

DIURNAL BIRDS OF PREY: VULTURES, OSPREYS, EAGLES, KITES, HARRIERS, BUZZARDS, HAWKS AND FALCONS

Order ACCIPITRIFORMES

Vol. I., p. 59; Vol. II., p. 24.

THE birds of this order are sometimes grouped as "raptors." They are all carnivorous, but while some feed on carrion, others prefer to catch their food alive, in which latter case mammals, birds, reptiles, fishes and insects are taken by the various species. In structure all the birds of prey are well adapted to their mode of living. The beak is short, stout, strongly hooked at the end and with sharp cutting edges. Often the edges of the upper mandible, near the tip, are provided with one or two small conical projections ("teeth"). At the base of the bill is the fleshy band ("cere") in which the nostrils are placed. The robust feet are provided with strong, curved claws, and by the combined use of beak and feet the birds seize, kill and rend their prey. The tarsi are often feathered right down to the base of the toes, only the toes themselves remaining bare.

The size varies from that of a sparrow in the tiny pygmy falcons to the well-known vultures and eagles. Females are usually larger than males. The plumage is usually dull and the feathers are never of bright primary colours although the "soft parts" may be yellow, orange or red. The wing of eleven primaries is usually long and pointed, and flight is powerful. The tail varies in shape. Often it is square or nearly so, but forked and wedge-shaped tails are also common. Sometimes the head is crested. Occasionally the sexes differ in colour, but in many other species they are alike. Young birds have a distinctive juvenile plumage in the great majority of cases.

The various species have very different methods of hunting. The bold peregrine dashes into the middle of a flying flock and seizing a bird in its feet flies away with apparent ease. The kestrel hovers aloft with head bent down, waiting for small living things to betray their presence by a slight movement in the field below. The long-winged harrier quarters a field as systematically as a schoolboy searching for larks' eggs.

The common type of nest is an untidy mass of sticks placed in a tree. In some cases the eggs are uniformly coloured, often white, but bold markings of rich brown are also commonly met with. The young are helpless when hatched and remain in the nest a relatively long time.

The order is a large one and spread over the entire world. In the Malay Peninsula it is well represented by forty forms, all of which can be seen in, or at least from, the lowlands. The local list includes four vultures, three harriers, five sparrow hawks and goshawks, one true buzzard, nine eagles or eagle-like birds, one buzzard-eagle, three fishing eagles, the brahminy kite, two other kites, five perns, one falconet (also known as the pygmy falcon), the peregrine falcon, two kestrels and two forms of the osprey.

Most of these are seasonal visitors from the north and rare enough to be regarded as accidental stragglers in the Peninsula.

KEY TO THE MALAYAN LOWLAND DIURNAL BIRDS OF PREY

(excluding Vultures)

1	{	Cutting edge of upper mandible with two sharply pointed conical "teeth" near the end	2
		With only one similar "tooth" ¹ in the same place	3
		With no "teeth"	4
2	{	Larger: wing about 12 in.; upper parts mainly brown	<i>Aviceda jerdoni jerdoni</i> , p. 48
		Smaller: wing about 9 in.; upper parts mainly black	<i>Aviceda leuphotes</i> , p. 46
3	{	Very small: wing about 4 in.; upper parts, black	<i>Microhierax fringillarius</i> , p. 49
		Medium size: wing less than 11 in.; upper parts, pale rufous	<i>Falco tinnunculus</i> subsp., p. 51
		Very large: wing over 12 in.; upper parts, dark brown to grey.	<i>Falco peregrinus calidus</i> , p. 49
4	{	Legs feathered to base of toes; toes bare	5
		Legs and toes bare, or with only the upper part of the tarsus feathered	11
5	{	Head with no lengthened occipital crest	<i>Aquila clanga</i> , p. 34
		Head with a distinct occipital crest	6
6	{	Claws much curved; inner claw shorter than outer toe with claw	7
		Claws much straighter; inner claw longer than outer toe with claw	<i>Ictinaëtus malayensis</i> , p. 34
7	{	Feathering of leg continued on to basal joint of middle toe	8
		Legs feathered to base of toes only	9

¹ Not to be confused with a gently curved irregularity ("festoon") on the cutting edge of the upper mandible.

- 8 { Larger : wing, roughly 16.5 in. . . *Spizaëtus nipalensis fokiensis*, p. 35
 { Smaller : wing, roughly 12 in. . . *Spizaëtus alboniger*, p. 37
- 9 { Primaries exceeding secondaries by
 { less than length of tarsus } *Spizaëtus cirrhatus limnaetus*, p. 35
 { Primaries exceeding secondaries by
 { more than length of tarsus 10
- 10 { A long occipital crest; adults black
 { above, bright chestnut below;
 { young birds brown above, white
 { below } *Hieraaëtus kienerii formosus*, p. 32
 { Occipital crest absent or rudimentary;
 { plumage brownish } *Hieraaëtus pennatus pennatus*, p. 31
- 11 { Lores almost naked, or with bristly
 { hair-like feathers 13
 { Lores covered with short, close-set,
 { normal feathers 12
- 12 { Bill much compressed; plumage } *Machærhamphus alcinus alcinus*,
 { black with white throat } p. 44
 { Bill normal; plumage mainly buff to
 { brown *Pernis apivorus* subsp., p. 45
- 13 { Tarsus long: at least twice length of
 { bill from gape 14
 { Tarsus short: less than twice length
 { of bill from gape 21
- 14 { Back of tarsus reticulate (*Circus*) 15
 { Back of tarsus scutellate (*Accipiter*) 18
- 15 { Culmen from end of cere to point
 { measured in a straight line less
 { than 0.75 in. *Circus melanoleucus*, p. 22
 { Culmen measured as above more
 { than 0.75 in. 16
- 16 { Thighs, white *Circus spilonotus* (male), p. 20
 { Thighs, rufous 17
- 17 { Middle tail feathers uniform silvery
 { grey *Circus æruginosus* (male), p. 19
 { Middle tail feathers normally uni- } *Circus æruginosus* (female and
 { formly brown } immature), p. 19
 { Middle tail feathers normally barred } *Circus spilonotus* (female and im-
 { } mature), p. 20
- 18 { A distinct nuchal crest formed by
 { several lengthened feathers *Accipiter trivirgatus indicus*, p. 23
 { With no nuchal crest 19

