Field Guide to the
Waterbirds of ASEAN

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Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam & adjacent territories

Edited by Woo-Shin Lee, Chang-Yong Choi, and Hankyu Kim
Illustrated by Takashi Taniguchi

ASEAN-KOREA Environmental Cooperation Unit

서울대학교 SEOUL NATIONAL UNIVERSITY

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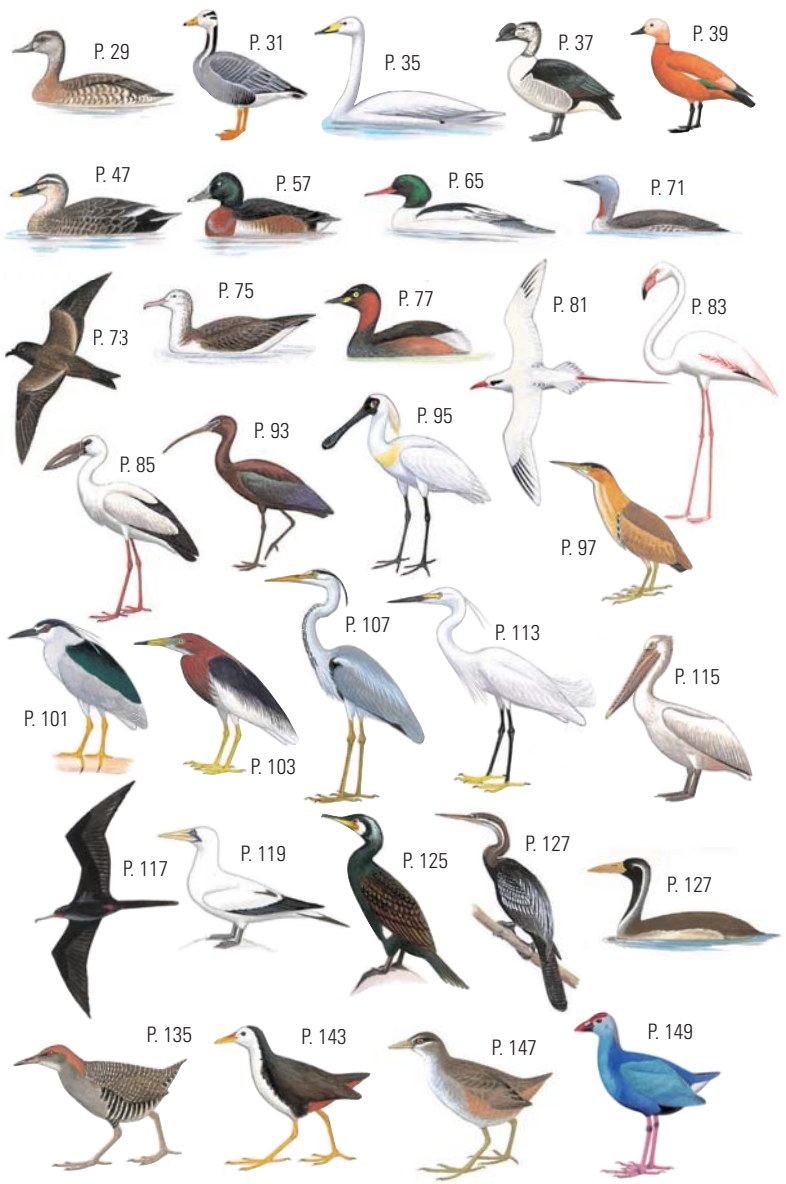

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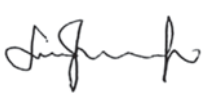
Foreword by the Secretary-General of ASEAN

The ecosystem provided by wetlands is critical in sustaining biodiversity and the local economies of communities in the ASEAN region. Furthermore, waterbirds are key components of the biodiversity of wetlands and have significant ecological, socio-cultural, and economic values. Monitoring waterbirds is often a common and cost-effective method to assess the health and biodiversity of wetlands, because these creatures are by nature gregarious, readily countable, and highly dependent on wetland habitats. However, waterbird populations continue to decline as wetland loss, degradation and conversion continues in the ASEAN region.

It is as part of efforts to conserve biodiversity in ASEAN that I am pleased to present this "Field Guide to the Waterbirds of ASEAN". This guide highlights 342 waterbird species found in the ten ASEAN Member States and its adjacent territories. It provides a useful reference for capacity building, education, and public awareness programs to facilitate better understanding and increase of monitoring activities on threatened waterbirds and wetland ecosystems.

This field guide book, specifically developed for the ASEAN region, is a labor of meaningful cooperation among ten authors from the ASEAN Member States and experts from East Asia to celebrate the 50th Anniversary of the ASEAN. I would like to express my sincere appreciation to all those who have been involved in the publication of this book.

I do hope this publication, kindly supported by the ASEAN-ROK Cooperation Fund, would enhance a strong sense of belonging and common ASEAN on the environment. I also wish this book would support ASEAN on-going and future efforts for wetland protection and waterbird conservation.



Dato Lim Jock Hoi
Secretary-General of ASEAN

Foreword by Ambassador of the Republic of Korea to ASEAN

I congratulate on the publication of this first-ever field guide on waterbirds of ASEAN, one of Korea's commemorative activities to celebrate ASEAN's 50th Anniversary last year. It helps expand our knowledge on waterbirds in the ASEAN region.

Over the half century, ASEAN has made remarkable strides in maintaining peace and stability across Southeast Asia, accelerating economic growth and securing the livelihoods of the ASEAN citizens. Since the beginning of our Dialogue Partnership in 1989, Korea has firmly believed that ASEAN as a regional organization is a trusted partner of Korea in dealing with daunting challenges of our region.

At the 1st ASEAN-ROK Summit in 1997, both sides identified the environment as one of the priority areas under the ASEAN-ROK Cooperation mechanism. Korea has worked very closely with ASEAN on the area of biodiversity conservation. As a flagship project, ASEAN and Korea have co-implemented the "ASEAN-Korea Environmental Cooperation Project (AKECOP)" as a means to provide viable solutions for restoring degraded forest ecosystems in the region. Since 2000, it has worked tirelessly to prevent the danger of degraded forests around the region.

In addition to the AKECOP, Korea is very proud of supporting the publication of the "Field Guide to Waterbirds of ASEAN" through ASEAN-ROK Cooperation Fund (AKCF). Waterbirds across Southeast Asia are of significant ecological and socio-cultural values, as well as the key component of wetlands which are crucial for global climate and biodiversity. This reference book will surely serve as a comprehensive material for policy decision-makers, civil societies and the people of ASEAN to recognize the importance of waterbirds and wetland conservation around the region.

I would like to express my sincere appreciation to Seoul National University and ASEAN Center for Biodiversity for their hard work in the compilation and publication of this project.

Kim, Young-chae
Ambassador of the Republic of Korea to ASEAN

Preface by the Chief Editor

Waterbirds are the heralds of health and resilience of wetlands, which are a critical natural resource for humankind's welfare and even its very survival. During last few decades, both the scientific community and society at large have recognized the importance of wetlands for performing vital ecosystem services including water purification, flood and drought control, and biodiversity conservation. However, now the world is facing threats from climate change more than ever, making wetlands even more essential for mitigating the effects of extreme climatic events that endanger regional communities and ecosystems.

The ten ASEAN Member States account for over 60% of the world's tropical peatlands and 173,000 kilometers of coastline. Combined with freshwater lakes and rivers, these wetlands are extremely important habitats for resident and migratory waterbird species. Thanks to the efforts of countless local people, researchers, conservationists, and policy makers, many waterbird species and wetlands are now protected in this region. Still, we know that many of the newly discovered endemic species are already under threat and many species relying on coastal and estuarine mudflats, mangroves, and inland forested marshes and peat lands are experiencing heavy pressure of habitat loss and population decline.

We, the authors and contributors, do have hope for effective conservation of wetlands and waterbirds that they will support regional communities' livelihoods and environmental welfare in the ASEAN Member States. We hope that this book will help raise public awareness and support monitoring efforts for waterbirds and wetlands in this region. This book is a practical on-hand field guide for identifying waterbird species in the ASEAN region. It can be used in place of the earlier, excellent reference entitled 'A Field Guide to the Waterbirds of Asia', which was published in 1993, and which will soon be out of print. This latest guide includes the latest information and findings in the ASEAN Member States and Southeast Asia.

I would like to share my sincere gratitude and congratulations with our illustrator, Takashi Taniguchi, for his dedication to the artworks for this book; to all the authors of each ASEAN Member State for writing manuscripts and sharing their expertise on species from the region; publishing editors Mi Jin Kim and Hanna Lee, for leading the book editing process with great efficiency and patience; and to our consultants, Simba Chan and Yat-tung Yu for their key roles in completing this project. My co-editor, Chang-Yong Choi, put in incredible effort in editing and organizing this project, so I would like to emphasize his hard work and dedication to the project. I also thank Hankyu Kim for enthusiastically supporting this project at every step from data collection, text writing, proof reading to editing. I should also acknowledge that BirdLife International kindly supported this project by providing geospatial data about waterbirds, which were used for creating the distribution maps in this book.

Most of all, this project would not have been possible without the support of the ASEAN-ROK Cooperation Fund. In particular, Jeong-in Suh, the former Ambassador Extraordinary and Plenipotentiary of the Republic of Korea to ASEAN, truly dedicated himself to this project from the initial idea to its publication. I would like to thank him for all his efforts and devotion in facilitating close cooperation for sustainable environments between Korea and ASEAN.

Lastly, as birds symbolize freedom, peace, and hope, we hope that the ASEAN Member States flourish together with healthy wetlands, where waterbirds thrive together with the people.

Woo-Shin Lee
Professor, Seoul National University
Leader, ASEAN-Korea Environmental Cooperation Unit
President, Korea Environmental Preservation Association

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Introduction

• ASEAN and its Biodiversity

The Association of Southeast Asian Nations (ASEAN) was established on August 8, 1967 to enhance cooperation in the economic, social, cultural, technical, educational, and other fields in Southeast Asia and to promote regional peace and stability through abiding respect for justice and the rule of law and adherence to the principles of the United Nations Charter. ASEAN is open for participation by all states in Southeast Asia subscribing to its aims, principles, and purposes. There are currently ten ASEAN Member States (AMS): Brunei Darussalam (hereafter Brunei), Cambodia, Indonesia, Lao PDR (hereafter Laos), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

The ASEAN region has a land area of approximately 4.47 million km^2 (only 3% of the world's total surface), but it includes three of the world's 17 megadiversity countries (Indonesia, Malaysia, and Philippines). Therefore, the ASEAN region, composed of several unique bio-geographical units such as Indo-Burma, Sundaland, Philippines, and Wallacea, is considered a critical habitat to 18-20% of all known species in the world (including 32,215 animal and 28,079 plant species as of October 2017). However, the region is poised to lose 70-90% of habitats and 13-42% of species by 2100 because of the rapidly increasing human footprint and associated pressures on biodiversity.

In responses to the various environmental issues in the region, the ASEAN Vision 2020 calls for 'a clean and green ASEAN with fully established mechanisms for sustainable development to ensure the protection of the region's environment, the sustainability of its natural resources, and the high quality of life of its peoples'. One of the key objectives of the ASEAN Socio-Cultural Community Blueprint 2025 is also to 'promote social development and environmental protection through effective mechanisms to meet the current and future needs of the people'. The ASEAN Centre for Biodiversity (ACB), an intergovernmental organization that facilitates cooperation and coordination among the ten AMS and with regional and international organizations, was established in 2005 for organized responses to the challenge of biodiversity loss in the ASEAN region.

● Introduction to AKECU and AKECOP

The ASEAN-Korea Environmental Cooperation Unit (AKECU) is a subordinate institution of the College of Agriculture and Life Sciences (CALS) of Seoul National University in Seoul, Republic of Korea. AKECU aims for collaboration in environmental research and education, specifically between ASEAN and the Republic of Korea, and has managed research and education programs under the larger ASEAN-Korea Environmental Cooperation Project (AKECOP) in collaboration with ASEAN Member States (AMS) since 2000.

AKECOP has progressed from Phase I (2000-2005) and Phase II (2005-2008) for the "Restoration of degraded forest ecosystems in the Southeast Asian tropical region" to Phase III (2008-2011) for the "Restoration of degraded terrestrial and mangrove forest ecosystems in the ASEAN region". During the three phases, 18 graduate students from Cambodia, Indonesia, Malaysia, Philippines, Thailand, and Viet Nam earned their masters and doctoral degrees; about 20 regional research projects have been conducted in eight ASEAN Member States (AMS); and more than 200 scientists from AMS have participated in AKECOP short-term training programs.

In November 2013 and February 2016, AKECU and the ASEAN Centre for Biodiversity (ACB) signed two memoranda of cooperation on the promotion of regional and global initiatives that support biodiversity conservation, and the AKECOP now focuses on biodiversity conservation in collaboration with ACB based on the recommendations from ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB). As a result, AKECU has gradually expanded and increased its capacity from the restoration of terrestrial ecosystems to the broader conservation of biodiversity including that of wetland ecosystems as well as forest ecosystems.

