

# STORKS

## Family CICONIIDÆ

Vol. I., p. 44.

THIS group is distinguished from the herons and bitterns by the absence of the " powder-down " patches on the sides of the body, these being areas of degenerate feathers, the tips of which are continually breaking down into a fine powder, often matted by an oily secretion.

The bill is stout and straight, with the nostrils in a slit, not a groove, near the base ; the base of the lower mandible is often thickened and corrugated. The legs are long, covered with hexagonal scales and usually bare for some distance above the tibio-tarsal joint ; wings, long, rather pointed ; tail, short. The plumage is black, white and grey, or some combination of these colours, the black often glossed with a metallic sheen. The sexes are alike, or not materially different, nor are the juvenile plumages very distinct.

The nests are large clumsy structures of sticks, usually built in tall trees, sometimes on rocks or cliffs, or on buildings. The eggs vary in number, from one or two to as many as eight (not in any local form). They are always white or slightly tinted, never spotted or blotched. The young are hatched helpless and remain in the nest for some considerable time. The family consists of from twenty to twenty-five species, spread over the tropical and warmer temperate zones of the whole world ; the Malay list contains five species, commonest in the northern part of the area.

### KEY TO THE MALAYAN SPECIES OF STORKS

- |   |   |  |  |
|---|---|--|--|
| 1 | { | Top of head with a bony cap, unfeathered . . . . .                         | <i>Leptoptilus javanicus</i> , p. 209        |
|   |   | Top of head without a bony cap, variably feathered . . . . .               | 2  |
| 2 | { | Bill straight, crown feathered . . . . .                                   | 3  |
|   |   | Bill decurved, crown naked . . . . .                                       | 4  |
| 3 | { | Feathers of the neck, white, silky . . . . .                               | <i>Dissoura episcopus episcopus</i> , p. 206 |
|   |   | Feathers of the neck, black, normal . . . . .                              | <i>Xenorhynchus a. asiaticus</i> , p. 208    |
| 4 | { | Larger, secondaries rosy in adults, wing coverts black and white . . . . . | <i>Ibis leucocephalus</i> , p. 204           |
|   |   | Smaller, secondaries with no rosy flush, wing coverts white . . . . .      | <i>Ibis cinereus</i> , p. 205                |

*Ibis leucocephalus***The Painted Stork, Pelican-Ibis or Asiatic Wood-Ibis**

PLATE 21

*Tantalus leucocephalus*, Pennant, *Ind. Zool.*, 1769, p. 11 (Ceylon); Oates in Hume's *Nests and Eggs Ind. Birds* (2nd ed.), iii., 1890, p. 200.

*Pseudotantalus leucocephalus*, Sharpe, *Cat. Birds, Brit. Mus.*, xxvi., 1898, p. 323; Blanford, *Faun. Brit. Ind., Birds*, iv., 1898, p. 376; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 105; Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1921, p. 76.

*Pseudotantalus leucocephalus leucocephalus*, Herbert, *Journ. Siam. Soc., Nat. Hist. Suppl.*, vi., 1926, p. 349.

*Ibis leucocephalus leucocephalus*, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), vi., 1929, p. 331.

**Malay Name.**—Burong upeh : nok phak bua (*Siamese*).

**Description.**—Sexes alike. Plumage, mainly white, but the primaries, secondaries and tail quills black, strongly washed with metallic green. Lesser and greater wing coverts, washed with green and broadly edged with white; greater wing coverts, tertials and scapulars, white, washed with pink. Across the lower breast a broad black band, the feathers broadly edged with white. Under wing coverts, black with white edges.

*Immature.*—"Differ from the adults in having the mantle brown or ashy grey; the lower back, rump and upper tail coverts white, the latter shaded with grey; the scapulars, brown or grey, like the mantle; lesser and median wing coverts, dark brown, the greater coverts, ashy grey; bastard wing, primary coverts and quills, black, with scarcely any metallic gloss; head and neck all round, brown, streaked with pale centres to the feathers; under surface of the body, from the foreneck downwards, ashy grey, becoming whiter on the lower abdomen and pure white on the under tail coverts; the breast, dark slaty grey, the axillaries and under wing coverts darker, the latter inclining to blackish brown" (*Sharpe*).