19	{	Outer toe with claw about as long as the middle toe without claw	20	
		Middle toe very long, and without the claw much longer than the outer toe and claw		<i>Accipiter gularis gularis</i> , p. 27
20	{	Fourth primary longest: under parts heavily barred in adults		<i>Accipiter badius bifasciatus</i> , p. 25
		Third primary longest: under parts with a few obsolete bars in adults.		<i>Accipiter soloënsis</i> , p. 27
21	{	Tail forked		<i>Milvus migrans govinda</i> , p. 42
		Tail not forked	22	
22	{	With a wide, long conspicuous crest covering the crown and nape		<i>Spilornis cheela bassus</i> , p. 39
		Without such a crest	23	
23	{	Smaller birds: wing less than 14 in.	24	
		Larger birds: wing more than 14 in.	25	
24	{	Plumage, black, white and grey		<i>Elanus cæruleus vociferus</i> , p. 42
		Plumage mainly brown, streaked and barred		<i>Butastur indicus</i> , p. 39
25	{	Tarsus, all round, covered with small hexagonal scales (reticulate)		<i>Circaëtus ferox ferox</i> , p. 37
		Tarsus with enlarged scales (scutel- late) either back or front	26	
26	{	Cutting edge of the bill almost straight (<i>i.e.</i> excluding the ter- minal hook); feet rather long and lightly built		<i>Buteo burmanicus burmanicus</i> , p. 29
		The edge of the bill "festooned" (<i>i.e.</i> with two marked convexities); feet very short and stout	27	
27	{	Entire under parts, or breast, or abdomen, pure white	28	
		Under parts, buff to variegated brown	31	
28	{	Back and wings, reddish chestnut		<i>Haliastur indus intermedius</i> (adult), p. 41
		Back and wings, grey or brown	29	
29	{	Entire under parts, white		<i>Cuncuma leucogaster</i> (adult), p. 41
		Under parts, white with a broken brown chest band		<i>Pandion haliaëtus</i> subsp., p. 15
		Abdomen, white; breast, grey	30	
30	{	Tail uniformly brown		<i>Ichthyophaga nana nana</i> (adult), p. 17
		Base of tail white or mottled		<i>Ichthyophaga ichthyætus ichthyætus</i> (adult), p. 16

31	{	Larger: wing over 17 in.	32
		Smaller: wing under 17 in.	33
32	{	Hind claw rounded beneath	<i>Ichthyophaga ichthyætus ichthyætus</i> (young), p. 16
		Hind claw flattened and grooved beneath	<i>Cuncuma leucogaster</i> (young), p. 41
33	{	Under parts, creamy or buffy white	<i>Ichthyophaga nana nana</i> (young), p. 17
		Under parts, rich brown, streaked with buff	<i>Haliastur indus intermedius</i> (young), p. 41

KEY TO THE FAMILIES OF ACCIPITRIFORMES

1	{	Top of the head naked, or with short downy feathers (carrion eaters)	<i>Ægyptidæ</i> , p. 11
		Top of the head normally feathered.	2
2	{	Soles of feet very prickly; outer toe reversible	<i>Pandionidæ</i> , p. 15
		Soles of feet without strongly marked spicules; outer toe not reversible	<i>Falconidæ</i> , p. 19

Family ÆGYPTIDÆ

Vultures

Vol. I., p. 60.

THE vultures differ from the other birds of prey in that the crown is never covered with normal feathers but always naked or covered with short down. They are large, heavy birds of repulsive appearance and habits, and with such long wings that when heavily gorged with carrion they find it difficult to rise from the ground. On the wing they are much more attractive birds, for the flight is very powerful.

The food consists of dead animals and decaying animal matter, and large flocks of the birds will assemble at a carcass, which is found by sight and not by smell as was formerly supposed. The watching, soaring birds high in the air nearest to the feast communicate the news, through their movements, to those further afield.

Vultures are found in the warmer parts of Europe, Africa and Asia. A group of birds in the New World (*Cathartidiformes*) are also known as vultures, and include the well-known condor and turkey-buzzards, but although New and Old World vultures are much alike superficially the former have so many anatomical peculiarities that they are now regarded as a separate order, distinct from and of equal rank to the whole of the remaining birds of prey (*Accipitriformes*).

Three, or possibly four, species are found in the Malay Peninsula, but none now seems to find its way south of about the latitude of Taiping, in Perak. Formerly vultures were supposed to occur throughout the Peninsula, but it is many years since one was seen in Singapore.