● Definition of Waterbird and Taxonomic & Geographic Coverage

The Ramsar Convention defines 'waterfowl' as species of birds that are "ecologically dependent upon wetlands" and has defined "waterbird" as being synonymous with "waterfowl" for the purposes of the application of the Convention. This is the most widely used definition of a waterbird, and birds of the following families are regarded as waterbirds:

- Gaviidae (loons)
- Podicipedidae (grebes)
- Pelecanidae (pelicans)
- Phalacrocoracidae (cormorants)
- Anhingidae (darters)
- Ardeidae (herons, egrets and bittens)
- Ciconiidae (storks)
- Threskiornithidae (ibises and spoonbills)
- Phoenicopteridae (flamingos)
- Anatidae (ducks, geese and swans)
- Gruidae (cranes)
- Rallidae (rails, moorhens and coots)
- Heliornithidae (finfoots)
- Jacanidae (jacanas)
- Rostratulidae (painted snipes)*
- Dromadidae (crab plovers)*
- Haematopodidae (oystercatchers)*
- Ibidorhynchidae (ibisbills)*
- Recurvirostridae (stilts and avocets)*
- Burhinidae (stone-curlews)*
- Glareolidae (pratincoles)*
- Charadriidae (plovers)*
- Scolopacidae (sandpipers)*
- Laridae (gulls)
- Sternidae (terns)
- Rynchopidae (skimmers)

Other waterbird families under the Ramsar definition that do not occur in Asia are Anhimidae (screamers), Balaenicipitidae (shoebills), Scopidae (hamerkops), Pedionomidae (plains-wanderers), Aramidae (limpkins), Eurypygidae (sunbitterns), and Thinocoridae (seedsnipes).

Families with an asterisk (*) above are commonly referred as 'shorebirds' or 'waders'. The term 'waders' is often used in Europe for shorebird species, but in North America, wading birds are usually referred to long-legged wading birds such as egrets and herons.

The East Asian-Australasian Flyway Partnership (EAAFP) adopts the Ramsar definition and added the following seabird families into the species groups of concern under the EAAFP in 2006: Procellariidae (shearwaters), Oceanitidae (austral storm petrels), Stercorariidae (skuas), and Alcidae (auks).

In this book, Rynchopidae (skimmers) and Sternidae (terns) are merged

into Laridae (gulls, terns, and skimmers) in a monophyletic clade based on the International Ornithological Congress (IOC) World Bird List. Then, we included both waterbird families under the Ramsar definition (24 families) and the EAAFP's additional families. We also included four seabird families that have been recorded in this region or documented during winter waterbird or wetland surveys such as the Asian Waterbird Census (AWC): Hydrobatidae (northern storm petrels), Phaethontidae (tropicbirds), Fregatidae (frigatebirds), and Sulidae (boobies). Thus, this field guide includes a total of 32 avian families of typical waterbirds and some coastal or offshore seabirds.

The main geographic scope of this field guide is the ASEAN region in Southeast Asia. Therefore, waterbirds occurring in the ASEAN Member States (AMS) are the main subjects of this book. However, most of the waterbirds in this region are migratory birds with high potential of occurrence well beyond their normal range and are common species in South and East Asia. For this reason, this field guide contains waterbirds not only in Southeast Asia but also species that are common in countries in East Asia including the Republic of Korea (South Korea), Democratic People's Republic of Korea (North Korea), and parts of China and Japan to benefit more users and to cover a wider geographic area.

We basically included waterbirds in freshwater, brackish, and coastal wetlands, and many species occurring in grasslands, forests, and agricultural or arid habitats are also included here by virtue of their taxonomic status. However, not all species in the waterbird groups defined by the Ramsar Convention are presented here due to the lack of information, geographic uncertainty, and their unrelated habits from wetland environments. For instance, this guide does not include the Salvadori's Teal (*Salvadorina waigiuensis*), Forest Bittern (*Zonerodius heliosylus*), Chestnut Forest Rail (*Rallicula rubra*), White-striped Forest Rail (*Rallicula leucospila*), Forbes's Forest Rail (*Rallicula forbesi*), Mayr's Forest Rail (*Rallicula mayri*), and New Guinea Flightless Rail (*Megacrex inepta*), which occur in very limited habitats as endemics to New Guinea. Pelagic seabirds are not included in general, but common

costal birds and a few pelagic seabirds recorded in AWC are included. All told, a total of 342 species occurring in Southeast Asia and the broader East Asian region were selected and presented in this guide.

● Migration of Waterbirds

Many of the waterbirds occurring in the ASEAN region are migratory. Migration is the regular and predictable seasonal long-distance movement of animals, usually over national borders.

In the ASEAN Member States (AMS), there are two patterns of waterbird migration: the more common north-south migration when breeding birds from northern latitudes move towards tropical areas after the breeding season and stay until the end of the northern winters. Most of the shorebirds in the AMS are north-south migrants, arriving in autumn and departing in spring. Many of them will even make a long journey to Australia or New Zealand. However, many larger-bodied north-south migrants such as cranes and geese only reach the northern edge of the AMS.

Another migration pattern is dry-wet season migration when birds move in response to seasonal rainfall patterns. This type of migration is still poorly understood and little studied. However, the characteristic dry-wet seasonal pattern in the region and it's importance to wetland condition require further investigations of movements of bird populations according to those seasonal changes. Because of the small area of high altitude wetlands in the region (unlike adjoining parts of the Tibetan Plateau), there is limited altitudinal movement of waterbird species recorded in AMS.

Migration, it should be noted, is a rather complex and dynamic phenomenon; some species of waterbirds have both migratory and residential populations (e.g., herons and egrets). Distributions and movement of waterbirds may also change: the recent range expansion of the Asian Openbill (*Anastomus oscitans*) northward into China (not recorded prior to the 21st century) and southward to Malaysia is a good example. This shows the importance of increased monitoring, documentation and information-sharing efforts across the region. It is

important to understand changes in the movements of waterbirds for better estimates of population size and trends to guide effective management and conservation interventions. Compared to non-migratory species, migratory birds often face more diverse threats (e.g., habitat alteration, climate change) and conserving them is more challenging due to different legislations for their conservation across countries along their routes.

- **Status of and Threats to Waterbirds and Wetlands**

All wetlands are habitats in transition, and because they are usually located near to human settlements, they are probably the most vulnerable habitats. The loss and degradation of wetlands is a global issue, but a particular concern has been raised in tropical Asia. For instance, more than 45% of even protected wetlands in Southeast Asia are considered threatened because they are preferentially cleared for agriculture such as rice farming and commercial plantation. Therefore, the conservation of wetland biodiversity in general is likely to be the ultimate conservation challenge for the ASEAN Member States (AMS). In accordance with on-going global climate change, the frequency and intensity of extreme climate conditions is also increasing. This causes rapid changes in socio-economic conditions and patterns of water use.

According to a global assessment, waterbirds in the Asia-Pacific region are more threatened than elsewhere in the world. Asian residents and short-distance migrants are particularly hard-pressed; 71% of populations are decreasing. Many site-based conservation efforts to reverse this trend and tackle unregulated harvesting and trading of wild waterbirds have been made, but many of them do not deliver the intended benefits to local communities and the target species of interest.

Highly pathogenic avian influenza (HPAI) is a new emerging infectious disease among poultry and wild waterbirds. It evolved and persists within poultry systems, but the role of wild waterbirds in the introduction and transmission of HPAI into naive areas is still debatable. However, it may threaten public health as a zoonotic disease and cause significant socio-economic damage in AMS, and it is critically important to document the distribution of waterbirds, which is an important factor for HPAI persistence and transmission around wetland habitats not only in the ASEAN region but also along entire flyways of migratory waterbirds.

Direct threats to the waterbirds identified in the ASEAN region are summarized as below;

1. Poaching and overharvesting, including game hunting, poison-based baiting, pest control, egg collecting and wildlife/pet trade along flyways. These have detrimental effects on critically endangered species such as the Baer's Pochard (*Aythya baeri*) and Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*). Egg collection has extirpated or threatens colonies of breeding waterbirds and seabirds. Also, large waterbirds (i.e. ducks, geese, storks, curlews) can be targeted for live collections as well as local consumptions.
2. Pollution by domestic and industrial waste, agrochemicals, and floating rubbish. These may cause poisoning and entanglement. Secondary problems include accidental bycatch in fisheries and depletion of food sources for coastal and pelagic seabirds. Chronic and accidental oil spills also threaten many coastal waterbirds.
3. Disturbance from human activities. Increasing disturbance from uncontrolled tourism may disturb or destroy breeding colonies of waterbirds in sensitive wetland habitats.
4. Invasive species such as water hyacinth, *Mimosa* spp., and apple snails (Ampullariidae) are nowadays widespread in Asian wetlands and have altered aquatic ecosystem and waterbird habitat significantly in the region. Rats, pigs, goats, cats, dogs, and snakes that are introduced into islands can extirpate seabird colonies and endemic waterbird populations.
5. Waterbird collision with man-made structures. The effects of collisions on wild waterbirds is poorly known in the region. The proliferation of wind farms and turbines in coastal areas and solar farms in wetland habitats poses a potential threat.

Additional examples of threats to wetland habitats of the waterbirds include;

1. Agricultural development and expansion, such as conversion of natural wetlands into rice paddies and fish/shrimp pens.
2. Reclamations of tidal flats and lake shores for residential, industrial, and agricultural purposes. Tidal flat loss due to poorly planned reforestation projects using mangroves is also another concern.
3. Deforestation can alter wetland habitats of waterbirds. For instance, large waterbirds such as the Giant Ibis (*Pseudibis gigantea*), White-shouldered Ibis (*Pseudibis davisoni*), and adjutants (*Leptoptilos* spp.) have been impacted by the clearance of dry dipterocarp forests across much of continental Southeast Asia (i.e., Cambodia where the last dry open dipterocarp forest in AMS remains). Loss of sago swamps in eastern Indonesia by harvesting sago palm and subsequent clearing of trees may also impact forest-dependent waterbirds such as the threatened Invisible Rail (*Habroptila wallacii*).
4. Drainage and clearance of peat swamp forests for agriculture and oil palm plantation. For example, this negatively affects birds such as the Storm's Stork (*Ciconia stormi*) and White-winged Duck (*Asarcornis scutulata*) in Kalimantan.
5. Dam construction will alter the natural hydrology of riverine habitats impacting riparian-nesting species such as terns and lapwings (e.g., dams upstream on the Mekong River).
6. Sand mining, such as the black sand mining in the Buguey Wetlands in the Philippines, drives habitat loss and degradation.
7. Uncontrolled cattle grazing on riverine floodplains is destroying many important habitats. For instance, domestic water buffalos are known to trample on nests of swamphens in Moyungyi, Myanmar; additionally grazing activities disturb submergent and emergent aquatic vegetation, which may impact nesting and foraging environments of waterbirds. It may also change nutrient and water cycling dynamics of a wetland.

In the context of wetland loss, declining waterbird populations, overharvesting, and emerging threat of HPAI, the conservation of waterbirds in AMS is further impeded by limited knowledge and information to safeguard the integrity of wetlands and the ecosystem services they provide. Effective monitoring of waterbirds is thus fundamental to sustainable development in AMS as well as informing better conservation and management of wetlands.

● Monitoring Waterbirds

Understanding the condition of wetlands is key to maintaining the sustainable ecosystem services of wetlands. Because waterbirds are one of the key components of biodiversity in many wetlands, and are easy to count, the changes in their populations and movements have been monitored worldwide as indications of changes in the wetland environments and their ecosystem services.

Waterbirds are good indicators for wetland monitoring because:

- Most of them can be easily observed,
- They are relatively easy to identify and count,
- They are well-documented and many references on them are available,
- Population information is widely available across the flyway for comparison, and
- Changes in their population may indicate changes of the environment because many species sit at or near the highest trophic level in the wetland ecosystem.

The bird assemblage present in any one site can be used as broad indicators of biodiversity in the site, which in turn can guide conservation management activities. Threatened species can also be used to initiate a conservation program that benefits other wetland species. Such flagship species are also useful in raising public awareness and in education.

Many once-common shorebird species such as the Great Knot (*Calidris tenuirostris*) and Far Eastern Curlew (*Numenius madagascariensis*) have been listed as internationally threatened because monitoring in Australia has revealed massive declines in these species. However, species that do not migrate to winter in Australia (such as the Asian Dowitcher *Limnodromus semipalmatus*) may be suffering similar declines and are not well-documented yet.

The Asian Waterbird Census (AWC) is an ongoing project to monitor waterbirds in the Asia-Pacific region. It is a program of the global International Waterbird Census (IWC). The AWC was established in 1987 and has provided an ideal framework to collect and share information on the distribution and status of waterbirds and condition of wetlands. The ongoing effort involves producing meaningful baseline information on more than 1,250 wetlands, and collectively, the ASEAN Member States (AMS) have reported 211 waterbird species and 34 wetland-dependent species groups. However, most surveys are discontinued because of a lack of resources and experienced personnel for nationwide and ongoing monitoring. What is more, the coverage of AWC sites may not be adequate in some countries and does not include all internationally important wetlands across AMS, with the result that data is difficult to interpret at some sites. More organized and standardized efforts for waterbird monitoring are needed.

The golden rule of monitoring is that data collected should be comparable so it can show the changes at a defined site. Standardized monitoring should be done in the same area and season, and any variance in other factors (e.g. tide, weather condition, manpower and length of time) must be minimized as much as possible. Monitoring data should be carefully assembled on databases and shared with countries along the flyways to maximize their value for conservation and management. For more information on waterbird monitoring and general methods, refer the 'Guidance on waterbird monitoring methodology: field protocol for waterbird counting' prepared for the IWC that is available on the web archive of Wetlands International (See URL link under the section of useful websites, databases, and resources).

● Marked Birds with External Attachments

Although many tracking devices are now available for migration study of waterbirds (satellite transmitters, GPS loggers, geolocators, etc.), bird banding is still the most popular method as it is cheap and can be applied to a large number of birds. Two types of bands are commonly used for bird marking: metal bands with identity codes that are usually difficult to read in the field, and colored bands, flags, or collars that can be recorded without catching the birds. Colored markers for bigger birds (sometimes modified as leg flags) may have alphabetical and numeric codes for individual identification.