The bird described above is younger than any specimen we have examined; older birds in our possession are like the adult in plumage, except that the lesser and median wing coverts are pale brown and the dark band across the breast is ill-defined.

**Soft Parts.**—"Iris, pale yellow; bill and facial skin, orange-yellow, plumbeous at the base of the bill; legs, toes and claws, brown. In the young the iris is brown; skin of the chin, orange, turning to pinkish on the edge of the throat; facial skin and basal half of bill, orange; terminal half, dull yellowish brown; legs and feet, brown" (*Oates*).

**Dimensions.**—Total length, 40 in.; wing, 20 in.; tail, 6.5 in.; tarsus, 9 in.; bill from gape, 10 in. Female slightly smaller (*Oates*).

**Range in the Malay Peninsula.**—From the northern limit as far south as Pulau Langkawi; once near Kuala Lumpur.

**Extralimital Range.**—Ceylon and India; Burma, Yunnan, Siam, Central and South Annam, Cochin-China and Cambodia.

**Nidification.**—Not yet recorded as breeding in the Malay Peninsula. According to Mr Stuart Baker, in India it “breeds from September to January in large colonies and nearly always in company with numerous other storks, herons, cormorants, etc., these, however, generally being rather earlier in starting. The nests are flimsy and ill-made, and many are built in the same tree quite close together; there is little or no lining, the eggs being deposited on the twigs of which the body of the nest is composed. Three to five or, rarely, six eggs are laid, which are typical of the family.” The white eggs average about 2.6 by 1.8 in.

**Habits.**—Fairly common in the north of our area in ricefields, roosting at night on their margins on the tops of very high trees. In Bandon Robinson found the species very common, but excessively wary and hard to obtain. It was seen singly or in small numbers on the ricefields, but it collected in large flocks towards evening and roosted on lofty trees in company with *Dissoura episcopus episcopus* and *Pseudibis papillosa davisoni*. In the south of the Peninsula it is, at least largely, replaced by the related species, *Ibis cinereus*, but we know very little about the distribution of the two species in Malaya, and in French Indo-China they are found side by side. The food seems to consist largely of fish and frogs. It snaps its mandible like other storks.

The bird figured (one-fifth natural size) is a female from Nakon Sri Tammarat, collected on 28th September 1926.

### *Ibis cinereus*

#### The Southern Painted Stork or Pelican-Ibis

*Tantalus cinereus*, Raffles, *Trans. Linn. Soc.*, xiii., 1822, p. 327 (Sumatra).

*Pseudotantalus cinereus*, Sharpe, *Cat. Birds, Brit. Mus.*, xxvi., 1898, p. 326.

**Malay Name.**—Burong upeh.

**Description.**—General colour, pure white, but the bastard wing, primary coverts, wing quills, except the long innermost secondaries or tertials which are white, black, glossed with green. Tail, black, glossed with green. Axillaries and wing lining, white, washed with salmon-pink in fresh skins.

**Immature.**—Head and neck, brown, with paler hair-streaks. Mantle and wings, except the quills which are as in the adult, greyish brown, the feathers paler on the edges. Rump, upper tail coverts and under parts, white, slightly greyish on the breast. Wing lining, blackish brown, the coverts mixed with white. At a later stage the bird is more like the adult, but the marginal coverts remain brown, forming a conspicuous, dark, narrow band.

**Soft Parts.**—*Male.*—Irides, greyish brown; bill, near the base, with yellow markings and blotches; point of the upper and the lower mandible, white; eye-wattle, grey; “occiput,” grey; legs and feet, grey.

*A young female.*—Irides, dark grey; bill, legs and feet, greenish grey. These colour notes are taken from the labels of specimens in the British Museum, collected by H. O. Forbes in Sumatra.

**Dimensions.**—Total length, 38 in. (*Sharpe*); wing, 17.75 to 19.75 in.; tail, 6.25 in.; tarsus, 7.5 to 9 in.; culmen, 7.75 to 9.5 in.

**Range in the Malay Peninsula.**—Known only from the southern two-thirds of the Peninsula; northern limits are as yet ill-defined. It is definitely known from the coasts of Kedah, Selangor and Malacca. Specimens said to have been obtained in Penang by Dr Cantor are in the British Museum.