KEY TO THE MALAYAN VULTURES

- | | | |
|---|--|--|
| 1 | Small. Bill very slender; nostril horizontal and elongated. Plumage mostly white in adults | } <i>Neophron percnopterus ginginianus</i> , p. 14 |
| | | |
| 2 | Large. Bill stouter; nostril upright and oval. Plumage brown or black in adults | } 2 |
| | | |
| 2 | Plumage mostly black; no white throat ruff; bare skin on head and legs, red | } <i>Torgos calvus</i> , p. 13 |
| | | |
| 3 | Plumage brown, rump white; a white throat ruff; bare skin on head, not red | } 3 |
| | | |
| 3 | Tail feathers, 14. Under parts paler, cream-colour to buff | } <i>Gyps indicus nudiceps</i> , p. 12 |
| | | |
| 3 | Tail feathers, 12. Under parts darker, brown to nearly black | } <i>Pseudogyps bengalensis</i> , p. 13 |
| | | |

*Gyps indicus nudiceps***The Long-billed Vulture**

Gyps indicus nudiceps Stuart Baker, *Bull. Brit. Orn. Club*, xlvii., 1927, p. 151: new name for *G. tenuirostris* Hume (Nepal); Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 17; Stuart Baker, *Nid. Birds Ind. Emp.*, iv., 1935, p. 13.

Gyps indicus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 10 (part); Oates, in Hume's *Nests and Eggs Ind. Birds*, iii., 1890, p. 202; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 226 (part).

Gyps tenuirostris, Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 323.

Gyps indicus tenuirostris, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 105.

Malay Names.—Reng, ěreng, ĥering.

Description.—*Adult.*—The head and neck bare except for a few small, scattered white down feathers. Lower back, rump and upper tail coverts, white. Wing and tail quills, blackish brown; remaining upper parts, brown, the edges of the feathers slightly paler. Neck-ruff, white; crop-patch, dull brown. Under parts, creamy white, whitish tawny or pale buffy brown, the feathers on the sides of the breast edged with pale brown.

Immature.—The head and neck more plentifully clothed with down. The rump, etc., mainly brown, not white. Entire under parts faintly streaked with brown.

Soft Parts.—Iris, very dark brown; bill, blackish, centre of culmen, dull yellowish horn; skin of head, dark brownish slate, neck, blackish; legs and claws, black (described from a Bangkok male: *after Williamson*).

Dimensions.—"Length, 38 in.; tail, 10.5 in.; wing, 24 in.; tarsus, 4.5 in.; bill from gape, 3 in. The female is of about the same size" (*Oates*).

Range in the Malay Peninsula.—A specimen in the Selangor Museum was killed near Taiping, Perak, about 1893. Blyth recorded the present species as the only vulture he had seen from the Malay Peninsula.

Extralimital Range.—Northern India and the Lower Himalayas to Assam and Burma. Less common in Siam and French Indo-China than *Pseudogyphs bengalensis*, the white-backed vulture. Replaced in most of India by the typical form, *Gyps i. indicus*.

Nidification.—Not known to breed in the Malay Peninsula. In other parts of its range it lays a single white egg, which is either immaculate or marked with reddish brown. The large nest of sticks is placed in a tree and the nests are grouped in colonies. The eggs measure about 3.3 by 2.6 in. According to Mr Stuart Baker the bird haunts villages and breeds on the trees round about them.

Habits.—Beyond the bare records given above no information is available concerning the status of this bird in the Malay Peninsula, and our ignorance concerning its habits is complete. It may be expected to be found associating with other species of vultures which are common in the north of the Peninsula, being found as far south as Perak on the western and Kelantan on the eastern side.

Pseudogyphs bengalensis

The Brown White-backed Vulture

Vol. I., p. 62.

Adults have the head and neck naked and from grey-brown to dull greenish yellow in colour, the neck with a ruff of short white down. The back, wings and tail are brown; the lower back, flanks and thighs, white; a patch on the chest, black with white tufts; the under parts, dark brown with thin white streaks. In young birds the head and neck are covered with whitish down, and they are paler and less decisively coloured than adults. The under parts are mid-brown with broad white streaks and the rump is brown, not white. Total length, about 33 in.; wing, about 23 in.

Common in the north of the Peninsula and more abundant than the king vulture, with which it associates, but does not dispute pride of place. The present southern limits appear to be Kelantan and North Perak, but formerly the bird was known to occur at Malacca. There is no Malayan record of the nest.

Torgos calvus

The Black or King Vulture

Vol. I., p. 60.

Adults of both sexes have the head and neck naked and red in colour. On each side of the neck there is a large fleshy lappet and there is a bare red patch on each thigh. The plumage is mainly black, with a dark brown patch

edged with downy white on the chest, and the flanks and upper parts of the thighs are also downy white. Legs, red.

In young birds the head and neck are covered with white down, the general plumage is brown, not black, and the feathers of the under parts have whitish edges. Total length, about 30 in.; wing, about 24 in.

This vulture is found only in the north of the Peninsula and there is no record of its breeding in Malaya. Taiping in Perak marks its approximate southern boundary. It is common in Patani, especially during cattle plague. It has the usual loathsome carrion- and garbage-feeding habits of its family.

Neophron percnopterus ginginianus

The Egyptian or White Vulture (*Eastern Race*)

Vultur ginginianus Latham, *Ind. Orn.*, i., 1790, p. 7 (Coromandel).

Neophron ginginianus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 18; Oates, in *Hume's Nests and Eggs Ind. Birds* (2nd ed.), iii., 1890, p. 213; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 326; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 231.

Neophron percnopterus ginginianus, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 23; Stuart Baker, *Nid. Birds Ind. Emp.*, iv., 1935, p. 19.

Malay Name.—Unrecorded.

Description.—*Adult.*—A large white bird with black quills and naked, yellow head. Young birds, brown.

“Plumage almost throughout white; winglet and primaries black, the latter grey outside, brown inside towards the base; secondaries whity brown or grey on the outer web outside, blackish brown elsewhere; tertiaries pale brown throughout. A brownish or greyish tinge on the scapulars and wing coverts, and sometimes elsewhere, is a sign of immaturity. The neck hackles are often stained rusty.”