When you find birds with external markers such as colored bands in the field, be sure to record the following details: date, observer(s), location (preferably with GPS coordinates), species, color of the band(s), code or letter on marker, and location of band(s) on leg, wing, or neck. Whenever possible, take a photo of the marked bird. Information should be sent to your national banding scheme and to the regional coordination center of the East Asian - Australasian Flyway Partnership (EAAFP). Your report will help strengthen our understanding of migration connectivity, estimate the survival rate, and ultimately save waterbirds and their critical habitats.

● Terms & Abbreviations

- **1W:** 1st winter bird
- **2W:** 2nd winter bird
- **Adult (Ad):** A mature bird with definitive plumage. Some species have the same appearance in both summer and winter; others have distinctive of adult summer and adult winter plumage. Some small birds gain adult plumage within a year, but large species may, take several years to attain adult plumage.
- **Breeding Plumage (B):** Summer plumage. Usually a more colorful set of feathers gained by many birds, primarily males, either through feather abrasion or by a spring molt. However, some species, such as ducks or the Little Egret, may acquire breeding or summer plumage in winter.

- **Chick:** A newly-hatched bird without true or contour feathers. Chicks of waterbirds are commonly covered by down feathers.
- **Colony:** A number of birds breeding gregariously, the term vaguely including the location and the nests, e.g. egrets, gulls, etc.
- **Crest:** A tuft of feathers on the crown of the head, which in many species can be raised or lowered.
- **Eclipse (ME):** Cryptic, female-like plumage attained by male ducks in summer after breeding, during which the flight-feathers are molted and the duck becomes flightless, thus needing camouflage.
- **F (♀):** Female
- **Frontal Shield:** The unfeathered forehead of certain rail species (e.g., Coot, Moorhen), which often has a distinctive color and shape.
- **Holarctic:** Geographic region that includes Palearctic and Nearctic (North American continent) region that shares similar plant and animal species. In this book, it often indicates temperate, boreal or arctic climate zones of this area.
- **Immature (Imm):** A bird with any plumage other than adult after the first molt.
- **Juvenile (Juv):** A young, fledged bird with its first set of true or contour feathers, but which has not yet molted any of these feathers.
- **Lobate:** Having toes separately fringed by lobes of skin, as distinct from webs connecting the toes (e.g., Little Grebe, Coot, Red-necked Phalarope).
- **M (♂):** Male
- **Molt:** A natural process of renewal of the plumage, whereby the old feathers are shed and new ones grown. Most species molt in autumn, but some species molt in spring, or molt different feather groups at different times of year. Plumage color often changes as a result of molting, though change can also be caused by feather wear.
- **Non-breeding Plumage (N-B):** The plumage worn by birds outside the breeding season; also known as wintering plumage.
- **Nuptial Feathers:** Special feathers attained for courtship.
- **Palearctic:** Geographic region that includes Eurasian continent, north of the Himalayas and north Africa. In this book, it often indicates temperate, boreal and arctic climate zones of northern Eurasian continent.
- **Passage Migrant:** Transient. A bird which regularly passes through an area on its migration without remaining there for either the summer or the winter (e.g., sandpipers, plovers).
- **Plumes:** Long, showy feathers only worn during the breeding season (e.g., egrets).
- **Race:** Subspecies with a taxonomic rank subordinate to species. In this book, race indicates morphologically distinctive populations that do not usually interbreed in nature due to geographic isolation, sexual selection, or other factors.
- **Resident:** A bird which lives in the same location all year.
- **Speculum:** A distinctive, glossy patch on the upper surface of the secondaries of many species of ducks.
- **Similar Species (SS):** Similar species that may be confused because of morphological similarity.
- **Status:** Conservation status based on the most up-to-date IUCN Red List status (as of October 2017). The standard IUCN Red List Categories are used as follows: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), and Not Evaluated (NE).
- **Total Length (L):** The length of a moderately stretched museum specimen of a bird from the tip of the bill to the tip of tail.
- **Upperparts, Underparts:** These are usually separated by a line along the body connecting the eyes and the wings.
- **Vagrant:** A bird which has wandered far off its normal range, often joining flocks of other species, sometimes because of typhoons, or disorientation during migration.
- **Winter Visitor:** Non-breeding visitor. A bird which breeds mainly at higher latitudes (farther north in the northern hemisphere or farther south in the southern hemisphere) in spring and summer, and comes to the ASEAN region to spend the winter or non-breeding season (e.g., ducks, terns).

● Common and Scientific Names

This guide follows the IOC World Bird List ver. 7.1 (Gill and Donsker 2017; accessed in April 2017) for common and scientific names of waterbird species as well as their taxonomic status. This list based on the IOC taxonomic status may include several species that are not often regarded as full species in the other lists such as IUCN Red List; for instance, Tricolored Grebes *Tachybaptus tricolor* and Eastern Cattle *Egrets Bubulcus coromandus* are often regarded as races of Little Grebes *T. ruficollis* and Cattle Egrets *B. ibis*, respectively. If other common names are widely used and accepted in the other references, their alternative names are given in brackets.

We used the binominal nomenclature for species, but some races or subspecies are described using trinomial nomenclature only when they are clearly distinguishable in the field by morphological characteristics.

● Range Map

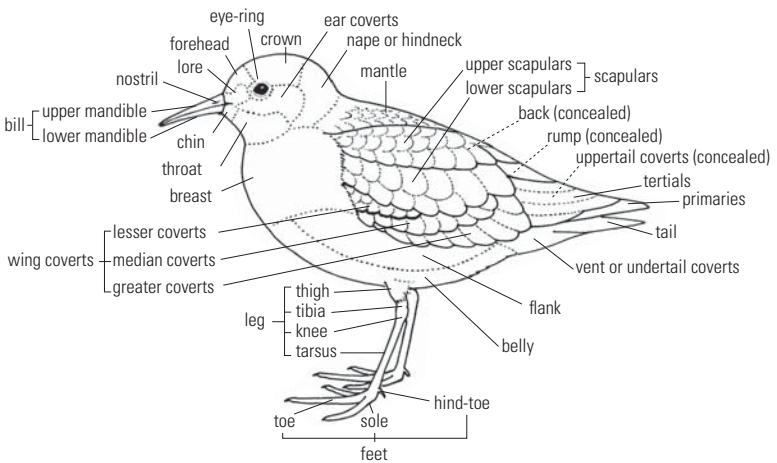
Range maps in this guide cover Southeast Asia and parts of East Asia. The geographic extent of a species range is redrawn from the BirdLife's species range maps (Source: BirdLife International and Handbook of the Birds of the World. 2016. Bird species distribution maps of the world. Version 6.0). The maps show the native breeding range in lime green and the native non-breeding range in blue. The area where the species is a native resident is indicated in green. The detailed color legend for the map is as blow;

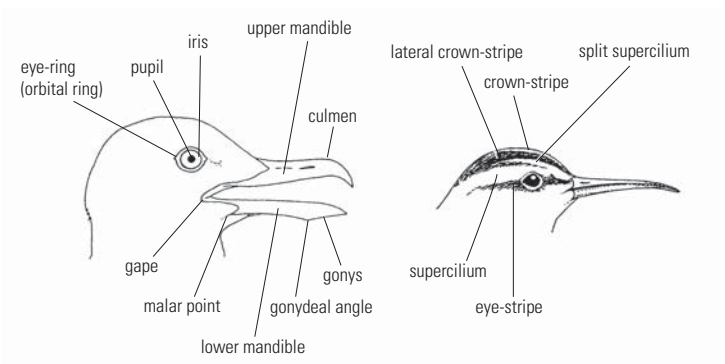
Native breeding Native non-breeding Native resident
Possibly extinct Extinct

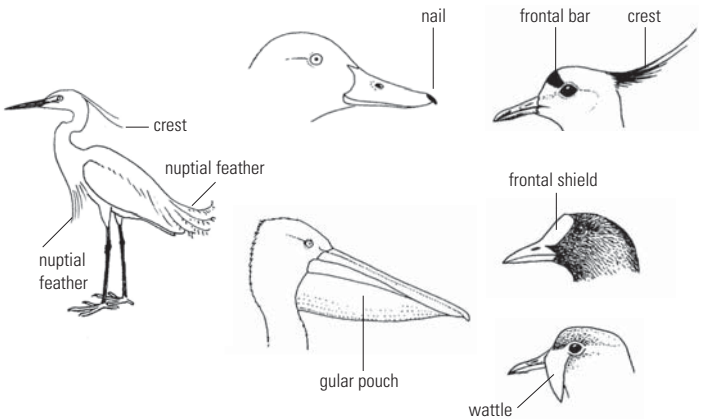
● Useful Websites, Databases and Resources

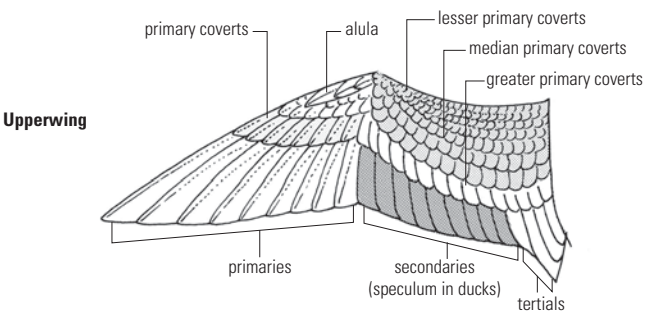
1. Association of Southeast Asian Nations (ASEAN): http://www.asean.org
   A. ASEAN Centre for Biodiversity (ACB): http://www.aseanbiodiversity.org
   B. ASEAN Biodiversity Information Sharing Service (BISS): http://chm.aseanbiodiversity.org
2. BirdLife International: http://www.birdlife.org
   A. BirdLife International Data Zone: http://datazone.birdlife.org
3. Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention): http://www.cms.int
4. Convention on Wetlands (Ramsar Convention): http://www.ramsar.org
5. East Asian-Australasian Flyway Partnership (EAAFP): http://www.eaaflyway.net
   A. Coordination of color marking: http://www.eaaflyway.net/migratory-waterbirds-in-eaaf/coordination-of-colour-marking/
6. International Union for Conservation of Nature (IUCN): http://www.iucn.org
   A. IUCN Red List of Threatened Species: http://www.iucnredlist.org
7. IOC World Bird List: http://www.worldbirdnames.org
8. Wetlands International: http://www.wetlands.org
   A. Waterbird Population Estimates (WPE): http://wpe.wetlands.org
   B. International Waterbird Census (IWC): http://www.wetlands.org/our-approach/healthy-wetland-nature/international-waterbird-census/
   C. Asian Waterbird Census (AWC): http://south-asia.wetlands.org/WhatWeDo/AsianWaterbirdCensus/tabid/2892/Default.aspx
   D. Guidance on waterbird monitoring methodology - field protocol for waterbird counting: http://www.wetlands.org/publications/iwc-guidance-field-protocol-for-waterbird-counting/

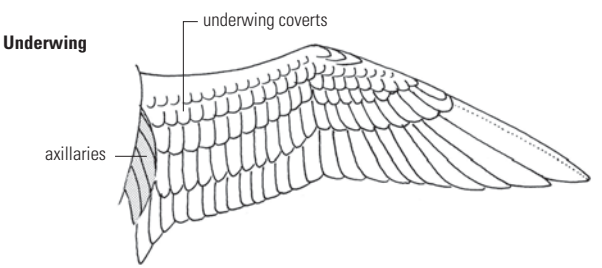
• Topography


eye-ring
ear coverts
forehead
crown
nape or hindneck
lore
mantle
upper scapulars
lower scapulars
scapulars
nostril
bill
upper mandible
lower mandible
back (concealed)
chin
rump (concealed)
uppertail coverts (concealed)
throat
tertials
breast
primaries
lesser coverts
tail
wing coverts
median coverts
greater coverts
vent or undertail coverts
thigh
tibia
leg
knee
tarsus
flank
belly
hind-toe
toe
sole
feet


iris
upper mandible
eye-ring
(orbital ring)
pupil
culmen
gape
gonys
malar point
gonydeal angle
lower mandible
lateral crown-stripe
split supercilium
crown-stripe
supercilium
eye-stripe


nail
frontal bar
crest
crest
nuptial feather
frontal shield
nuptial
feather
gular pouch
wattle


primary coverts
alula
lesser primary coverts
median primary coverts
greater primary coverts
Upperwing
primaries
secondaries
(speculum in ducks)
tertials


underwing coverts
Underwing
axillaries

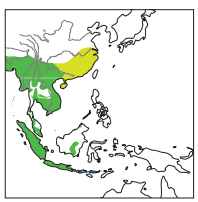
FULVOUS WHISTLING DUCK *Dendrocygna bicolor*

L 49 cm. Largest, robust whistling duck in the region. Plumage uniformly chestnut brown; dark brown stripe runs down the back of neck; distinct pale throat patch with fine black markings. Thick white streaks running along the flanks extend to white undertail coverts. **Juv:** Plumage duller and less rich; white flank markings and throat patch less prominent. **SS:** Lesser Whistling Duck is smaller; has fewer white streaks on the flanks; also lacks throat patch of Fulvous. **Habitat:** Inland lakes and freshwater marshes; well vegetated river banks. **Range:** A pantropical species; patchily and sporadically distributed resident in SE Asia with few recent records. **Status:** LC.

