



WETLAND BIRDS OF PONDICHERRY REGION

PRIYA DAVIDAR

Illustrations by
CHRISTIAN PUYRAVAUD & SABRINA SIGA



ECOS

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A pocket field guide

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WETLAND BIRDS OF PONDICHERRY REGION - A pictorial field guide

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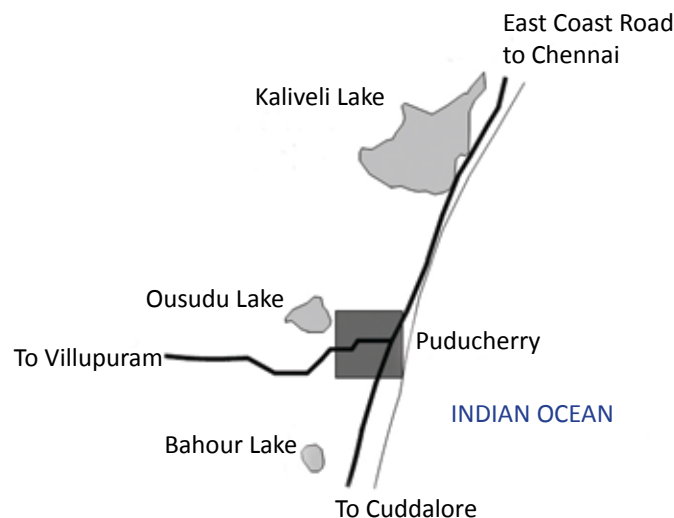
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EURASIAN MARSH HARRIER, *Circus aeruginosus*
Photo: Gopinath S

DEDICATION

The Union Territory of Puducherry is an excellent repository of floral and faunal biodiversity. The biodiversity of this region is underappreciated and if we are to conserve it over the long term, the people of Puducherry, youth and children in particular, need to be made aware and educated for better appreciation of nature. It is worth noting that many of the birds that come to the wetlands here travel thousands of kilometers, encountering many dangers on the way. Hence, these wetlands need to be made safe for our winged visitors. The Department of Forests & Wildlife, Puducherry is making concerted efforts to conserve this wealth. The first step in this direction being development of Ossudu (popularly known as Ousteri lake) into a Sanctuary. Appreciation of the avifaunal diversity in our territory shall go a long way in ensuring their well being. The publication titled "Wetland Birds of Pondicherry Region" shall go a long way in furthering the cause of conservation and appreciation of nature. I offer my heartiest felicitations to the publishers for this novel venture.

Dr. A. Anil Kumar, IFS.
Puducherry Department of Forests & Wildlife



PALID HARRIER, *Circus macrourus*
Photo: Gopinath S.

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The author and ECOS are extremely grateful to the IBCN who came forward with seed money to fund this project. The support of Dr. Asad Rahmani, Director of the Bombay Natural History Society, who personally encouraged this project, is gratefully acknowledged. The bird descriptions were adapted from the Book of Indian Birds (Ali 1941), Grimmett *et al.* (2001), and Birds of South-East Asia (King *et al.* 1975) and from personal observation. The bird paintings were based on those from the 'Birds of the Indian Subcontinent' by Grimmett, Inskipp and Inskipp (2001). We kindly acknowledge the permission granted by the publisher A&C Black and the authors for reproducing these illustrations in this manual. Sabrina Siga and Christian Puyravaud graciously agreed to create the artwork, and it goes without saying that the book would not have been the same without their beautiful paintings. Turnstone Design and Roshan Davina Eddy have done an excellent job in designing this book. Lastly, we thank Mr. Shantikar Reddy, a conservationist and a keen-bird watcher, for providing the cover photographs.



BROWN-HEADED GULL, *Larus brunnicephalus*
Photo: Gopinath S.

FOREWORD

Birds are an important part of a healthy ecosystem, and wetlands provide an important habitat for birds. In India, it is estimated that 296 out of the total of 1230 bird species are wetlands birds: 233 waterbirds and 63 water-dependent birds. Out of 233 Indian waterbird species 118 (ca. 50%) are migrant, 109 resident while the status is not known for six species. Out of 296 species, 34 are globally threatened, including five Critically Endangered species, seven Endangered, and 17 Vulnerable species and some Near Threatened species also. Many waterbirds are long-distance migrants and some come from as far off as Central Asia to winter in the subcontinent.

There is a great diversity of wetlands in the Indian subcontinent in the 10 biogeographic regions identified by the Wildlife Institute of India. These range from the high altitude wetlands of the Himalayan region, the semi desert and arid areas of North-Western India, the Deccan plateau, the Western Ghats, coastal regions and islands, among others. About 25 of these wetlands have been designated as Ramsar sites, and 115 have been identified under the Wetland Conservation Programme of the Ministry of Environment and Forests, Government of India. These however represent a fraction of the wetlands in India. The Bombay Natural History Society (BNHS) has identified 135 wetlands which qualify the Ramsar Convention Criteria of Wetlands of International Importance.

The wetlands of the Pondicherry region come under the category of coastal wetlands. Two, Ousteri and Bahour are fresh water wetlands, although fairly close to the coastline, and Kaliveli is a large brackish water wetland. All three have also been listed as **Important Bird Areas** by BNHS, BirdLife International, Royal Society for the Protection of Birds, and Indian Bird Conservation Network because they fall under three criteria: (i) Threatened species, (ii) more than one percent of the total worldwide population and (iii) $\geq 20,000$ waterbirds. They support large numbers of migratory birds in winter. These three also conform to the Ramsar criteria.

There has been a decline in migratory birds worldwide probably caused by loss of wetland habitats. The support of the local communities is crucial for the conservation of wetlands and waterfowl. Many heronries such as in Kokkare Bellur in Karnataka where birds such as the Spot-billed Pelican breed are protected by local communities. Therefore this manual of the wetland birds of Pondicherry can serve as an important educational tool to create awareness among people and increase support for conservation.

Asad R. Rahmani
Director
Bombay Natural History Society

PREFACE

Birds are beautiful and in general, easy to observe. For this reason it can help introduce amateurs to the fascinating world of nature that surrounds us. Birding in India has been strongly promoted by publications, both in English and in the vernacular. The famous book '*The Book of Indian Birds*' published in 1941 by Salim Ali has contributed to increase our understanding and appreciation of Indian birds. Due to this impetus, bird-watching as a hobby has spread widely in the subcontinent, which now boasts of a huge number of competent 'birders' who have added extensively to our knowledge of birds.

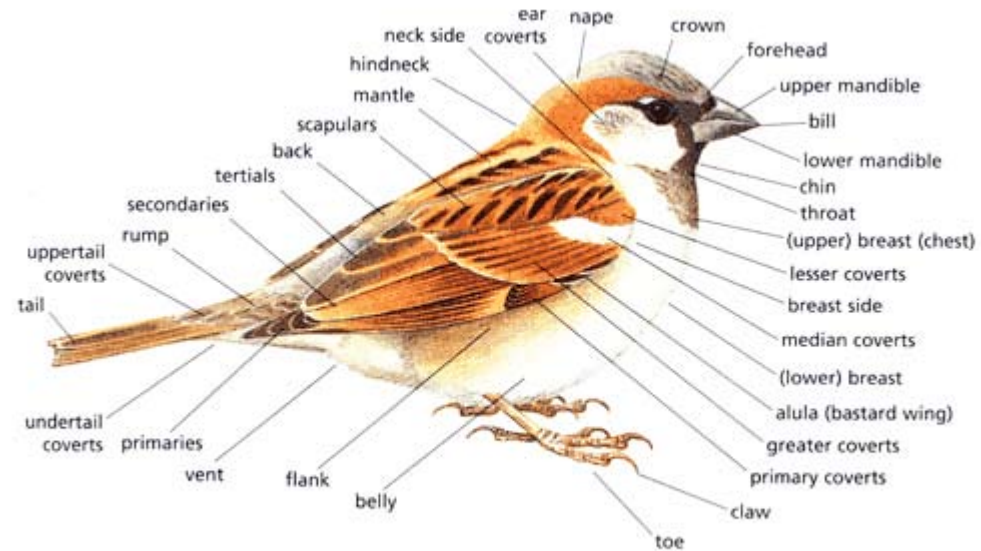
One of the networks that have enhanced amateur participation in bird study and conservation is the Indian Bird Conservation Network established in 1998 by the Bombay Natural History Society in collaboration with Birdlife International (UK) and the Royal Society for the Protection of Birds (RSPB). The mission of IBCN (www.ibcn.in) is to promote conservation of birds and their habitats through development of a national network of individuals, organizations and the Government. IBCN has about 85 institutional and 800 individual members. This collaboration has resulted in the conservation of birds and their habitats.

Production of educational materials that are widely available to the general public is one of the important roles that organizations can play for promoting the knowledge and understanding of biodiversity. Therefore ECOS, a Puducherry NGO, has undertaken to produce a field manual of the wetland birds of Pondicherry with partial sponsorship of the IBCN. Priya Davidar, a student of Dr. Salim Ali the renowned ornithologist, is a Professor at the Department of Ecology and Environmental Sciences, Pondicherry University. She is the Pondicherry coordinator of the Indian Bird Conservation Network and has agreed to write up a brief description of the 121 common species of waterfowl and birds associated with wetlands from among the 190 birds recorded in this region. Birds that are primarily found in forests and urban areas and rare winter visitors have not been included in this book.

Biologists tell us that birds are modern dinosaurs. Not only are they beautiful, easy to spot, but they are also a marvelous evolutionary success. Birds are an important component of the “web of life” that sustains all civilizations on Earth. To enjoy them you just need to go on a lake shore near Pondicherry and take this book to identify them. Note whether it is the approximate size of a sparrow, a crow or an eagle. Then, note the shape and size of the beak, wings and legs. Lastly, look at the colors on the different parts of the bird. Binoculars are useful if you really want to become serious, otherwise it is possible to do without. Keep your notes precious and record all the birds you know. Soon you will be able to recognize dozens of birds. If you become excellent, you can start teaching bird-watching to other people, provide your observations to scientists and even write your own articles. My hope is that the considerable amount of work packed in this booklet, will inspire school children, students, visitors to admire and protect the world that surrounds us and welcome them to the fantastic world of science.

Jean-Philippe Puyravaud
Director, ECOS

PARTS OF A BIRD



INTRODUCTION

There are three important wetlands of national and international significance in the Pondicherry region: Kaliveli, Ousteri and Bahour, that are visited by tens of thousands of migratory birds in winter, in addition to resident birds that are associated with wetlands. This book describes 121 species of birds, of which 58 are long distance migrants coming from as far away as Central Asia and Siberia. The rest are residents, among which are the distinctive Spot-Billed Pelican that migrate locally and seasonally between wetlands. Many of the long distance migrants are ducks, waders, gulls and terns, and the Harriers, which are birds of prey (family Accipitridae). Few species breed in these wetlands, significant among these are the Little Grebes and Coots which can be seen in the hundreds in Ousteri and Bahour from March to May. They used to be much more common in the mid 1990's, when thousands of them could be seen nesting in the fresh water lakes.

The reason why these lakes attract so many birds is because they are located along the Central Asian - South Asian bird migratory flyway which includes 30 countries of Northern, Central Eurasia and South Asian regions, and tropical islands such as the Maldives. The Pondicherry wetlands lie in the southern part of this flyway between large wetlands such as Chilka Lake and Pulicat Lake in the north and Point Calimere Bird Sanctuary in the south (Table 1, Figure 1). Therefore a large number of the migrating birds are passage migrants that stopover for a brief period before they move onto the wetlands lying further south. Satellite tracking of individual birds by the Bombay Natural History Society has established that they use the wetlands as a stopover point on their way south.