Immature.—“Young birds are at first blackish brown, the scattered down on the head and throat black, then pale tips appear on some of the neck hackles and breast feathers and on the smaller wing coverts, giving a speckled appearance; the back, breast and greater wing coverts are mottled with whitish blotches. The change to the adult plumage is gradual.”

Soft Parts.—“Bill in adults horny yellow; cere and sides of head and throat yellow; irides dark brown; legs dirty yellow; claws pale horny. In young birds the bill is dark; naked parts of head and throat grey; legs and feet cinereous.”

Dimensions.—“Length, about 24 in.; tail, 9.5 in.; wing, 18.25 in.; tarsus, 3.1 in.; mid-toe without claw, 2.5 in.; bill from gape to tip, 2.4 in.” (*Blanford*).

Range in the Malay Peninsula.—No specimen of this vulture seems ever to have been obtained within our limits and the species is included in this volume purely on the strength of Robinson's note published in 1910: “According to Dr Abbott, a large white vulture is common in Trang and

Penang. I have never seen it in the latter locality." Later, Robinson included the name in a list of "Species undoubtedly occurring in the Malay Peninsula but not represented by local specimens in the Federated Malay States Museums" (*Journ. Fed. Mal. States Mus.*, vi., 1915, p. 67).

Extralimital Range.—This form replaces the western (typical) race of the Egyptian vulture, from which it differs only in smaller size and yellow, not dusky, bill. It meets the typical race in North-West India and occurs in the lower Himalayas, and the Indian Peninsula as far east as Bengal. An accidental visitor to Ceylon. It is not recorded from Tenasserim, Siam or French Indo-China and its occurrence in the north of the Malay Peninsula is therefore surprising.

Nidification.—Mr Stuart Baker records that in India this vulture breeds from January to May, but principally in March and April. The nest is said to be placed on cliffs, buildings or trees. The eggs are usually two in number, white, handsomely marked, perhaps washed with brownish red, and about 2.6 by 1.98 in. in size (*Blanford*).

Habits.—According to Blanford this vulture, in India, haunts towns and villages, living largely on human excrement, although it will also eat carrion. Nothing whatever is known of it in the Malay Peninsula beyond the bare visual records quoted above and I regret that I cannot add anything to the local history of the species, which I have looked for many times, without success, in Penang.

Family PANDIONIDÆ

Ospreys and Fishing Eagles

MOST ornithologists restrict this family to the osprey only, but a minority of authors, including Robinson in our first volume, also include the two species of fishing eagle of the genus *Ichthyophaga*.¹ The family forms, in some ways, a link between the diurnal birds of prey and the owls, the osprey differing from the former and resembling the latter in that the outer toe is reversible. In the fishing eagles the outer toe is only partly reversible. In this family the soles of the feet are covered with spicules, which assist the birds to hold the fish on which they prey. All the Malayan forms are mentioned below.

Pandion haliaetus haliaetus

The Osprey

Vol. I., p. 63.

Head, white, striped with brown on the crown; upper parts, dark brown; under parts, white, streaked and washed with brown on the breast; tail, brown, irregularly barred with darker brown and the feathers barred with white on their inner webs. Total length, about 21 in.; wing, about 19 in.

The osprey is found in small numbers along the coasts of the Peninsula.

¹ This is the same as *Polioaetus* used by Robinson in the text of Vol. I., p. 63.

It has **not yet been found** breeding locally and is, at least largely, a migrant with us. **The rather smaller, whiter headed Australian form (*P. h. cristatus*) also occurs as a migrant.** The habit of the bird is to drop suddenly, with a **large splash, on fishes** near the surface of the water.

Ichthyophaga ichthyætus ichthyætus

The Larger Fishing Eagle

Falco Ichthyætus Horsfield, *Trans. Linn. Soc.*, xiii., 1821, p. 136 (Java).

Polioætus ichthyaëtus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 452;

Oates, in Hume's *Nests and Eggs Ind. Birds* (2nd ed.), iii., 1890, p. 167;

Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 317; Blanford, *Faun.*

Brit. Ind., Birds, iii., 1895, p. 370; Robinson and Kloss, *Journ. Nat. Hist.*

Soc. Siam, v., 1922, p. 100.

Ichthyophaga ichthyaëtus ichthyaëtus, Stuart Baker, *Faun. Brit. Ind.*,

Birds (2nd ed.), v., 1928, p. 114; Stuart Baker, *Nid. Birds Ind. Emp.*, iv.,

1935, p. 82.

Malay Names.—Hëlang, lang (any hawk or eagle).¹

Description.—Sexes alike. A large brownish grey species with the abdomen and the tail, at the base, white.

Head and throat, grey, slightly darker on the crown, merging into greyish brown on neck, breast, flanks, axillaries and upper abdomen, and sharply defined against the white of the remaining under parts. Remainder of upper parts, earthy brown, darker than the breast, and becoming black on the quills. Tail, white with a broad, terminal black band. Wing lining, entirely dark.

Sub-adult birds are mottled with brown on the inner webs of the quills (best seen on the under side of the wing) and tail.

Immature.—The upper parts rather paler brown, the feathers with buff fringes and the rump faintly barred with buff. Quills, mottled and indistinctly barred on the inner webs. Tail, heavily mottled with brown. Under wing coverts, mixed with white. Dark under parts, pale brown, indistinctly streaked with white. Grey of head much less pure than in adults.

Soft Parts.—Iris, yellow; bill and cere, plumbeous or horn-coloured, grey at the base and darker on the culmen. Feet, yellowish or greyish white. Claws, black. Authors have recorded the iris of young birds as brown, and Legge, writing of the Ceylon race, states that the yellow iris is sometimes tinged with reddish and mottled with brown.

