WOODPECKERS

Order PICIFORMES

Vol. I., p. 150.

This order, whose characters have been briefly outlined in the first volume of this work, is very numerous both in species and individuals in the high hills of the Malay Peninsula, and several species are absolutely confined to the regions above 3000 or 3500 ft., these being in most cases subspecifically distinct from corresponding forms in Tenasserim, the Himalayas or Sumatra, which latter island has also two forms peculiar to higher altitudes, one of which is extremely distinct. In this connexion it is worthy of note that the great island of Borneo, with its lofty mountains, possesses no indigenous hill races, though its lowland districts are very rich in woodpeckers.

The Peninsular indigenes find their nearest relatives in Indian and Tenasserim forms, and one genus, *Gecinulus*, does not extend into the Indo-Malayan Archipelago.

Woodpeckers, as a rule, are somewhat rigidly confined to their own special type of country, and species that affect open spaces, the coastal lands, orchards, and the like, are rarely found in the heavy jungle, with which the hills are covered. The converse is also true, and the real jungle species will occur but seldom on rubber estates or in the immediate vicinity of towns, even if there is forest in the neighbourhood. Species are also much reduced in numbers on islands, even the larger ones, such as Singapore or Penang, and do not occur at all on small islands, such as, for instance, those of the Tioman Archipelago.

Following the practice adopted in other families I have deferred full description of those birds that are of rare or occasional occurrence in the hills, but have included them in the key.

Woodpeckers differ slightly in the sexes, the male usually having an increased amount of red on the head, and in many cases a red stripe on the jaw, not present in the female; it has not been considered necessary, however, to increase the length and complexity of the key greatly merely to demonstrate these minor differences.

The following is a key to the species of Malayan woodpeckers found above an altitude of 2500 ft.:

KEY TO THE SPECIES

ſ	Tail feathers with stiff shafts,	ŧ
I	narrowing to needle-points . Tail feathers with flexible shafts,	2
	normal	15
_ [Toes, four	3
²)	Toes, three	14
3	Large birds; wing over 8.5 in.;)	Mulleripicus pulverulentus harterti,
	general colour, dark grey	p. 101
	Smaller birds; wing less than	
(6'5 in.; general colour, various .	4
	Primaries, uniform; neck very	
4	constricted	Hemicircus concretus sordidus, p. 111
	Primaries, spotted or banded on	
	one or both webs	5
5	With more or less green in plumage	6
5	With no clear green in plumage .	10
	Whole lower surface quite uniform;	Diena agama nahimaani p. 101
	uncrested	Picus canus robinsoni, p. 101
	Whole lower surface strongly cross-	Callolophus miniatus malaccensis,
6 -	barred; with a mixed red-and-	-
	yellow crest Under surface not completely	p. 104
	uniform, but nearly so; with a	
	yellow nuchal crest	7
	Throat, more or less chequered;	,
	no scarlet in plumage	9
7	Throat, uniform dark brown; head	
	with some scarlet	8
	Wing coverts and secondaries, mainly	
8	crimson	Picus puniceus continentis, p. 104
O	Wing coverts and secondaries, mainly	
	green	Picus chlorolophus rodgeri, p. 102
	Lower throat, blackish	Chrysophlegma flavinucha wrayi,
9	}_	p. 105
,	Lower throat, with a large rufous	Charachliana mantala hamii p. 707
	chestnut patch	Chrysophlegma mentale humii, p. 107
10	Back, unbarred	11 12
	Back, cross-barred	Chrysocolaptes validus xanthopygius,
	Kump, winte of orange-yenow .	p. 110
ΙI	Rump, dark maroon-crimson	Blythipicus rubiginosus, p. 107
	Rump, dark brown	Blythipicus pyrrhotis cameroni,
		p. 108

1	Rump, uniform cream	Meiglyptes tristis grammithorax,
12{		p. 111
1	Rump, barred like back	13
	Smaller; colour blackish brown,	,
T 2	barred with buff	Meiglyptes tukki tukki, p. 110
10)	barred with buff	Micropternus brachyurus squami-
	with black	gularis, p. 110
	Smaller; throat like the breast .	Gecinulus viridis robinsoni, p. 111
14-	Larger; throat brownish buff, much	Chloropicoides rafflesi peninsularis,
	paler than the breast	p. 112
	Under surface, white, profusely	Picumnus innominatus malayorum,
+-	spotted with black	р. 114
15	Under surface, rufous, or dark green	
		Sasia abnormis everetti, p. 114

Mulleripicus pulverulentus harterti

The Great Slaty Woodpecker

Malay Name.—Bělatok gajah or bělatok kělabu.

General colour, slaty grey; the feathers of the head, which are very short and close-set, with small paler tips; throat and upper neck, a pale buffy yellow, tipped or tinged with crimson in the male, which has also a pale crimson stripe on the jaw. Size, the largest of all Asiatic woodpeckers, rather over 20 in. in total length.

