

BIRDS OF THE WORLD



# Birds of the World

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Frontispiece: Red-billed Streamertail (*Trochilus polytmus*)

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# *Preface*

BIRDS ARE BEAUTIFUL animals and many people enjoy watching them. In our contemporary societies, wild birds, in addition to the pleasures they provide with their compelling physical forms, colors, and behaviors, are perhaps increasingly significant because of the continuing connection they give us to the natural world. Among larger wild animals, birds are the ones most town- and city-dwellers still encounter frequently—so birds have assumed an essential role in allowing us, even in our usual paved and built-up surroundings, a degree of exposure to wildlife and nature. Regular exposure to wild animals, often in the guise of wild bird sightings, may also help motivate us to take part in efforts to preserve the world's threatened animal species and remaining unspoiled wilderness.

This book is for people with curiosity about the many kinds of birds, and particularly fairly new bird-watchers (birders), who are starting to master the identities of their local species and, as they do so, begin to wonder about birds around the rest of the world. When a novice birder begins learning how to identify local species, the task at first often seems enormous, the array, or diversity, of bird species in the region seemingly limitless. But after months or years of learning about, finding, and watching these birds, birders gain a mastery of the local avifauna. The birds become familiar, their diversity bounded. Yes, there are always a few species in the local region one would still like to find for the first time. But as birders begin to appreciate the different types of birds and bird families, they realize that some entire types occur only in restricted places far from home, and their birding thoughts start wandering to other parts of the world.

This book is an introduction to the birds of the world. It is to let birders and others know “what else is out there,” in terms of bird families and species, and where, generally, these birds are located. It is not an encyclopedia of ornithology, nor is it a catalog of or visual guide to all the world’s bird species. The main text, which tells about bird families, provides the essentials about bird groups, but only a small fraction of the rich and extensive information now available about the general ecology and behavior of a substantial proportion of the world’s birds. And the illustration plates provide field-guide-like images of a good sampling of species—more than thirteen hundred total—found in each avian family. But if this book’s introduction to the world’s birds sufficiently raises one’s interest level, then there are myriad other books that can further that interest, including bird encyclopedias, country-by-country field guides, and even volumes devoted to single bird families.

Many books of this kind offer, as an introduction, a primer of ornithology, defining the characteristics of birds and telling generally of their ecology and behavior. Instead, in keeping with the “birds of the world” emphasis, at the end of the book I discuss two basic, interrelated questions: how many types of birds are there? and where do birds occur geographically? Also, because bird diversity is increasingly jeopardized, I discuss some of the major threats faced by birds.

My hope for this book is that it stimulates some readers who have only a mild interest in birds or wildlife to further that interest and perhaps become frequent or serious wildlife watchers, and that it propels some newer birders, who have the time and resources, to begin exploring the world’s birds—not just in the pages of books, but in the field.

## *Acknowledgments*

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# Introduction

## *Birds and Bird-watching*

BIRDS ARE WONDERFUL animals to watch. Sure, we could watch mammals or reptiles or dragonflies or even worms, and each of these, except perhaps the last, has its aficionados and defenders. But the great majority of us who enjoy animal watching in the wild gravitate to birds. Many millions of people in the United States and Europe watch birds at least occasionally, and bird-watching as a participatory nature activity is on the rise in many other parts of the world, indicating the great general interest in these feathered animals. A case in point: on a recent trip to some of Thailand's national parks, I was surprised and pleased to find not only American and European birders roaming forests looking for birds, but also many Thai families, clad in khaki and tan and outfitted with binoculars and telescopes, doing the same.

What is the source of our fascination with birds? And why, when we select wild animals to watch, do we tend to choose birds? Most of us could quickly compile a list of possible reasons besides the obvious one: birds are beautiful. Such a list might include:

- Birds are mainly day-active animals; like most of us, they are out and about during daylight hours and asleep at night. Many other kinds of large animals—especially mammals—are more active at night, which makes finding and observing them much more difficult.
- Birds fly, and as a consequence of this marvelous ability, they

do not always depart with all due haste after being spotted, as is common with most other types of vertebrate animals. Their ability to fly, and thus easily evade our grasp, permits many birds when confronted with people to leisurely go about their business (albeit keeping one eye on us at all times), often allowing extensive time to watch them.