**Extralimital Range.**—Cambodia; Cochin-China; Sumatra and Java.

**Nidification.**—Messrs G. C. Madoc and A. T. Edgar found two nests of this stork on 18th August 1935 in the heronry on Pulau Ketam, a swampy, mangrove island on the coast of Selangor, where numbers of egrets and grey herons breed. The nests were placed in the tops of mangrove-trees and were bulky structures of sticks, lined with fresh leafy twigs. Each nest contained three eggs, which were elongated ovals with thick, porous, dull shells, with an average size of 2.65 by 1.83 in. Seen through the blow-hole these eggs have the shell pale green, but otherwise they are white, although much nest-stained. I am indebted to Mr Madoc for the above information.

In Java, Mr A. Hoogerwerf has found this stork breeding in the tops of tall *Avicennia* trees, standing on or very near the mangrove-lined banks of a river. On 14th July the colony of between seventy-five and one hundred nests mostly contained young birds, but one clutch of three eggs was also found.

**Habits.**—There are few formal records of this stork in the Malay Peninsula, although it is not rare in suitable localities. Robinson found it not uncommon on the Selangor coast, but almost unprocurable owing to the depth of mud on the flats it frequents; it has also been observed at Kuala Kedah, and the bird seems generally more exclusively marine than its relative, *Ibis leucocephalus*, which largely replaces it in the north of the Peninsula. Davison met with the species in North Sumatra and records: "I saw an enormous flock of these birds on the mud-banks of a large creek; they were not particularly shy, and I advanced under cover of some bushes to within twenty yards of a number, and, as far as I could make out, the whole flock consisted of birds coloured exactly like the two specimens shot, which seem immature."

According to Messrs Delacour and Jabouille this species is found consorting with *Ibis leucocephalus* in the south of French Indo-China.

### *Dissoura episcopus episcopus*

#### The White-necked Stork

*Ardea episcopus*, Bodd., *Tabl. Pl. Enl.*, 1783, pl. 504 (South India).

*Dissoura episcopus* (part), Sharpe, *Cat. Birds, Brit. Mus.*, xxvi., 1898, p. 294; Blanford, *Faun. Brit. Ind., Birds*, iv., 1898, p. 370.

*Dissoura episcopus neglecta*, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1921, p. 76.

*Dissoura episcopa episcopa*, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), vi., 1929, p. 324.

**Malay Name.**—Unrecorded.

**Description.**—Sexes alike. Forehead, sides of the head and a narrow strip along the sides of the neck, almost naked; crown, black, washed with metallic blue; remainder of neck covered with soft white feathers. Upper parts, including the wings, black, washed with metallic green or blue-green, and with a dark red gloss on the upper part of the mantle and the lesser wing coverts. Breast, upper abdomen, sides of the body, thighs, axillaries and under wing coverts, black, washed with green and conspicuously glossed with reddish purple on the breast. Lower abdomen, under tail coverts and tail, white. Upper tail coverts, black, the outer feathers lengthened and stiff and easily confused with the true tail feathers.

*Immature.*—The glossy, dark parts of the plumage duller and browner.

**Soft Parts.**—Iris, inner ring, red, outer ring, yellow, or grey; orbital skin, black; other bare skin on the head, slaty; bill, red, black at the base and sometimes blotched with black; feet, dull red. Bare skin on the under side of the wing, reddish orange.

**Dimensions.**—*Male.*—Total length, 35 in.; tail, 8 in.; wing, 19 in.; tarsus, 6.4 in.; bill from gape, 6 in. *Females* are a trifle smaller.

**Range in the Malay Peninsula.**—From the northern limit through Peninsular Siam south to about the latitude of Penang. Junk Zeylon; Kedah. On the east coast known from Koh Samui in the Bandon Bight and from Patani, but southern limits on this side of the Peninsula not yet defined.

**Extralimital Range.**—The white-necked stork is found in Ceylon, India, Burma, Siam, French Indo-China (north to Tonkin, but commonest in the south), Java and the Celebes, Sumatra, the Philippines and east to Flores.

The form inhabiting Borneo (and perhaps also Sumatra) is *D. stormi* Blas.

**Nidification.**—Not known to breed in the Peninsula, although it probably does so, as a bird in the British Museum, collected by Cantor, is very young. "Makes a large nest of sticks, thinly lined with down and feathers, or thickly covered with straw, leaves, and feathers mixed, and lays normally four bluish-white eggs, measuring about 2.5 by 1.83 in." (*Blanford*).

