

WOODPECKERS

Order PICIFORMES

Vol. I., p. 150; Vol. II., p. 99.

THE woodpeckers are one of the most dominant orders of birds in the Eastern Tropics, and are represented in Malaya by about thirty forms.

Woodpeckers are found all over the world except the circumpolar regions and in Australasia, where they are entirely unrepresented.

The order, apart from the wrynecks, which do not occur in Malaya, and the piculets, which have the tail extremely short, can at once be recognized by the character of the tail of twelve feathers, which have the shafts stiffened throughout their lengths, the points usually narrowed and spiny, a structure which is designed to support the bird against the tree trunks on which its life is mainly spent.

The bill is strong, elongate and chisel-shaped, and nearly always quite straight, with a marked culminal ridge. The tongue is extremely long and worm-like, provided with a pointed barbed tip and capable of great protrusion; the posterior prolongations (*cornua*) are curved backwards over the base of the skull. In many species the neck is much compressed and the character of the plumage thereon different from the rest of the body. The feet and toes are strong, with powerful claws; the toes are usually four in number, two directed forwards and two backwards, but some genera have three only.

Colours are often bright and the sexes are always slightly different, their difference being usually in the colour and arrangement of the feathers of the head and the region of the jaw.

Nests are in holes excavated by the birds in the branches and trunks of trees, or in the nests of ants, and the eggs, which are white and rather rounded, are laid on the bare wood without any lining.

The food is exclusively insectivorous, generally larvæ found in wood (from which they are excavated by the birds themselves), termites and ants. Insects are not caught on the wing.

Flight as a rule is straight, but not strong or long-continued. The birds are usually seen in pairs. The note of most species is harsh and discordant.

In Malaya, woodpeckers are found in all situations, from the mangroves by the sea to the tops of the highest mountains, but on the small coastal islands species are scarce, and in some of the islands absent.

They are strictly sedentary and no occurrence of any woodpeckers at sea, or at the lighthouses, is known within our area (*Robinson*, Vol. I., p. 150).

KEY TO THE MALAYAN LOWLAND WOODPECKERS

1	{	Very small birds: wing less than 2.5 in.	2	
		Very large birds: wing more than 8 in.	3	
		Between the two above extremes	4	
2	{	A broad white streak behind the eye	<i>Sasia ochracea reichenowi</i> , p. 188	
		No white streak behind the eye	<i>Sasia abnormis everetti</i> , p. 188	
3	{	General plumage grey; no red on top of the head	} <i>Mülleripicus pulverulentus harterti</i> , p. 184	
		General plumage black and white, with crimson on the crown		<i>Dryocopus javensis javensis</i> , p. 186
4	{	Mantle and wings, green, red or golden	5	
		Mantle and wings, brown or black and white.	9	
5	{	Mantle and wings, dark red	<i>Blythipicus rubiginosus</i> , p. 176	
		Mantle, green; wings, red	6	
		Mantle and wings, green	7	
		Mantle and wings, golden	8	
6	{	Throat and breast, pale chestnut	} <i>Callolophus miniatus malaccensis</i> , p. 173	
		Throat, black and white; breast, chestnut		<i>Chrysophlegma mentale humii</i> , p. 174
		Throat and breast, green		<i>Picus puniceus continentis</i> , p. 172
7	{	Breast and abdomen uniformly dark green	} <i>Chloropicoides rafflesii peninsularis</i> , p. 175	
		Breast and abdomen heavily streaked with darker green.		<i>Picus viridanus weberi</i> , p. 171
		Breast uniformly pale green; abdomen heavily streaked with darker green		<i>Picus vittatus</i> subspp., p. 169
8	{	With three toes	<i>Dinopium javanense</i> subspp., p. 179	
		With four toes	<i>Chrysocolaptes gutticristatus</i> subspp., p. 180	
9	{	General plumage, chestnut - bay, barred with black	} <i>Micropternus brachyurus squamigularis</i> , p. 179	
		Otherwise		10
10	{	Under parts, whitish, heavily streaked with black	11	
		Under parts conspicuously barred	12	
		Under parts without conspicuous bars or streaks	13	

- | | | | |
|----|---|---|---|
| 11 | { | Forehead and crown, pale grey; larger, wing 3.2 to 3.4 in. | } <i>Dryobates canicapillus</i> subsp.,
p. 175 |
| | | Forehead and crown, dusky brown; smaller, wing 2.8 to 3.1 in. | |
| 12 | { | Lower back and rump, white | . <i>Meiglyptes tristis grammithorax</i> ,
p. 178 |
| | | Lower back and rump, concolorous with the mantle | |
| 13 | { | Very large: under parts, pale brown or crimson | } <i>Chrysocolaptes validus xanthopygius</i> , p. 180 |
| | | Small species: under parts, greyish | |
| 14 | { | Top of the head, white or black | . <i>Hemicircus canente canente</i> , p. 183 |
| | | Top of the head, grey, orange-brown or crimson | |

*Picus vittatus vittatus***The Bamboo Green Woodpecker**

Picus vittatus Vieill., *Nov. Dict. d'Hist. Nat.*, xxvi., 1818, p. 91 (Java).

Gecinus vittatus, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 46 (pt.).

Malay Name.—Bĕlatok (generic).

Description.—Green; top of head, red in males, black in females; sides of face, silvery; moustachial stripe, black.

Adult male.—Forehead and crown, red; forehead narrowly edged with black, which is continued as a narrow superciliary stripe along the sides of the crown. Lores, white. Cheeks, ear coverts and a narrow line over the eye, silvery white. A broad moustachial stripe, black streaked with silvery white. Chin, throat and breast, yellowish olive fading to dirty greenish white on lower abdomen and under tail coverts, the feathers from the lower breast downwards with a broad, dark submarginal band, dusky green on the breast turning to smoky black on the under tail coverts, the whole producing a closely striped effect, the boldness of which varies considerably even in adult birds of the same sex. Upper parts, grass-green, greenest on the mantle, yellowest on nape, rump and upper tail coverts, and darkest and very slightly bronzed on the wings. Wing quills, dull black spotted or notched with white on both webs, much less boldly on the outer webs of the secondaries, which are washed with green. Tail feathers, dull black often with whitish bars, obsolete on all except the centre pair of feathers but sometimes with a few obsolete bars on the centre pair only. Under wing coverts, white spotted with black; lining of wing quills barred grey-black and white.

Adult female. Like the male but the top of the head entirely black.

Immature.—Very young birds are said to have the under parts almost uniform, not boldly striped. A young bird collected by Mr C. Boden Kloss in Java is marked as a male, by dissection, although the top of the head is black: it has the green of the plumage duller and greyer than in adults.

Soft Parts.—Iris, dark brown, reddish brown or crimson; upper mandible, black, sometimes streaked with yellowish; lower mandible, yellow, tip horn-colour or brown; feet, greyish green, olive or yellowish olive.

Dimensions.—Total length, 10.25 to 11.25 in.; tail, 3.3 to 3.9 in.; wing, 4.8 to 5.2 in.; bill from gape, 1.3 to 1.5 in.; tarsus, 1 to 1.1 in.

