different ways, but some of the most common ways of grouping them will vary among their most distinctive behavioural attributes - for example:

- Flightless birds
- Song birds
- Perching birds
- Birds of Prey or Raptors
- Poultry
- Water birds
- Seabirds
- Parrots
- Migratory birds
- Game birds
- Filter feeders
- Ground dwelling birds
- Diving birds
- Pelagic birds



“Red-tailed Black Cockatoo”  
*Calyptorhynchus banksii*.  
Male on the left, female on the right.



“Peacock, White” *Pavo cristatus*

## An Overview

It can be complicated and difficult to learn the names of birds if you try to understand and digest too much information at once. The easier way is to build your knowledge systematically by first getting to know the orders.

If you understand the fundamental differences that separate each order, you will be able to look at birds that you are unfamiliar with (from anywhere in the world) and identify the order which that bird belongs to. Once you know that much about a bird, it can be far easier to identify it, and once identified - remember that name.

The remainder of this chapter is designed to give you an overview of the orders - without going into too much detail. Once you have absorbed this information and developed a very basic grasp on how these orders differ from each other, you can then move onto chapter 2; there you can build a more in depth understanding of each of those orders.

*NOTE: If you are uncertain about any of the terminology that follows: refer to the last chapter in this book.*

# FLIGHTLESS BIRDS

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## Ostrich

**Superorder:** Paleognathae

**Order:** Struthioniformes

**From:** Africa

**Large birds:** feathers without aftershafts (small feathery structure toward bottom of the feather); 2 toes.

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## Rhea

**Superorder:** Paleognathae

**Order:** Rheiformes

**From:** South America

**Large birds:** feathers with long aftershafts; 3 toes

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## Emu and Casowary

**Superorder:** Paleognathae

**Order:** Casuariiformes

**From:** Australia and New Guinea

**Large birds:** bare skin on the neck; 3 toes

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## Kiwi

**Superorder:** Paleognathae

**Order:** Apterygiformes

**From:** New Zealand

**Smaller birds:** nocturnal, 4 toes; strong sense of smell; long bills with nostrils at tip; feathers without aftershafts.

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## Tinamous

**Superorder:** Paleognathae

**Order:** Tinamiformes

**From:** Central and South America

**Plump compact birds:** good runners; ground dwellers. They can fly - but poorly, and for this reason are commonly grouped with flightless birds.

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## Penguins

**Superorder:** Neognathae

**Order:** Sphenisciformes

**From:** southern hemisphere temperate and Antarctic areas: oceans and marine coasts.

**Medium to Large birds:** swimmers with flipper like wings, webbed feet, dense plumage, colourings usually darker back and white chest.

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## SONG BIRDS

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**Starling, Pitta, Swallow, Thrush, Bird of Paradise, Finch, Crow, Chickadee, Robin, Jay, Mockingbird, Leaf bird, Wren, Shrike, Sparrow, Pipit, Magpies, Warbler**

**Superorder:** Neognathae

**Order:** Passeriformes

Small to medium land birds: three forward toes, one hind toe; perching habit; well-developed voice box allows good bird-song.

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## BIRDS OF PREY

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**Eagle, Hawk, Osprey, Falcon, Caracaras, Vulture**

**Superorder:** Neognathae

**Order:** Falconiformes

**Small to Large birds:** active in day light; hooked bill; sharp edged grasping feet with talons.

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**Owl, Barn Owl**

**Superorder:** Neognathae

**Order:** Strigiformes

**Small, medium and Large birds:** mostly nocturnal or appear at dawn and dusk; facial disc; large immovable eyes; very good hearing; strong talons.

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