These three wetlands come under the category of coastal wetlands, of which Kaliveli is a brackish water lagoon, whereas Ousteri and Bahour are fresh water lakes. They are also seasonal because they fill up during the North East monsoon from October-December, and progressively dry up after the monsoon, and are often completely dry by May. They are dry for over 5-months of the year. Therefore they are hospitable for wintering birds but have few resident birds in the summer.

These wetlands are important for hosting large congregations and significant geographic populations of waterfowl: Kaliveli has hosted thousands of Greater Flamingos, ducks, shorebirds and terns, and hundreds of Spot-Billed Pelicans (*Pelecanus philippensis*) in winter (Pieter 1987, Perrenou 1989). Bahour attracts thousands of ducks such as the Eurasian Wigeon (*Anas penelope*) and breeding populations of the Little Grebe (*Tachybaptus ruficollis*). In Ousteri lake, thousands of Little Cormorants (*Phalacrocorax fuscicollis*), the Eurasian Wigeon (*Anas penelope*), and one of the largest congregations of the Cotton Pygmy Goose or Cotton Teal (*Nettapus coromandelianus*) have been recorded. It is also an important breeding site for thousands of Coots (*Fulica atra*) and the Little Grebe (*Tachybaptus ruficollis*) (Balachandran and Alagarrajan 1995, Jhunjunwala 1998, Islam and Rahmani 2008).

Many of the birds that visit these lakes are threatened or near threatened with extinction, and are listed in the Red list of the IUCN (International Union for the Conservation of Nature and Natural Resources). Red listed 'Vulnerable' species recorded in Kaliveli were three Greater Spotted Eagle (*Aquila clanga*) (Perrenou 1987). Species listed as 'Near Threatened' include the Grey-Headed Fish-Eagle (*Ichthyophaga ichthyaetus*), the Pallid Harrier (*Circus macrourus*), Spot-billed Pelican (*Pelecanus philippensis*), Black-Tailed Godwit (*Limosa limosa*), Black-bellied Tern (*Sterna acuticauda*), Darter (*Anhinga melanogaster*), Painted Stork (*Mycteria leucocephala*) and the Black-headed Ibis or White Ibis (*Threskiornis melanocephala*) (Balachandran and Alagarrajan 1995, Islam and Rahmani 2006, 2008).

KALIVELI

The Kaliveli estuary is among the largest and one of the most important brackish water wetlands in south-eastern India after Point Calimere. Kaliveli is located along the Bay of Bengal in the Villipuram district of Tamil Nadu and lies about 16 kilometers north of Pondicherry. It is an oblong lake connected to the Bay of Bengal by a narrow waterway called the Yedanthittu estuary. The Kaliveli floodplain with a watershed of over 700 km² is connected with more than 250 tanks and channels in the region. It was supposed to have been connected to Pulicat Lake via the Buckingham canal 45 km north of Chennai, which is now silted (Chari 1997). It is a seasonal shallow lake with a salinity gradient from fresh water to brackish water. The lake is extensive and mostly freshwater after the North-East monsoon but dries up and becomes saline in early summer (Perrenou and Santharam 1989, Chari 1997). It consists of mudflats, marshes, reed beds, salt pans and open shoreline that attract a variety of birds with differing habitat preferences. The lake and the estuary are owned by the government whereas the surrounding areas are both public and private property (Chari

1997). The lake and its shores are used for fishing, harvesting of reeds and grasses, and for cultivating a wide variety of crops. Studies on the birds of Kaliveli were conducted by Pieter (1987, Perrenou (1987) and Perrenou and Santharam (1990) and Chari (1997).

BAHOUR AND OUSTERI

Bahour and Ousteri Lakes are located within the Union territory of Puducherry (Table 1). They host thousands of migratory waterfowl in winter and are also significant breeding sites for resident waterfowl such as the Common Coot (*Fulica atra*), and the Little Grebe (*Tachybaptus ruficollis*). Surveys conducted in the 1990's have recorded over 25,000 waterfowl belonging to 16 species at Bahour and over 20,000 belonging to 44 species at Ousteri (Balachandran and Alagarrajan 1995, Jhunjunwala 1998).

The Bahour lake is the second largest wetland in Puducherry. It is located near the Bahour village about 20 km from Puducherry town, north of the Pennaiyar River. It is a seasonal freshwater wetland that receives water between September and March from the NE monsoon. The lake is dry for about 5 months (Balachandran and Alagarrajan 1995, Jhunjunwala 1998). Bahour Lake is shallow with submerged and floating vegetation, hydrophytes and reed beds that are especially suitable for divers. There are clumps of *Acacia nilotica* trees towards the western end, which host a colony of Little Cormorants and Egrets. Otherwise it is completely open with banks covered with grass and invasive weeds. Exposed mudflats in February-March make it suitable for waders. After March, when the migratory birds have left, the water is drained for fishing and it is completely dry and grass covered.

Ousteri Lake (Table 1) in the Villianoor commune is located about 12 km west of Pondicherry town near Ossudu village. This shallow lake covers an area of about 7 km² and has an average depth of about 1 m. A bund runs along its western bank. Ousteri Lake depends on its catchment for 75% of its water; the rest comes from diversion channels fed by the waters of Gingee and Penaiyar rivers via Anaicuts at Suthukeny and Pillayarkuppam. It is an irrigation tank. Earlier the lake had been drained before the SW monsoon and the waters used for irrigation downstream, but it has now been stopped. It has recently been declared a Wildlife Sanctuary by the Puducherry Forest Department.

Ousteri Lake is rich in plant diversity with over 200 plant species belonging to 60 families (Chari 1997). The extensive reed beds provide a good foraging site for rails and waders, and breeding site for the Coots and Little Grebe. There is an island in the lake, which serves as a refuge for waterfowl.

Table 1. Information pertaining to the wetlands

Name	Latitude (N)	Longitude (E)	Area (km ²)	Wetland type	Bird species recorded	IBA category	Ramsar criteria	Protection
Bahour Lake	11° 49'	79° 44'	6	Fresh water, seasonal	16	A4i, A4iii	5, 6	Nil
Ousteri Lake	11° 57'	79° 45'	7	Fresh water, seasonal	44	A1, A4i, A4iii	2, 4, 5, 6	Wildlife Sanctuary
Kaliveli estuary	12° 05' - 12° 15'	79° 47' - 79° 59'	70	Brackish, seasonal	137	A1, A4i, A4iii	2, 4, 5, 6	Nil

IMPORTANT BIRD AREAS CRITERIA

A1 = Threatened species

A4i = ≥ % of biogeographic population

A4iii = ≥20,000 waterbirds

RAMSAR CRITERIA

R2 = vulnerable, endangered or critically endangered species

R4 = species at critical stage of life cycle

R5=regularly supports >20000 water birds

R6= Regularly supports 1% of individuals of one species or subspecies

STATUS

These sites have been listed as Important Bird Areas (IBA's) for India (Islam and Rahmani 2006, 2008), under the IBA categories A4i (≥1% biogeographic population), A4iii (≥ 20,000 waterbirds) since Ousteri and Bahour hosted > 2% of the global populations of the Eurasian Wigeon (*Anas penelope*), 7% of the global populations of the Little Cormorant (*Phalacrocorax niger*) and one of the largest congregations of the Cotton Pygmy Goose (*Nettapus coromandelianus*) in southern India. Over 3000 Little Grebe (*Tachybaptus ruficollis*) has been recorded at Bahour. Ousteri has one of the largest resident breeding populations of the Common Coot (*Fulica atra*), which is migratory in northern India (Balachandran and Alagarrajan 1995, Jhunjhunwala 1998). Kaliveli has significant geographic populations of the Spot-Billed Pelican (*Pelecanus philippensis*) and the Little Stint (*Calidris ferruginea*) (Islam and Rahmani 2006, 2008).

There has been a proposal to include all three lakes as Ramsar sites (Islam and Rahmani 2008), as they come under Ramsar criteria R5 (Wetland regularly supports 20,000 or more waterbirds) and R6 (Wetland regularly supports 1% of the individuals in a population of one species or subspecies). The Ramsar convention is an inter governmental treaty on wetlands. The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world". At the centre of the Ramsar philosophy is the "wise use" concept. The wise use of wetlands is defined as "the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development" (www.ramsar.org).

In the 1990's the key threats to these Bahour and Ousteri were agricultural intensification and expansion, poaching, fisheries and livestock grazing (Jhunjhunwala 1998, Islam and Rahmani 2006, 2008). In Kaliveli, prawn farms and agricultural intensification and expansion were major threats. The nature of threats have changed. Increasing development, construction and recreational activities have now become major threats and have increased water pollution, depletion of ground and surface water and dumping of solid waste into the lake. Recreational activities such as boating disturb the waterfowl especially the breeding populations of Coots and Little Grebes at Ousteri.

Monitoring populations of waterfowl regularly over many years can give an indication of the population status of particular species. The Asian waterfowl census is conducted every year during the second and third week of January primarily by volunteers. The census has three major objectives: 1. to obtain information on water fowl populations on a regular basis during the non-

breeding period in order to monitor populations and evaluate sites, 2. to monitor the status and conditions of wetlands on an annual basis, and 3. to encourage greater interest in water fowl and wetlands among the local people and to promote the conservation of wetlands and water fowl in the region.

Observations have indicated that species such as the Greater Flamingo has declined in Kaliveli, and Wigeon and other migratory ducks in Ousteri (Chari et al. 2003). It is not clear whether this is due to habitat changes such as decrease in water levels, increasing disturbance or because these migratory birds have faced global declines. The populations of many species of long distance migratory waterfowl were monitored over a 6-year period (1995 to 2000) in Pulicat Lake, a large estuary toward the north of Chennai, and many species including the Spot-Billed Pelican (*Pelecanus philippensis*) and the Greater Flamingo (*Phoenicopterus ruber*) have declined in numbers (Raghavaiah and Davidar 2007). This might be the case here also. Therefore systematic monitoring and recording of bird numbers using standard methodology is needed to assess the population status of the species. Our hope is that this field manual will provide an incentive for the local people and tourists to visit the wetlands, develop an interest in watching birds, and contribute towards the monitoring the condition of these wetlands and the status of the water fowl.

PONDICHERRY WETLAND BIRDS

Arranged taxonomically
by order and family
alphabetically
by species

ORDER ANSERIFORMES

Family: Anatidae

This is the family of ducks, geese and swan. These birds are adapted for swimming on the water surface in some cases for diving. Only ducks have been recorded in the Pondicherry wetlands, and most species are medium sized birds. They are long distance winter migrants and usually gregarious. The males can be easily identified, but the females are drab and **can** be distinguished only with difficulty.

1 NORTHERN PINTAIL, *Anas acuta*

Size 51–56 cm

Male (1a) and female (1b). Winter visitor. Long pin-like black central tail feathers are diagnostic. The adult male has a chocolate brown head with white streak up each side of the neck, grey underparts. Female is mottled brown with a whitish belly.

2 NORTHERN SHOVELER, *Anas clypeata*

Size 44–52 cm

Male (2a) and female (2b). Winter visitor. The long flat spoon like bill is diagnostic. The adult male has a dark green head, white breast, chestnut flanks, and pale blue upper wing coverts. Female is mottled brown with dark stripe through eye.