Dimensions.—*Male*: total length, about 27 in.; wing, about 18 in.; tail, 10 in.; culmen from cere, 1.5 in.; tarsus, 3.4 in. *Females* run larger.

¹ Accipitrine birds of all kinds are known to Malays as *lang*, or *hëlang*, and sometimes the generic term is amplified, as in *lang merah* (red hawk) for the brahminy kite, or *lang tikus* for the black-winged kite. *Sewah* is another generic term for hawk-like birds, but my correspondents, Messrs A. W. Hamilton and A. T. Edgar, agree that it is used, properly, for the smaller, swifter species only. In the north of the Peninsula, in Kedah, Penang and Perak, the name seems fairly well known, but in my experience it is rarely used in the south of the Peninsula, although I have heard *lang sewah* and *burong sewah* applied to the sparrow hawk in Johore and Singapore. According to Mr A. W. Hamilton *sewah tikus* (rat-hawk) and *sewah burong* (bird-hawk) are terms used in the north of the Peninsula.

Two Malayan females have wings measuring 18.5 in., but one bird marked as a male by the collector is also very large: the wing measures 18.75 in., but perhaps the specimen is wrongly sexed.

Range in the Malay Peninsula.—The whole length of the Peninsula from north to south. The west-coast islands of Junk Zeylon, Langkawi and Penang; the east-coast island of Pennan. No formal record from the Tioman group or Singapore, but the bird occurs on the Dutch island of Batam, within sight of Singapore.

Extralimital Range.—The greater part of India east to Assam and Burma. Not rare in Tenasserim, common in Siam but less so in French Indo-China. All Malaysia and east to the Philippines and Celebes. A smaller race inhabits Ceylon.

Nidification.—Although this eagle will, no doubt, be found breeding in the Peninsula, there is as yet no record of a Malayan nest. In Assam and Burma, according to Mr Stuart Baker, it places its nest of branches, which it occupies year after year, on a tree on a river-bank. The two to four white eggs are usually heavily stained. The average size is given as 2.7 by 2.05 in.

Habits.—This eagle is common in the northern parts of the Peninsula, especially along the north-eastern coast, being found on the sea-coasts, particularly in the vicinity of high forest, and in the ricefields, but it is somewhat less common farther south where there is less open rice-country. It is also found commonly on the lower reaches of the big rivers, but in more inland districts it is replaced by the very similar but smaller species, *Ichthyophaga nana*. According to our experience the food consists chiefly of fish snatched from the water, but reptiles, birds, small mammals and carrion are also reported as forming part of the diet. It can be seen sitting in a tree over water more often than on the wing. We have never seen it in heavy jungle. Robinson records it as very abundant on the seaward face of Tanjong Patani, together with the white-bellied sea-eagle and the brahmyn kite. In some non-Malayan parts of its range this eagle seems to prefer forests to the sea-coasts.

Ichthyophaga nana nana

The Smaller Fishing Eagle

Ichthyaëtus nanus Blyth, *Journ. Asiat. Soc. Bengal*, xi., 1842, p. 202 (Singapore Island).

Polioaëtus humilis, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 454; Blanford, *Cat. Birds, Brit. Mus.*, iii., 1895, p. 371 (part).

Polioaëtus humilis humilis, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 100.

Ichthyophaga humilis humilis, Stuart Baker, *Faun. Brit. Ind., Birds*, v., 1928, p. 116.

Ichthyophaga nanus nanus, Stuart Baker, *Nid. Birds Ind. Emp.*, iv., 1935, p. 84.

Malay Names.—Hëlang, lang (any hawk or eagle).

Description.—Sexes alike and very like the preceding bird, but the tail not white at the base. Size much smaller.

Adult.—Head, neck all round, breast, upper abdomen, flanks, axillaries and wing lining, ashy grey, purest on the head and neck, washed with brown on the breast and under the wings and sharply defined against the white of the lower abdomen, thighs and under tail coverts. Mantle, scapulars, wing coverts, rump and upper tail coverts, brown, the feathers of the mantle, lesser wing coverts, back and upper tail coverts with indistinct grey edges, broadest on the mantle. Inner secondaries, brown; remainder of quills, brownish black, the outer primaries faintly mottled with whitish at the base of the inner webs. Tail quills, brown, darkest at the tip and mottled with white at the base of the inner webs of all feathers except the centre pair.

Immature.—Forehead, a broad superciliary stripe and under parts, creamy white, the breast and upper abdomen with faint, broad, pale brownish streaks, heaviest on the sides of the body. Crown, nape and sides of neck, brown, the feathers with conspicuous creamy white tips. Upper parts, brown, the wing coverts and scapulars with narrow creamy fringes. Secondaries, brown, whitish on the inner webs with indistinct dark bars. Primaries, almost black, the inner webs largely white, mottled with brown. Wing lining, mostly creamy white. Tail, brown, tipped with white, the feathers with broad, ill-defined darker bars, the last of which is broadened into a subterminal band; inner webs of all feathers except the centre pair, largely white.

Soft Parts.—Iris, pale yellow; eyelids and cere, slaty blue; bill, slaty blue, the upper mandible darker; feet like the bill but paler; nails, black. *Immature*: iris, pale brown; bill, black; feet, dull white.

Dimensions.—Total length, about 20 in.; tail, 7·5 to 8 in.; wing, 14 to 15 in.; culmen from cere, 1 to 1·25 in.; bill from gape, 1·6 in.; tarsus, 3 in. *Females* may be expected to run slightly larger: we have no specimens of this sex.

Range in the Malay Peninsula.—The whole length of the Peninsula but not on the islands. There is no satisfactory recent record for Singapore.