- Many birds are highly or moderately conspicuous. They are especially evident during their breeding seasons, when many of them change into bright, pleasing plumages and engage in courtship displays—such as energetic dances or acrobatic flights, the spreading and waving of long, colorful tail feathers, loud vocalizations—that attract the notice not just of other birds (the presumed audience) but of people as well. Some types of birds, of course, are conspicuous all the time, including the larger, visually arresting birds such as colorful parrots, toucans, and hornbills in the tropics and large birds of prey the world over. Equally conspicuous, although plainer and smaller, are the garden, park, pond, and city birds such as many members of the duck, gull, plover, pigeon, thrush, starling/myna, crow, finch, sparrow, and blackbird families.
- Birds engage in many behaviors that are truly fascinating. A short list of these includes (1) breeding-season displays and nest-building behaviors, (2) mind-boggling migrations that may involve biannual flights of thousands of miles, from breeding sites in temperate or arctic regions to wintering sites often in tropical or subtropical areas, (3) spectacular flying prowess, such as that of hummingbirds (which, with their superbly designed and rapidly beating wings, can hover and actually fly backward), swifts (which tend to fly throughout the day), and albatrosses (which soar over oceans for extended periods essentially without beating their wings), and (4) amazingly varied breeding systems and sometimes seemingly torturous nesting efforts, such as that of hornbills, with their unique breeding during which the female of a pair is encased within a tree cavity and fed by her mate through a small hole, and bowerbirds, many males of which build large

courting structures of plant materials, decorate them, and then show them to females in hopes of convincing them to mate.

- Birds are innocuous. Typically the worst that can happen from any encounter is a soiled shirt. Contrast that with too-close, potentially dangerous meetings with certain reptiles (venomous snakes, crocodiles), amphibians (frogs and salamanders with toxic skin secretions), fish (shark dangers), and mammals (bears or big cats). While it is true that an Ostrich or cassowary can injure with a swift kick, such damaging encounters are extremely rare in the wild. Safety undoubtedly contributes to birds being the most frequently watched wildlife.

Add to these attractions the benefits of an active outdoor pastime often conducted in beautiful, wild surroundings, the intellectual challenge of bird identification, and the nature-study and “collecting” elements of bird-watching, and it is not difficult to understand its popularity, or even its many near-fanatical adherents.

As people learn about birds and bird-watching, inevitably they develop an appreciation for bird diversity. This brings us to the purpose of this book, which is to introduce readers to all the world’s bird types.

The primary organization of the book follows scientific animal classification, in particular, the bird species of the world separated into groups called orders and families. If you are unfamiliar with animal classification or need to refresh your memory, explanations and definitions are below. I have followed a classification that divides birds of the world into about two hundred families and about 9,750 species (generally following the classifications of the Lynx Edicions *Handbook of the Birds of the World*, and the 5th edition of J. F. Clements, *Birds of the World: A Checklist*).

At the end of the book are questions and answers on diversity, abundance, and geography of birds. Several seemingly simple questions—How many kinds of birds are there? Why are some birds abundant but others rare? Why do some occur in such small numbers that they are threatened with extinction? Where are birds located and why?—have fairly complex answers. Understanding these basics of avian diversity and biogeography is central to attaining a broad appreciation of the feathered vertebrates.

## GENERAL PLAN OF THE BOOK AND TERMS USED IN THE TEXT

THE LAYOUT OF this book is such that each bird family, or group of families, is described on a few pages of text, and several species in the family or families are illustrated in an associated color plate. For large, visually diverse families, three plates, instead of one, are associated with the text account. Some of the world's leading bird artists produced the artwork. Most of the images are of the kind used in field guides; usually the bird is portrayed in a formal perched or standing position that allows a good view of its distinguishing physical characteristics. Particular bird species were chosen for illustration for various reasons: some because they are common and widespread representatives of relevant families, some because they are rare or narrowly distributed or particularly striking. The goal is to provide the reader with a good overview of each family's diversity. The plates include common and scientific names of the illustrated birds, their body lengths, and general geographic distributions.