3 COMMON TEAL, *Anas crecca*

Size 34–38 cm

Male (3a) and female (3b). Winter visitor. Smaller duck. Male has chestnut head with dark green band from eye to nape and a white stripe along upper wing. The rest of body is grayish with white underbelly and yellow patch under tail. Female is mottled brown with white belly, whitish band along wing coverts with greenish patch on wing.

4 EURASIAN WIGEON, *Anas penelope*

Size 45–51 cm

Male (4a) and female (4b). Winter visitor. Adult male has a chestnut head with grayish back and white/yellow patch on fore crown. Undersides grayish with black under tail. White shoulder patch seen in flight. Female is rufous brown with indistinct mottling and white belly. Ousteri lake receives the largest number of wintering Wigeons in the Indian subcontinent making it an important site for this species.



1a



1b



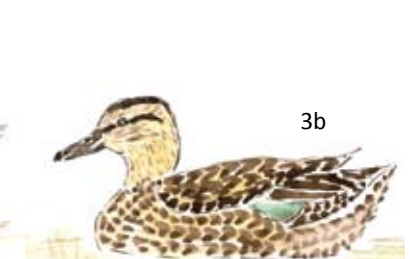
2a



2b



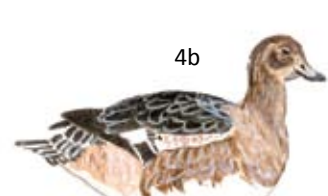
3a



3b



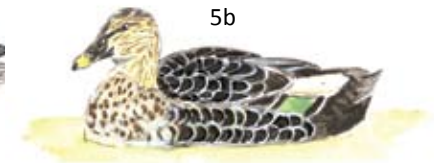
4a



4b

5 SPOT-BILLED DUCK, *Anas poecilorhyncha*
Size 58–63 cm

Male (5a) and female (5b). Resident. Larger brown duck with scaly light and dark plumage, usually seen in pairs in fresh water wetlands. The distinctive feature of both sexes is the black bill with a yellow bill tip, red feet, dark eyestripe and green patch on wing.



6 GARGANEY, *Anas querquedula*
Size 37–41 cm

Male (6a) and female (6b). Winter visitor. Male has a brown head with broad white stripe from eye to nape, brown breast with grey sides and white belly. Blue-grey patch on forewing conspicuous in flight. Female is mottled dull brown with whitish eyebrow, darkish eyestripe and patterned head.



7 GADWALL, *Anas strepera*
Size: 39–43 cm

Adult male (7a) and adult female (7b). Male is grey with a white belly, blackish beak and black rear end with grayish tail feathers. Female is brown patterned with dark brown with distinctive white belly and orange sides to blackish beak.



9 COTTON PYGMY-GOOSE, *Nettapus coromandelianus*
Size 30–37 cm

Male (9a) and female (9b). Resident. Small duck. The male has white head, neck and underparts with blackish crown, greenish wings with prominent white band conspicuous in flight. Distinguishing characteristic is the prominent black band across breast. Female is similar but with the glossy green parts replaced by brown and white by pale brown. Black stripe through eye.



10 RED-CRESTED POCHARD, *Rhodonessa rufina*
Size 53–57 cm

Male (10a) and female (10b). Winter visitor. Male has conspicuous large, mop like orange chestnut head with bright orange bill, black breast and tail feathers with white flanks. Female has dark brown cap and pale cheeks. Broad band of white on upper wing and whitish underwing during flight.



ORDER GALLIFORMES

Family: Phasianidae

Family of birds that include the pheasants, partridge and domestic fowl.

11 GREY PARTRIDGE/FRANCOLIN, *Francolinus pondicerianus*
Size 33 cm

Adult. Resident. Finely barred greyish brown ground dwelling bird smaller than a domestic chicken with buffish throat ringed with fine dark necklace. Paler underbody. Seen commonly in pairs or family groups in scrubby degraded vegetation, but also occurs in open areas near wetlands.



ORDER CHARADRIIFORMES

Family: Scolopacidae

The waders or shorebirds are widely distributed. They are smaller birds with long bodies and legs, and narrow bills with sensitive tips that enable them to feel and capture invertebrates in the mud. They generally are dull brownish in colour.

12 COMMON SANDPIPER, *Actitis hypoleucos*

Size 19–21 cm

Adult. Resident. Greyish olive brown above with brown rump and tail. White below with dusky grayish breast. White wing bar distinctive in flight. Constant bobbing motion while walking is typical.

13 CURLEW SANDPIPER, *Calidris ferruginea*

Size 18–23 cm

Adult. Winter visitor. Non breeding bird is pale grey with distinct eyebrow, long slightly decurved bill, white rump and long legs. Breeding birds have chestnut-red head and underbody.

14 LITTLE STINT, *Calidris minuta*

Size 13–15 cm

Adult. Winter visitor. Very small spotted grey brown bird forage in flocks along the shore line of the Kaliveli estuary. Greyish white below with black legs and a short straight black bill.

15 TEMMINCK'S STINT, *Calidris temminckii*

Size 13–15 cm

Adult. Winter visitor. Similar to the Little Stint, but the adult has white outer tail feathers and yellowish green legs.

16 COMMON SNIPE, *Gallinago gallinago*

Size 25–27 cm

Adult. Winter visitor. Wings are pointed with a faster and more erratic flight. Adult has trailing edge to wing and white banding on underwing-coverts.

17 BAR-TAILED GODWIT, *Limosa lapponica*

Size 37–41 cm

Male breeding (17a) and female breeding (17b). Winter visitor. Can be distinguished from Black-tailed Godwit by lack of a wing-bar, has barred tail and white V on back. Non-breeding has dark streaking on breast and streaked appearance to upperparts. Breeding male has chestnut-red underbody. Breeding female has pale chestnut or cinnamon underbody. Juvenile similar to non-breeding, but with buff wash to underbody and buff edges to mantle/scapulars.



12



13



14



15



16



17a



17b

18 BLACK-TAILED GODWIT, *Limosa limosa*

Size 36–44 cm

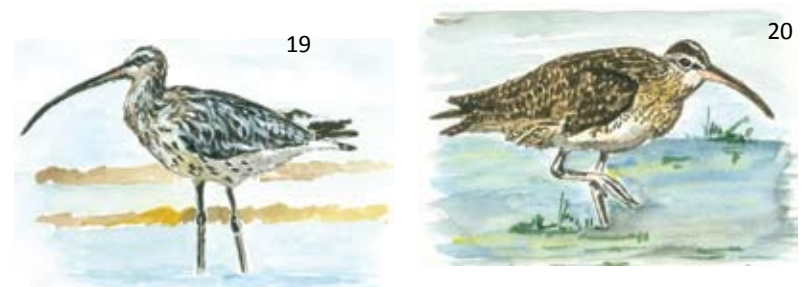
Male breeding (18a) and female breeding (18b). Winter visitor. White wing-bars and white tail-base with black tail band. Longer neck, legs and bill compared with Bar-Tailed. In breeding plumage, has blackish barring on underbody and white belly. In non-breeding plumage, is more uniform on upperparts and breast than Bar-Tailed. Juvenile has cinnamon underbody and cinnamon fringes to dark-centered upperparts.



19 EURASIAN CURLEW, *Numenius arquata*

Size 50–60 cm

Adult. Winter visitor. Large mottled brown bird with long curved bill. Head is plain, belly and rump and white. Common in Kaliveli estuary.



20 WHIMBREL, *Numenius phaeopus*

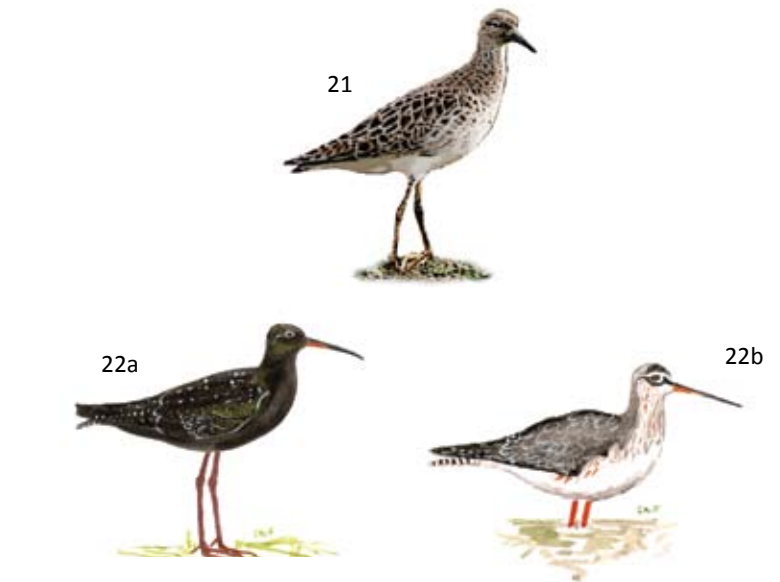
Size 40–46 cm

Adult. Winter visitor. Similar but smaller than the Curlew with shorter bill. The white stripe on crown and eyebrow is diagnostic.

21 RUFF, *Philomachus pugnax*

Adult. Size M 26–32 cm, F 20–25 cm

Winter visitor. The wintering bird sports a grayish-brown non-breeding plumage with distinctive scaly markings above and lighter brown below. Narrow white wing band and white patches at the base of the tail are conspicuous in flight. The breeding male has a magnificent plumage with brightly coloured head tufts, neck feathers and bare orange facial skin. The image is that of a male in breeding plumage.



22 SPOTTED REDSHANK, *Tringa erythropus*

Size 29–32 cm

Adult breeding (22a) and adult non-breeding (22b). Winter visitor. In non breeding or wintering plumage the upper parts are grayish brown with barred wings. Underbody whiter. Red at base of bill, and red legs are distinctive. Underparts black in breeding plumage.

23 WOOD SANDPIPER, *Tringa glareola*

Size 18–21 cm

Adult breeding (23a) and adult non-breeding (23b). Winter visitor. Smaller sandpiper dark sepia brown above with white rump and lower back. White stripe above eye and barred brown and white tail conspicuous in flight.

24 COMMON GREENSHANK, *Tringa nebularia*

Size 30–34 cm

Adult breeding. Winter visitor. Dark olive brown sandpiper with distinctive markings in upperparts. Slightly upturned green bill and olive green legs. Forehead, lower back and rump white.

25 GREEN SANDPIPER, *Tringa ochropus*

Size 21–24 cm

Adult. Winter visitor. Deep dark brown sandpiper with a white rump. Barring on chest with white belly and undertail. Greenish legs.

26 MARSH SANDPIPER, *Tringa stagnatilis*

Size 22–25 cm

Adult non-breeding. Winter visitor. Dainty small sandpiper long legs and fine bill. Grey upperparts, white forehead, eyebrow, sides of head, lower back and rump. Legs greenish or yellowish.

27 COMMON REDSHANK, *Tringa totanus*

Size 27–29 cm

Adult. Winter visitor. Grey brown above with grey breast and white underparts in non breeding winter plumage, and dark streaked breast when breeding. Reddish base of bill and bright red legs are diagnostic.

28 TEREK SANDPIPER, *Xenus cinereus*

Size 22–25 cm

Adult. Winter visitor. Smaller sandpiper with longish, slightly upturned bill and short yellowish legs. Wings have a white patch in flight.