Extralimital Range.—The small race to which Malayan specimens belong extends to Tenasserim, Sumatra, Borneo and Celebes, but the species is not found in Java. A larger race is found in Upper Burma, along the Lower Himalayas and the adjacent low country to Kashmir. Birds from Tonkin have also been referred to this large race.

Nidification.—There is no Malayan record of the nidification, but the bird almost certainly breeds in the Peninsula. From Tenasserim the nest is recorded as built high in large trees in forest on the banks of small streams.

Habits.—Unlike the larger *Ichthyophaga ichthyætus* this is a bird of the inland waterways and forests. In the Peninsula it is not found in open country or on the sea-coasts. Robinson and Kloss have recorded that “on some rivers, notably the higher reaches of the Tembeling and its tributary the Tahan, in Pahang, almost every reach is inhabited by a pair of these birds, which lumber along in front of the canoe as the traveller advances up-stream.”

Family FALCONIDÆ

Eagles and Hawks

THIS family includes all the remaining birds of prey found in the Malay Peninsula and is sufficiently characterized on p. 7.

Circus æruginosus æruginosus

The Marsh-Harrier

Falco æruginosus Linn., *Sys. Nat.*, 10th ed., 1758, p. 91 (Sweden).

Circus æruginosus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 69; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 387; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 239.

Circus æruginosus æruginosus, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 102; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 134.

Malay Name.—Hělang puteh kěpala (*Winstedt*: needs confirmation).

Description.—A large, brown, slender-winged, long-tailed hawk with chestnut under parts and grey wings. Female, brown, with the head conspicuously yellowish buff.

Adult male.—Head, neck and breast, buff (more creamy on the crown and hind neck, more rufescent on the throat and breast) heavily streaked with brown; the ear coverts may be nearly uniform brown. Remainder of under parts, chestnut, darkest on the under tail coverts, perhaps with indistinct blackish streaks, especially on the abdomen. Mantle, back, rump and scapulars, dark brown, often with narrow rufous fringes. Upper tail coverts, pale grey mixed with rufous. Tail, silvery grey above, duller whitish grey beneath. Winglet, primary and greater coverts except the innermost, inner primaries and secondaries except the innermost, which are brown, ashy grey. Outer primaries, black, buffy white at the base on the inner web. Edge of wing, buff, streaked with blackish, other wing coverts like the back. Under wing coverts and axillaries, pinkish buff, the latter often with dark shaft stripes.

Adult female.—Quite different. General plumage dark brown, rather richer, more chocolate on the under parts. Chin and throat, buff. Crown and nape, buff with thin blackish streaks, but almost uniformly buffy white in worn plumage. A large, but variable, patch of buff streaked with brown on the chest. A similar patch on the inner wing coverts on the edge of the wing. Mantle and sometimes the other parts with rufous-buff margins.

Immature.—Dark brown. Very like the adult female but even more uniformly coloured. Buff on the head more restricted, sometimes forming only a well-defined cap, at other times restricted to a patch on the nape. In a rare phase the plumage is entirely dark brown.

Soft Parts.—*Male*: iris, lemon; bill, slate, cere and base, yellowish green; feet, pale yellow. *Female*: iris, yellow; bill, black, cere and base, greenish slate; feet, dirty yellowish (*Robinson and Kloss*).

Dimensions.—*Male*: total length, 20 in.; tail, 9.5 in.; wing, 15.25 to 16 in.; tarsus, 3.3 in.; bill from gape, 1.5 in.; culmen (end of cere to tip, straight), 0.9 in. *Females* run slightly larger. One from Pulau Langkawi, Straits of Malacca, has a wing of 17 in. Wing of an immature female, 15.8 in.

Range in the Malay Peninsula.—From the northern limit at the Pakchan estuary south to Malacca (*Davison*). Langkawi Island; Junk Zeylon; Jelebu, Negri Sembilan. As in the case of the other species of harriers occurring in Malaya there is no formal record from the east coast, although they almost certainly occur there, where the country is open and suited to their habits.

Extralimital Range.—Breeds in Europe and West Asia eastwards to the Yenesei. Migrates south to Africa, India, Ceylon, Burma, Siam and Sumatra. It is common in Tenasserim and at least the western half of Siam, but Messrs Delacour and Jabouille do not admit it to the French Indo-China list, referring all previous records to the closely allied *Circus spilonotus*. Japan. It has also been recorded on a number of occasions from the Philippines, but most of the far-eastern records are based on young birds which need critical re-examination.

Nidification.—Does not breed in Malaya. "In its northern breeding-grounds the Marsh-Harrier nests about April, building in reed beds or rank marsh vegetation. The nest is a large heap of dead reeds and sedges, with the hollow lined with finer marsh grasses. The eggs number from four to six, and they are broad regular ovals, bluish white in colour without markings. They measure about 1.95 by 1.5 in." (*Whistler*).

Habits.—The marsh-harrier is a regular winter visitor to the Malay Peninsula, occurring in fair numbers from November to March. It is the commonest local representative of the genus, but is never very numerous in the south. It is recorded as common, in February, on the ricefields bordering the upper reaches of the Pakchan estuary in Peninsular Siam. In season, it is not uncommon on marshy ground near Kuala Lumpur in Selangor, where Mr E. Seimund has secured a small series when snipe-shooting, together with smaller numbers of the eastern marsh-harrier (*Circus spilonotus*) and the pied harrier (*C. melanoleucos*).

Like other harriers this is a bird of open country, especially in the vicinity of swampy ground or open water, although it also visits hill-sides and other dry places. It usually flies fairly low, quartering the ground in a systematic manner, flapping and sailing and occasionally resting on a stump, post or the ground. The food consists chiefly of frogs, small mammals, reptiles, fish and large insects, but it is well known to carry off birds wounded by sportsmen and also to rob nests of eggs or young.