**Habits.**—Very common in ricefields and plains throughout the northern part of the Peninsula, roosting at night on lofty, dead trees; it is very common in Trang, Patani and on the islands of Langkawi and Koh Samui, and seems more numerous on the east than on the west coast. It has been recorded as feeding on reptiles, frogs, crabs, molluscs, fish, small mammals and even young birds. Davison gives an interesting note on the species in Tenasserim: "About marshes and cultivation this species is not uncommon; occurring in pairs or small parties, and occasionally singly. They often go far into the forest, when there happen to be any marshes or jheels there, and I have flushed one from a small mountain stream about a mile and a half from the edge of the forest. I have found it, as a rule, very shy."

*Note.*—A specimen of Storm's stork, (*Dissoura stormi*.) Blas, was recently collected in Perak by Mr A. T. Edgar. A detailed account of the species will appear in the last volume of this work. Storm's stork closely resembles *D. episcopus*, but it may be distinguished by the orange, not blackish, facial skin, and the slightly concave culmen which ends in a knob on the forehead.



*Xenorhynchus asiaticus asiaticus***The Black-necked Stork**

*Mycteria asiatica*, Latham, *Ind. Orn.*, ii., 1790, p. 670 (India).

*Xenorhynchus asiaticus*, Oates in Hume's *Nests and Eggs Ind. Birds*, iii., 1890, p. 265; Sharpe, *Cat. Birds, Brit. Mus.*, xxvi., 1898, p. 310 (part); Blanford, *Faun. Brit. Ind., Birds*, iv., 1898, p. 372; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 108; Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1921, p. 76.

*Xenorhynchus asiaticus asiaticus*, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), vi., 1929, p. 326.

**Malay Name.**—Unrecorded.

**Description.**—*Adult.*—Head and neck, richly glossed with bluish green, except the occiput, which is coppery brown, passing into purple on the edges; scapulars, tertiaries, greater secondary coverts, greater under wing coverts and tail, black, richly glossed with metallic green; rest of plumage, white.

*Immature.*—The head, neck, back and wings are brown, many of the feathers with pale edges; the scapulars and wing feathers darker, and glossed with green; the quills, whitish towards the base; lower back and rump, whitish; middle upper tail coverts, brown; tail feathers, brown, whitish for some distance at the base and white-tipped; sides of breast, brown; lower parts from neck, white (*Blanford*).

**Soft Parts.**—Iris, chrome; orbits, black; bill, black; gular skin, crimson lake, mottled with black; lores, mottled crimson and black; feet, deep salmon-pink (Langkawi Island).

**Dimensions.**—Total length, 52 in.; tail, 9 in.; wing, 24 in.; tarsus, 12 to 13.5 in.; bill from gape, 12 in. (*Blanford*).

**Range in the Malay Peninsula.**—Known only from Peninsular Siam. It has been collected on the north side of the Telibun Straits, Trang. Specimens in the British Museum, collected by Cantor, and said to have come from Penang, are almost certainly wrongly localized; they must either have been aviary birds, or collected on the adjacent mainland, probably in Perlis and Trang. Other than the above we can trace no records of this bird from our area.

**Extralimital Range.**—Ceylon, India, Burma, throughout Siam to French Indo-China. Allied races in New Guinea and Australia.

**Nidification.**—In January 1917 a pair was found frequenting the shore in the neighbourhood of the seaward entrance to the Telibun Straits. The nest, a very large and untidy structure of sticks, was built on a ledge some distance up a precipitous limestone crag. It contained four eggs, which were collected by one of the local "orang laut," a primitive coast tribe, who are very clever and daring cliff-climbers. One egg was, unfortunately, broken in the descent. The remaining three were rather hard set, the shell dull or slightly glossy white, heavily pitted, especially towards the smaller end. The outline is variable, one egg being much more pointed than the other two. Average size of eggs, about 2.8 by 2.1 in. In India the nest is normally placed in a tree.





**Habits.**—Although there are so few formal records of this stork from the Peninsula, it is not uncommon in the northern parts, although very difficult to obtain. It is usually met with in pairs, and never in large flocks.