23a



23b



24



25



26



27



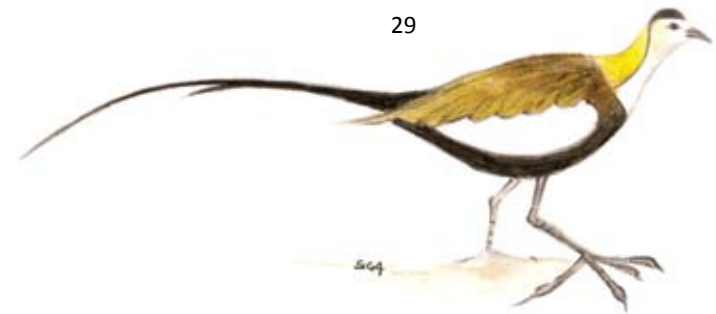
28

Family: Jacanidae

Jacanas are a group of tropical waders. These birds are commonly known as Jesus birds or lily trotters since they walk on lily pads with their feet and toe nails. Females are larger than the males. Many jacanas are polyandrous.

29 PHEASANT-TAILED JACANA, *Hydrophasianus chirurgus*
Size 31 cm

Adult breeding. Resident. Small partridge sized bird with yellowish patch along side of neck and white on upperwing. Breeding adult has a brown underbody and long sickle shaped tail, non-breeding has a white belly and black chest band.



Family: Laridae

The gull family consists of medium to large grey or white birds with broad long wings, stout bills and webbed feet that usually feed on the surface of water. The head and wings often have black marking. They inhabit coastal areas and sometimes inland waters.

30 BROWN-HEADED GULL, *Larus brunnicephalus*

Size 42 cm

Adult breeding (30a) and juvenile first winter (30b). Winter visitor. Large gull. The distinguishing feature is the white spot on black wing tip. Wintering birds have grey white body, and breeding birds have a brown head and throat. Red-orange bill and legs.

31 SLENDER-BILLED GULL, *Larus genei*

Size 43cm

Adult breeding. Winter visitor. White gull with black tipped wing feathers. Underbelly pinkish. Longish head and neck with black bill that is paler orange in first year birds.

32 HEUGLIN'S GULL, *Larus heuglini*

Size 58–65 cm

Adult non-breeding. Winter visitor. Large dark grey gull with heavily streaked head, black tipped tail, black tipped beak and yellow legs.



33 LITTLE GULL, *Larus minutus*

Size 27cm

Adult breeding (33a) and juvenile first winter (33b). Vagrant. Small gull, with short legs, blackish bill, and distinctive dark grey under wing surface. Wintering birds have black patches on head whereas birds in breeding plumage have blackish head.

34 BLACK-HEADED GULL, *Larus ridibundus*

Size 38cm

Adult breeding. Winter visitor. Smaller than the Brown Headed Gull with chocolate brown head in breeding birds and mostly white in wintering birds with a black patch behind eye. Wings more pointed and narrow with black on wing-tips. Black tipped reddish bill and red feet.



Family: Sternidae

The terns are slender elegant flying sea birds grey or white in colour often with black markings on head. Webbed feet. Lighter and more streamlined than gulls with long narrower wings and long tail. The terns in the genus *Sterna* have deeply forked tails whereas the other genera have shallow forked tails. Hunt fish by hovering and diving, rarely swim.

35 WHISKERED TERN, *Chlidonias hybridus*

Size 23–25 cm

Adult breeding (35a) and adult non-breeding (35b). Winter visitor. The adult has a distinctive black cap, dark grey undersides and short slightly forked tail. Wintering birds are lighter with white forecrown and indistinctive cap circling head. Red bill.

36 GULL-BILLED TERN, *Gelochelidon nilotica*

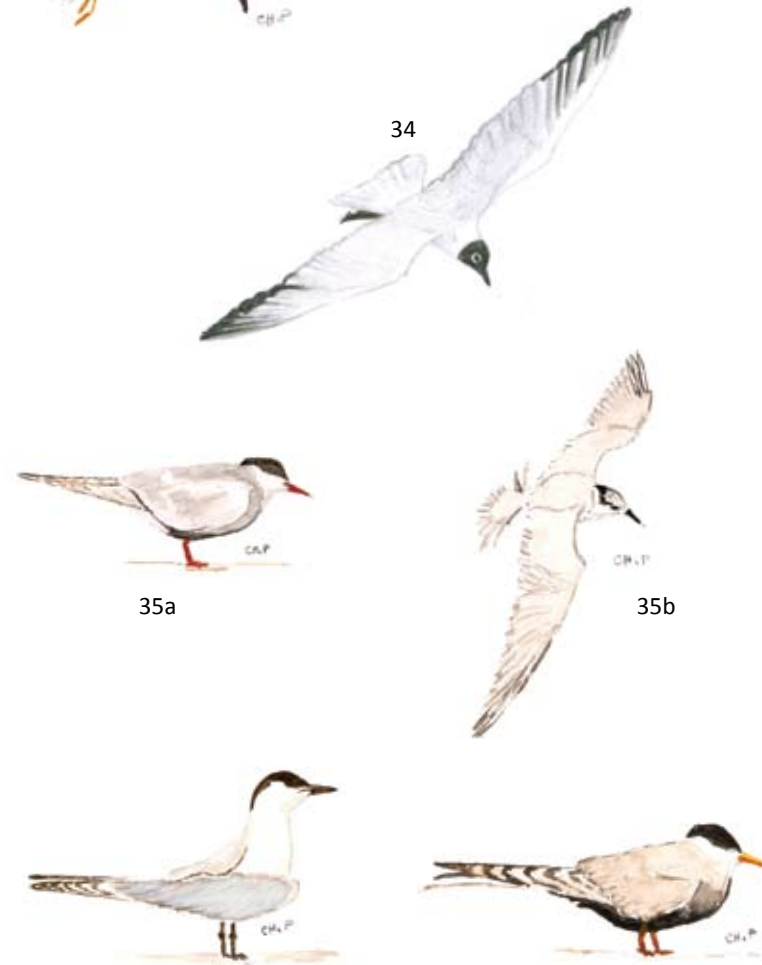
Size 35–38 cm

Adult breeding. Winter visitor. This tern has a more gull-like appearance with stout, gull-like black bill and black feet. Breeding birds have black cap and wintering birds have black half mask. Tail has a shallow fork.

37 BLACK-BELLIED TERN, *Sterna acuticauda*

Size 33 cm

Adult breeding. Resident. Small bird with deeply forked tail and orange bill. The breeding adult has a grey breast and black underparts. Wintering birds have greyish white underparts, black mask and streaked crown.



38 LITTLE TERN, *Sterna albifrons*

Size 22–24 cm

Adult breeding. Winter visitor. Small terns with black half mask and black bill in winter while breeding birds have black head with white forehead, and black-tipped yellow bill.

39 INDIAN RIVER TERN, *Sterna aurantia*

Size 38–46 cm

Adult breeding. Resident. Black capped tern, flies fast with rapid wingbeats. Distinctive yellow bill, short red legs and deeply forked tail. In non breeding birds the black cap is replaced by black mask and grayish crown.

40 CASPIAN TERN, *Sterna caspia*

Size 47–54 cm

Adult breeding. Winter visitor. Large tern with broad wings, large red bill and black under wing tips.

41 COMMON TERN, *Sterna hirundo*

Size 31–35 cm

Adult breeding (41a and b). Winter visitor. Greyish upper parts with white upper tail feathers and tail and primary flight feathers have black edge. Black tipped orange red bill. Non-breeding birds have darker grey upper parts.

42 BLACK-NAPED TERN, *Sterna sumatrana*

Size 35 cm

Adult breeding. Migrant. Greyish white tern with black bill, black legs, black stripe through eye and nape. Black nape band not so distinct in non-breeding plumage.



Family: Glareolidae

Small ground dwelling birds called pratincoles which are short legged birds with long pointed wings and long forked tails. They have a buoyant flight and hunt insects while flying. They are found along the shoreline of the Kaliveli estuary.

43 SMALL PRATINCOLE, *Glareola lactea*

Size 16–19 cm

Adult breeding. Resident. Small sandy-grey bird with tail ending with shallow fork. Broad white wing band contrasting with black flight feathers. Black tail band in flight.

44 INDIAN LARGE/ORIENTAL PRATINCOLE, *Glareola maldivarum*

Size 23–24 cm

Adult breeding. Resident; Adults distinguished by brownish colour with blackish flight feathers and forked tail with white sides. The throat is buffy and in breeding birds has a black border, brown breast band and white belly. Bill black with reddish base.

Family: Burhinidae

The stone curlews or thick knees are a largely tropical family. They are found in arid or semi-arid environments.

45 STONE CURLEW or EURASIAN THICK-KNEE, *Burhinus oedicnemus*

Size 40–44 cm

Adult. Resident. Streaked sand brown birds with short yellow-and-black bill, striking yellow eye, long yellow legs and whitish underbelly. Common in the open fields near Kaliveli tank.

Family: Recurvirostridae

This family consists of the Avocets and Stilts, wading birds common in mudflats. They possess long thin legs, necks and bills. They feed on small aquatic fauna. They are worldwide in distribution.

46 PIED AVOCET, *Recurvirostra avosetta*

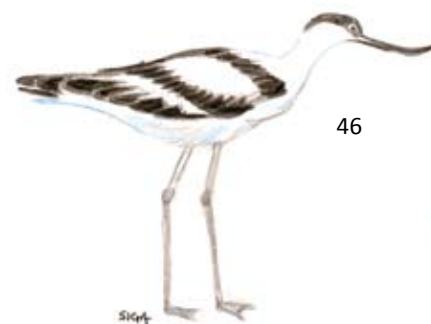
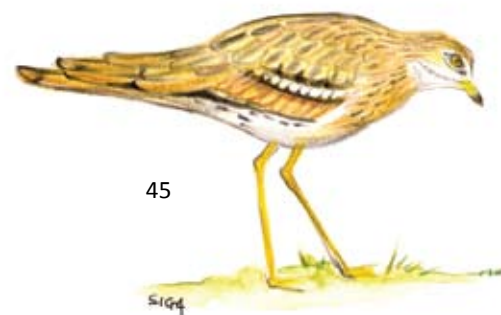
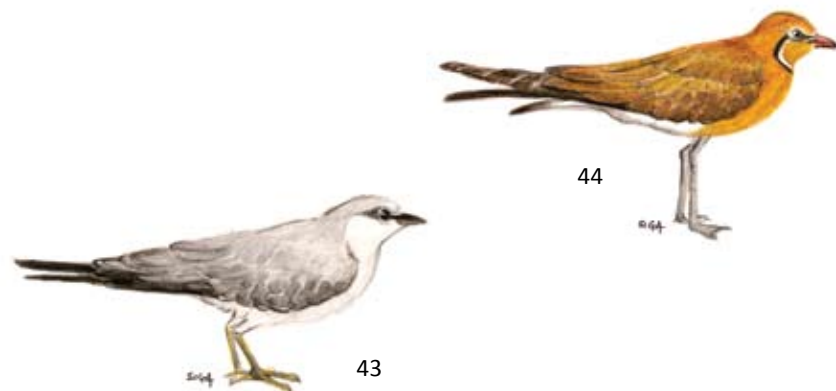
Size 42–45 cm

Adult. Winter visitor. Distinctive black and white medium sized wader with black crown and upturned black bill.