Circus spilonotus spilonotus

The Eastern Marsh-Harrier

Circus spilonotus Kaup, *Isis*, 1847, p. 953 (East Siberia); Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 58; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 388; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 236; Robinson

and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 102; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 135.

Malay Name.—Unrecorded specifically: hēlang, lang (any hawk or eagle).

Description.—The male is a gaily coloured large hawk with much white on the under parts. Female, as in the preceding species.

Adult male.—Above blackish brown, the feathers of the head and neck with broad white or rufous edges. Back feathers and wing coverts with irregular grey or rufescent white spots and patches; the smaller coverts along the forearm white, sometimes with dark shaft stripes; primary coverts and outer surface of secondaries, grey, terminal portion of primaries, blackish, bases of all quills, white; upper tail coverts, white, with grey or brown bars; tail, grey above, whitish below, unbarred; lower parts, white with blackish shaft stripes, broad on the throat and upper breast, narrow or wanting on the abdomen (*after Blanford*).

Note.—In the above plumage the adult male of *C. spilonotus* is very like the adult female of the next species to be described, the pied harrier (*C. melanoleucos*), but it can be distinguished by its larger bill (see the *key* on page 9).

Adult female and immature.—Very like the corresponding stages in *Circus aeruginosus*, but the tail usually broadly barred, not uniformly brown. If the tail is without bars, *C. spilonotus* can be identified by the fact that the inner webs of the primaries, at the base, are boldly patterned on a white ground, whereas they are almost uniform or merely paler and finely mottled in *aeruginosus*. Head usually more boldly streaked than in *aeruginosus*. Some females, perhaps very old birds, are like the male in plumage.

Soft Parts.—Iris, brown or yellow; bill, blackish, paler (grey or yellowish) at the base, cere, yellow; feet, yellow, claws, black.

Dimensions.—*Male*: total length, 19 to 20 in.; tail, 8.75 to 9 in.; wing, 14.5 to 15.3 in.; tarsus, 3.5 to 3.8 in.; culmen (end of cere to tip, straight), 0.85 in. *Females* run slightly larger. Total length, 21 in.; wing, up to 16.4 in. (specimens from Borneo).

Range in the Malay Peninsula.—Known only by a few specimens obtained near Kuala Lumpur in Selangor.

Extralimital Range.—Breeds from Turkestan across Asia to Transbaikalia, replacing *Circus aeruginosus*, of which some authors consider it a subspecies, in the eastern parts of its range. Moves south in winter to Burma, Siam, French Indo-China (very common), Japan, the Philippines and Borneo.

Nidification.—Very similar to the marsh-harrier (*Circus aeruginosus*) described above. Does not breed in Malaya.

Habits.—A winter visitor to the Peninsula but in smaller numbers than the marsh-harrier (*Circus aeruginosus*). The few specimens we have examined are dated from February to 30th March. Its habits in its winter quarters seem essentially similar to those of the marsh-harrier. A specimen shot by Mr E. Banks in Sarawak contained the remains of a rat and a water-rail (*Hypotaenidia striata*).

*Circus melanoleucus***The Pied Harrier**

Falco melanoleucus Pennant, *Ind. Zool.*, 1769, p. 12, pl. 2 (Ceylon).

Circus melanoleucus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 61; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 385; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 237; Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam.*, v., 1922, p. 102; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 133; Stuart Baker, *Nid. Birds Ind. Emp.*, iv., 1935, p. 96.

Malay Name.—Unrecorded specifically: hēlang, lang (any hawk or eagle).

Description.—A large and boldly piebald hawk.

Adult male.—Head, neck all round, breast, mantle, back, outer short scapulars and outer six primaries, glossy black. Remaining under parts, including under wing coverts and axillaries, white, sharply defined against the black breast. Rump, white sullied with grey. Upper tail coverts, grey with broad white edges. Tail, silvery grey. Lesser wing coverts, white with the grey bases showing through. A broad band of black across the wing is composed mainly of the greater coverts and inner secondaries, but it reaches the angle of the wing. Other coverts and quills, silvery grey. A few whitish fringes to the feathers on the nape.

Adult female.—Quite different. Mantle, back, scapulars and inner secondaries, brown; upper tail coverts, white; tail, pale grey, the tail with five, visible, blackish bars, the bars much narrower than the interspaces. Head, neck and wing coverts along the edge of the wing, creamy buff tinged with rufous and streaked with dark brown; median coverts, brown tipped with buff; remainder of closed wing, pale grey, banded with black, the outer primaries black at the tips; wing quills, whitish on the inner webs at the base. Under parts, white, heavily streaked with brown on the breast and less heavily elsewhere.

Some authors aver that the female is sometimes found in the plumage of the male.

Immature.—"Young birds are more uniformly brown above than the adult female, and have no grey on the wings or tail, which are brown with darker bands; the ruff is ill-marked at the sides, but there is a large white brown-streaked nuchal patch and another patch of buff-edged brown feathers on the throat; the lower parts generally are rufous brown, faintly streaked darker" (*Blanford*).

Soft Parts.—*Male*: iris and feet, chrome; bill, black; cere, greenish yellow. *Female*: iris, lemon; bill, slate; cere and base, yellowish green; feet, pale yellow.

Dimensions.—Total length, 17.5 in.; tail, 8.5 in.; wing, 13.75 in.; tarsus, 2.75 in.; bill from gape, 1.1 in. *Females* are slightly larger: total length, 18.25 in.; wing, 14.4 in.

Range in the Malay Peninsula.—The west coast from Peninsular Siam to Johore.