Range in the Malay Peninsula.—The southern portion only: known from Sitiawan in Perak down the west coast to Singapore Island and the adjacent islet of Pulau Ubin. Mainland specimens have been examined from Perak, Selangor, Negri Sembilan and Johore.

Extralimital Range.—West Java; Sumatra and Lingga Island: Southern Cochin-China. A closely allied subspecies is found in East Java, Bali and the Kangean Islands. A larger form found in Annam and Siam (not south of lat. 12° N.) straggles into extreme Eastern Burma (*vide* Mr Stuart Baker).

Nidification.—From Lower Perak Mr A. T. Edgar reports eggs in March, April, June and October, the nesting sites being thirty feet from the ground in dead coconut-trees; twelve feet up in a hog-plum tree; in a dead mango-tree; and in an "api-api" tree on the edge of the mangroves. The clutch is four eggs. Mr Edgar describes his eggs as pointed ovals and translucent pinky white when unblown. Average size of one clutch, 1.04 by 0.75 in.; of another clutch, 1.08 by 0.83 in. Mr G. C. Madoc has seen the nest only three feet from the ground in the trunk of a casuarina tree.

Habits.—A coastal species rarely found inland. It is common among the casuarinas and in the mangrove belt along the coast of Selangor and West Johore, and is especially common in South Johore and along both sides of the ~~strait~~ separating Singapore from the mainland. In Singapore Island it is still frequently seen. Some specimens shot in the mangrove had the plumage much soiled with dried mud and appear to have been feeding on the ground, and Mr A. T. Edgar has recorded that he has several times watched a pair on the ground, where the birds appeared to be searching for small insects among the fallen leaves, in a rubber estate.

Note.—There is a curious gap in the geographical distribution of this species, which, as *P. v. eisenhoferi*, extends as far south as Nong Khae and Hua Hin in South-West Siam, and then, except for the isolated subspecies in the Langkawi Islands, is not met with again until it turns up in a slightly smaller form (*P. v. vittatus*) on the coast of Perak at Sitiawan. A somewhat parallel case is presented by another woodpecker, *Chrysocolaptes gutticristatus*, which extends south to Patani (lat. 6° 30' N.) and then is absent from the Malay States until the extreme south of Johore is reached.

Picus vittatus connectens

The Langkawi Bamboo Green Woodpecker

Gecinus vittatus connectens Robinson and Kloss, *Bull. Brit. Orn. Cl.*, xl., 1919, p. 13 (Langkawi Island, Straits of Malacca).

Malay Name.—Bēlatok (generic).

Description.—Very like the bamboo woodpecker of the mainland described

above, but slightly larger, the wing measuring about 5.4 in. and always over 5.2 in. in length, and without a bronze tinge on the wings.

Range in the Malay Peninsula.—Restricted to the Langkawi Islands, Straits of Malacca.

Remarks.—This is an interesting bird in that it appears to be the only member of the Langkawi avifauna at all differentiated from the mainland representative, although, as noted above, the observed differences are very slight. It would appear that the separation of the Langkawi Islands from the mainland is, geologically speaking, a comparatively recent event. Nidification unknown.

Picus viridanus weberi

The Scaly-bellied Woodpecker

PLATE 5

Gecinus weberi Müller, *Orn. Ins. Salanga*, 1882, p. 69, *sep.* (Junk Zeylon).

Gecinus viridanus, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 47 (pt.); Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 22 (pt.).

Picus viridanus, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 171.

Picus vittatus viridanus, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 12 (pt.).

Malay Name.—Bělatok (generic).

Description.—This species bears such a close resemblance to the preceding bird, *Picus vittatus*, that a separate detailed description is unnecessary. It only differs from *P. vittatus* in being of a rather darker green, in having the ear coverts of a slightly darker grey, and above all in having the *whole* of the under surface streaked with darker green, the chest never being uniform in colour. There is considerable variation in the colour of the under parts.

Soft Parts.—As in *P. v. vittatus*.

Dimensions.—Very slightly larger than *P. v. vittatus*. Total length, 11.3 to 12.3 in.; tail, 3.7 to 4 in.; wing, 5.1 to 5.6 in.; bill from gape, 1.4 to 1.55 in.; tarsus, 1 to 1.2 in.

Range in the Malay Peninsula.—Peninsular Siam and the small islands off its west coast, including Junk Zeylon, south to Perlis and Patani. Not the Terutau and Langkawi Islands.

Extralimital Range.—The present subspecies is found at Koh Lak in South-West Siam, but in the western parts of Siam north of Bangkok and in Burma it is replaced by the slightly larger typical race, *P. v. viridanus*. Mr Stuart Baker has treated all the subspecies of *P. vittatus* and *P. viridanus*, together with a third form *P. myrmecophoneus* (a bird with which we are not concerned in this work), as subspecies of one widely spread species. The three groups may be representative species, but we cannot agree that they are merely geographical races. They do not intergrade, and in several extensive areas representatives of two, or even three, of the groups are found together. For instance, *P. vittatus* and *viridanus* are found together in North, West and South-West Siam.

Nidification.—No information is available concerning the present subspecies. Eggs of the typical form are said by Mr Stuart Baker to measure about 1.13 by 0.85 in.

Habits.—According to Messrs Robinson and Kloss, this woodpecker is a coastal species not found, so far as their experience went, in dense evergreen jungle or in districts of heavy rainfall, but preferring the dry low-country scrub and jungle.

The birds figured in the plate are a male from Trang, Peninsular Siam, and a female from Perlis.

Picus puniceus continentis

The Malay Crimson-winged Woodpecker

Vol. II., p. 104.

Brachylophus puniceus continentis, Robinson and Kloss, *Journ. Fed. Malay States Mus.*, x., 1921, p. 204 (Tapli, Pakchan Estuary, Peninsular Siam).

Gecinus puniceus, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 64 (pt.); Blandford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 26.

Picus puniceus continentis, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 174.

Picus puniceus observandus, Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 21.

Malay Name.—Bĕlatok (generic).

Description.—Green; top of head and wings, red; crest tipped with yellow.

Adult male.—Top of head and a broad, short moustachial stripe, red; lores, blackish. Crest formed by lengthened feathers on the nape and a continuous narrow stripe on either side of the neck, lemon-yellow. Cheeks and under parts, dull green; paler, almost buffy green, on chin and throat; the flanks and, rarely, the abdomen with short, white, or greenish-white, transverse bars, or spots, often obsolete. Tail, brownish black, the outer edges of the centre feathers at the base sometimes tinged with reddish brown. Remaining upper parts, grass-green, purest on mantle, palest and yellower from lower back to upper tail coverts. Wing coverts and exposed portions of wing quills, except a few outer pairs of primaries, dark red; inner secondaries, washed green on inner webs and at tips; outer primaries and hidden parts of all quills blackish, the inner webs on the edge spotted with white; middle primaries with a few whitish-buff spots on the outer web. Axillaries and under wing coverts, dull green, spotted with white; wing lining barred greyish black and white.

Adult female.—Like the male, but without the green moustachial (malar) stripe.