47 BLACK-WINGED STILT, *Himantopus himantopus*

Size 35–40 cm

Adult. Resident. Small, slender wading bird, mostly white with distinctive black wings, long pinkish legs and long straight bill, found in flocks in the wetlands of Kaliveli. In flight, legs extended a long way behind tail.



ORDER CHARADRIIFORMES

Family: Charadriidae

This consists of the Plovers and Lapwings. Worldwide distribution. They are small to medium sized birds with compact bodies and thick necks found usually near water or open areas.

48 KENTISH PLOVER, *Charadrius alexandrinus*

Size 15–17 cm

Adult male breeding. Winter visitor. This is a small stocky bird found along the shoreline. White band on back of neck, well defined dark patch at sides of breast, brown wing and white underparts, black bill. Male has rufous crown, black markings on head and black eye stripe in summer, and brown crown in winter.

49 LITTLE RINGED PLOVER, *Charadrius dubius*

Size 14–17 cm

Adult breeding. Resident. Small bird with white throat band encircled by black band along chest, brown wings and white underparts. Broad black facial mask with white patch on centre of forehead. Bill black with yellowish base. Breeding adult has striking yellow eye-ring. Adult non-breeding and juvenile have less distinct head pattern.

50 EASTERN/ PACIFIC GOLDEN PLOVER, *Pluvialis fulva*

Size 23–26 cm

Adult breeding. Winter visitor. Medium sized plover spotted golden black on crown, back and wings. Face and neck are black with a white border. The wintering bird has no black and is mottled gold with brown above, with a yellowish face and breast and whitish belly.

51 GREY PLOVER, *Pluvialis squatarola*

Size 27–30 cm

Adult breeding. Winter visitor. Small stocky bird found along coastline in winter, similar to the golden plover. Adult breeding has white lower wing surface, whitish rump and prominent white wing bar. Non breeding birds in winter can be distinguished by grayish upper parts caused by mottled black and white pattern.

52 RED-WATTLED LAPWING, *Vanellus indicus*

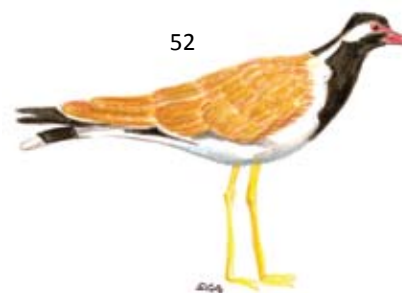
Size 32–35 cm

Adult. Resident. Common in open fields and wastelands. Adults have black cap and breast contrasting with white underparts. Distinctive black-tipped red bill and red wattle in front of eye. Yellow legs.

53 YELLOW-WATTLED LAPWING, *Vanellus malabaricus*

Size 26–28 cm

Adult. Resident. Common in open areas. Adult has yellow wattles and legs,



white stripe behind eye, black cap and brownish breast with white belly.

ORDER PODICIPEDIFORMES

Family: Podicipedidae

The grebes are small to medium sized diving birds that are widely distributed but found predominantly in fresh water. They have legs set back in their body and lobed feet.

54 LITTLE GREBE, *Tachybaptus ruficollis*

Size 25–29 cm

Adult breeding. Resident. Small dark squat diving bird with rounded back with lighter undersides. Male in breeding plumage has rufous cheeks and throat and yellow patch at base of bill. Breed in Ousteri and Bahour lakes in February–March.



54



ORDER PELECANIFORMES

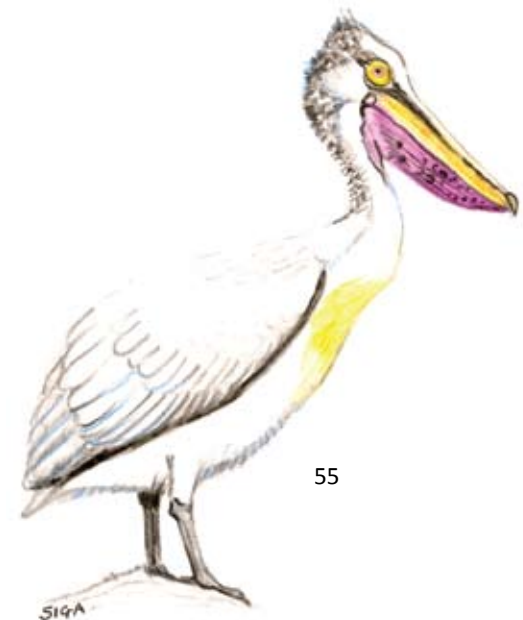
Family: Pelecanidae

Large birds with large pouched bills and webbed feet adapted for swimming. Often in congregations.

55 SPOT-BILLED PELICAN, *Pelecanus philippensis*

Size 140 cm

Adult breeding. Migrant. Distinctive large grayish white with large pouched bill, black spots on upper mandible and brownish crest at the back of neck and head. Often seen in flocks in the estuaries.



55

56 ORIENTAL DARTER OR INDIAN DARTER/ SNAKE BIRD, *Anhinga melanogaster*

Size: 85-97 cm

Adult breeding. This is a bird that looks similar to the Cormorant but with a very long neck, long tail and long sharp bill. It perches with wings outstretched and swims with only its head above water. It is dark brown bird with a reddish neck and long whitish stripes running down each side. Rare.

Family: *Phalacrocoracidae*

Family consisting of Cormorants and Shags which are medium to large coastal and wetland birds that are fish eating. They are usually black with long necks and short legs. They dive to catch fish and are often seen sunning themselves with their wings outstretched. Worldwide distribution.

57 LARGE/ GREAT CORMORANT, *Phalacrocorax carbo*

Size 80–100 cm

Adult non-breeding. Resident. Large black cormorant with white cheeks and white thigh patch in breeding male.

58 INDIAN CORMORANT, *Phalacrocorax fuscicollis*

Size 63 cm

Adult non-breeding. Resident. Black bird with white throat patch. Smaller and slimmer than the Great Cormorant.



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58

ORDER CICONIIFORMES

Family: Ardeidae

The Herons are wading birds with long legs, neck and bill and include nocturnal and diurnal species. They are similar to storks, ibises and spoonbills but fly with necks retracted and not outstretched. The taxonomy of this family is still not clear and many of the species could be shifted to other families depending on further systematic studies.

59 GREY HERON, *Ardea cinerea*

Size 90–98cm

Adult. Local migrant. This is a large grey bird with an orange bill and legs common in Pondicherry wetlands. Distinctive whitish head and neck with a black line running through eye forming a black plume. Slow in flight with black flight feathers contrasting with greyish body.

60 PURPLE HERON, *Ardea purpurea*

Size 78–90cm

Adult. Resident. The adults have a long thin rufous neck streaked with black, gray on shoulders and back with rufous lower back. Distinctive black line from bill through cheek that ends in a plume. This is the only large heron with dark chestnut belly and underwings.

61 INDIAN POND HERON, *Ardeola grayii*

Size 42–45cm

Adult breeding. Resident. Very common. Smaller heron with brownish dark head, brown streaked neck and breast contrasting with white abdomen and underbelly. In breeding season, adult has yellowish-buff head and neck and maroon-brown mantle. Seen along the shores of the wetlands and paddy fields. Has a characteristic dumpish shape as it goes stalking for prey.

62 CATTLE EGRET, *Bubulcus ibis*

Size 48–53cm

Adult breeding. Resident. Very common bird. Small and stocky, distinguished from the Little Egret by its short yellow bill and short legs. Adult are whitish. Breeding birds have orange-buff on head and neck and mantle.



63 LITTLE GREEN HERON, *Butorides striatus*

Size 40–48cm

Adult. Resident. Small stocky grey bird with short legs and distinctive black crown and crest. Upperparts darker greenish grey with lighter grey underparts.

64 LARGE EGRET, *Casmerodius albus*

Size 65–72cm

Adult breeding. Resident. Largest egret. Has a very long neck and large bill, black in breeding and yellowish in non-breeding birds. Long plumes from lower back are distinctive, but lacks head plumes.

65 LITTLE EGRET, *Egretta garzetta*

Size 55–65cm

Adult breeding. Resident. Larger than the Cattle Egret. Adult has black bill that is paler when non-breeding, black legs with yellow feet. White plumes on head, chest and lower back.

66 WESTERN REEF EGRET, *Egretta gularis*

Size 55–65cm

Adult white morph breeding. Migrant. Same size as the Little Egret but with stouter yellowish or brownish-yellow bill. White plumes on head, chest and lower back. Dark grey with a white throat in non breeding plumage.

67 INTERMEDIATE EGRET, *Mesophoyx intermedia*

Size 65–72cm

Adult breeding. Resident. Smaller than the Large Egret and with shorter bill and neck. Breeding birds have black bill and yellow green near eye, and non breeding birds have black-tipped yellow bill and yellow near eye. No head plumes.

68 BLACK-CROWNED NIGHT HERON, *Nycticorax nycticorax*

Size 58–65cm

Adult. Resident. Small stocky bird with short thick neck. Adult has black crown with white plumes, black back contrasting with grey wings and whitish underbody.



63



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68

Family: Ciconiidae

Storks are large, long legged and long necked wading birds with long stout bills. They fly with their head and neck outstretched. They are distributed mostly in the tropical and subtropical parts of the world. Sexes alike. Many species are migratory.

69 ASIAN OPENBILL STORK, *Anastomus oscitans*

Size 68 cm

Adult breeding. Resident. Large grayish white stork with black flight feathers and a stout dull-coloured 'open bill' with a gap in the middle. Dull pink legs. Common in wetlands and paddy fields along the Kaliveli estuary.

70 WHITE STORK, *Ciconia ciconia*

Size 100–125 cm

Adult. Winter visitor and passage migrant. Uncommon. Large white stork with black flight feathers and white tail, and striking red bill and legs. Recorded occasionally from Kaliveli estuary. Threatened species.

71 WOOLLY/WHITE-NECKED STORK, *Ciconia episcopus*

Size 75–92 cm

Adult. Resident. Adult is stocky, largely blackish stork with distinctive woolly white neck, black 'skullcap', and white under belly and tail. Uncommon.

72 PAINTED STORK, *Mycteria leucocephala*

Size 93–100 cm

Adult. Resident. Common bird in the wetlands and paddy fields. Whitish stork with white barring on black upper wings, and black barring on breast. Conspicuous large down-curved yellow bill, bare reddish face and red legs.



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72

Family: Threskiornithidae

The Ibises and spoonbills are a family of large long legged wading birds of worldwide distribution. They are strong fliers with broad wings and fly with necks outstretched. The ibises have long decurved bills used for probing in the mud whereas the spoonbills have straight bills flattened at the tip which is swung from side to side to feed. Ibises are more social than the spoonbills and tend to go around in groups.

73 EURASIAN SPOONBILL, *Platalea leucorodia*

Size 80–90 cm

Adult breeding. Resident. Large white bird with a straight bill with a spoon shaped tip. Adult has black bill with yellow tip. Breeding bird has an orange yellow patch in throat and a crest at the back of its head. Threatened species. Rare.

74 BLACK-HEADED IBIS, *Threskiornis melanocephalus*

Size 75 cm

Adult. Resident. White bird with a featherless black head and neck and down curved black bill. Sometimes seen in paddy fields.

ORDER PHOENICOPTERIFORMES

Family: Phoenicopteridae

Gregarious tall wading birds with long curved necks, long legs and oddly shaped beak used for filtering food from the shallow muddy water of estuaries and swamps.