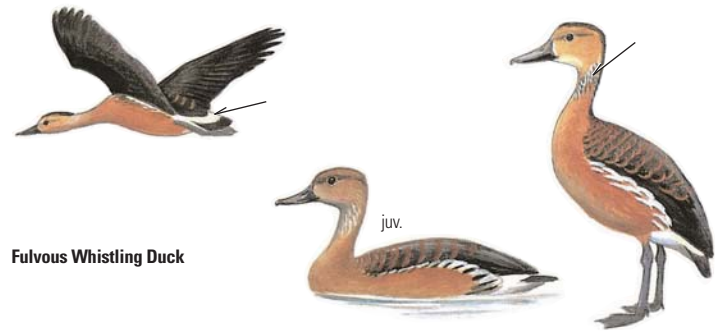
WANDERING WHISTLING DUCK *Dendrocygna arcuata*

L 52 cm. Upperparts mostly brown, paler on throat and neck; breast and belly rich chestnut; flanks strongly marked with bold white streaks, extending to the undertail coverts. Crown dark brown, extending down the nape and hind neck; bill black. **Juv:** Plumage duller; white flank markings less prominent. **SS:** Lesser Whistling Duck is smaller and its plumage paler; lacks the bold white streaks on the flanks. **Habitat:** Inland lakes, ponds, and freshwater marshes; well-vegetated river banks; flooded rice paddies. **Range:** Relatively common resident in SE Asia. A feral population occurs in Singapore and has hybridized with Lesser Whistling Duck. **Status:** LC.

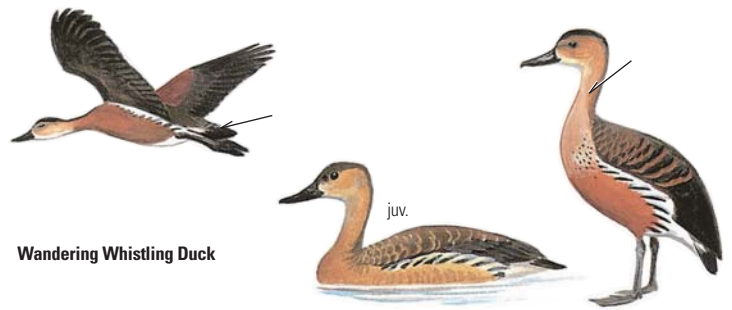
LESSER WHISTLING DUCK *Dendrocygna javanica*



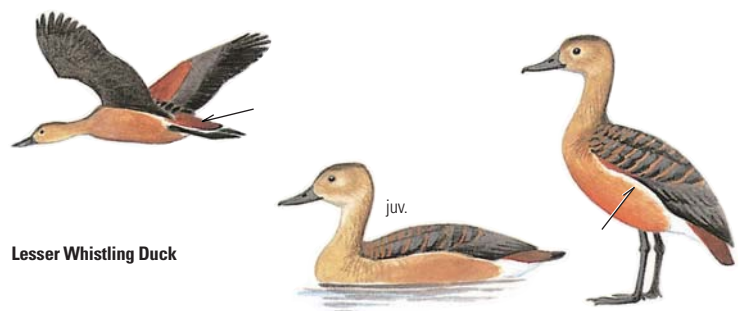
L 41 cm. Smallest whistling duck in the region. Pale rufous brown duck with barred upperparts. Face and neck light bay-brown, with dark brown crown; rest of upperpart dark greyish brown with rufous feather fringes. In flight, dark flight feathers contrast with chestnut upperwing coverts. **Juv:** Duller than adult; lacks dark crown and stripe down hind neck. **SS:** Fulvous and Wandering Whistling Ducks are larger, have white flank feathers, and have dark grey rump and uppertail coverts. **Habitat:** Flooded grassland and rice paddies, freshwater marshes, shallow pools, and lakes, sometimes mangroves, often in large flocks. **Range:** Resident in most of S and SE Asia. **Status:** LC.



Fulvous Whistling Duck



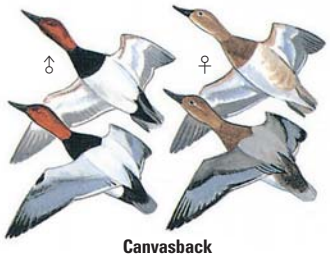
Wandering Whistling Duck



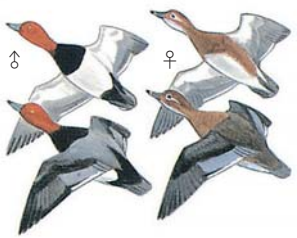
Lesser Whistling Duck

* Not to scale

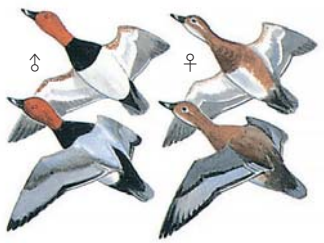
Red-crested Pochard



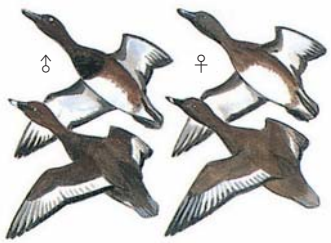
Canvasback



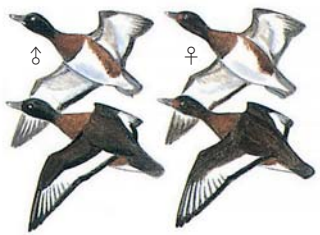
Redhead



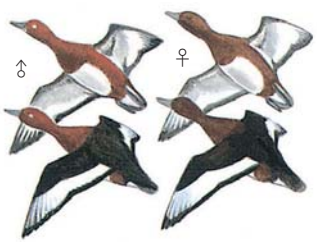
Common Pochard



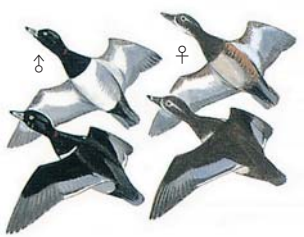
Hardhead



Baer's Pochard

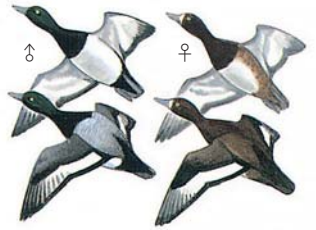


Ferruginous Duck

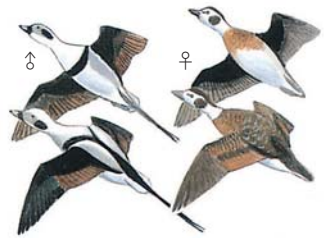


Ring-necked Duck

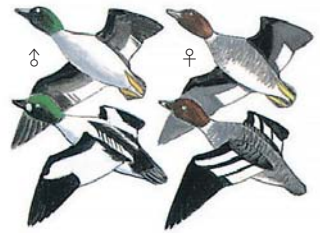
Tufted Duck



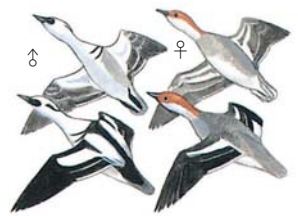
Greater Scaup



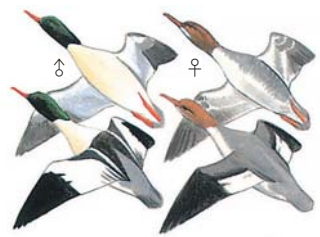
Long-tailed Duck



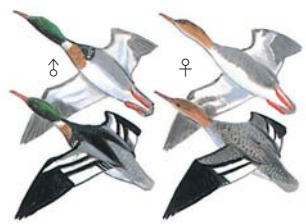
Common Goldeneye



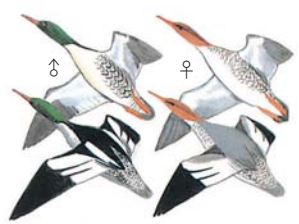
Smew



Common Merganser



Red-breasted Merganser

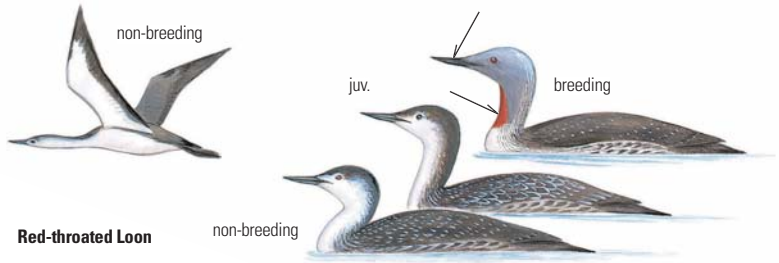


Scaly-sided Merganser

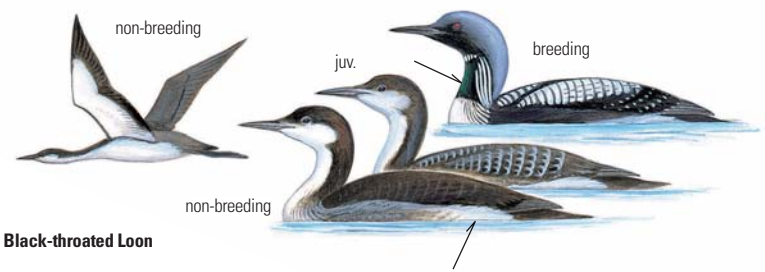
RED-THROATED LOON [Red-throated Diver] *Gavia stellata* L 63 cm. When on water, often holds the slender bill pointed upwards; the lower mandible is uptilted. Upperparts are rather uniform grey-brown. **B:** Face and sides of neck pale-grey, finely striped on hindneck; large, deep dark reddish patch on foreneck diagnostic. **N-B:** Extensive white on sides of neck and face, so eye is conspicuous; upperparts speckled with white. **Juv:** Crown and nape darker than non-breeding. White spots on upperparts less bold, but paler fringes to feathers on upperparts. **Habitat:** Pelagic and coastal, occurring also in estuaries and coastal lakes and lagoons. **Range:** Holarctic species primarily breeding in Arctic region; winters in N coastal waters in E Asia. **Status:** LC.

BLACK-THROATED LOON [Black-throated Diver] *Gavia arctica* L 72 cm. Whitish feathers on rear flanks are visible and conspicuous when floating on water; longer, stouter bill than Pacific Loon is held straight. **B:** Black foreneck has metallic-green sheen; stripes on chin and sides of neck are wider than in Pacific Loon; Grey hindneck shows little contrast with face. **N-B:** Blackish body shows clear contrast with clear white neck line and whitish patch of feathers on thighs and rear flanks are visible above the water surface. **Juv:** Pale fringes to mantle/scapular feathers. **Habitat:** Pelagic and coastal, occurring also at estuaries. **Range:** Palearctic breeder wintering in E Asia. **Status:** LC.

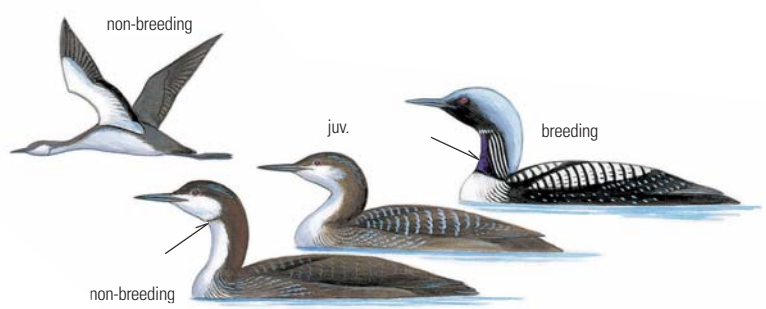
PACIFIC LOON [Pacific Diver] *Gavia pacifica* L 65 cm. Shorter, straighter bill and more rounded head shape than Black-throated. **B:** Black foreneck has metallic-purple sheen; pale hindneck visible from a distance and contrasts with blackish face. **N-B:** Dusky mottling on ear coverts makes face appear dark; fine, dark chinstrap is often visible at close range. **Juv:** Pale fringes to mantle/scapular feathers. **SS:** Black-throated Loon has white on flanks above the water surface. **Habitat:** Pelagic and coastal, occurring also in estuaries. **Range:** Breeds in E Siberia, Alaska and N Canada; winters in E Asia. **Status:** LC.



Red-throated Loon



Black-throated Loon



Pacific Loon

Darters & Anhingas (Family Anhingidae)

ORIENTAL DARTER *Anhinga melanogaster* L 91 cm. Long, slim, heron-like head and neck, dagger-like bill, and long tail are some striking features. Head and neck brown; wing and body blackish. Neck is typically held recoiled or with obvious kink. Whitish streaks on upperparts. In flight, like cormorant but long tail are especially evident. Fine barring on the tail is an optical effect of horizontal corrugation of the outer web. **Juv:** Brown body; head and neck whitish. **Habitat:** Freshwater marshes, and reservoirs; flooded fields, large rivers, mangroves, fish ponds, intertidal mudflats, and salt pans. **Range:** Resident in S & SE Asia. **Status:** NT. Population is estimated at 33,000 individuals.

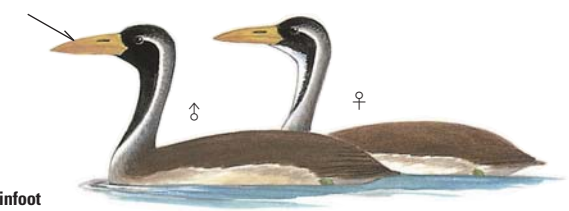
AUSTRALASIAN DARTER *Anhinga novaehollandiae* L 91 cm. Long white stripe on malar and shorter white patch below on sides of chin. Flight feathers and tails glossy black; wing coverts and scapulars are elongated and have buff streaks. Bill greenish yellow; legs dark grey. **M:** Body plumage glossy black with rufous brown neck. **F:** Underparts pale grey with rufous wash on the flanks. **Juv:** Similar to female but overall dull and brownish plumage; lacks sheen of adult flight feathers. **SS:** Oriental Darter has longer and extended white strip on face and longer bill; range does not overlap. **Habitat:** Wetlands with shallow and still waters; rivers, reservoirs with trees and vegetation. **Range:** Resident in New Guinea and Australia. **Status:** LC.

