

FRIGATE BIRDS, TROPIC BIRDS, PELICANS, GANNETS, DARTERS, CORMORANTS

Order STEGANOPODES ¹

THIS somewhat heterogeneous assemblage of birds can at once be recognized by one common character—namely, that all the toes, including the hind toe, are united to each other by a web.

In the present volume I do not propose to describe at length any of the birds included in the order. All, or nearly all, the species in our list are of somewhat uncommon occurrence in Malaya and are not likely to be met with by the ordinary observer.

I have, however, given a key to the families, largely borrowed from the late Mr Ogilvie Grant's catalogue, with a few short notes on the species, which should facilitate their recognition. All the Malayan forms will be described in detail in a later volume of this work.

KEY TO THE FAMILIES OF STEGANOPODES

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| 1 | Tail very strongly forked ; wings very long ; webs between toes strongly incised | <i>Fregatidæ</i> (frigate birds), p. 55 |
| | | Tail rounded or wedge-shaped ; wing not remarkably long ; web between toes not incised |
| 2 | Middle tail feathers greatly lengthened and very narrow | <i>Phæthontidæ</i> (tropic birds), p. 55 |
| | | Middle tail feathers not greatly lengthened, not narrow |
| 3 | Bill greatly flattened ; nostrils visible | <i>Pelecanidæ</i> (pelicans), p. 56 |
| | Bill rounded above, pointed ; nostrils not visible | <i>Sulidæ</i> (gannets), p. 57 |
| | Bill compressed and pointed ; edges of mandibles serrated | <i>Anhingidæ</i> (snake birds), p. 57 |
| | Bill rounded, strongly hooked ; edges of mandibles not serrated | <i>Phalacrocoracidæ</i> (cormorants), p. 58 |

¹ *Pelicaniformes* of Sharpe, *Handlist of Birds*, i., 1899, p. 232.

Family FREGATIDÆ

Frigate Birds

THE frigates, like the tropic birds, are an oceanic family distributed over the warmer seas of the world.

The characters by which the family can be recognized are the long and sub-cylindrical bill, strongly hooked in both mandibles; nostrils visible, situated in a groove. Tail of twelve feathers, long and deeply forked. Wing very long. Tarsus short and feathered; toes with strong claws, the middle one with a comb-like inner margin, the web connecting the toes deeply incised. A naked pouch on the throat, generally brightly coloured.

Owing to their wandering habits there is much uncertainty as to how many species of frigate birds really exist, but two main sections have been defined, both of which are represented in the seas adjacent to the Malay Peninsula.

These species are: a larger one, mainly black, which is *Fregata aquila*, Linn., and a smaller bird, black, with a white patch on the sides of the abdomen, which is *Fregata ariel ariel*, Gould. Wing, length about 21 in.

The former is rare and indeed of doubtful occurrence in Malayan seas, but the latter is quite common in the Straits of Malacca, especially on the western side and in the neighbourhood of the Aroa Islands off the Selangor coast and on the east coast of the Peninsula. A species is also found far inland on the Lake of Korinchi in West Sumatra.

In habit, frigate birds are powerful fliers and can probably remain on the wing as long as, or longer than, any other known bird, being equalled in this respect only by the albatross. They are partially raptorial in their habits, and on the Aroa Islands, which are flat-topped, I have on more than one occasion, on a calm evening, watched the gannets making directly for their roosting rocks, some miles distant, only to be laid in wait for by the pirate frigate birds, and forced to disgorge the fish they have captured. Near Tioman, on the other hand, I have seen the frigate birds fishing for their own living, perhaps because there were no stupid gannets to prey upon, while the smaller terns were capable of looking after themselves.

The Malay name for frigate birds is *timbang*; they are often confused with the cormorant and called *dandang laut* (sea-crows), but few Peninsular Malays know either bird.

*Phæthontidæ***Tropic Birds**

THE tropic birds, of even more oceanic habits than the frigate birds, are found in the warmer seas of the whole world. They have the general appearance of a large heavily built tern, from which they can be distinguished by the character of the webbing of the toes, by the compressed and pointed bill, with the mandibles slightly serrated at the tips, and by the tail, which is composed

of twelve to sixteen feathers, with the central tail feathers narrow and elongate—very much so in some species. There is only one genus with six or seven species. The general colour is white, but some species are a delicate apricot-colour in life, which is very fugacious after death. One has the elongate central tail feathers partially scarlet. The Malayan species is *Phæthon indicus*, which has the upper surface white, irregularly barred with black, the flight feathers black; the bill, orange-red; the legs and upper parts of toes, greyish white, the rest of the toes and claws black.

Its occurrence in our region rests on a single specimen now in the British Museum,¹ obtained by Dr Cantor in the Straits of Malacca, probably in the vicinity of Penang. The general range is from the Red Sea and Persian Gulf to the Straits of Malacca.

Outside our area two species, *Ph. rubricauda* and *Ph. lepturus*, are found breeding on Christmas Island.

Family PELECANIDÆ

Pelicans

THE appearance of a pelican is familiar to everybody. The dominant characters are the long and flattened bill, broadened towards the tip and terminated by a hooked nail, and the throat with a highly distensible pouch of naked or very thinly feathered skin. The wings are very long and the tail short, with twenty-two or twenty-four feathers. The tarsi are relatively short.

The family consists of a single genus with about ten species, spread over the whole of the temperate and tropical portions of the Old and New Worlds except New Zealand and Oceania.