75 GREATER FLAMINGO, *Phoenicopus ruber*

Size 125–145 cm

Adult. Winter visitor. Large rosy white bird with long and thin neck, and large distinctive heavy pink bill with a prominent dark tip. Pink legs and black-bordered scarlet wings. Seen in flocks in Kaliveli estuary. Is a passage migrant.



ORDER FALCONIFORMES (diurnal birds of prey)

Families: Accipitridae and Falconidae

The raptors or the birds of prey include two families: the hawks (Accipitridae) and the falcons (Falconidae). The birds of prey feed on the flesh of animals, freshly killed or carrion. The hawks (family Accipitridae) consist of the eagles, the buzzards, the kites, the harriers and the vultures. The eagles and vultures are the largest birds, majestic soarers with long and broad wings and a large bill. The buzzards are medium sized raptors. The kites soar and glide and have long, angular wings. The hawks tend to be smaller to medium and fly with rapid flaps and a short glide. The harriers are common winter visitors to the wetlands of Pondicherry and have long and slender wings and tail. They tend to fly low with a short glide with wings held at a shallow V. The male harriers tend to be distinctive whereas the females and juveniles are brownish and difficult to tell apart. The birds of the family Falconidae are usually smaller with long pointed wings and long narrow tails. Falconidae is represented in Pondicherry by the Common Kestrel, a winter visitor.

76 SHIKRA, *Accipiter badius*

Size 30–36cm

Adult. Resident. Small blue grey hawk with white and rufous barred underparts, throat white. Female is brownish above. Dark stripe on chin and throat. Tail has black bars. Common in dry forested areas.

77 GREATER SPOTTED EAGLE, *Aquila clanga*

Size 65–72 cm

Adult. Winter visitor to marshes, rivers and lakes. Medium sized blackish eagle with short broad wings, stocky head, and short tail. White patch under tail is distinctive.

78 WHITE-EYED BUZZARD, *Butastur teesa*

Size 43cm

Adult. Resident. Slim medium sized bird with longish tail. Adult has throat stripe, white nape patch, barred underparts, black wing tips and rufous tail. Conspicuous yellow-white eyes.

79 SHORT-TOED SNAKE EAGLE, *Circaetus gallicus*

Size 62–67 cm

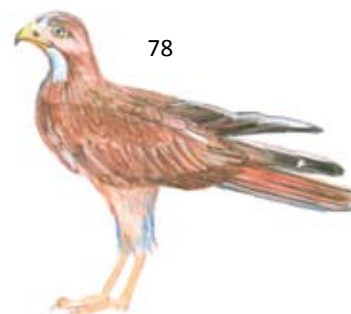
Adult, pale phase. Resident. Dark grey brown above and white barred below with browner breast. Large owl like head, long and broad wings, long tail with subterminal tail-band.



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80 EURASIAN MARSH HARRIER, *Circus aeruginosus*
Size 48–58 cm

Adult male (80a and b) and adult female (80c and d). Winter visitor. Male is reddish brown with paler head, grey bands on wings. Female is dark brown with creamish head and shoulder.

81 PALLID HARRIER, *Circus macrourus*
Size 40–48 cm

Male (81a) and female (81b). Winter visitor. Male is a pale grey bird with black tipped wings. Female brown with owl like ruff around head.



82 **PIED HARRIER**, *Circus melanoleucos*

Size 41–46.5 cm

Male (82a and b) and female (82c). Winter visitor. Male has contrasting black and white plumage with black head and upperparts and chest, and white underparts and shoulder patch. Female brownish with whitish rump.

83 **MONTAGU'S HARRIER**, *Circus pygargus*

Size 43–47 cm

Male (83a and b) and female (83c and d). Winter visitor. Male is similar to Pale Harrier but darker brownish grey. Wings black tipped and black band across secondary flight feathers are distinctive. Rufous streaks on belly. Female is brownish above and extensively barred on underside of wings and chest.



82a



82b



82c



83a



83b



83c



83d

84 BLACK SHOULDERED KITE, *Elanus caeruleus*

Size 31–35 cm

Adult. Resident. Small gull like grey raptor with black eyestripe and shoulder patches. Common in open fields and has a distinctive hovering flight.



84

85 WHITE-BELLIED SEA EAGLE, *Haliaeetus leucogaster*

Size 66–71 cm

Adult. Resident. Recorded along coastline. Adults with white slim head, underparts and white tail contrasting with brownish dark grey upper parts. Large ashy raptor soars with wings raised in shallow V, with black border on wings and wedge tail in flight. Fish eating.



85

86 BRAHMINY KITE, *Haliastur indus*

Size 48 cm

Adult. Resident. Common near water bodies. Striking chestnut raptor with white head, neck and breast. Juvenile mainly, brown distinguished from black kite by rounded cinnamon coloured tail.

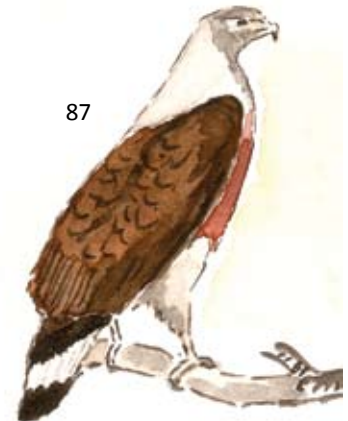


86

87 GREY-HEADED FISH EAGLE, *Ichthyophaga ichthyaetus*

Size 69–74 cm

Adult. Migrant. Large eagle with grey head and throat, brownish breast, lower belly and under tail coverts whitish, white tail with broad black subterminal band. Upper parts brown with dark wings. Fish eating.



87

88 BLACK KITE, *Milvus migrans*

Size 55–68.5 cm

Adult. Resident. Very common dark rufous-brown raptor with distinctive forked tail. Scavenger.

89 OSPREY, *Pandion haliaetus*

Size 55–58 cm

Adult. Winter visitor. Adults has whitish head with distinctive black stripe through eye, short crest, blackish upperparts, white underbody, long wings and short pale barred tail.

Family: Falconidae

90 COMMON KESTREL, *Falco tinnunculus*

Size 32–35 cm

Male. Winter visitor. Male is reddish above, pale cream below, grey head and grey tail with black subterminal band. Females are browner with rufous head. Back and belly heavily spotted. Pointed wings and reddish rounded tail with black subterminal band. Moustachial stripe. Distinctive hovering flight.



88



89



90

ORDER GRUIFORMES

Family: Rallidae

The rails small to medium sized shy secretive birds associated with wetlands, and found mainly in reed beds and dense vegetation near lakes and swamps. They have strong legs with long toes and can walk in marshy habitats. They are weak fliers. Found worldwide. The members of this family described below are common among the reed beds and banks of the Pondicherry wetlands and have loud distinctive harsh calls.

91 WHITE-BREADED WATERHEN, *Amaurornis phoenicurus*

Size 32 cm

Adult (91a) and juvenile (91b). Resident. Slaty grey bird with white face and underparts. Red under tail.



92 COMMON COOT, *Fulica atra*

Size 36–38 cm

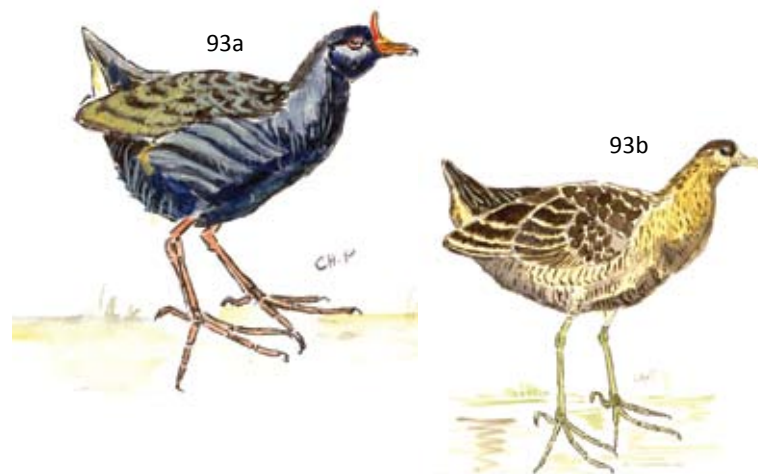
Adult (92a) and juvenile (92b). Resident. Small black duck-like bird with white bill and frontal shield found swimming in Bahour and Ousteri. Ousteri lake hosts one of the largest congregations of nesting coots in the reed beds of the lake in February-April.



93 WATERCOCK, *Gallixrex cinerea*

Size M 43 cm, F 36 cm

Male breeding (93a) and female (93b). Resident. Distributed in tropical Asia. Breeding male is greyish-black with yellow-tipped red bill and red frontal shield which extends upwards into a knob. Non-breeding male and female have buff underbody with fine barring, and dark brown upperparts. Red legs and eyes. Male is much larger than female. Found in swampy areas and dense vegetation along the banks of the wetlands and has a loud gulping call.



94 COMMON MOORHEN, *Gallinula chloropus*

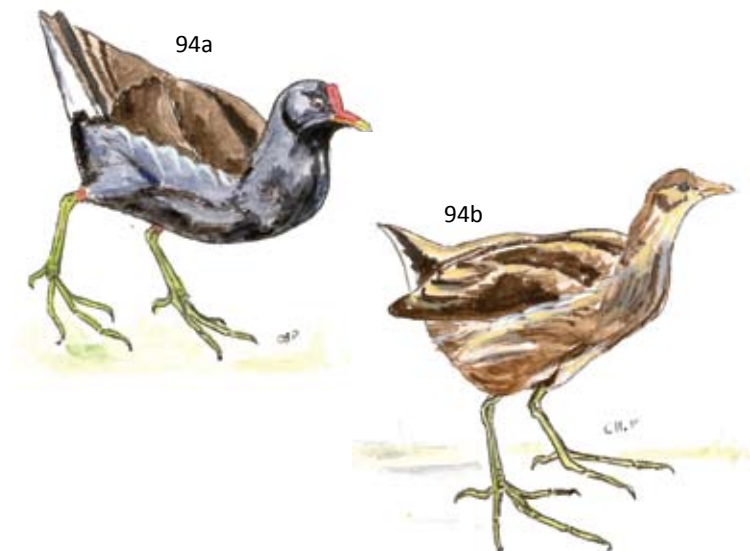
Size 32–35 cm

Adult (94a) and juvenile (94b). Resident. Widely distributed throughout the world except for the polar regions and tropical forests. Dark slaty grey bird with white under tail and a white line along each side found in dense vegetation along the edges of the wetlands. Breeding adult has red bill with yellow tip and red frontal shield. Non-breeding adult has duller bill and legs. Loud harsh call notes.

95 PURPLE MOORHEN/SWAMPHEN, *Porphyrio porphyrio*

Size 45–50 cm

Adult. Resident. Purplish blue bird with large red bill, red legs and red frontal shield the size of a country chicken. It is found in dense marshy vegetation. Call has been described as a 'raucous and high pitched screech'. Widely distributed. Also a low key tuk-tuk.



ORDER APODIFORMES

Family: Apodidae

The swifts are aerial birds and among the fastest fliers in the animal kingdom. They are usually small birds with short forked tail and long wings that are swept back. The sexes are similar. They also have a distinctive fluttery flight. They have often been confused with swallows but are completely unrelated. There are two resident swift species in Pondicherry.

96 HOUSE SWIFT, *Apus affinis*

Size 15 cm

Adult. Resident. Both sexes are alike. Small dark bird distinguished by white throat and rump (top of tail). Tail has slight fork.