Finfoots (Family Heliornithidae)

MASKED FINFOOT *Heliopais personatus* L 53 cm. Elusive, medium-sized diving waterbird with long neck, yellow bill, and lobbed feet. Leg green; iris brown. **M:** Forehead, cheeks, and throat are black with white line along the boundary. Neck greyish brown; upperparts brown; underparts pale grey. Bill yellow; leg green. Develops fleshy knob on base of bill in breeding season. **F:** Similar to male, but has white throat and forehead. **Juv:** Lacks black on forehead. Bill dull yellow. **Habitat:** Well-vegetated marshes and wetlands, forested wetlands and flooded forests; mangroves. **Range:** Breeds in India, Bangladesh, Myanmar and Cambodia. Occurs in Thailand, Laos, Viet Nam, Peninsular Malaysia in non-breeding season; vagrant to Singapore, Sumatra, and Java. **Status:** EN. World population estimated around 600-1,700 individuals.

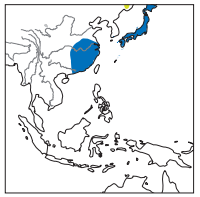
Oriental Darter

Australasian Darter



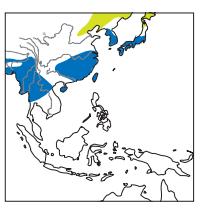
Masked Finfoot

Rails, Crakes & Coots (Family Rallidae)

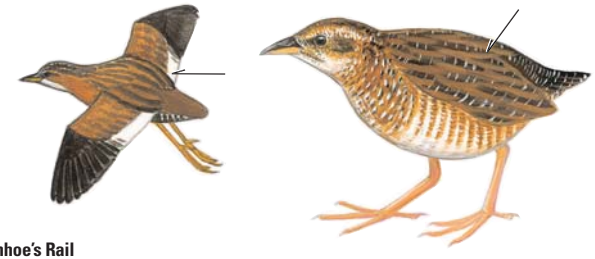


SWINHOE'S RAIL *Coturnicops exquisitus* L 13 cm. Tiny, smallest of the rails; size distinctive. Upperparts chestnut brown with bold dark-brown streaks and fine white bars. Throat and face finely spotted white with indistinct brownish eye-stripe; belly white; legs brownish-green. White secondaries are conspicuous in flight. **Habitat:** Marshes and rice paddies. **Range:** Breeds and winters in E Asia. **Status:** VU. Global population is estimated at 2,500-9,999 mature individuals.

CORN CRAKE *Crex crex* L 28 cm. Relatively robust crake with thick bill. Upperparts, from crown to neck, back scapulars and uppertail coverts are warm brown with broad dark brown streaks. Supercilium and breast bluish grey; cheeks and throat buff brown. Outer wing coverts plain chestnut brown; belly chestnut brown with white dense bars. Bill yellowish brown; legs pale brown or grey. **F:** Overall dull and paler. **Juv:** More buff on feather fringes, less grey on sides of the heads. **SS:** Female Watercock has longer legs and lacks grey on breast and head, and no chestnut-brown patch on wings. **Habitat:** Breeds on meadows and grasslands with dense, tall vegetation. Winters on cropland, savannah, and dry grasslands. **Range:** Breeds in W Europe to W China, and winters mainly in Africa. Vagrants are recorded from wide range, from Australia to Japan; vagrant to S Viet Nam. **Status:** LC.



BROWN-CHEEKED RAIL [Eastern Water Rail] *Rallus indicus* L 29 cm. Medium-sized rail with comparatively long, slightly decurved red bill with dark brown upper mandible. Greyish-blue face and breast, with brownish eye-stripe and ear coverts; sides, belly, flanks, and undertail coverts barred black and white; often looks all-dark at a distance. **SS:** Baillon's is smaller and has shorter, greenish-yellow bill. **Habitat:** Reedbeds, disused rice paddies, and marshes with dense vegetation. **Range:** Breeds in E Asia; winters in Myanmar, Thailand, Laos, and Viet Nam. **Status:** LC.



Swinhoe's Rail

Corn Crake

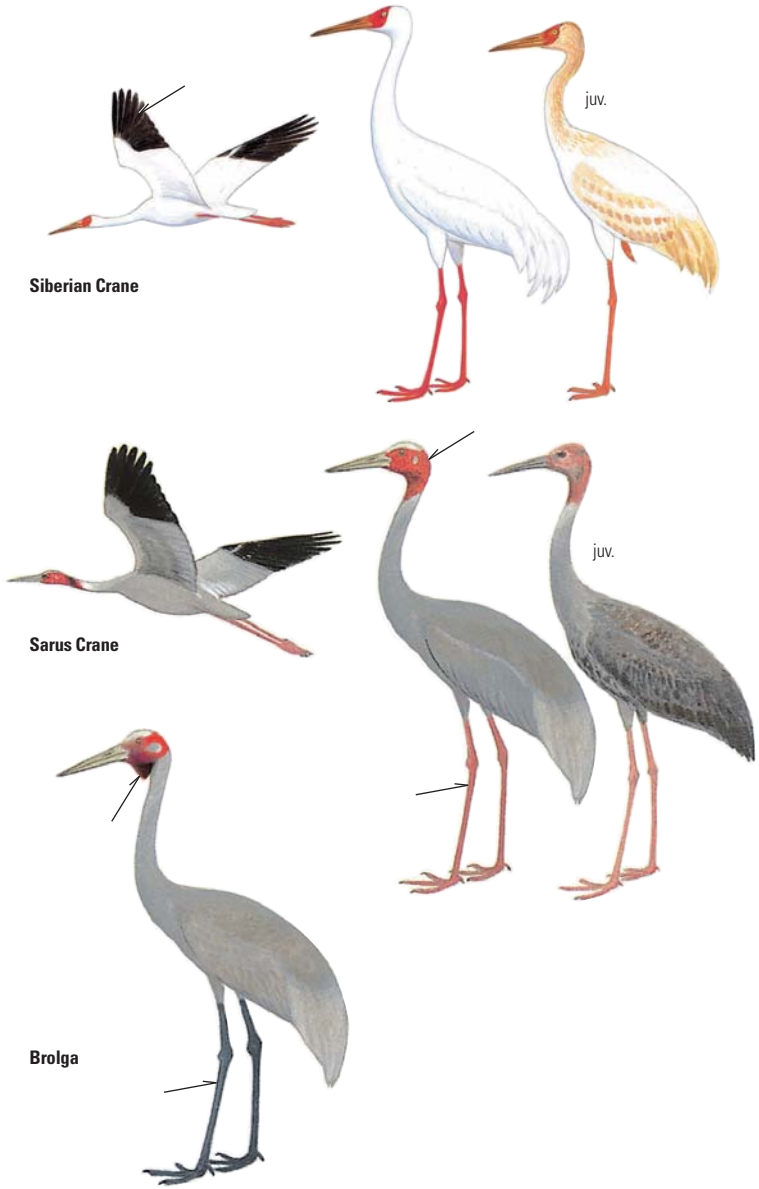
Brown-cheeked Rail

Cranes (Family Gruidae)

SIBERIAN CRANE *Grus leucogeranus* L 135 cm. Large, all-white crane with bare red skin on forehead. In flight, black primaries and primary coverts (hidden at rest) are distinctive. Legs pink to red; long bill is pinkish or yellowish. **Juv:** Irregularly marked with pale rufous brown. **SS:** Red-crowned Crane. **Habitat:** Open rice paddies and shallow wetlands; most aquatic of all crane species. **Range:** NE Siberian population moves to Poyang Lake, E China. W & C Asian population formerly wintered in and around India. **Status:** CR. World population estimated at 3,800-4,000 individuals.

SARUS CRANE *Grus antigone* L 164 cm. Tallest crane species. Uniform light grey plumage. Distinct orange to red bare skin on head, throat, and upper neck. Ear is marked by a small area of greyish white feathers on each side of the face. Long, black hair-like bristles cover parts of the upper throat and neck. Legs and feet pinkish. **Juv:** Head and upper neck buffish and feathered. Body plumage changes from cinnamon brown to grey as the bird matures. **SS:** Brolga is smaller with darker legs and has no red on its neck. **Habitat:** Marshy grassland, open country, rice paddies, dry-open forest. **Range:** Rare resident and local migrant in Myanmar, Laos,Viet Nam, and Cambodia. Regionally extirpated in Thailand, Malaysia, and Philippines; re-introduced in Thailand. **Status:** VU. World population size totals 19,000-21,800 individuals.

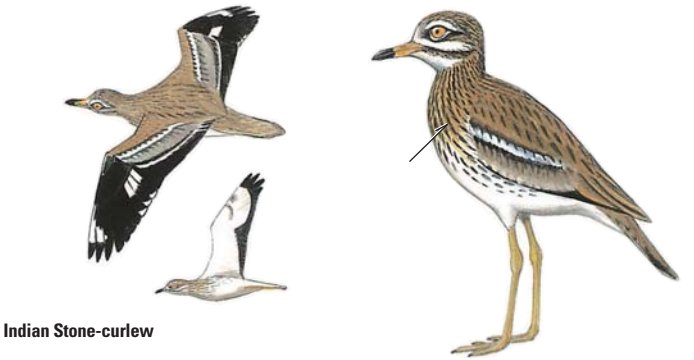
BROLGA *Grus rubicunda* L 160 cm. Large grey crane with red facial skin and small wattle. From neck to tail, overall plumage is pale grey. Flight feathers are darker grey, especially outer primaries are almost black. Crown is grey, the rest of the head is bare skin, except grey ear coverts. Bare skin around eye and cheek is pinkish grey, skin behind the ears are bright red. Extended skin or wattle under the throat is black. Legs are dark grey. **Imm:** Head and neck is brownish grey. **Habitat:** Marshy grassland, open country, rice paddies, dry-open forest, estuaries, and mudflats. **Range:** Breeding resident of Australia and S New Guinea. **Status:** LC.



INDIAN STONE-CURLEW [Indian Thick-knee] *Burhinus indicus* L 42 cm. Medium-sized wader with short, thick bill and large eye. Distinctive white supercilium and moustachial stripe. Submoustachial stripe and strip from forehead to under eye are dark brown. Crown, neck, back, scapulars and tail brown with dark streaks; tips of wing coverts white, forming two white distinctive wing-bars when folded. Flight feathers black, with two small white patches in primaries visible in flight. Belly and vent off-white; bill black with narrow yellow base; legs yellow. **Juv:** Buff fringes on upperparts and less bold facial markings. **SS:** Smaller than Greater and Beach Stone-curlews, and lacks obvious black head patterns and shoulders. **Habitat:** Dry grasslands, shrublands, savannahs, dry riverbeds, deserts, and farmlands. **Range:** Resident breeder in Myanmar, Thailand, Cambodia, Laos, and Viet Nam. **Status:** LC.

GREAT STONE-CURLEW [Great Thick-knee] *Esacus recurvirostis* L 52 cm. Large stone curlew with recurved bill. Head is distinctively patterned; black line above white eye patch; black cheek patch and malar stripe; forehead white. Upperparts unstreaked pale brown; breast buff brown; belly white. Dark brown and white bar on lesser wing coverts. Greater and median coverts pale grey; flight feathers black, with three small white patches on the primary. Bill black with narrow yellow base; legs pale yellow. **Juv:** Has buff fringes to upperparts, with duller head pattern than adults. **Habitat:** Rocky riverbeds or lake shore with gravel, mud, and sand. Less frequently on coastal beaches and sand bars on estuaries. **Range:** Resident in Myanmar, Thailand, Laos, Viet Nam; also India and S China. **Status:** NT. World population estimated at 1,000-25,000 individuals.

BEACH STONE-CURLEW *Esacus magnirostris* L 54 cm. Similar to Great Stone-curlew but has black forehead with rather strait, massive and thick bill; black patterns on upper and underwings are also different. Bill black with yellow base. **Juv:** Bare parts are duller, and has buff fringes to feathers of upperparts. **Habitat:** Coastal beaches, mudflats, and sandbars of estuaries and coral reefs. **Range:** Resident breeder in Myanmar, Thailand, Peninsular Malaysia, Philippines, Brunei, Indonesia, New Guinea, Australia, and nearby S Pacific Islands. **Status:** NT. Population estimated around 6,000 individuals.

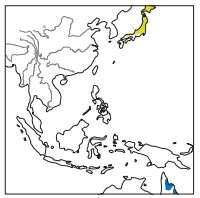


Indian Stone-curlew

Great Stone-curlew

Beach Stone-curlew

LATHAM'S SNIPE *Gallinago hardwickii* L 29 cm. Large, bulky snipe. Flight is strong and direct; broad pale panel across the median coverts is often visible. On ground, tail clearly extends beyond primaries, which are usually completely covered by tertials. **SS:** Pin-tailed and Swinhoe's are smaller, but often inseparable in the field. **Habitat:** Often in dry grasslands; also rice paddies and other freshwater wetlands. **Range:** Breeds mainly in Japan; non-breeding visitor in E Australia and Tasmania; perhaps also small numbers in New Guinea. **Status:** LC.