Most of the family accounts begin with introductory comments and then proceed to information about family classification, diversity, distribution, morphology, ecology and general behavior, breeding behavior, and conservation status.

### *Introductory Comments*

This section identifies the group in question and relates, in a nontechnical way, what distinguishes the group from others and which aspects of its biology are especially noteworthy (if any).

### *Classification*

Classification information is used by scientists to separate birds and other organisms into related groups. It is provided here as it often enhances our appreciation of birds to know these relationships. Below is a quick review of relevant animal classification:

**KINGDOM ANIMALIA:** All the species detailed in the book are members of the animal kingdom, as are mammals, reptiles, amphibians, fish, insects, crustaceans, mollusks, worms, and many others.

**PHYLUM CHORDATA, SUBPHYLUM VERTEBRATA:** All species in the book are vertebrates, animals with backbones, as are mammals, reptiles, amphibians, and fish.

**CLASS:** The book covers a single vertebrate class, *Aves*, the birds.

**ORDER:** Class *Aves* is divided into twenty-nine orders (in this book's particular classification scheme); the birds in each order share many characteristics. For example, one of the avian orders is *Falconiformes*, which encompasses all the day-active birds of prey, including hawks, falcons, and New World vultures.

**FAMILY:** Families of animals are subdivisions of each order that contain closely related species that are often similar in form, ecology, and behavior. The family *Accipitridae*, for instance, contains hunting birds that all have hooked bills, powerful legs and feet, sharp, curved claws, and that are all carnivorous—hawks, kites, buzzards, eagles, and Old World vultures. Birds of the world, in this book, are divided into about two hundred families.

**GENUS:** Further subdivisions; within each genus are species that are very closely related; they are all considered to have evolved from a common ancestor.

**SPECIES:** The lowest classification level; all members of a species are similar enough to be able to breed together and produce fertile offspring.

As an example of how birds are classified, here is the classification of a single species, the Golden Eagle, which is illustrated on p. 73

**KINGDOM:** *Animalia*, with more than 2 million species.

PHYLUM: Chordata, Subphylum Vertebrata, with more than 47,000 species

CLASS: Aves (Birds), with about 9,800 species.

ORDER: Falconiformes, with about 307 species; includes hawks, kites, eagles, falcons, New World vultures, the Osprey, and the Secretarybird.

FAMILY: Accipitridae, with 237 species; includes hawks, kites, and eagles.

GENUS: *Aquila*, with 11 species; one group of eagles.

SPECIES: *Aquila chrysaetos*, the Golden Eagle.

A main classification division among birds is that between passerines and nonpasserines. The passerine birds (order: Passeriformes) are the perching birds, with feet specialized to grasp and to perch on tree branches. These are the more recently evolved birds (the most “advanced”) and include all the small land birds with which we are most familiar—flycatchers, robins, crows, wrens, warblers, blackbirds, finches, sparrows, and so on. The passerine order is the most diverse of the bird orders, including more than 50 percent of all bird species (about fifty-eight hundred species) and about half the bird families. A major subgroup within the passerines (containing about forty-five hundred species) is called the oscines, or songbirds: they all have a distinctive, advanced syrinx, the sound-producing organ in their respiratory passages. The oscines are responsible for most of the avian world’s more melodic vocalizations. The remainder of the globe’s birds—seabirds and shorebirds, ducks and geese, hawks and owls, parrots and woodpeckers, and a host of others—are nonpasserines, divided among the other twenty-eight orders. The nonpasserine family accounts in this book pertain to the ratite birds (Ostrich, Emu, etc.) through the woodpeckers; the passerine accounts are the ones that deal with the pittas through the New World blackbirds.