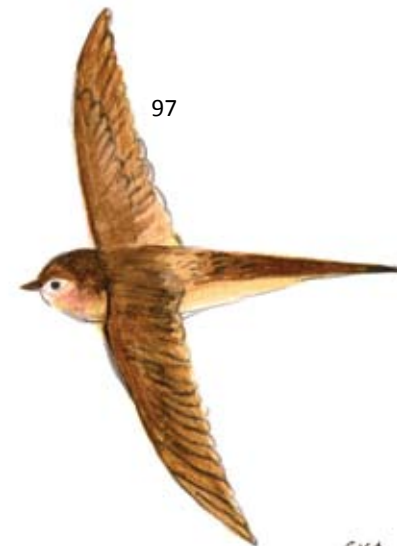
97 ASIAN PALM SWIFT, *Cypsiurus balasiensis*

Size 13 cm

Adult. Resident. Entirely dark brown swift with paler throat. Slender body and wings and long forked tail usually held close.



Sigga



Sigga

ORDER CORACIIFORMES

This order includes the kingfishers, hoopoes, rollers and bee eaters.

There are three families of Kingfishers: Alcedinidae, Cerylidae and Halcyonidae, and each family is represented by one species in Pondicherry. Kingfishers are brilliantly coloured distinctive birds with large heads, short legs and tails and large pointed bills, often perched on bare branches near waterbodies or on electric lines.

Family: Alcedinidae

98 COMMON KINGFISHER, *Alcedo atthis*

Size 16 cm

Adult. Resident. Smallest kingfisher in Pondicherry. Jewel like bird with brilliant greenish blue head, cheeks and wings, with orange ears-coverts. Bright turquoise line down centre of back. Flies straight as a dart and call note is a high pitched squeak.

Family: Cerylidae

99 PIED KINGFISHER, *Ceryle rudis*

Size 31 cm

Male (99a) and female (99b) SAME DRAWING. Resident. Distinctive black and white bird with white eyebrow, white patches on wings, and, female one and male two black bands across breast. Hovering flight and sharp twittering call is characteristic. Commonly associated with wetlands.

Family: Halcyonidae

100 WHITE-THROATED KINGFISHER, *Halcyon smyrnensis*

Size 28cm

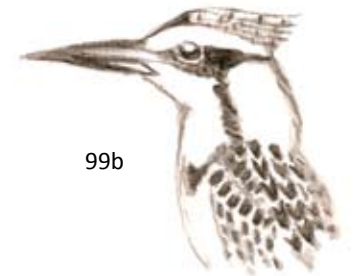
Adult. Resident. A large kingfisher with white breast and throat found along water bodies and in forested areas. Head and most of the underbody brown, and turquoise wings and back. White wing patch.



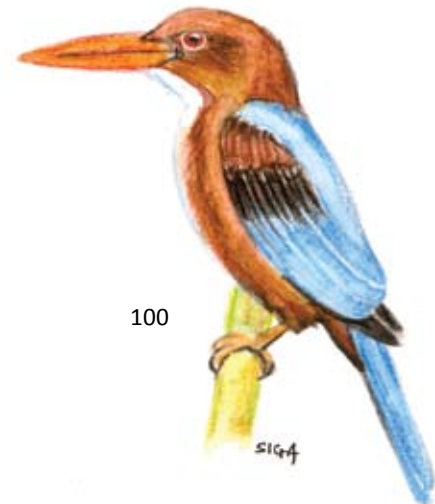
98



99a



99b



100

Family: Meropidae

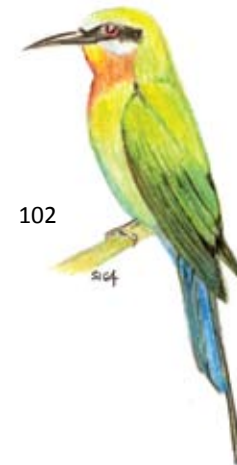
Bee eaters are small gregarious brightly coloured birds with slim bodies and long bills. The pointed wings and elongated central tail feathers makes them distinctive in flight. They feed on bees and other flying insects that they capture on the wing by aerial sallies.

101 GREEN BEE-EATER, *Merops orientalis*
Size 16–18 cm

Adult. Resident. Small grass green bird with reddish brown on head and neck. Black necklace. Green tail with elongated central feathers. Often seen in pairs or larger groups.

102 BLUE-TAILED BEE-EATER, *Merops philippinus*
Size 23–26 cm

Adult. Winter visitor. Larger bee-eater with black stripe through eye, chestnut throat and breast. Diagnostic blue rump and tail.



ORDER PASSERIFORMES

Family: Alaudidae

The larks are small, brownish, streaked ground dwelling birds of open country. Characteristic singing flight that is weak and fluttery.

103 ORIENTAL SKYLARK, *Alauda gulgula*

Size 16 cm

Adult. Resident. Brownish ground dwelling bird with short crest, prominent streaks on upper parts with buffish breast with streaks. Fine bill, buffish-white outer tail feathers, and indistinct rufous wing panel.

104 ASHY-CROWNED SPARROW LARK, *Eremopterix grisea*

Size 12 cm

Male. Resident. Small black and grey ground dwelling lark. Male has grey crown and nape, and brownish-black underbody. Female has stout greyish bill, uniform upperparts.

105 SINGING BUSHLARK, *Mirafra cantillans*

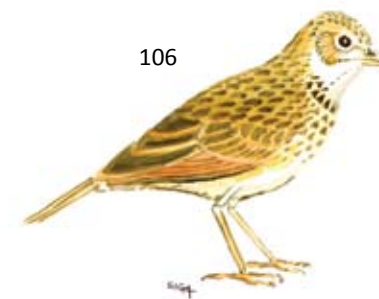
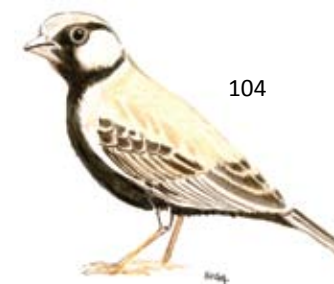
Size 14 cm

Adult. Migrant. Small streaked bird with short crest. Adult distinguished by white throat, rufous on wing, white outer tail feathers, indistinctly streaked on upper breast. Commonly in flocks along Kaliveli tank singing melodiously.

106 RED-WINGED OR INDIAN BUSHLARK, *Mirafra erythroptera*

Size 14 cm

Adult. Resident. The commonest lark near the wetlands and in open fields. Streaked upper parts, underparts whitish with dark spotting on breast. Distinguished by rufous on wing and pale rufous outer tail feathers, stoutish bill.



Family: Cisticolidae

This is a family of small drab brown or grey warblers found in grasslands or reed beds near wetlands. Sexes alike. Call notes are useful for distinguishing species.

107 STREAKED FANTAILWARBLER/ZITTING CISTICOLA,
Cisticola juncidis

Size 10 cm

Adult breeding. Resident. Small bird buffy brown above with black streaks, buffy rufous rump and short tail with prominent white tips. Pale eyebrow. Call a long series of zits or tics while in flight.



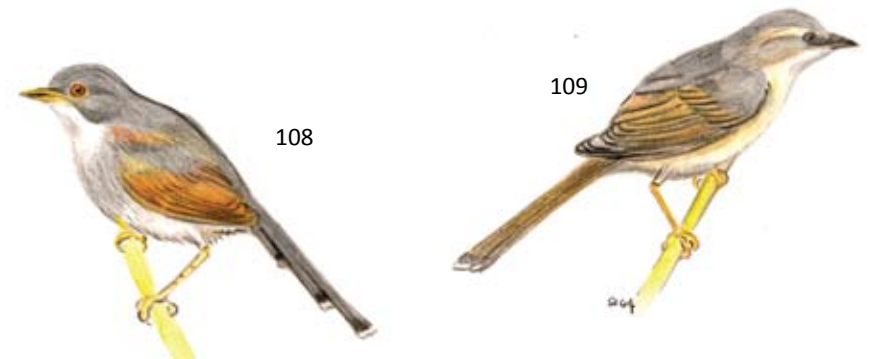
108 GREY-BREASTED PRINIA/FRANKLIN'S WREN WARBLER,
Prinia hodgsonii

Size 11 cm

Adult breeding. Resident. Small greyish bird with white underparts. Male has grey-breast band when breeding. Call notes a chew-chew-chew and a musical trill.

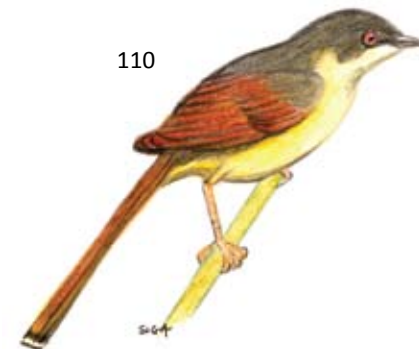
109 PLAIN WREN-WARBLER/PLAIN PRINIA, *Prinia inornata*
Size 13 cm

Adult breeding. Resident. Pale grey-brownish above with whitish underparts and whitish eye stripe. Song is rapid trill; tick tick tick. Calls include tee-tee-tee and nasal beep.



110 ASHY PRINIA, *Prinia socialis*
Size 13 cm

Adult breeding. Resident. Adult has slate-grey crown, rufous-brown upperparts, orange-buff wash to underbody. Red eyes and long brownish tail. Hops around with the tail moving up and down. Call notes a sharp tee-tee-tee. Common in reed beds, tall grass and scrub.



Family: Hirundinidae

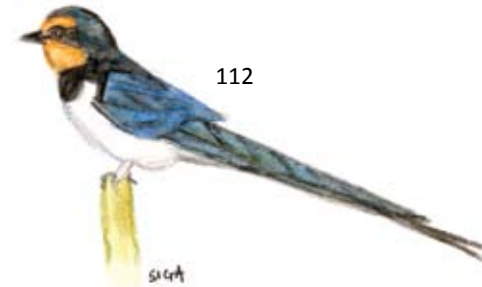
The swallows are small insect eating birds adapted to aerial feeding. They have short wide bills and short legs for perching. They are found in open habitats and commonly feed above wetlands and waterways.

111 RED-RUMPED SWALLOW, *Hirundo daurica*
Size 16–17 cm

Adult. Resident. Small fast flying bird with glossy black blue plumage above and finely streaked fulvous white below. Distinctive rufous band on hind neck and rufous rump. Common near wetlands.

112 BARN SWALLOW, *Hirundo rustica*
Size 18cm

Adult. Winter visitor. Small bird with glossy purplish blue above and buffish white below. Chestnut on forehead and throat, bordered by broad glossy black band across chest. Prominent deeply forked tail.



Family: Motacillidae

Wagtails and pipits that are mostly ground dwelling birds with short necks and long tails. Sexes usually alike. The wagtails are mostly migrant and found in the wetlands of Pondicherry in winter. The pipits tend to be resident.

113 PADDYFIELD PIPIT, *Anthus rufulus*

Size 15 cm

Adult. Resident. Small, dark brown bird with lighter underparts streaked with brown on breast with well-streaked breast and pale lores. Long tail and outer tail feathers are white. When flushed, has comparatively weak, rather fluttering flight. Call is tseep-tseep-tseep.

114 WHITE WAGTAIL, *Motacilla alba*

Size 19 cm

Male breeding (114a) and male non-breeding (114b). Winter visitor. Variably coloured black and white bird with grey upperparts and head partly black. Prominent black bib in breeding birds, reduced in non-breeding birds. Sexes alike. Common in open country near Kaliveli estuary.