Immature.—In both sexes young birds are very like the adults, but the crown is green, or mixed green and red. Even very young males show the red malar patch. Young birds usually have a few small whitish spots on

the scapulars and lower back, and the barring on the flanks is broader and the general tone of the plumage duller than in adults.

Soft Parts.—Iris, reddish brown or red; orbital skin, slate or bluish slate; upper mandible, black, base and edges yellow; lower mandible, yellow; feet, olive-brown or olive. In a young bird the iris is marked as grey and the feet, dull yellow.

Dimensions.—Total length, 9.9 to 11.2 in.; tail, 3.3 to 3.5 in.; wing, 5.15 to 5.4 in.; tarsus, 0.9 to 1 in.; bill from gape, 1.3 to 1.45 in.

Range in the Malay Peninsula.—The whole length of the Peninsula from north to south, including Singapore Island.

Extralimital Range.—North to Southern Tenasserim. Another subspecies is found in Sumatra, Banka, Nias and Borneo. The typical form of the species comes from Java.

Nidification.—Unknown.

Habits.—This woodpecker is common throughout the lowlands of the Peninsula up to and sometimes rather exceeding a height of 3000 feet. Although not uncommon in the northern parts of its range, it is even more numerous in the south and is still to be seen within the town limits of Singapore wherever there are gardens and big trees. Normally it inhabits the evergreen forests, and specimens when collected are often found to have the plumage, especially the tail, smeared with resin. Davison records: "This bird has some rather anomalous habits for a woodpecker, and it has besides a very peculiar note, not in the least resembling any of the varied notes of other Woodpeckers. It inhabits the evergreen forests, occasionally coming into *tounyahs* or clearings. It has a habit of working its way to the very top of some high dry tree, and remaining there for half an hour or more sometimes, uttering, at short intervals, its peculiar note. In the dusk of the evening, when other Woodpeckers cease to be heard, it gets very noisy, and then may be heard calling in many directions, showing that it is not very uncommon; it is, however, more often heard than seen."

Again, "It almost always, I may remark, goes about singly, and I have never seen it descend to, or feed upon, the ground, as *Gecinus* and *Chrysophlegma* so constantly do."

Callolophus miniatus malaccensis

The Malayan Banded Red Woodpecker

Vol. II., p. 104.

Top of the head and wings, dark crimson; lengthened feathers on the nape, yellow; back, green; rump, yellowish green; tail, black; throat and upper breast, pale chestnut; remaining under parts, dirty white, narrowly but boldly barred with dark brown. Males have a crimson wash on the sides of the head, absent in females, which have the cheeks speckled with white.

Total length, about 10.25 in.; wing, 5 in.

This common woodpecker occupies a very wide range of country in the Malay Peninsula. It is most numerous in old forest, which it follows up the hill-sides to the hill stations and down to the coastal lowlands. It is usually

common in submontane forest, and I have often seen it in the mangrove, in secondary growth, and occasionally in trees in the town gardens.

In Lower Perak, Mr A. T. Edgar has found this woodpecker breeding in the mangrove belt in June. The nesting hole was excavated in the dead wood of a "perapat" tree about sixteen feet from the ground. The three eggs measured 1.05, 1.07 and 1.08 by 0.8 in.

Chrysophlegma mentale humii

The Chequered-throated Woodpecker

PLATE 6

Vol. II., p. 107.

Chrysophlegma humii Hargitt, *Ibis*, 1889, p. 231 (Malacca); Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 126; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 28.

Chrysophlegma mentale humii, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 191; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 25.

Malay Name.—Bélatok (generic).

Description.—Green, with red wings, yellow crest, chestnut chest and black and white throat.

Adult male.—Top of head and mantle to upper tail coverts, dark grass-green. A lengthened nuchal crest, lemon-yellow, some of the feathers tinged with chestnut at the extreme base. Tail, black. Cheeks, dull grey-green; a broad malar patch, grey-brown, sometimes tinged with green, closely spotted with white. Chin and throat, white heavily streaked with black. Chest and neck all round, on the nape narrowly and hidden by the crest, bright chestnut. Remaining under parts, dull grass-green, not so bright as the upper parts. Wing quills, black, barred with chestnut, the inner primaries and outer secondaries washed with crimson on the outer webs. Innermost short secondaries, green, and a few adjacent feathers washed with green at the tip. Lining of wing barred dusky and chestnut.

Adult female.—Very like the male, but without the spotted grey-brown malar patch, the chestnut of the neck being continued as a broad band on either side of the throat to the chin.

Immature.—The young female is very much like the adult, but it is rather duller in plumage and the sides of the head are chestnut washed with dull brownish green on the ear coverts. An immature male is similar, but has a few white spots on the chestnut malar region. I have not seen a very young male.

Soft Parts.—Iris, crimson; orbital skin, bright olive; upper mandible, black and dark grey-green; lower mandible, plumbeous or plumbeous green; feet, bright olive.

Dimensions.—Total length, 10 to 11.6 in.; tail, 3.4 to 3.8 in.; wing, 5.1 to 5.5 in.; tarsus, 1 in.; bill from gape, 1.4 to 1.6 in.

Range in the Malay Peninsula.—The length of the Peninsula from north to south, including Singapore Island.

Extralimital Range.—Sumatra, Banka and the western half of Borneo; the remainder of Borneo is occupied by a very slightly smaller subspecies. The typical form of the species is found in Java.

Nidification.—Mr V. W. Ryves has taken a clutch of three eggs of this species in April in Negri Sembilan. The nesting hole was fifteen feet up in a dead soft-wood tree standing deep in an area of secondary forest. In Lower Perak, Mr A. T. Edgar has found eggs in March and April. In one case the nesting hole was in a dead coconut-tree near forest. Another hole was in a very rotten tree in swamp jungle. These two holes were fifteen and twenty feet from the ground. Mr Edgar describes his eggs as follows: "Rounded ovals, shell tough, not glossy and measuring 1.08 by 0.85 in."

Habits.—Fairly common in the lowlands of the Malay Peninsula, but less abundant in the north, and as in the case of so many lowland species its altitudinal range is normally up to about 3000 feet. Robinson remarks that it is sometimes found slightly higher, but apparently only in districts where the somewhat similar and closely allied *Chrysophlegma flavinucha wrayi*, purely a mountain species, is absent. Its normal habitat is the heavy lowland forest, where it is usually seen high in the big trees, but it is sometimes found in or near the mangrove belt near the coast.

The birds figured in the plate are a male from Selangor, and a female from Batang Padang, Perak.

Chloropicoides rafflesii peninsularis

The Malayan Three-toed Woodpecker

Vol. II., p. 112.

Top of the head, red in males, black in females; plumage, dark green, brightest, almost golden, on the upper parts; throat, pale dull yellow; sides of the head, white, broadly striped with black.

Total length, about 11 in.; wing, 5.4 in.

This woodpecker is much commoner in the south of the Peninsula than in the north, where it is rare. Until the forest was cleared it was numerous in Singapore, and odd specimens can still sometimes be seen on the island. Normally, it is a bird of the old forest. The nest and eggs are unknown.

Dryobates canicapillus suffusus

The Malayan Pygmy Woodpecker

Vol. I., p. 151, pl. 12.