Extralimital Range.—Breeds in South-Eastern Siberia, Mongolia and

North China, moving south for the winter to India (east and north) and Tenasserim ("sparingly distributed"). Common in Siam and French Indo-China, the Philippines and Borneo.

Nidification.—Does not breed in the Malay Peninsula. The nest is placed on the ground, as in the other species of harrier. The eggs are bluish white, sometimes sparsely marked with brown. They measure about 1.7 by 1.4 in.

Habits.—A winter visitor. Common in the Siamese part of the Peninsula, much less numerous in the south and very rare in the extreme south. According to Mr E. Seimund it is not uncommon in the winter months on marshy ground near Kuala Lumpur, but it is very shy and hard to approach. Specimens have been obtained in January and March. The habits seem to be much like those of other harriers. In different parts of its range the chief food has been variously described as frogs or large grasshoppers.

Note.—Montagu's harrier (*Circus pygargus*) has been included in the list of Malayan birds apparently on the strength of a description given by Kelham of a male shot, but not preserved, by him in Johore, but we regard the record as too uncertain for more than bare mention in this volume. This species can be distinguished from the other harriers occurring in the Peninsula by the fact that only the second, third and fourth primaries are notched on the outer web, whereas in the others the fifth feather is also notched. The plumage of the adult male is largely bluish grey.

Accipiter trivirgatus indicus

The Crested Goshawk

Astur indicus Hodgson (or Pearson), *Bengal Sporting Magazine*, vii., 1836, p. 177 (India).

Astur trivirgatus, Sharpe, *Cat. Birds, Brit. Mus.*, i., 1874, p. 105 (pt.); Oates, in Hume's *Nests and Eggs Ind. Birds* (2nd ed.), iii., 1890, p. 119; Oates, *Cat. Birds' Eggs, Brit. Mus.*, ii., 1902, p. 243.

Lophospizias trivirgatus, Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 401 (pt.).

Lophospizias trivirgatus rufitinctus, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 103.

Astur trivirgatus rufitinctus, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), v., 1928, p. 155.

Astur trivirgatus indicus, Stuart Baker, *Nid. Birds Ind. Emp.*, iv., 1935, p. 109.

Malay Names.—Hélang rajawali (a sparrow hawk); lang, hélang (a hawk).

Description.—A tuft of lengthened feathers about one and a half inches long on the nape. Adults are grey-brown above, darkest on the head; tail boldly barred; breast streaked; abdomen barred. Sides of breast, pinkish brown.

Adult male.—Top of head and crest, blackish grey, the feathers white at the base. Sides of head, paler grey. Throat, white with a median black

streak, and separated from the grey cheeks by a thin blackish malar stripe. Sides of breast, rust-colour; remainder of under parts, white, heavily streaked with blackish on the fore neck, even more heavily with dusky rust on the breast, heavily barred with brown on the abdomen and flanks and more narrowly, but regularly, barred with brownish black on the thighs. Under tail coverts, white with a trace of a few thin dusky bars near the vent. Upper parts, very dark brown with a grey bloom on the mantle, becoming blackish on the lesser wing coverts, and passing into grey on the marginal coverts near the edge of the wing. Edge of wing, white. Wing quills, brown with darker broad bands, more conspicuous on the inner webs; the inner webs white at the base. Longest upper tail coverts, broadly tipped with white. All tail quills, except the centre pair, narrowly white at the base of the inner web; otherwise brownish grey with a narrow whitish tip and three or four (visible) broad, dark brown bands, the dark bands rather broader than the paler interspaces. Lining of wing and axillaries, white, heavily spotted on the coverts and barred on the quills and axillaries with blackish brown.

Adult female.—Very like the male, but the top and sides of the head much darker, blackish rather than grey. Upper parts, slightly paler brown.

Immature.—Also crested but plumage quite different. Crown, nape and crest, rufous-buff, heavily spotted with black, the white bases of the feathers often showing through. Remainder of upper parts, dark brown, the feathers with narrow buff fringes. Wing and tail quills banded, but the dark bands usually narrower than in the adult. Under parts, white with a black, median throat stripe and heavily spotted, marked with large brown spots, the spots often surrounded by a rufous-buff suffusion. Thighs, barred. Cheeks, whitish, or washed with brown, and with darker shaft stripes.

An older bird is in an intermediate stage. The plumage is largely that of the immature bird, but the *barred* feathers of the adult plumage are beginning to appear on the abdomen and others with spots of bright rust-colour on the sides of the breast.

Soft Parts.—*Adult*: iris, orange; bill, slate, culmen, black, cere and gape, greenish yellow; feet, pale yellow (*Robinson and Kloss*). *Immature*: iris, yellow; upper mandible, black; lower mandible, bluish slate; feet, pale yellow.

Dimensions.—*Male*: total length, 15 in.; wing, 8.25 in.; tail, 6.5 in.; culmen from cere, 0.7 in.; bill from gape, 1.1 in.; tarsus, 2.4 in. *Female* larger: wing, 9 in.; tail, 6.8 in. The above measurements are those of a pair from the Malay States, but some birds from Peninsular Siam are slightly larger, the wing of a male measuring 8.9 in. and that of a female, 9.6 in. Birds occurring in the Malay Peninsula are, in fact, intermediate between the brighter and smaller typical *trivirgatus* of Sumatra and the duller, larger, northern form, *indicus*.

Range in the Malay Peninsula.—From Peninsular Siam south to Mt Ophir, Malacca territory. Not recorded from any of the islands.

Extralimital Range.—From Formosa and Hainan through Yunnan and Assam to Northern India. Also in Tenasserim, French Indo-China and Siam. In South India and Ceylon it is replaced by a smaller race which is said to