115 GREY WAGTAIL, *Motacilla cinerea*

Size 19 cm

Male breeding (115a SMALL) and adult female (115b LARGE). Winter visitor. Grey upperparts and yellow underparts and rump. Longer tail than the other wagtails. Narrow white eyebrow. Male has black throat in breeding season.

116 CITRINE WAGTAIL, *Motacilla citreola*

Size 19 cm

Male breeding (116a) and adult female (116b). Winter visitor. Bird with grey upperparts and yellow underparts. The grey is blackish in males. Breeding males have yellow head, whereas non breeding adults have broad yellow eyebrow continuing around ears.

117 YELLOW WAGTAIL, *Motacilla flava*

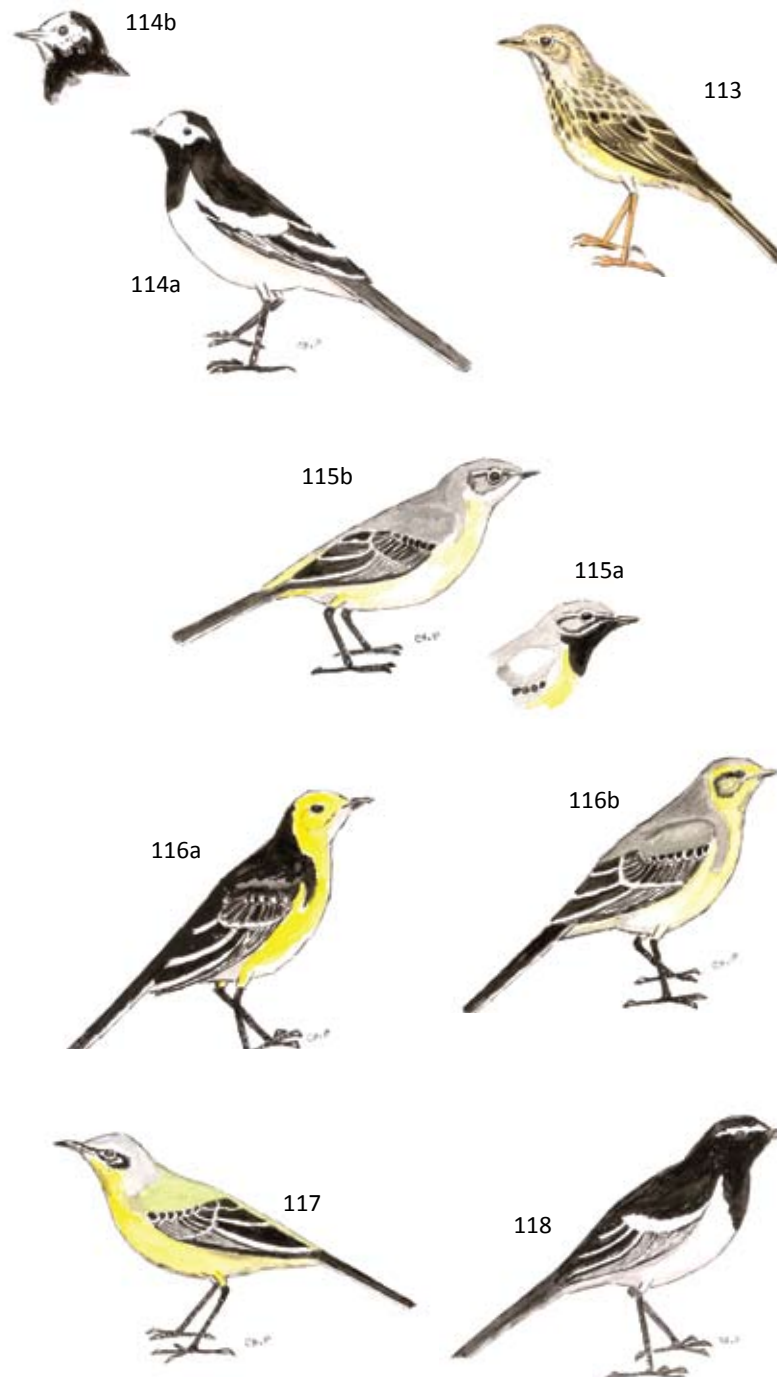
Size 18 cm

Male breeding. Winter visitor. Olive green-grey above and yellow below, with narrow white eyebrow.

118 WHITE-BROWED/ LARGE PIED WAGTAIL, *Motacilla maderaspatensis*

Size 21 cm

Adult. Resident. Large black and white wagtail with black head, prominent white eyebrow, black bib and white belly. Female grayish. Seen in pairs near waterbodies.



Family: Ploceidae

The weavers are small seed eating birds with conical bills. The males are usually brightly coloured. They get their name because of their ability to weave elaborate nests made of leaf fibres, grass and twigs.

119 BAYA WEAVER, *Ploceus philippinus*

Size 15 cm

Male breeding. Resident. Common bird in the Indian plains with distinctive woven nests which is a swinging retort shaped structure with a long vertical entrance tube suspended in clusters from the underside of palmyra palm leaves, or from electric lines and other structures. The breeding male has a bright yellow crown, dark brown cheeks and throat. Wings streaked with brown. Female/non-breeding birds look like a female sparrow but with faintly streaked pale yellowish underbody and pale eyebrow.



119

Family: Sylviidae

The 'Old World' warblers are small insect eating birds with a long fine bill. Usually olive brown in colour inhabiting reed beds and tall grass.

120 CLAMOROUS REED WARBLER, *Acrocephalus stentorius*

Size 19 cm

MISSING See if alteration of arundinacea is possible. Winter visitor. Large olive brown warbler with long bill and prominent white eyebrow and throat. Found in reed beds and tall grass bordering lakes.



120

121 BLYTH'S REED WARBLER, *Acrocephalus dumetorum*

Size 14 cm

Adult. Winter visitor. Olive brown warbler, smaller than the Indian Great Reed Warbler with a fine eyebrow and buff underparts. Found in shrubs and hedges. Call note a distinctive harsh single chuk every few seconds.



121

Illustrators Credits

Christian Puyravaud

Accipiter badius, *Amaurornis phoenicurus*, *Anas acuta*, *A. clypeata*, *A. crecca*, *A. penelope*, *A. poecilorhyncha*, *A. querquedula*, *A. strepera*, *Anhinga melanogaster*, *Aythya ferina*, *Butastur teesa*, *Calidris ferruginea*, *C. minuta*, *Chlidonias hybridus*, *Circaetus gallicus*, *Circus aeruginosus*, *C. macrourus*, *C. melanoleucos*, *C. pygargus*, *Dendronanthus indicus*, *Elanus caeruleus*, *Fulica atra*, *Gallicrex cinerea*, *Gallinago gallinago*, *Gallinula chloropus*, *Gelochelidon nilotica*, *Haliaeetus leucogaster*, *Haliastur indus*, *Ichthyophaga ichthyaetus*, *Larus brunnicephalus*, *L. genei*, *L. minutus*, *Limosa lapponica*, *L. limosa*, *Milvus migrans*, *Motacilla alba*, *M. cinerea*, *M. citreola*, *M. flava*, *M. maderaspatensis*, *Nettapus coromandelianus*, *Numenius arquata*, *N. phaeopus*, *Philomachus pugnax*, *Porphyrio porphyrio*, *Rhodonessa rufina*, *Sterna acuticauda*, *S. albifrons*, *S. aurantia*, *S. caspia*, *S. hirundo*, *Tachybaptus ruficollis*, *Tringa erythropus*, *T. glareola*, *T. ochropus*, *T. stagnatilis* and *T. tetanus*.

Sabrina Siga

Acrocephalus arundinaceus, *A. dumetorum*, *Actitis hypoleucos*, *Alauda gulgula*, *Alcedo atthis*, *Anastomus oscitans*, *Anthus rufulus*, *Apus affinis*, *Aquila clanga*, *Ardea cinerea*, *A. purpurea*, *Ardeola grayii*, *Bubulcus ibis*, *Burhinus oedicnemus*, *Butorides striatus*, *Calidris temminckii*, *Casmerodius albus*, *Ceryle rudis*, *Charadrius alexandrinus*, *C. dubius*, *Ciconia ciconia*, *C. episcopus*, *Cisticola juncidis*, *Cypsiurus balasiensis*, *Egretta garzetta*, *E. gularis*, *Eremopterix grisea*, *Falco tinnunculus*, *Francolinus pondicerianus*, *Glareola lactea*, *G. maldivarum*, *Halcyon smyrnensis*, *Himantopus himantopus*, *Hirundo daurica*, *H. rustica*, *Hydrophasianus chirurgus*, *Larus heuglini*, *L. ridibundus*, *Merops orientalis*, *M. philippinus*, *Mesophoyx intermedia*, *Mirafr cantillans*, *M. erythroptera*, *Mycteria leucocephala*, *Nycticorax nycticorax*, *Pandion haliaetus*, *Pelecanus philippensis*, *Phalacrocorax carbo*, *P. fuscicollis*, *Phoenicopterus ruber*, *Platalea leucorodia*, *Ploceus philippinus*, *Pluvialis fulva*, *P. squatarola*, *Prinia hodgsonii*, *P. inornata*, *P. socialis*, *Recurvirostra avosetta*, *Sterna sumatrana*, *Threskiornis melanocephalus*, *Tringa nebularia*, *Vanellus indicus*, *V. malabaricus* and *Xenus cinereus*

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IBCN, BNHS and RSPB

The Indian Bird Conservation Network (IBCN) is a network of individuals, organizations and the established in 1998 by the Bombay Natural History Society, in collaboration with Birdlife International UK and the Royal Society for the Protection of Birds (RSPB) with a mission to promote conservation of birds and their habitats through development of a national network of individuals, organizations and the Government. ECOS is a member of the IBCN and book was partially sponsored by the IBCN and Birdlife International.



ECOS is a registered trust dedicated to nature conservation. It is engaged in a wide range of activities from education to research. ECOS works with Government institutions, NGOs and private companies. Dr. Jean-Philippe Puyravaud, the director of ECOS holds a Ph.D. in ecology and is a Guest Faculty at the University of Pondicherry.

THE CONTRIBUTORS

Priya Davidar, a student of Dr. Salim Ali the renowned ornithologist, is a Professor at the Department of Ecology and Environmental Sciences, Pondicherry University. She is the Pondicherry coordinator of the Indian Bird Conservation Network.

Christian Puyravaud is a retired entrepreneur from France. He enjoys painting and took up this hobby from a young age as a way to relax after a busy schedule. He specializes on French landscapes but was delighted to contribute towards the bird paintings while on holiday in India.

Sabrina Siga has done her BA - Fine Arts from Stella Maris College, Chennai. Her main specialization is birds and animals. She has exhibited her work in India, Europe and the United States and has been commissioned by discerning patrons wanting their favorite race horses portrayed.

Gopinath Sricandane is a Pondicherry based freelance wildlife photographer and graphic designer. He heads his design studio, Turnstone Design and has an M.Phil. degree in French from Jawaharlal Nehru University, New Delhi. His work is available at www.photoessays.net

Roshan Davina Eddy is a freelance designer and photographer. She has a Bachelor degree in psychology and PG Diploma in Digital Media and Communication. Working mostly on graphic design and publication design with clients she is also a keen photographer.

'The proceeds from the sale of this book go towards conservation'