A small black and white species. Crown, grey, bordered behind by a black crescentic band; remaining upper parts, black with broad white bars. Sides of the neck, black and white; under parts, white, faintly washed with yellowish buff and heavily streaked with black. Males have a thin, bright red stripe on each side of the head behind the eye.

Total length, about 5.5 in.; wing, 3.2 to 3.4 in.

A common bird in cultivated areas and secondary forest in most parts of the Peninsula. It is more numerous near the coasts than farther inland, and it is often seen in the coastal *Casuarina* trees. There is no published record of the nest and eggs. North of, roughly, Penang the present subspecies is replaced by the typical race, *D. canicapillus canicapillus*, in which the under parts are whiter and less washed with buff.

Dryobates moluccensis moluccensis

The Lesser Pygmy Woodpecker

Vol. I., p. 152.

This very small woodpecker is very like the last-mentioned species, but it is slightly smaller, rather less decisively streaked on the under parts and with the crown dusky brown, not grey. Total length, about 5.25 in.; wing, 2.8 to 3.1 in.

This is a very common bird on the coastal flats of the Malay Peninsula, and it is particularly numerous in the extreme south, on Singapore Island and the neighbouring islets.

Writing of Lower Perak, Mr A. T. Edgar records: "Its nesting period extends from March to July. The nest is a hole in very soft, dead wood. A favourite site is the extreme end of a dead horizontal branch, in which case the entrance hole is generally on the under side.

"I have seen nests at heights varying from twelve to sixty feet above mud-level. Some of them were quite impossible to obtain. Three eggs, taken on 30th March, were white, translucent, rather glossy, and pointed at one end; two taken on 8th June were round ovals. The size varies from 0.69 by 0.52 in. to 0.75 by 0.53 in. The normal clutch appears to be two, as I saw nests on 21st March and 15th July, each containing two nestlings."

Mr G. C. Madoc reports Selangor eggs in April and June, and on one occasion he saw a nest in a hole near the top of a mooring-post, to which a Chinese junk was tied, on the waterfront!

Blythipicus rubiginosus

The Malaysian Maroon Woodpecker

Vol. II., p. 107.

Top of the head, brown; upper parts, dark crimson; under parts, sooty black; bill, yellow. Males have a large bright crimson patch on each side of the nape.

Total length, about 9 in.; wing, 5 in.

Although numerous in the more secluded parts of the old forest in the lowlands, this woodpecker is not commonly found under other circumstances. The eggs have been taken in Perak from holes bored in dead trees.

*Meiglyptes tukki tukki***The Buff-necked Barred Woodpecker**

Vol. II., p. 110.

Picus tukki Lesson, *Rev. Zool.*, 1839, p. 167 (Sumatra).

Miglyptes tukki, Hargitt, *Cat. Birds. Brit. Mus.*, xviii., 1890, p. 388; Blandford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 53.

Meiglyptes tukki tukki, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 180; Stuart Baker, *Faun. Brit. Ind., Birds*, iv., 1927, p. 59.

Malay Name.—Bélatok (generic).

Description.—A small species, dull olive-brown in colour, narrowly barred whitish buff and olive below. Throat, black; a large whitish patch on either side of the neck. Male with a red moustachial stripe.

Adult male.—A broad malar patch, red; large patch on either side of neck, buffy white; a broad black gorget across lower throat. Under wing coverts and edge of wing, creamy white. Remainder of plumage, dingy brown faintly tinged with olive and faintly rusty on the centre of the breast, and except on the top and sides of the head and sometimes on the centre of the breast everywhere barred with thin pale buff lines, the barring closest on the throat. Wing quills spotted with buff on the edge of the outer web and boldly notched with paler buff on the edge of the inner webs except at the tips. Tail feathers spotted with buff on both edges. Lining of wing barred whitish buff and dusky. Occasionally there are a few scattered red feathers on the forehead.

Adult female.—Like the male, but without the red malar patch.

Immature.—Very like the adults, but rather greyer and less olive in general tone and with the black breast barred like the rest of the under parts. A young male has the forehead mixed with red.

Soft Parts.—Iris, reddish brown or red; upper mandible, black; lower mandible, grey to greenish black; feet, green-grey, grey-brown or brown.

Dimensions.—Total length, 7·8 to 8·55 in.; tail, 2·3 to 2·5 in.; wing, 3·8 to 4·25 in.; tarsus, 0·7 to 0·9 in.; bill from gape, 1 to 1·1 in.

Range in the Malay Peninsula.—The whole length of the Peninsula from north to south. Penang and Singapore Islands.

Extralimital Range.—The extreme south of Tenasserim. In Siam north only to Tazan, near Chumporn, in Peninsular Siam. Sumatra, Billiton, Borneo and the North Natuna Islands. Other subspecies have been described from South-West Borneo; Banguay Island, North Borneo; the Banjak and Nias Islands, West Sumatra.

Nidification.—Unknown.

Habits.—One of the commonest woodpeckers in the lowlands of the Peninsula and normally found in forest up to a height of about 2000 feet but sometimes rather higher. It is usually seen in pairs and is not difficult to collect, often allowing a close approach. Davison aptly describes the note as a "sort of rolling *kirr-r-r*."

*Meiglyptes tristis grammithorax***The Fulvous-rumped Barred Woodpecker**

Vol. II., p. 111.

Phaiopicus grammithorax Malherbe, *Monogr. Pic.*, ii., 1862, p. 12, pl. 48 (Malay Peninsula).

Miglyptes grammithorax, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 385 (pt.); Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 52 (pt.); Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 58 (pt.).

Meiglyptes tristis grammithorax, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 179.

Malay Name.—Bēlatok (generic).

Description.—A small woodpecker very like the last species (*M. tukki*), but the lower back and rump *white*, not barred. Upper parts very much more coarsely barred than the under parts.

Adult male.—Chin, lores and a ring round the eye, buffy white. Head, neck all round and breast, buffy white regularly and finely barred with black, the bars broadest on the breast. Moustachial stripe, red. Lower back and rump, white. Remaining upper parts, including tail, flanks, thighs and under tail coverts, black with narrow white bars, on the tail the bars broken in the middle on either side of the shaft. Wing quills, black, white at the base of the inner web; the outer webs on the edge spotted with white, the inner webs deeply notched with white. Abdomen, dark earthy brown with obsolete narrow creamy bars. Under wing coverts and edge of wing, creamy white.

Adult female.—Like the male, but without the red moustachial stripe.

Immature.—Very like adults, but the young male has a few red feathers on the forehead.

Note.—The plumage in this woodpecker is almost invariably soiled by contact with trees, and the colours are rarely so pure as described above. The white parts are usually isabelline or even pale rufous in patches, and not infrequently the whole plumage is smeared with resin.

Some authors have assumed that this species, like other members of the genus, is found in two phases of plumage, grey and brown, but I doubt if this is so. Fresh skins in good condition are almost white on the pale areas, but post-mortem changes will cause the plumage to become browner.

Soft Parts.—Iris, rich brown to red; bill, black; feet, greenish to greenish slate.