PIN-TAILED SNIPE *Gallinago stenura* L 26 cm. Takes flight quickly, but flight slower than Common Snipe and with less zig-zagging, and more apt to land close by than Common Snipe; in flight, broader wings show narrow, greyish trailing edge, feet project further beyond shorter tail. On ground, scapulars are usually more rounded, edges of scapulars more equally fringed yellowish-buff. Dark eye-stripe often broken in front of the eye. Occasionally shows diagnostic, pin-shaped outer tail feathers when preening. **SS:** Useally inseparable from Swinhoe's in the field; best identified in hand by close examination of tail feathers. **Habitat:** Rice paddies, ponds, marshes, streams, and riverbanks. **Range:** Breeds in C & E Palearctic; non-breeding visitor in SE Asia. **Status:** LC.

SWINHOE'S SNIPE *Gallinago megala* L 28 cm. Larger and heavier than Pin-tailed and Common Snipes. Flies relatively slowly and usually silently; short escape flight often direct with relatively heavier beats of longer wings; feet less visible than Pin-tailed, and lacks contrasting underwing of Common Snipe. On ground, shows slight primary extension beyond tertials, and clear tail extension beyond primaries. **SS:** Often indistinguishable with Pin-tailed in the field. **Habitat:** Well-vegetated wetlands, rice paddies, streams, and grasslands; often chooses drier habitat than Common Snipe. **Range:** Breeds in C, N & E Palearctic; non-breeding visitor and passage migrant in SE Asia. **Status:** LC.

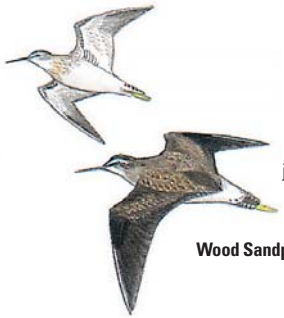
Latham's Snipe

Pin-tailed Snipe

Swinhoe's Snipe

* Not to scale

Green Sandpiper



Wood Sandpiper

Grey-tailed Tattler

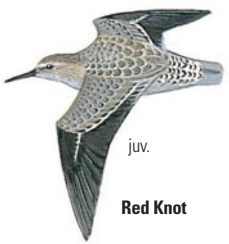
Wandering Tattler

Terek Sandpiper

Common Sandpiper

Ruddy Turnstone

Ruff



Red Knot

Great Knot

Shorebirds in Flight

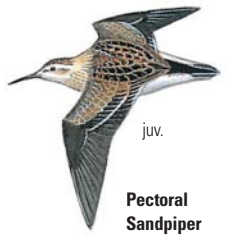
Sanderling

Red-necked Stint

Temminck's Stint

Long-toed Stint

Spoon-billed Sandpiper



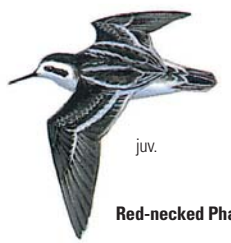
Pectoral Sandpiper

Sharp-tailed Sandpiper

Dunlin

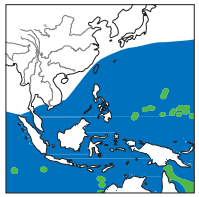
Broad-billed Sandpiper

Curlew Sandpiper

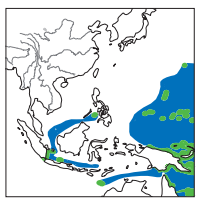


Red-necked Phalarope

Red Phalarope



BROWN NODDY [Common Noddy] *Anous stolidus* L 39 cm. Dark brown, almost chocolaty with pale greyish to white forehead and crown; blackish lore. **Imm:** Like adult but crown brown, sometimes a little whitish on the forehead. **SS:** Black Noddy is a bit smaller, slimmer, and more blackish. **Habitat:** Isolated and off shore islands and along the coasts. **Range:** Tropical and subtropical regions of Atlantic, Indian, and Pacific Oceans. Breeds and wanders in SE Asia, along the coasts and coastal islands. **Status:** LC.



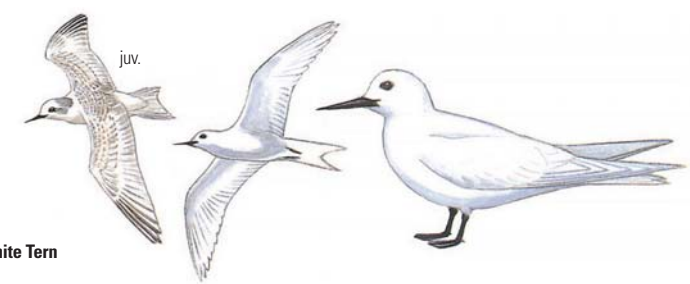
BLACK NODDY [White-capped Noddy] *Anous minutus* L 36 cm. Looks blackish. Very dark brown with white crown and forehead with black lore. **Imm:** Like adult but lighter brown all over with white forehead. **SS:** Brown Noddy is larger and more chocolaty, but often indistinguishable at a distance. **Habitat:** Isolated and offshore islands and along the coasts. **Range:** Tropical and subtropical regions of Pacific and Atlantic Oceans. Breeds and wanders in SE Asia. **Status:** LC.

WHITE TERN *Gygis alba* L 27 cm. Small, all-white tern. Bill is long, slightly up-turned, and dark grey with pale base. Legs dark grey with black webs; eye large with black iris. **Juv:** Brownish grey fringes on crown, back and wing feathers. **Habitat:** Breeds on offshore islands, especially on atolls with vegetation. Forages on open seas, mostly near breeding grounds. **Range:** Tropical regions of Atlantic, Indian, and Pacific Oceans; occurring in SE & part of E Asia as vagrant. **Status:** LC.

INDIAN SKIMMER *Rynchops albicollis* L 41 cm. Large, black-and-white tern with extended lower mandible longer than upper. **B:** Upperparts black; underparts and forehead, face, neck, hindneck and underparts white. Short and white tail, not forked; bill orange to red with a yellow tip; legs red. In flight, white trailing edge of wings visible; deep and slow wingbeats. **N-B:** Upperparts are duller, brownish black. **Juv:** Pale buff fringes on upperparts and flight feathers. Bill is duller and shorter. **Habitat:** Large rivers, lakes, and swamps; rarely coastal wetlands. **Range:** Mainly breeds in S Asia; resident in Myanmar and formerly in Laos and Cambodia; vagrant to Thailand. **Status:** VU. Declining population at 6,000-10,000 individuals.

Brown Noddy

Black Noddy



White Tern

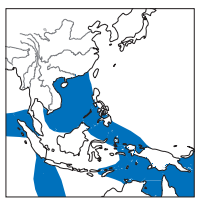
Indian Skimmer

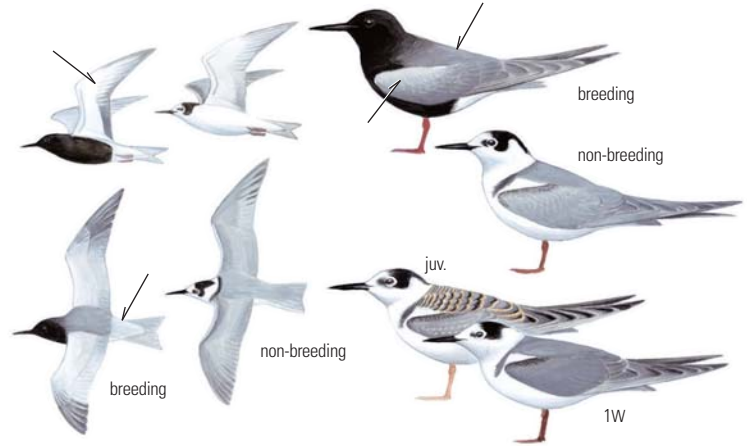
BLACK TERN *Chlidonias niger* L 24 cm. Black bill longer than White-winged Tern. Back and rump grey; legs dark red; underwing coverts white. **B:** Head, neck and underparts are black; mantle and back are dark grey. **N-B:** Black hind crown extends to eye; has dark grey bar on each side of upper breast. **Juv:** Similar to N-B, but has pale brown fringes on back, mantle, and wings. **SS:** White-winged Tern has white rump, white upperwing coverts and black underwing coverts. **Habitat:** Coasts, estuaries, lakes, and rivers. **Range:** Breeds in W Palearctic; vagrant to Singapore. **Status:** LC.

Skuas (Family Stercorariidae)

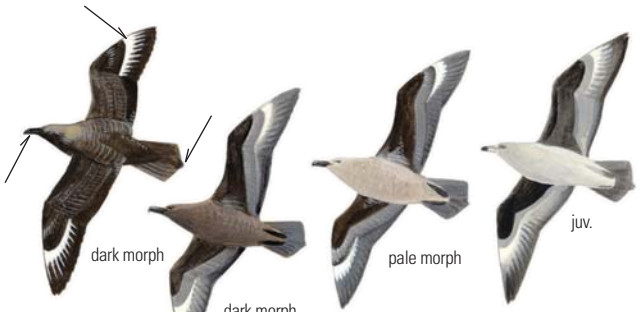
SOUTH POLAR SKUA *Stercorarius maccormicki* L 53 cm. Sexes alike. No seasonal variation. Bulky body, with slow, heavy wingbeats, distinguishes it from smaller jaegers. White patches on primaries are broad and distinctive from a distance. Coloration varies from pale buff to dark brown. Pale morph shows obvious contrast between uniform upperparts and paler head and underparts, but Dark morph shows little contrast. Bill is black. **Juv:** Bill is paler than adult's, with black tip. Buff fringes on feathers. **Habitat:** Open seas. **Range:** Breeds in Antarctic; migrates to northern parts of Atlantic, Indian, and Pacific Oceans. Vagrant to E Asia. **Status:** LC.

POMARINE JAEGER *Stercorarius pomarinus* L 54 cm. Dark; heavier bodied and longer-winged than Long-tailed or Parasitic Jaegers, with slower wingbeats. White primary bases are more prominent than in other jaegers. Elongated central tail feathers are rounded, broad, and twisted. Base of bill is pinkish. **B:** Dark morph is plain dark brown. Pale morph has yellowish-buff neck and cheeks, pale underparts; often shows dark brown band across breast. Intermediate forms between dark and pale morphs also exist. **N-B:** Much as immature; underwing coverts uniformly dark. Underparts are paler, with dark barring. **Juv:** Variable, but usually buff overall, with heavily barred underparts and wings. **Habitat:** Open seas. **Range:** Breeds in tundra of Arctic Circle; migrates to Atlantic, Indian, and Pacific Oceans. Offshore migrants or vagrant to SE Asia. **Status:** LC.

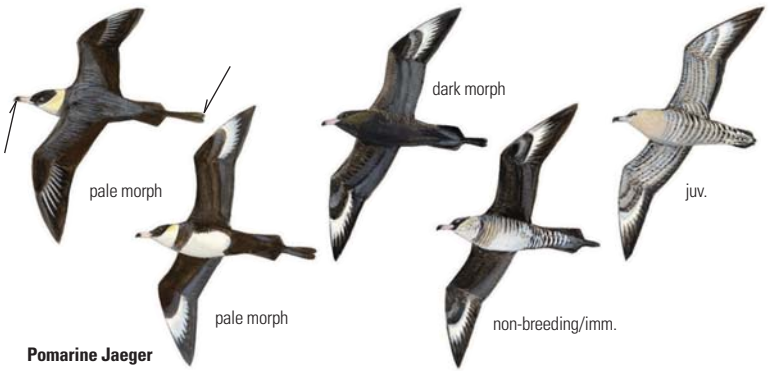




Black Tern



South Polar Skua



Pomarine Jaeger

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There has been always a great need for a field guide on waterbirds that is handy, widely available, and readily applicable to the Asian region. After the comprehensive and lightweight reference entitled 'A Field Guide to the Waterbirds of Asia (1993)' went out of print, many experts and conservationists tried to reprint it but were stymied in their efforts due to complex copyright issues and cost.

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We long communicated with many experts including Simba Chan, Richard Grimmett, and Mike Crosby at BirdLife International as well as Taej Mundkur of Wetlands International to develop initial ideas for a new waterbird guide for Asia. This book focuses on the ASEAN region, not on Asia overall, but we are still greatly indebted to them. In particular, BirdLife International kindly granted us the use of their database on species' distribution maps, and Mark Balman helped us download and use the GIS dataset. We are very grateful to Simba Chan at BirdLife International and Yat-tung Yu of the Hong Kong Bird Watching Society for their time and efforts in order to identify potential authors, draft the introduction, and review the manuscript during the editorial meeting. We also thank Nancy L. Gibson of the Love Wildlife Foundation and the Bird Conservation Society of Thailand (BCST) for helping us to arrange a local workshop in Bangkok, Thailand. We would like to mention that Naw May Lay of the Wildlife Conservation Society Myanmar, Ria Saryanthi of the Burung Indonesia, and Le Trong Trai of the Viet Nature Conservation Centre kindly identified and recommended potential authors representative of their countries.

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Lastly, we declare that the views expressed herein are those of the authors and are not to be construed as official or reflecting the views of the ASEAN, ASEAN Secretariat, ASEAN Member States, and the Republic of Korea.

Appendix: **National List of Waterbirds**

* Black circles represent the occurence of species in the country, whereas question marks denote questionable or unconfirmed records.
** Species not marked here are East Asian species.
*** IUCN Red List Status is as of Oct 2017 and subject to change.

Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Dendrocygna guttata	Spotted Whistling Duck	LC			•				•			
Dendrocygna bicolor	Fulvous Whistling Duck	LC						•				
Dendrocygna arcuata	Wandering Whistling Duck	LC	•		•		•		•	•		
Dendrocygna javanica	Lesser Whistling Duck	LC	•	•	•	•	•	•		•	•	•
Branta bernicla	Brant Goose	LC							•			
Branta ruficollis	Red-breasted Goose	VU										
Branta hutchinsii	Cackling Goose	LC										
Anser indicus	Bar-headed Goose	LC				•		•			•	•
Anser canagicus	Emperor Goose	NT										
Anser caerulescens	Snow Goose	LC										
Anser anser	Greylag Goose	LC				•		•			•	•
Anser cygnoides	Swan Goose	VU				•					•	
Anser fabalis	Taiga Bean Goose	LC						•				
Anser serrirostris	Tundra Bean Goose	NE (LC)							•			
Anser albifrons	Greater White-fronted Goose	LC						•	•		•	
Anser erythropus	Lesser White-fronted Goose	VU						•				
Cygnus olor	Mute Swan	LC										
Cygnus columbianus	Tundra Swan	LC							?			
Cygnus cygnus	Whooper Swan	LC										
Sarkidiornis melanotos	Knob-billed Duck	LC		•		•	•	•			•	•
Tadorna tadorna	Common Shelduck	LC				•		•	•		•	•
Tadorna radjah	Raja Shelduck	LC			•							
Tadorna ferruginea	Ruddy Shelduck	LC				•		•	•		•	•
Asarcornis scutulata	White-winged Duck	EN		•	•	•	•	•			•	•
Aix galericulata	Mandarin Duck	LC				•		•			•	•
Nettapus coromandelianus	Cotton Pygmy Goose	LC	•	•	•	•	•	•	•	•	•	•
Nettapus pulchellus	Green Pygmy Goose	LC			•							
Anas strepera	Gadwall	LC						•	•	•	•	•
Anas falcata	Falcated Duck	NT				•		•	•		•	•
Anas penelope	Eurasian Wigeon	LC	•	•	•	•	•	•	•	•	•	•
Anas americana	American Wigeon	LC										

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Anas platyrhynchos	Mallard	LC	•		•		•	•	•		•	•
Anas luzonica	Philippine Duck	VU							•			
Anas superciliosa	Pacific Black Duck	LC			•							
Anas poecilorhyncha	Indian Spot-billed Duck	LC		•		•		•			•	•
Anas zonorhyncha	Eastern Spot-billed Duck	LC				•		•	•		•	•
Anas clypeata	Northern Shoveler	LC	•	•			•	•	•	•	•	•
Anas gibberifrons	Sunda Teal	NT			•		•					
Anas albogularis	Andaman Teal	VU						•				
Anas gracilis	Grey Teal	LC			•							
Anas acuta	Northern Pintail	LC	•	•	•	•	•	•	•	•	•	•
Anas querquedula	Garganey	LC	•	•	•	•	•	•	•	•	•	•
Anas formosa	Baikal Teal	LC						•	•	•	•	•
Anas crecca	Eurasian Teal	LC	•	•		•	•	•	•	•	•	•
Anas carolinensis	Green-winged Teal	NE										
Rhodonessa caryophyllacea	Pink-headed Duck	CR						•				
Netta rufina	Red-crested Pochard	LC						•			•	•
Aythya valisineria	Canvasback	LC							?			
Aythya americana	Redhead	LC										
Aythya ferina	Common Pochard	VU						•	•		•	•
Aythya australis	Hardhead	LC			•							
Aythya baeri	Baer's Pochard	CR				•		•	•		•	•
Aythya nyroca	Ferruginous Duck	NT		•		•		•			•	•
Aythya collaris	Ring-necked Duck	LC										
Aythya fuligula	Tufted Duck	LC	•	•	•	•	•	•	•	•	•	•
Aythya marila	Greater Scaup	LC		•				•	•		•	•
Histrionicus histrionicus	Harlequin Duck	LC										
Melanitta deglandi	White-winged Scoter	LC										
Melanitta americana	Black Scoter	NT										
Clangula hyemalis	Long-tailed Duck	VU									•	
Bucephala albeola	Bufflehead	LC										
Bucephala clangula	Common Goldeneye	LC						•				

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Mergellus albellus	Smew	LC						•				
Mergus merganser	Common Merganser	LC						•				
Mergus serrator	Red-breasted Merganser	LC						•				•
Mergus squamatus	Scaly-sided Merganser	EN						•			•	•
Gavia stellata	Red-throated Loon	LC										
Gavia arctica	Black-throated Loon	LC										
Gavia pacifica	Pacific Loon	LC										
Gavia adamsii	Yellow-billed Loon	NT						•				
Oceanites oceanicus	Wilson's Storm Petrel	LC			•		•	•				
Oceanodroma monorhis	Swinhoe's Storm Petrel	NT			•		•	•	•	•	•	•
Calonectris leucomelas	Streaked Shearwater	NT	•		•		•		•		•	
Ardenna pacifica	Wedge-tailed Shearwater	LC			•		•		•		•	?
Ardenna tenuirostris	Short-tailed Shearwater	LC			•		•	•	•	•	•	
Ardenna carneipes	Flesh-footed Shearwater	NT			•							
Bulweria bulwerii	Bulwer's Petrel	LC			•		•		•	•	•	
Tachybaptus ruficollis	Little Grebe	LC	•	•	•	•	•	•	•	•	•	•
Tachybaptus tricolor	Tricolored Grebe	NE			•							
Tachybaptus novaehollandiae	Australasian Grebe	LC			•							
Podiceps grisegena	Red-necked Grebe	LC									•	
Podiceps cristatus	Great Crested Grebe	LC			•			•			•	•
Podiceps auritus	Horned Grebe	VU						•			•	
Podiceps nigricollis	Black-necked Grebe	LC						•	•		•	•
Phoenicopterus roseus	Greater Flamingo	LC		•							?	
Phaethon aethereus	Red-billed Tropicbird	LC			•			•			•	?
Phaethon rubricauda	Red-tailed Tropicbird	LC			•				•		•	
Phaethon lepturus	White-tailed Tropicbird	LC			•		•	•	•	•	•	
Mycteria cinerea	Milky Stork	EN		•	•		•				•	•
Mycteria leucocephala	Painted Stork	LC		•		•	•	•			•	•
Anastomus oscitans	Asian Openbill	LC		•		•	•	•		•	•	•
Ciconia nigra	Black Stork	LC		•		•		•			•	•
Ciconia episcopus	Woolly-necked Stork	LC	?	•	•	•	•	•	•		•	•

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Ciconia stormi	Storm's Stork	EN	•		•		•	•			•	
Ciconia boyciana	Oriental Stork	EN						?	•			
Ephippiorhynchus asiaticus	Black-necked Stork	LC		•	•	•		•			•	•
Leptoptilos javanicus	Lesser Adjutant	VU	•	•	•	•	•	•		•	•	•
Leptoptilos dubius	Greater Adjutant	LC		•	•	•		•			•	•
Threskiornis melanocephalus	Black-headed Ibis	NT		•	•	•	•	•	•		•	•
Threskiornis molucca	Australian White Ibis	LC			•							
Pseudibis papillosa	Red-naped Ibis	LC						•				
Pseudibis davisoni	White-shouldered Ibis	CR		•	•	•	?	•			•	•
Pseudibis gigantea	Giant Ibis	CR		•		•					•	•
Nipponia nippon	Crested Ibis	EN										
Plegadis falcinellus	Glossy Ibis	LC	•	•	•	•	?	•	•	•	•	•
Platalea leucorodia	Eurasian Spoonbill	LC		•				•	•		•	•
Platalea minor	Black-faced Spoonbill	LC	•	•					•		•	•
Platalea regia	Royal Spoonbill	LC			•							
Botaurus stellaris	Eurasian Bittern	LC	•	•		•	•	•	•		•	•
Ixobrychus sinensis	Yellow Bittern	LC	•	•	•	•	•	•	•	•	•	•
Ixobrychus eurhythmus	Von Schrenck's Bittern	LC	•	•	•	•	•	•	•	•	•	•
Ixobrychus cinnamomeus	Cinnamon Bittern	LC	•	•	•	•	•	•	•	•	•	•
Dupetor flavicollis	Black Bittern	LC	•	•	•	•	•	•	•	•	•	•
Gorsachius magnificus	White-eared Night Heron	EN										•
Gorsachius goisagi	Japanese Night Heron	EN	•		•				•			•
Gorsachius melanolophus	Malayan Night Heron	LC	•	•	•	•	•	•	•	•	•	•
Nycticorax nycticorax	Black-crowned Night Heron	LC	•	•	•	•	•	•	•	•	•	•
Nycticorax caledonicus	Nankeen Night Heron	LC	•		•		•		•			
Butorides striata	Striated Heron	LC	•	•	•	•	•	•	•	•	•	•
Ardeola grayii	Indian Pond Heron	LC					•	•		•	•	
Ardeola bacchus	Chinese Pond Heron	LC	•	•	•	•	•	•	•	•	•	•
Ardeola speciosa	Javan Pond Heron	LC		•	•		•	•	•	•	•	•
Bubulcus coromandus	Eastern Cattle Egret	NE (LC)	•	•	•	•	•	•	•	•	•	•
Ardea cinerea	Grey Heron	LC	•	•	•	•	•	•	•	•	•	•

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Ardea insignis	White-bellied Heron	CR						•				
Ardea sumatrana	Great-billed Heron	LC	•	•	•		•	•	•	•	•	•
Ardea goliath	Goliath Heron	LC						•				
Ardea purpurea	Purple Heron	LC	•	•	•	•	•	•	•	•	•	•
Ardea alba	Great Egret	LC	•	•	•	•	•	•	•	•	•	•
Ardea intermedia	Intermediate Egret	LC	•	•	•	•	•	•	•	•	•	•
Egretta picata	Pied Heron	LC			•							
Egretta novaehollandiae	White-faced Heron	LC			•							
Egretta garzetta	Little Egret	LC	•	•	•	•	•	•	•	•	•	•
Egretta sacra	Pacific Reef Heron	LC	•	•	•		•	•	•	•	•	•
Egretta eulophotes	Chinese Egret	VU	•	•	•		•		•	•	•	•
Pelecanus onocrotalus	Great White Pelican	LC		•	•		•	•				•
Pelecanus philippensis	Spot-billed Pelican	NT		•	•	•	•	•	•		•	•
Pelecanus crispus	Dalmatian Pelican	LC			•		?		•			
Pelecanus conspicillatus	Australian Pelican	LC			•		•		•			
Fregata andrewsi	Christmas Frigatebird	CR	•	•	•		•	•	•	•	•	•
Fregata minor	Great Frigatebird	LC	•	?	•		•	•	•		•	?
Fregata ariel	Lesser Frigatebird	LC	•	•	•		•		•	•	•	•
Sula dactylatra	Masked Booby	LC	?		•		•	•	•		•	•
Sula sula	Red-footed Booby	LC	•		•		•	•	•	•	•	•
Sula leucogaster	Brown Booby	LC	•		•		•	•	•	•	•	•
Microcarbo melanoleucos	Little Pied Cormorant	LC			•							
Microcarbo niger	Little Cormorant	LC		•	•	•	•	•			•	•
Phalacrocorax pelagicus	Pelagic Cormorant	LC										
Phalacrocorax urile	Red-faced Cormorant	LC										
Phalacrocorax fuscicollis	Indian Cormorant	LC		•		•		•			•	•
Phalacrocorax sulcirostris	Little Black Cormorant	LC			•							
Phalacrocorax carbo	Great Cormorant	LC	•	•	•	•	•	•	•		•	•
Phalacrocorax capillatus	Japanese Cormorant	LC										
Anhinga melanogaster	Oriental Darter	NT	•	•	•	•	•	•	•	•	•	•
Anhinga novaehollandiae	Australasian Darter	LC			•							

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Heliopais personatus	Masked Finfoot	EN		•	•	•	•	•		•	•	•
Coturnicops exquisitus	Swinhoe's Rail	VU	?									
Rallina tricolor	Red-necked Crake	LC			•							
Rallina fasciata	Red-legged Crake	LC	•	•	•	•	•	•	•	•	•	•
Rallina eurizonoides	Slaty-legged Crake	LC		•	•	•	•	•	•	•	•	•
Gallirallus calayanensis	Calayan Rail	LC							•			
Gallirallus torquatus	Barred Rail	LC			•		•		•			
Gallirallus philippensis	Buff-banded Rail	LC			•		•		•		•	
Gallirallus striatus	Slaty-breasted Rail	LC	•	•	•	•	•	•	•	•		
Rallus indicus	Brown-cheeked Rail	LC	•	•		•	•	•			•	•
Lewinia mirifica	Brown-banded Rail	DD							•			
Lewinia pectoralis	Lewin's Rail	LC			•							
Crex crex	Corn Crake	LC										•
Aramidopsis plateni	Snoring Rail	VU			•							
Gymnocrex rosenbergii	Blue-faced Rail	VU			•							
Gymnocrex talaudensis	Talaud Rail	EN			•							
Gymnocrex plumbeiventris	Bare-eyed Rail	LC			•							
Amaurornis akool	Brown Crake	LC		•	•			•				•
Amaurornis isabellina	Isabelline Bush-hen	LC			•				•			
Amaurornis olivacea	Plain Bush-hen	LC			•				•			
Amaurornis moluccana	Pale-vented Bush-hen	LC			•							
Amaurornis magnirostris	Talaud Bush-hen	VU			•							
Amaurornis phoenicurus	White-breasted Waterhen	LC	•	•	•	•	•	•	•	•	•	•
Porzana bicolor	Black-tailed Crake	LC		•		•		•			•	•
Porzana pusilla	Baillon's Crake	LC	•	•	•	•	•	•	•	•	•	•
Porzana porzana	Spotted Crake	LC			•			•			•	
Porzana fusca	Ruddy-breasted Crake	LC		•	•	•	•	•	•	•	•	•
Porzana paykullii	Band-bellied Crake	NT	•	•	•		•	?	•	•	•	•
Porzana tabuensis	Spotless Crake	LC			•				•			
Porzana cinerea	White-browed Crake	LC	•	•	•	•	•	•	•	•	•	•
Eulabeornis castaneoventris	Chestnut Rail	LC			•							