*Leptoptilus javanicus*

**The Lesser Adjutant Bird**

Vol. I., p. 44.

*Ciconia javanica*, Horsf., *Trans. Linn. Soc.*, xiii., 1821, p. 188 (Java).

*Leptoptilus javanicus*, Kelham, *Ibis*, 1882, p. 190; Oates in Hume's *Nests and Eggs Ind. Birds* (2nd ed.), iii., 1890, p. 264; Blanford, *Faun. Brit. Ind., Birds*, iv., 1898, p. 374; Sharpe, *Cat. Birds, Brit. Mus.*, xxvi., 1898, p. 217; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 109; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), vi., 1929, p. 329.

**Malay Names.**—Burong botak, burong babi.

**Description.**—A bony plate on the crown; head and neck, naked, or nearly so; under tail coverts, silky, soft and disintegrated, with stiff shafts.

*Adult in breeding plumage.*—Upper surface, including the tail, blackish, with a metallic greenish gloss, the feathers of the back, mantle and scapulars with numerous transverse rays, and in fresh plumage powdered over with grey; a coppery-bronze band on the wing formed by large subterminal spots on the outer webs of the median coverts. Primaries oily metallic green, secondaries darker, more bluish, the inner ones with narrow, very clearly defined, pure white edges. Tail as the primaries. Inner aspect of wings and under surface of tail, greyish, the under wing coverts greyish black. Head with a patch of brownish feathers at the back of the bony plate. Beneath white, feathers at the base of the neck with broad grey tips; under tail coverts falling not far short of the tip of the tail, pure white, without dark tips.

*Adult in non-breeding plumage.*—Darker, without the powdery grey appearance, the inner secondaries not, or only indistinctly, edged with white, and the coppery bar on the wing not developed.

*Immature.*—The neck with loose downy and hairy feathers; dark parts, browner, not so glossed; otherwise as the non-breeding adult.

**Soft Parts.**—Iris, white or bluish grey; neck, chrome-yellow, paler towards the base, where it is mottled with litharge-red; legs and feet, black; tibio-tarsal articulation, pale pinkish brown; bill and top of head, pale yellowish white (*Davison*).

**Dimensions.**—Total length, 48 to 52 in.; wing, 23.5 to 27 in.; tail, 9.5 to 11.3 in.; tarsus, 9 to 9.8 in.; bill from gape, 9.75 to 11 in. *Females* are smaller than males.

**Range in the Malay Peninsula.**—Throughout the Peninsula. Rare on the islands but recorded from Junk Zeylon, Penang and Singapore.

**Extralimital Range.**—The Indian Peninsula, except the western side; the Indo-Chinese countries to Laos and Cochin-China, Sumatra, Borneo and Java.

**Nidification.**—In the Malay Peninsula breeds in the first four months of



the year in colonies usually consisting of six or seven pairs. The nests are big structures of sticks placed in very tall trees, often dead ones, on the shoreward edge of the mangrove forests or along the banks of tidal rivers. The clutch is said to consist of three or four dull white eggs, which vary in size but average about 3 by 2.2 in.

**Habits.**—The lesser adjutant is found sparingly along the coasts of the Peninsula, especially where these are flat and muddy, and in the ricefields when these are of large extent. It does not like rocky country nor is it found along the rivers away from tidal influence. Except in its breeding-places, where it is more or less gregarious, it is a solitary bird, shy and suspicious and difficult to approach, and when once put to flight does not settle for long distances. Young birds taken from the nest are, however, readily domesticated, and make amusing pets.

In the wild state the food is fish of all kinds, crustacea and frogs, but, as Blanford notes, it is not, like its larger relative, *L. dubius*, a carrion feeder. In captivity it will eat almost anything, including young chickens, ducks, rats and its own relatives.

The adjutant, from the structure of its larynx, has no definite call, but will often utter a kind of grumbling croak, and makes a good deal of noise by clashing its mandibles together, especially in a domesticated state, when it is molested by dogs, or human beings with whom it is not acquainted.

The Indian adjutant, *Leptoptilus dubius*, recognizable by its much larger size, the broad grey band on the wings and the possession of a pouch at the base of the throat, may possibly occur at times in the northern parts of the Peninsula, though up to the present its existence within our limits has not been authenticated.