Dimensions.—Total length, 6.9 to 7.2 in.; tail, 1.8 to 1.9 in.; wing, 3.7 to 4 in.; tarsus, 0.75 to 0.8 in.; bill from gape, 0.85 to 0.95 in.

Range in the Malay Peninsula.—From north to south, including the islands of Junk Zeylon, Penang and Singapore.

Extralimital Range.—Extends north to the extreme south of Tenasserim and the adjacent parts of South-West Siam. In Sumatra, Borneo and the North Natuna Islands the species averages rather smaller (*M. t. micropterus*). A subspecies has also been described from Nias Island, West Sumatra. The typical form of the species is Javan.

Nidification.—I can trace no information beyond that published by Mr Stuart Baker concerning eggs found in a hole bored in a branch of a forest tree in Sarawak. The branch, about 4 inches in diameter, was a dead one but still fairly sound, and the entrance and tunnel combined were only about 3 inches long, while the chamber was about $3\frac{1}{2}$ inches deep and 3 wide, the entrance being about $1\frac{1}{4}$ inches. The nest was taken in March 1913. The two white eggs are described as stained a pale creamy yellow, and the measurements of one are given as 0.84 by 0.63 in. This note refers to the Bornean subspecies (*M. t. micropterus*).

Habits.—A common species in the lowlands on both sides of the Peninsula, being found wherever there is evergreen forest from the coast to the foothills, but rare even as high as 2500 feet. It is commonly found in pairs in old forest, but it also frequents secondary growth and is numerous in orchard-land, where, according to Robinson, it especially affects the trunks of the jack-fruit tree (*Artocarpus intergrifolia*).

Note.—Since the above was written, Mr V. W. Ryves informs me that he has taken a clutch of two eggs of this woodpecker, on 21st March, in Negri Sembilan. The entrance to the nesting hole was seven feet from the ground, in the dead stump of a large forest tree standing on the edge of a rubber estate.

Micropternus brachyurus squamigularis

The Malay Rufous Woodpecker

Vol. I., p. 155, pl. 13.

In both sexes the entire plumage is rufous-bay, broadly banded on the upper parts and on the abdomen with blackish. Throat streaked with blackish. Males have a small crimson patch below the eye.

Total length, about 9.25 in. ; wing, 4.6 in.

A common woodpecker in cultivated areas and secondary forest, and more numerous inland than near the coasts. It is often seen in gardens, but rarely in old forest. The allied subspecies nest in chambers excavated in the nests of tree-ants and termites, and this will no doubt prove to be the habit of the Malayan form also.

Mr A. T. Edgar has found the eggs in April in a hole, about fifteen feet from the ground, in a dead tree (*Phoenix*, a relative of the date-palm) in coastal scrub. The two white eggs measured 0.95 by 0.70 in. and 0.96 by 0.71 in.

Dinopium javanense javanense

The Golden-backed Three-toed Woodpecker

Vol. I., p. 153, pl. 13.

Back and wings, deep golden yellow, becoming bright red on the lower back and rump; tail, black; under parts, white, the feathers broadly edged with black, producing a boldly spotted or squamate appearance. Top of the head, bright red in males, black streaked with white in females. Three toes only.

Total length, about 10.75 in. ; wing, 5.3 in.

This beautiful species is one of the commonest of the Malayan woodpeckers. It is most numerous in the areas of cultivation and in the neighbourhood of villages on coconut-palms. In the vicinity of Singapore it is common in the thin forest backing the mangrove swamps. In the north of Peninsular Siam it becomes rather larger and is known as *D. javanense intermedium*.

From Lower Perak Mr A. T. Edgar records the nesting season as September, October ; and from January to July. He adds: "The nest-hole is generally fairly deep, in most cases twelve inches. A dead or dying coconut-tree is the favourite site, but any tree with soft wood will do." The three eggs measure about 1.0 by 0.73 in.

Chrysocolaptes guttacristatus chersonesus

The Golden-backed Four-toed Woodpecker

Vol. I., p. 156.

This species bears such a close superficial resemblance to *Dinopium javanense* described above that no further detailed description is necessary. The present species differs in the larger size ; the four, not three, toes ; in that the region of the lower jaw is white, crossed longitudinally by two thin black lines converging below the ear, not by one broad black stripe ; and in that the black crown of the female is boldly spotted, not streaked, with white.

Total length, about 11.75 in. ; wing, 6 in.

In the Malay Peninsula this form is known only from the extreme south, where it is not very common and usually found in the forest, old and secondary, not far from the sea. The nesting habits have never been described. In the north of the Peninsula the typical subspecies, *Chrysocolaptes g. guttacristatus*, which differs only in being slightly larger, is common on the coasts and coastal islands, but it has only been found as far south as the Langkawi Islands and Patani.

Chrysocolaptes validus xanthopygius

The Malaysian Orange-backed Woodpecker

PLATE 7

Vol. II., p. 110.

Chrysocolaptes xanthopygius Finsch, *Notes Leyden Mus.*, xxvi., 1905, p. 34 (Upper Mahakam River, West Borneo).

Chrysocolaptes validus (pt.), Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 458.

Chrysocolaptes validus xanthopygius, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 197.

Malay Name.—Bĕlatok (generic).

Description.—A large species with long, thin neck. Males with the crown and under parts, red ; rump, yellow ; wings, brown, banded with chestnut. Females are dull brown, with chestnut bands on the wings ; rump, white.

Adult male.—Top of head, including nuchal crest, crimson, the bases of the feathers blackish and often showing through. Hind neck, white, passing

into bright yellow on the concealed back and the rump. Upper tail coverts and tail, brown-black. Ear coverts and a thin line running down either side of the neck, clay-brown, sometimes washed with golden on the ear coverts. Lores, chin, malar region and sides of throat, dirty golden yellow mixed with dusky brown. Centre of throat, fore neck, breast and abdomen, deep crimson, the dark bases of the feathers often showing through, especially on throat and fore neck, the abdomen often tinged with golden. Flanks, thighs and under tail coverts, brown, irregularly and slightly tinged yellow or crimson. Mantle, scapulars and wings, dark seal-brown, almost black in fresh plumage, the wing quills, except the outermost primary and the innermost secondaries, crossed by three, visible, broad chestnut bands. Under wing coverts mixed brown and white and spotted with blackish.

Note.—The yellow rump is often washed, or flecked, with rich orange or flame-colour, and I have seen one male from Johore in which the back and rump were almost crimson as in the typical Javan race (*C. v. validus*).

Adult female.—Quite different; the red of the male replaced by dull grey-brown and the yellow by white. Top and sides of head, mantle and wings, dark seal-brown, the wing quills barred with chestnut as in the male. Hind neck, back and rump, pale white; upper tail coverts and tail, brown-black. Sides of throat, buffy white; centre of throat and remaining under parts, dull, uneven grey-brown.

Immature.—Young females are very like the adult females. The youngest male I have seen is like the adult female, but has the crown mixed with dull red and the rump with yellow.

Soft Parts.—Iris, yellowish brown, orange or crimson; orbital skin, greenish or brown; upper mandible, horny brown, or brown often with a pale tip; lower mandible, dull pale yellow, pale greenish yellow, yellowish brown or ivory; feet, greyish flesh, pale brown, greenish brown or yellowish brown.