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Habroptila wallacii	Invisible Rail	VU			•							
Gallicrex cinerea	Watercock	LC	•	•	•	•	•	•	•	•	•	•
Porphyrio poliocephalus	Grey-headed Swamphen	NE (LC)						•			•	
Porphyrio indicus	Black-backed Swamphen	NE (LC)	•	•		•	•	•		•	•	•
Porphyrio pulverulentus	Philippine Swamphen	NE (LC)							•			
Porphyrio melanotus	Australasian Swamphen	NE (LC)			•							
Gallinula chloropus	Common Moorhen	LC	•	•	•	•	•	•	•	•	•	•
Gallinula tenebrosa	Dusky Moorhen	LC			•							
Fulica atra	Eurasian Coot	LC	•	•	•	•	•	•	•	•	•	•
Grus leucogeranus	Siberian Crane	CR										
Grus vipio	White-naped Crane	VU										
Grus antigone	Sarus Crane	VU	?	•		•	•	•	•		•	•
Grus rubicunda	Brolga	LC			•							
Grus virgo	Demoiselle Crane	LC		•				•	•		•	
Grus japonensis	Red-crowned Crane	EN										
Grus grus	Common Crane	LC						•			•	•
Grus monacha	Hooded Crane	VU										
Grus nigricollis	Black-necked Crane	VU										•
Burhinus indicus	Indian Stone-curlew	LC		•		•		•			•	?
Esacus recurvirostris	Great Stone-curlew	LC		•		•		•			•	•
Esacus magnirostris	Beach Stone-curlew	NT	•		•	?	•	•	•		•	
Haematopus ostralegus	Eurasian Oystercatcher	LC					•	•	•		•	
Haematopus longirostris	Pied Oystercatcher	LC			•							
Dromas ardeola	Crab-plover	LC					•	•			•	
Ibidorhyncha struthersii	Ibisbill	LC						•				
Himantopus himantopus	Black-winged Stilt	LC	•	•	•	•	•	•	•	•	•	•
Himantopus leucocephalus	White-headed Stilt	NE (LC)	•		•		•	•	•			
Recurvirostra avosetta	Pied Avocet	LC		?	•		•	•	•		•	•
Vanellus vanellus	Northern Lapwing	LC	•					•	•		•	•
Vanellus duvaucelii	River Lapwing	LC		•		•		•			•	•
Vanellus malabaricus	Yellow-wattled Lapwing	LC					•	•				

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Vanellus cinereus	Grey-headed Lapwing	LC	•	•	•	•	•	•	•	•	•	•
Vanellus indicus	Red-wattled Lapwing	LC		•	•	•	•	•		•	•	•
Vanellus macropterus	Javan Lapwing	LC			•							
Vanellus miles	Masked Lapwing	LC			•							
Pluvialis fulva	Pacific Golden Plover	LC	•	•	•	•	•	•	•	•	•	•
Pluvialis squatarola	Grey Plover	LC	•	•	•	•	•	•	•	•	•	•
Charadrius hiaticula	Common Ringed Plover	LC	•	•	•	?	•	•	•	•	•	•
Charadrius placidus	Long-billed Plover	LC	•	•	•	•	•	•			•	•
Charadrius dubius	Little Ringed Plover	LC	•	•	•	•	•	•	•	•	•	•
Charadrius alexandrinus	Kentish Plover	LC	•	•	•	•	•	•	•	•	•	•
Charadrius javanicus	Javan Plover	LC			•							
Charadrius ruficapillus	Red-capped Plover	LC			•							
Charadrius peronii	Malaysian Plover	NT	•	•	•	•	•	•	•	•	•	•
Charadrius mongolus	Lesser Sand Plover	LC	•	•	•	•	•	•	•	•	•	•
Charadrius leschenaultii	Greater Sand Plover	LC	•	•	•	•	•	•	•	•	•	•
Charadrius veredus	Oriental Plover	LC	•	•	•		•		•	•	•	•
Charadrius morinellus	Eurasian Dotterel	LC										
Rostratula benghalensis	Greater Painted-snipe	LC	•	•	•	•	•	•	•	•	•	•
Irediparra gallinacea	Comb-crested Jacana	LC			•				•			
Hydrophasianus chirurgus	Pheasant-tailed Jacana	LC		•	•	•	•	•	•	•	•	•
Metopidius indicus	Bronze-winged Jacana	LC		•	•	•	•	•			•	•
Scolopax rusticola	Eurasian Woodcock	LC	•	•	•	•	•	•	•	•	•	•
Scolopax saturata	Javan Woodcock	LC			•							
Scolopax rosenbergii	New Guinea Woodcock	LC			•							
Scolopax bukidnonensis	Bukidnon Woodcock	LC							•			
Scolopax celebensis	Sulawesi Woodcock	LC			•							
Scolopax rochussenii	Moluccan Woodcock	LC			•							
Lymnocryptes minimus	Jack Snipe	LC		•				•	•		•	•
Gallinago solitaria	Solitary Snipe	LC						•				
Gallinago hardwickii	Latham's Snipe	LC			•				•			
Gallinago nemoricola	Wood Snipe	LC				•		•			•	•

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Scientific name	Common Name	IUCN Red List Status	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Gallinago stenura	Pin-tailed Snipe	LC	•	•	•	•	•	•	•	•	•	•
Gallinago megala	Swinhoe's Snipe	LC	•		•	•	•	•	•	•	•	•
Gallinago media	Great Snipe	LC						•				
Gallinago gallinago	Common Snipe	LC	•	•	•	•	•	•	•	•	•	•
Limnodromus scolopaceus	Long-billed Dowitcher	LC			•		•			?	•	
Limnodromus semipalmatus	Asian Dowitcher	NT	•	•	•		•	•	•	•	•	•
Limosa limosa	Black-tailed Godwit	NT	•	•	•		•	•	•	•	•	•
Limosa lapponica	Bar-tailed Godwit	LC	•	•	•		•	•	•	•	•	•
Numenius minutus	Little Curlew	LC	•		•		•	•	•	•	•	
Numenius phaeopus	Whimbrel	LC	•	•	•		•	•	•	•	•	•
Numenius tahitiensis	Bristle-thighed Curlew	LC			•				•			
Numenius arquata	Eurasian Curlew	LC	•	•	•	•	•	•	•	•	•	•
Numenius madagascariensis	Far Eastern Curlew	VU	•	•	•		•		•	•	•	•
Tringa erythropus	Spotted Redshank	LC	•	•	•	•	•	•	•	•	•	•
Tringa totanus	Common Redshank	LC	•	•	•	•	•	•	•	•	•	•
Tringa stagnatilis	Marsh Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Tringa nebularia	Common Greenshank	LC	•	•	•	•	•	•	•	•	•	•
Tringa guttifer	Nordmann's Greenshank	EN		•	•		•	•	•	•	•	•
Tringa flavipes	Lesser Yellowlegs	LC			•							
Tringa ochropus	Green Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Tringa glareola	Wood Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Tringa brevipes	Grey-tailed Tattler	LC	•	•	•	•	•	•	•	•	•	•
Tringa incana	Wandering Tattler	LC			•							
Xenus cinereus	Terek Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Actitis hypoleucos	Common Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Arenaria interpres	Ruddy Turnstone	LC	•	•	•		•	•	•	•	•	•
Calidris tenuirostris	Great Knot	VU	•	•	•		•	•	•	•	•	•
Calidris canutus	Red Knot	LC	•	•	•		•	•	•	•	•	•
Calidris alba	Sanderling	LC	•	•	•	•	•	•	•	•	•	•
Calidris ruficollis	Red-necked Stint	LC	•	•	•	•	•	•	•	•	•	•
Calidris minuta	Little Stint	LC	•		•		•	•	•		•	•

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Calidris temminckii	Temminck's Stint	LC	•	•	•	•	•	•	•	•	•	•
Calidris subminuta	Long-toed Stint	LC	•	•	•	•	•	•	•	•	•	•
Calidris melanotos	Pectoral Sandpiper	LC					•		•	•		•
Calidris acuminata	Sharp-tailed Sandpiper	LC	•	•	•		•	•	•	•	•	•
Calidris ferruginea	Curlew Sandpiper	LC	•	•	•	•	•	•	•	•	•	•
Calidris alpina	Dunlin	LC	•	•	•	•	•	•	•	•	•	•
Calidris himantopus	Stilt Sandpiper	LC								?		
Eurynorhynchus pygmeus	Spoon-billed Sandpiper	CR		•		•	•	•	•	•	•	•
Limicola falcinellus	Broad-billed Sandpiper	LC	•	•	•		•	•	•	•	•	•
Tryngites subruficollis	Buff-breasted Sandpiper	LC			•							
Philomachus pugnax	Ruff	LC	•	•	•		•	•	•	•	•	•
Phalaropus tricolor	Wilson's Phalarope	LC										
Phalaropus lobatus	Red-necked Phalarope	LC	•	•	•		•		•	•	•	•
Phalaropus fulicarius	Red Phalarope	LC			•				•		?	
Stiltia isabella	Australian Pratincole	LC			•		•					
Glareola pratincola	Collared Pratincole	LC						?			•	
Glareola maldivarum	Oriental Pratincole	LC	•	•	•	•	•	•	•	•	•	•
Glareola lactea	Small Pratincole	LC		•		•	•	•		•	•	•
Anous stolidus	Brown Noddy	LC	•	•	•		•	•	•		•	•
Anous minutus	Black Noddy	LC			•		•		•			
Gygis alba	White Tern	LC			•				•			•
Rynchops albicollis	Indian Skimmer	LC		•		•		•			•	•
Rissa tridactyla	Black-legged Kittiwake	LC									•	
Chroicocephalus genei	Slender-billed Gull	LC		•			•	•			•	
Chroicocephalus brunnicephalus	Brown-headed Gull	LC		•	•	•	•	•		•	•	•
Chroicocephalus ridibundus	Black-headed Gull	LC	•	•	•	•	•	•	•	•	•	•
Chroicocephalus saundersi	Saunders's Gull	LC							•			•
Hydrocoloeus minutus	Little Gull	LC			•		•					
Leucophaeus atricilla	Laughing Gull	LC					•		?			
Ichthyaetus relictus	Relict Gull	LC										•
Ichthyaetus ichthyaetus	Pallas's Gull	LC				•		•			•	•

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Larus crassirostris	Black-tailed Gull	LC		•			•		•		•	•
Larus canus	Mew Gull	LC						•			•	•
Larus glaucescens	Glaucous-winged Gull	LC									•	
Larus hyperboreus	Glaucous Gull	LC										
Larus thayeri	Thayer's Gull	LC										
Larus vegae	Vega Gull	LC		•	?				•		•	•
Larus schistisagus	Slaty-backed Gull	LC			•				•			
Larus fuscus	Lesser Black-backed Gull	LC		•	•	•	•	•		•	•	•
Gelochelidon nilotica	Gull-billed Tern	LC	•	•	•		•	•	•	•	•	•
Hydroprogne caspia	Caspian Tern	LC	•	•	•		•	•	•	•	•	•
Thalasseus bergii	Greater Crested Tern	LC	•	•	•	•	•	•	•	•	•	•
Thalasseus bengalensis	Lesser Crested Tern	LC	•	•	•		•	•		•	•	•
Thalasseus bernsteini	Chinese Crested Tern	CR			•		•		•		•	
Sternula albifrons	Little Tern	LC	•	•	•	•	•	•	•	•	•	•
Onychoprion aleuticus	Aleutian Tern	LC		•	•		•	•	•	•		
Onychoprion lunatus	Spectacled Tern	LC			•							
Onychoprion anaethetus	Bridled Tern	LC	•	•	•		•	•	•	•	•	•
Onychoprion fuscatus	Sooty Tern	LC			•		•	•	•		•	•
Sterna aurantia	River Tern	NT		•		•		•			•	•
Sterna dougallii	Roseate Tern	LC	•		•		•	•	•	•	•	•
Sterna sumatrana	Black-naped Tern	LC	•	•	•		•	•	•	•	•	•
Sterna hirundo	Common Tern	LC	•	•	•	•	•	•	•	•	•	•
Sterna paradisaea	Arctic Tern	LC			•							
Sterna acuticauda	Black-bellied Tern	EN		•		•		•			•	•
Chlidonias hybrida	Whiskered Tern	LC	•	•	•	•	•	•	•	•	•	•
Chlidonias leucopterus	White-winged Tern	LC	•	•	•	•	•	•	•	•	•	•
Chlidonias niger	Black Tern	LC										
Stercorarius maccormicki	South Polar Skua	LC			•							
Stercorarius pomarinus	Pomarine Jaeger	LC		•	•		•	•	•	•	•	•
Stercorarius parasiticus	Parasitic Jaeger	LC		•	•		•	•	•	•	•	•
Stercorarius longicaudus	Long-tailed Jaeger	LC		•	•		•	•	•	•	•	
Synthliboramphus antiquus	Ancient Murrelet	LC										

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