Common bird names, such as Song Sparrow or European Starling, sometimes vary from place to place. A species that occurs in Europe and Africa may have different names on the two continents, or the same species may have different names in East Africa and Southern Africa. There are ongoing attempts to standardize such English names, but not yet universal

agreement. Scientific names are less variable, but they sometimes change as researchers make new classification decisions. For example, the same bird species may have different genus names depending on the source consulted. The names I have used in this book, both common and scientific, come mainly from Lynx Edicions *Handbook of the Birds of the World* or the 5th edition of J. F. Clements, *Birds of the World: A Checklist*. There is also controversy over how best to write compound bird names, for example, Wompoo Fruit Dove, Wompoo Fruit-dove, or Wompoo Fruit-Dove. I've tried to be consistent in these kinds of names, but for this book's purposes, such minute details are of minimal concern.

### *Diversity*

The words *diverse* and *diversity* are used in different ways in various scientific and technical fields. Here, a diverse group, such as a diverse family, means one with a relatively high number of species. Thus, the loon family (Gaviidae), with a global total of 5 species, is not very diverse; the duck, geese, and swan family (Anatidae), with 157 species, has a high degree of diversity. Diversity, when used in this context, is similar to the term *biodiversity*, which refers to the different types of animals, plants, and other life forms found within a region. A group or family that is “ecologically diverse” is one that exhibits many different adaptations to the environments in which its members occur. For instance, an ecologically diverse group, such as the jay and crow family (Corvidae), might occur in several different habitat types, eat various types of foods, and employ a variety of foraging methods.

When I provide a definite number of species in a given family, such as “there are 10 species of motmots,” I mean there are 10 living species; recently extinct species are not included in these totals. Often I do not give exact numbers of species; instead I give approximations, such as “there are about 118 species in the jay and crow family.” For reasons I detail in the book's concluding essay, exact species numbers are sometimes problematic.

## *Distribution*

I give the geographic distribution of each bird family, generally in terms of the continents on which its member species occur. North America, in the family descriptions and in the information provided on the color plates, includes Mexico (noted here because many bird field guides for North American birds include only species that occur north of Mexico). A distribution of land birds given as “worldwide” or “global” actually means that the group in question occurs on all continents except Antarctica, where there are essentially no terrestrial birds. A few specialized terms are used to describe family distributions, and a reading of “Zoogeographic Regions: Describing Bird Distributions” at the back of the book will be helpful in this regard. The only geographic terms used often that might be unfamiliar to many readers are *Neotropics*, which refers to South and Central America, southern Mexico, and the West Indies; *Australasia*, which refers to the region mainly encompassing Australia, New Guinea, and New Zealand (but also sometimes Polynesia and Micronesia); *Old World*, which includes Europe, Asia, and Africa (and sometimes Australia); and *New World*, which refers to South, Central, and North America.

Some key terms regarding bird distributions are

- Range: the particular geographic area occupied by a species
- Native or indigenous: both mean “occurring naturally in a particular place”
- Introduced: “occurring in a particular place owing to peoples’ intentional or unintentional assistance with transportation, usually from one continent to another; the opposite of native”
- Endemic: “occurring in a particular place and nowhere else”; a species, a genus, or an entire family, can be said to be endemic. (See the section entitled “Endemics: Some Birds Occur in Very Limited Areas” on p. 493.)

On the color plates, I provide general natural ranges for each illustrated species, usually in terms of continents on which various species occur. Ranges for migratory species usually include both breeding and nonbreeding locations. A range given as “North America, South America” generally includes Central America.