Dimensions.—Total length, 11 to 12 in.; tail, 3.1 to 3.5 in.; wing, 5.9 to 6.3 in.; tarsus, 1.1 to 1.25 in.; bill from gape, 1.8 to 2.1 in.

Range in the Malay Peninsula.—From Nakon Sritammarat in Peninsular Siam down both sides of the Peninsula south to and including Singapore Island. Penang Island.

Extralimital Range.—Sumatra, Borneo and the North Natuna Islands. The typical form of the species is found in Java.

Nidification.—In Perak Mr A. T. Edgar has found eggs in January and June in holes in dead trees, about eighteen feet from the ground. The trees were in hillside forest. The two eggs are described by Mr Edgar as “fairly glossy and regular ovals. Shell moderately tough and measuring 1.01 and 1.06 by 0.8 in.”

Habits.—A common and very noisy bird, usually met with in pairs in old forest. It ascends the foothills to a height of about 3000 feet, but is rare at such an altitude. It is now very rare in Singapore, but one or two still frequent certain districts where there are tall trees.

The birds figured in the plate are a male from Jurong, Singapore Island, and a female from Kledang Hill, Perak.

*Hemicircus concretus sordidus***The Malay Grey-and-Buff Woodpecker**

Vol. II., p. 111.

Dendropicus sordidus Eyton, *Ann. Mag. Nat. Hist.*, xvi., 1845, p. 229 (Malacca).

Hemicircus sordidus, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 483 (pt.); Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 68.

Hemicircus concretus sordidus, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 197; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 83.

Malay Name.—Bĕlatok (generic).

Description.—A small woodpecker with the upper parts boldly chequered black and white; rump, white; head and under parts, dark grey; top of head, red in males, grey in females.

Adult male.—Forehead and crown, bright red; head, including a long nuchal crest, neck (except the hind neck which is narrowly white) and under parts, clear mouse-grey washed with buff on the abdomen and paling to whitish buff on vent and under tail coverts. An obsolete whitish-buff narrow line starting below the ear runs along the sides of the neck. Thighs with a few large black spots. Mantle, scapulars and wing coverts, black margined with white, the basal half of the feathers white with a broad black cross-bar. Concealed part of the upper back, mouse-grey; rump, white; upper tail coverts, black with white margins; tail quills, black. Wing quills, black sharply but narrowly white on the edge of the inner web except at the tip. Inner secondaries, black heavily indented with white; the innermost feather, white with two, or three, broad black bars or large heart-shaped spots. Under wing coverts and edge of wing, white.

Adult female.—Like the male but without the red crown, the head being entirely grey.

Immature.—Young birds of both sexes have the top of the head pale rufous-buff irregularly barred with dusky, brightening to pink tipped with dusky on the nuchal crest, which is quite as long as, if not longer than, in adults and more hair-like in character. Under parts from the breast downwards and back indistinctly barred with buff.

Soft Parts.—Iris, reddish brown to red; upper mandible, grey-black; lower mandible, grey, tip black; feet, blackish olive to grey-black.

Dimensions.—Total length, about 5.25 in.; tail, 1 to 1.1 in.; wing, 3.2 to 3.5 in.; tarsus, 0.6 in.; bill from gape, 0.8 to 1 in. Within these ranges the females are usually on the small side.

Range in the Malay Peninsula.—The lowlands on both sides of the Peninsula from Nakon Sritammarat and Trang in Peninsular Siam south to and including Singapore Island and the islet of Pulau Ubin in the Straits of Johore. There is an old record from Penang.

Extralimital Range.—North to the south of Tenasserim. Another, almost indistinguishable, subspecies is found in Sumatra, Banka and Borneo. The typical race is Javan.

Nidification.—The only information I have is a note sent by Mr A. T. Edgar: " July 1936, ' The Gap,' Selangor, 2800 ft. In a tall dead stump in a gully were four nest-holes about thirty feet from the ground, near the top of the stump. In one of these a bird was sitting, very close. It only moved when a stone struck the stump just below the nest. Another bird, lower down, in another hole, left as soon as I approached the tree."

Habits.—Although not rare this small woodpecker is one of the least common of the family in the Malayan lowlands, where it is usually seen in pairs in forest, especially where there is bamboo, and secondary growth where some tall trees have been left standing. It is more essentially a lowland form than many Malayan woodpeckers that follow the submontane jungle up the mountain sides to an altitude of several thousand feet. Most skins of this species are discoloured with a yellowish greasy stain in the centre of the back, where a tuft of feathers, usually soiled with a resinous substance, seems to indicate the presence of a gland which, however, has not yet been shown to exist.

Hemicircus canente canente

The Heart-spotted Woodpecker

Picus canente Lesson, *Cent. Zool.*, 1832, p. 215 (Pegu)

Hemicircus canente, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 486; Oates, in Hume's *Nests and Eggs Ind. Birds* (2nd ed.), ii., 1890, p. 314; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 69; Oates, *Cat. Birds' Eggs, Brit. Mus.*, iii., 1903, p. 157.

Hemicircus canente canente, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 198; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 83; Stuart Baker, *Nid. Birds Ind. Emp.*, iii., 1934, p. 312.

Malay Name.—Belatok (generic).

Description.—A small species; black above with much white on the wings; grey below; top of the head white in females. A long nuchal crest.

Adult male.—Sides of head and upper parts from forehead to lower back, velvety black, becoming duller on the lower back; forehead and front part of crown, minutely spotted with white; rump and a concealed patch on the upper back, white; upper tail coverts and tail, black, the tail coverts very narrowly fringed with white. Chin and throat, creamy white, continued as a broad band on either side of the neck and enlarging as a small patch, margined with large irregular black spots, on the sides of the upper breast. Abdomen, thighs and under tail coverts, black; remainder of under parts, blackish grey with an olive wash. Under wing coverts and edge of wing, white. Lesser wing coverts and inner feathers of the other series of coverts, white; winglet and remaining coverts, black margined with white, and white at the base on the inner webs. Inner secondaries, white with two or three broad black bars, the bars sometimes broken into two large spots. Wing quills, dull black, narrowly whitish on the inner web at the base.

Adult female.—Like the male, but with the forehead and crown creamy white.

Immature.—In both sexes young birds are very like the adult female, but are blacker on the under parts.

Soft Parts.—Iris, brown or reddish brown; bill, black; feet, leaden black or black, sometimes with a greenish cast.

Dimensions.—Total length, 5.9 to 6.3 in.; tail, 1.25 to 1.3 in.; wing, 3.7 to 3.9 in.; tarsus, 0.65 to 0.7 in.; bill from gape, 1.1 to 1.15. Females seem to run very slightly smaller (bill from gape, 0.9 to 0.1 in.), but the series of Peninsular birds examined is not large.

Range in the Malay Peninsula.—A continental species occurring only in the extreme north of our area. Specimens have been obtained at Kasoom, on the mainland opposite Junk Zeylon; and at the Pakchan estuary.

Extralimital Range.—North through Siam, Burma, Cachar and Manipur to Assam south of the Brahmaputra, Cochin-China north through Annam to French Laos. An isolated subspecies occurs in South India (Malabar, Travancore, etc.).