Two species, *Pelecanus roseus*, Gm., and *Pelecanus philippensis*, Gm., find a place on the Malay list, but at the present day are of only sporadic occurrence in that portion of the Peninsula under British control. They are still common in the north, in the Trang swamps on the "Inland sea," or Talé Sap in Singgora and the Talé Noi in Patelung. Nearly thirty years ago I saw them in hundreds in Patani Bay, and they are fairly numerous in Bandon. About 1880 there were, at times, immense flocks on the coast of Selangor between the Klang and Bernam rivers, but following the opening up of the country for coconuts and rubber they have all disappeared. The two Malayan species resemble each other closely, differing mainly in size, in the character of the feathering on the forehead and in the form of the crest—which also differs according to age and sex.

Adults are mainly white, *P. roseus*, with a beautiful rosy flush, but most specimens seen are juvenile and brownish or brownish white, taking at least three years to attain the adult plumage. The total length over all is from 54 to 60 in. or more, with a wing of from 22 to 28 in.

Malay Name.—Undan.

¹ Davison met with it off the southern point of Tenasserim, which is within our limits, but I cannot find any actual specimen in the Hume collection.

Family SULIDÆ

Boobies or Gannets

THE boobies or gannets may be recognized by their large and pointed bill, slightly curved at the tip but never hooked, the cross section oval or sub-cylindrical, with no culminal ridge. The wings are long and pointed, the tail wedge-shaped, and the tarsi very short. The chin and throat are generally devoid of feathers.

The family consists of a single genus,¹ comprising about a dozen species spread over the whole of the temperate and tropical seas of the world and represented in the British seas by the Solan goose.

One gannet, *Sula sula* (Malay, *itek laut*), is found in Malayan waters and ranges over the tropical seas of the entire world. It is common in the Straits of Malacca but does not approach the shores very closely except in stormy weather and is therefore not a very familiar bird to the ordinary resident. It breeds in large numbers on rocky islands near the Sumatran coast. On the eastern side of the Peninsula it does not seem so common except in the far north, where there is a breeding place on a small island off the coast of Nakhon Sritammarat.

The Malayan bird has the entire upper surface and the breast sooty brown, with the remaining parts pure white. The bare parts, bill and feet, are bluish to pale sea-green, and the iris is white. Young birds are paler brownish, above and below, sometimes streaked with whitish beneath. The total length is from 28 to 30 in.

The proper Malay name for the booby is *olak olak*; it is, however, much more frequently known as *itek laut* (sea-duck).

Family ANHINGIDÆ

Snake Birds or Darters

THE snake birds or darters, as explained in the key, differ from the cormorants in having the bill very slender, compressed and pointed, not hooked, with the edges of the mandibles finely serrated. The neck is very long, slender and curved.

The one Malayan species is brownish black beneath and blackish above, the scapulars and inner secondaries very long, narrow and pointed, with silvery streaks down the centre. The tail feathers and inner secondaries are often curiously corrugated.

The bird is now rare in Malaya, though fifty years ago it was common in Malacca territory, especially in the Kessang district, and also, according to Kelham, near Kuala Kangsar, in Perak, but I have never seen recent specimens from any part of Malaya proper. At one time there were two or three on the

¹ Mathews (*Syst. Av. Australas*, 1927, pp. 230-232) accepts several genera and calls our bird *Piscatrix sula sula* (Linn.).

fresh-water lake on Dayang Bunting in the Langkawi Islands, but on my last visit they had disappeared.

The family, which comprises five species, is spread over the whole of the warmer parts of the world, including New Zealand, but not Oceania. The Malayan bird, *Anhinga melanogaster*, ranges from Mesopotamia, through India, Ceylon and Indo-China to China, the Philippine Islands and the Malay Archipelago as far as Celebes.

The snake-bird is an inhabitant of rivers, lakes and fresh-water swamps, and is exclusively aquatic in its habits, feeding entirely on fish. The vertebrae of the neck are peculiarly modified so that by straightening its neck the bird is enabled to project its bill forward with extreme rapidity and so transfix its prey.

The species will be described in detail in a subsequent volume.

Family PHALACROCORACIDÆ

Cormorants

CORMORANTS are comparatively common on the north-east coast of the Malay Peninsula, as far as the Patani States, south of which they become scarce. On the western side they are much rarer and only four or five specimens are on record, which have mostly been obtained on fresh-water ponds, though the species has occurred on Pulau Lalang, one of the Sembilan Islands off the Perak coast. The British Museum contains an adult male from Kedah and an immature bird from Malacca.

These Malayan birds are closely allied to the ordinary English cormorant, *Phalacrocorax carbo*, but belong to a smaller tropical race to which the name *Phalacrocorax carbo sinensis*, founded on birds from China, has been applied.

There is also another Malayan cormorant, *Phalacrocorax javanicus*; it is a very small species, in plumage not unlike the larger bird but with a wing of only 8 in. against about 13 in. *Ph. c. sinensis*. It has a wide range in Asia, the greater part of India, east through the Indo-Chinese countries; Java and Borneo.

With the exception of the island of Junk Zeylon this bird is, in Malaya, known only from the head-waters of some of the larger rivers, chiefly on the east coast, and no specimens have yet been actually obtained, though Mr Seimund and myself saw it in some numbers on the Bandon river. Farther north Mr Gairdner has obtained it on the higher and more secluded reaches of the Petchaburi river, south-west from Bangkok.

In Malaya cormorants are known as *dandang ayer* or *burong kosa* (water-crow), but the names are not familiar ones. *Kosa* is an elephant goad and the cormorant's beak is supposed to resemble this implement in its turned-down tip.