### *Morphology*

Early in each account are details of the typical family morphology—the general shape, size, and coloring of the various constituent species. Whether males and females within a species look similar or different is noted. On the color plates, in most cases, if only one individual is pictured, you may assume that male and female of that species look alike, almost alike, or have only minor differences in appearance; when there are major sex differences, usually both male and female are depicted. Bird sizes are usually given as lengths, which are traditionally measured from tip of bill to end of tail. For the passerine birds, when I use the words large, medium-size, small, or very small to describe their sizes, large usually means more than 12 inches (30 cm) long; medium-size means between 6 to 7 inches (15 to 18 cm) and 12 inches (30 cm); small means 4 to 6 inches (10 to 15 cm); and very small means less than 4 inches (10 cm). Typical bird lengths, sometimes ranges of lengths, are provided on the plates themselves. A large range may indicate that the male and female of a species are very different lengths, or the species in question has a long, variable-length tail. Abbreviations on the plates, referring to age and breeding status, are: *B R D*, breeding; *N O N - B R D*, non-breeding; and *I M M*, immature.

### *Ecology and General Behavior*

In these sections I describe some of what is known about the basic activities pursued by each group. Much of the information relates to the habitat types (environments) the birds occupy, when and where the birds are usually active, what they eat, and how they forage. Arboreal birds pursue life and food in trees or shrubs; terrestrial ones pursue life and food on the ground. Whether birds tend to stay in social groups is also noted.

### *Breeding Behavior*

Here I comment on each group's breeding, including types of mating systems employed, special breeding behaviors, and nesting particulars. A monogamous mating system is one in which one male and one female establish a pair-bond and contribute fairly evenly to each breeding effort. In polygamous systems, individuals of one of the sexes have more than one mate (that is, they have harems): in polygynous systems, one male mates with several females, and in polyandrous systems, one female mates with several males. Some bird species are "promiscuous" breeders. In these species, no pair-bonds are formed between males and females. Males mate with more than one female and females probably often do the same. Males individually stake out display sites, usually at traditional communal courting areas (called leks), and repeatedly perform vocal and visual displays to attract females. Females enter leks, assess the displaying males, and choose the ones with which they wish to mate. In this type of breeding, females leave after mating and then nest and rear young alone.

### *Conservation Status*

Detailed here, usually very briefly, is the conservation status of each group, including information on relative rarity or abundance, and factors contributing to population declines. I also provide the numbers of species within each avian family that are presently threatened. Several organizations publish lists of threatened species, and these lists do not always agree on criteria used for inclusion on the lists or on the species listed. Here I followed the listings of the comprehensive BirdLife International *Threatened Birds of the World*. The term *threatened* in my writing is simply a synonym for a bird species "in jeopardy," not a formally defined level of threat. The three formal levels of threat to bird populations used here are

- I. **CRITICALLY ENDANGERED:** species with very small remaining populations or tiny ranges, or that are undergoing very rapid population declines. Such species face an extremely high risk of extinction in the immediate future; a critically endangered species has only an estimated 50 percent chance of avoiding extinction during the next ten years or three generations.

2. **ENDANGERED**: species known to be in imminent danger of extinction throughout their range, highly unlikely to survive unless strong conservation measures are taken. Such species face a very high risk of extinction in the near future.
3. **VULNERABLE**: species known to be undergoing rapid declines in the sizes of their populations. Unless conservation measures are enacted, and the causes of the population declines identified and halted, these species are likely to move to endangered status in the near future; such species face a high risk of extinction in the medium-term future.

Also, “at-risk” or “near-threatened” species are those that, owing to their habitat requirements or limited distributions, and based on known patterns of habitat destruction, are extremely likely to move to vulnerable status in the near future.

With the above information in mind, we can begin our exploration of the world’s birds.



**GREATER RHEA**  
*Rhea americana*  
50–55 in (127–140 cm)  
South America



**OSTRICH**  
*Struthio camelus*  
67–106.5 in (170–270 cm)  
Africa



**EMU**  
*Dromaius novaehollandiae*  
59–75 in (150–190 cm)  
Australia



**SOUTHERN CASSOWARY**  
*Casuarius casuarius*  
51–67 in (130–170 cm)  
Australia, New Guinea



**BROWN KIWI**  
*Apteryx australis*  
19.5–25.5 in (50–65 cm)  
New Zealand



**GREAT SPOTTED KIWI**  
*Apteryx haastii*  
19.5–23.5 in (50–60 cm)  
New Zealand