Nidification.—There is no record from the Malay Peninsula. Elsewhere the white eggs, which are deposited in holes in dead or living trees, are said to number two or three and to measure about 0.9 by 0.7 in.

Habits.—I have never seen this woodpecker in the field and know nothing of its habits from first-hand observation. In Siam, according to Count Nils Gyldenstolpe, it is found in both thick, evergreen jungles and in open deciduous forests.

Davison, who studied the species in Tenasserim, wrote: "The Burmese Heart-spotted Woodpecker, though widely diffused, is nowhere common. It is chiefly met with in moderately thin jungle and clearings, in pairs, sometimes in families, and is very sprightly in its movements. It has a peculiar note, a sort of long-drawn *chur-r*, which it constantly utters as it moves about the branches, and by which it often betrays its presence. Both sexes of this species, like *H. cordatus* [the South Indian race], bear tufts of bristly feathers in the middle of the back, which are usually covered with a gummy substance, which has a very strong, peculiar, somewhat resinous, but decidedly pleasant smell. Both the viscosity and the scent completely disappear after the specimen has been preserved a short time."

Mülleripicus pulverulentus harterti

The Great Slaty Woodpecker

Vol. II., p. 101.

Mülleripicus pulverulentus harterti Hesse, *Ornith. Monatsb.*, xix., 1911, p. 182 (Assam).

Hemilophus pulverulentus, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 494; Oates, in Hume's *Nests and Eggs Ind. Birds* (2nd ed), ii., 1890, p. 315; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 71.

Alophonerpes pulverulentus, Oates, *Cat. Birds' Eggs, Brit. Mus.*, iii., 1903, p. 157.

Mülleripicus pulverulentus harterti, Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 198; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 86; Stuart Baker, *Nid. Birds Ind. Emp.*, iii., 1934, p. 314.

Malay Name.—Bĕlatok (generic).

Description.—A very large species ; slaty grey with a dull yellow throat.

Adult male.—A short broad moustachial stripe, pale red ; chin, throat and upper fore neck, dull yellow and sharply defined, sometimes tinged with red on the fore neck. Remainder of plumage, slaty grey, palest on the head and darkest, almost black, on wing and tail quills ; lower abdomen and under tail coverts inconspicuously mixed with dull buff ; breast with tiny scattered whitish-buff spots which become slightly larger and obsolete on the remaining under parts. Top and sides of head behind ear coverts and nape covered with inconspicuous small pearl-grey spots.

Note.—It has been suggested that the red tinge on the throat is a sign of the breeding season, but further observations on this point are needed.

Adult female.—Like the male but without the red moustachial stripe.

Immature.—Young birds are unspotted below and have the throat a much paler yellow. Young males also differ from adults of the same sex in having the entire malar region, forehead and fore part of the crown crimson.

Soft Parts.—Iris, brown ; bill, pale horny white or slate-colour ; culmen and tip black ; base of lower mandible blue-grey or greenish grey ; feet, slaty, back of tarsi and soles, dirty yellow. Davison records that the irides can be “ dull leaden blue or deep brown.”

Dimensions.—Total length, 19.5 to 20.25 in. ; tail, 5.2 to 6.5 in. ; wing, 8.9 to 9.4 in. ; tarsus, 1.4 to 1.6 in. ; bill from gape, 2.7 to 3.1 in. in males and 2.6 to 2.9 in. in females.

Range in the Malay Peninsula.—The lowlands on both sides of the Peninsula from the Isthmus of Kra to Singapore Island. The small coastal island of Lontar off the west coast of Siam. The islands of Junk Zeylon, Terutau, Langkawi and Penang.

Extralimital Range.—North through Siam and Burma to Manipur, Assam and west to the Terai and Oudh. Annam and Cochin-China. The *species* is also found throughout Malaysia on all the large land-masses and on some of the smaller islands as well. It also occurs in Palawan. Within this extensive range I am not quite certain of the subspecific subdivisions, but doubt if all continental birds should be called *harterti*. Those from the north of the Peninsula are approaching *harterti*, but birds from the south are darker. I have never been able to compare good series of this woodpecker from the Malaysian Islands.

Nidification.—The eggs, which measure about 1.5 by 1.2 in., are laid in a hole excavated in a large tree, usually a long way from the ground. The few nesting sites I have seen, all in Johore, have been at least thirty feet from the ground in tall trees left standing among shorter secondary growth. One was just below the bifurcation of a large *Lumnitzera* tree standing not far from the sea behind a thin belt of mangrove. Both sexes assist in making the hole. I have never been able to make sure that the occupied holes seen by me contained eggs.

From Lower Perak Mr A. T. Edgar writes: “ Nests in July and August. A pair excavated a nest in a ‘ perepat ’ tree in the mangroves but eventually

used another hole which had previously housed a roller and an owl. Two nestlings left the nest on 9th August. Another pair started work on a hole in a dead coconut-palm in a valley surrounded by jungle-clad hills on 12th July. On 16th August I took two fresh eggs from a hole thirty feet up this tree: the entrance was six by five inches, the nest-hole twenty inches deep and unlined. Later in August there was a nest with young birds high up in a hole in a living tree in swamp jungle."

Habits.—This large woodpecker is fairly common in the lowlands of the Malay Peninsula but inclined to be local in distribution. In the experience of the Museum collectors it is, for instance, commoner in Pahang and parts of Negri Sembilan than in Perak or Selangor. In Johore it is quite common. In the Malay States it is usually met with in fairly open, especially swampy, country, but it also occurs in the tall old forest of the foothills. I have usually seen it in pairs, but other observers comment on its semi-social habits and mention parties of a dozen or more. When feeding the two birds of a pair will keep close together, not only working on the same tree but sometimes almost side by side. They move up and down and round the trunks of the trees in a sprightly manner, hopping backwards down the tree almost as often as forwards and standing well away from the trunk supported by the tail well pressed down. Pieces of bark can be seen flying off in all directions. The birds are by no means shy and sometimes I have approached close to the base of a large tree on which they were working at the top, the birds appearing to exercise only a reasonable caution by playing a game of hide-and-seek, that is by keeping on the opposite side of the tree bole.

This woodpecker has the usual wild, laughing cry of the family, with a specific distinction easy to recognize but difficult to describe. I should, however, describe it as a fairly silent bird, and although large it can remain on a tree, close at hand, undetected for a long time. When feeding it also utters a low, single and rather pleasant note, for which I cannot find a word. I once watched a pair digging a hole in a tall tree. In the first place the birds may have taken advantage of an old hole or weak spot in the trunk, but they had enlarged it so much that the cross-section of fresh wood, several inches thick, could be seen on one side. The workman-like methods of both male and female were amusing to watch. Standing well braced on their feet and tail they would deal the tree a series of shrewd blows, and the resounding whacks could be heard some distance away. The chips of wood were falling about the base of the tree and sometimes the blow was so hard that the bird had a little difficulty in disengaging the point of the bill!

Dryocopus javensis javensis

The Malaysian Great Black Woodpecker

Picus javensis Horsfield, *Trans. Linn. Soc.*, xiii., 1821, p. 175 (Java).

Thriponax javensis, Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 498; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 74.

Thriponax javensis javensis, Robinson and Kloss, *Journ. Nat. Hist. Soc.*

Siam, v., 1922, p. 199; Stuart Baker, *Faun. Brit. Ind., Birds*, iv., 1927, p. 88.

Macropicus javensis leucogaster, Stuart Baker, *Nid. Birds Ind. Emp.*, iii., 1934, p. 316.

Malay Name.—Bělatok (generic).

Description.—A very large species. Breast and upper parts, black; belly, white; crest, red.

Adult male.—A broad, short malar stripe and top of head, including a short nuchal crest, bright red. Head, neck, breast and entire upper parts, including wings and tail, glossy black, faintly blue in certain lights; the black breast sharply defined against the abdomen; lower breast feathers fringed with creamy white. Secondaries white at base of inner webs and primaries often with a white spot at the extreme base of the inner web. Flanks, abdomen and axillaries, white. Thighs, white, spotted and barred with black; under tail coverts, black. Throat, upper fore neck and sides of head behind ear coverts flecked with white. Inner under wing coverts, white; outer coverts and edge of wing, black. Sometimes there is a small, terminal white spot on some of the outer primaries.

Adult female.—Differs from the male in having the red on the head restricted to the hinder crown and crest.

Immature.—Young birds of both sexes are at first very like the adult female, but the throat, a narrow area running back from the gape and the hinder ear coverts are streaked with white, not merely finely flecked as in the adult. I have seen only one juvenile male (sexed by *Kloss*).

Soft Parts.—Iris, pale yellow; bill, black; feet, greyish black.

Dimensions.—Total length, 17.3 to 18 in.; tail, 5.7 to 6.3 in.; wing, 8.5 to 9 in.; tarsus, 1.25 to 1.4 in.; bill from gape, 2.3 to 2.5 in.

Range in the Malay Peninsula.—The whole length of the Peninsula from north to south, including the islands of Junk Zeylon, Penang and Singapore.

Extralimital Range.—The south of Tenasserim. A specimen from Trang in Peninsular Siam has some of the feathers of the rump narrowly tipped with white, thereby showing an approach to the northern *D. j. feddeni*, which occurs as far south as Koh Lak on the Siamese side of the Peninsula. Sumatra and the adjacent small islands; Borneo and the adjacent small islands; the North Natuna Islands; Java and Bali. Within the Malaysian sub-region subspecies have also been described from the small islands of Nias and Simalur off the west coast of Sumatra. Very closely allied races occur on some of the Philippine Islands, and other forms in which the rump is white, occurring on other Philippine Islands and in India, Burma, etc., can be regarded as subspecies.

Nidification.—No record from the Malay Peninsula. In Borneo it has been found nesting in a hole in a tree standing in forest.

Habits.—Although not rare this large woodpecker is very locally distributed in the Malay Peninsula, where it is found in such varied situations that its choice is difficult to epitomize beyond that it is clearly a low-country form. I have often seen it in mangrove and also in small parties in coconut groves in Johore. Specimens are obtained more often in the swamp forest

of the lowlands than in the old, tall forest of the foothills. It has been seen in the Botanic Gardens at Singapore.

Sasia abnormis everetti

The Malaysian Rufous Piculet

Vol. II., p. 114, pl. 8.

Back and wings, olive-green; rump, brownish orange; tail, black. Under parts, orange-rufous. Forehead, yellow in males, rufous in females. Young birds are dull olive-green with a black tail.

Total length, 3.5 in.; wing, 2.1 in.

This diminutive woodpecker is a bird of the lowland and submontane forest, especially where bamboo is abundant. It is much rarer in thin and secondary forest than in the old forest of tall trees. The eggs are laid in bamboos, but there is no record of the nidification from the Malay Peninsula.

Sasia ochracea reichenowi

The Indian Rufous Piculet

Sasia ochracea reichenowi Hesse, *Orn. Monatsber*, xix., 1911, p. 181 (Burma); Robinson and Kloss, *Journ. Nat. Hist. Soc. Siam*, v., 1922, p. 200; Stuart Baker, *Faun. Brit. Ind., Birds* (2nd ed.), iv., 1927, p. 97.

Sasia ochracea (pt.), Hargitt, *Cat. Birds, Brit. Mus.*, xviii., 1890, p. 555; Blanford, *Faun. Brit. Ind., Birds*, iii., 1895, p. 77.

Malay Name.—Unrecorded. Perhaps *bĕlatok kĕchil*.

Description.—A tiny woodpecker-like bird, rufous-olive above and rufous-orange below; distinguished from the allied species, the Malaysian rufous piculet (*Sasia abnormis everetti*), by the possession of a white stripe above and behind the eye. Tail, soft, not spinous as in the true woodpeckers. A broad area round the eye, naked.

Adult male.—Forehead, golden yellow, separated from the dingy olive crown by a band of orange-rufous. Mantle, back and scapulars, rufous-olive becoming almost orange-rufous on the rump. Upper tail coverts and tail, black. Wings, dingy olive becoming rufous-olive on the inner secondaries; concealed parts of wing quills, smoky black narrowly whitish on the inner webs at the base. Sides of face and entire under parts, orange-rufous. Lores, blackish. A broad white stripe behind and above the eye. Axillaries and under wing coverts, white.

Adult female.—Like the male but the forehead rufous, not golden yellow.

Immature.—No immature birds have been examined, but according to Hargitt they have the plumage very much duller than in adults, the top of the head dusky olive and the forehead, at most, varied with a few rufescent feathers.

Soft Parts.—Iris, red; orbits, dark slate to black; upper mandible, black; lower mandible, pale grey; feet, yellow (*Robinson*).

Dimensions.—Total length, about 3.3 in.; tail, 0.8 to 0.85 in.; wing, 2.05 to 2.15 in.; tarsus, 0.4 in.; bill from gape, 0.55 in.

Range in the Malay Peninsula.—Found only in the extreme north in the vicinity of the Pakchan estuary.

Extralimital Range.—Extends north through Siam and Tenasserim to the South Shan States and most of Burma: also through East Siam to Central and South Annam and Cochin-China. Replaced by other subspecies from Garhwal and Nepal to Assam; in Eastern Bengal, North-West Burma, the northern parts of French Indo-China and in Kwangsi.

Nidification.—The nesting habits of the present subspecies have not been specifically recorded, but the related races are said to lay from two to four rather round, white eggs in a hole in a tree, or more often in a bamboo. The eggs measure about 0.63 by 0.5 in.

Habits.—I have never seen this bird in the field and therefore quote Davison's admirably concise account of the bird's habits in Tenasserim: "It keeps to the undergrowth and secondary scrub and bamboo jungle, working about the fallen logs. It is astonishing what a loud sound one of these little fellows can produce when tapping a bamboo. I have more than once thought that it must have been some large Woodpecker, and was astonished that I could not see it, and when at last I did discover the tiny object, I felt as much astonished at the sound it was able to produce, as it was at my sudden advent. It is very fond of knocking about in low brushwood. I do not know its call, nor do I think I ever heard it. It is usually alone, but sometimes pairs are met with."