It is with some hesitation that I have included a reference to this species in the present volume. It is widely distributed throughout the Peninsula, but in the south, at least, frequents open and often swampy jungle in the low country, though it occurs in the hills of Peninsular Siam at some height. In parts of Pahang and the east of Negri Sembilan it is more abundant than in either Selangor or Perak. Contrary to the habits of most of its family, it is semi-social, and travels in parties of up to a dozen or more. It frequents high trees and is extremely noisy, both in voice and when hammering for insects, on tree-trunks. Flight is clumsy, with a rattling of the wings, and the bird has been more than once mistaken for a small hornbill.

Picus canus robinsoni

The Tahan Black-naped Green Woodpecker

Gecinus robinsoni, Ogilvie-Grant, Bull. Brit. Orn. Club., xix., 1906, p. 10; (Gunong Tahan); id. Journ. Fed. Malay States Mus., iii., 1908, p. 42, pl. 2; Robinson, op. cit., ii., 1909, p. 181.

Malay Name.—Pělatok or bělatok gunong.

Description.—Adult male.—General colour above, very dark olive-green, more bronzy green on the wing coverts and outer aspect of the wings; the rump flecked with bright, pale greenish yellow. The primaries, brownish black, with irregular bars of white, except on the tips, becoming broader and

more numerous on the inner primaries and secondaries, and clearer on the inner aspect of the wing; under wing coverts and axillaries regularly barred with white and blackish. Lores, a broad stripe over the eye, the extreme forehead, back of the head and nape and a long malar stripe, black, the bases of the feathers, grey; a triangular dark crimson patch on the crown; sides of the head and neck, pure dark grey; throat, grey; rest of the under surface darker grey, with a very strong wash of dark olive-green; tail feathers, brownish black, edged longitudinally with dark greenish grey, and with indications of paler cross-bars on the centre pair, visible only in certain lights.

Adult female.—Differs from the male only in having the crown entirely black, with no red.

Soft Parts.—Iris, reddish chestnut or brown; bill, black; feet, greenish lead.

Dimensions.—Total length, about 11'5 to 12 in.; wing, 5'2 to 5'5 in.; tail, 3'9 to 4'3 in.; tarsus, 1'1 to 1'2 in.; bill from gape, 1'85 in; culmen, 1'15 to 1'5 in.

Nidification.—Unknown.

Habits.—This fine woodpecker is known only from five specimens, all obtained on Gunong Tahan in Pahang: four on the plateau at between 5300 to 6000 ft., and another on the lower slopes at rather over 3000 ft. Little is known about it; the original pair were shot on a tall Pandanus, another pair among coniferous trees on Padang Luas on the opposite side of the Teku river from the encampment, and a fifth in evergreen vegetation. The habits are described as being those of Chrysophlegma wrayi, and the bird is said to be very noisy, but I have never seen it in life, the whole series having been obtained by our Dyaks. The bird must be exceedingly rare, as it has been searched for at intervals for many years, and the specimens recorded are the only ones that have ever been seen, though, curiously enough, feathers were constantly picked up on the stony slopes. Possibly it is normally a resident on the more heavily wooded northern slopes of Gunong Tahan, which have been little visited.

The species is closely related to *Picus canus occipitalis* (=barbatus, auct.), found in the Himalayas, and to many other continental forms ranging from Europe to China, Yunnan and Japan, and south to French Indo-China, but is a very much darker bird than any of these. It is represented on the high mountains of Sumatra by a form in which the green tints are replaced throughout by dark red, *P. c. dedemi*, van Oort.

Information on the breeding habits is much desired; quite possibly it will be found nesting in holes bored in *Pandanus* or in *Livistona* palms, which on Tahan attain a very large size.

Picus chlorolophus rodgeri The Malayan Small Yellow-naped Woodpecker

PLATE 5 (right hand, male; left, female)

Gecinus rodgeri, Hartert and Butler, Nov. Zool., v., 1898, p. 508 (Gunong Ijau, Perak); Ogilvie-Grant, Journ. Fed. Malay States Mus., iii., 1908, p. 42.

Gecinus chlorolophus (nec Vieill.), Sharpe, P.Z.S., 1887, p. 443; Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 69.

Picus chlorolophus rodgeri, Meinertzhagen, Bull. Brit. Orn. Club, xliv., 1924, p. 56.

Description.—Adult male.—Middle of crown to nape, dark olive-green; rest of upper surface rather lighter olive-green, washed with yellowish on the rump and upper tail coverts; wing coverts and inner secondaries more bronzy green, the former with dark edges; primaries, brown, the outer webs unspotted, the inner webs with rounded white spots, increasing in size towards the base, the terminal third unspotted; all except the outer two primaries and the outer secondaries edged with pale red, deeper towards the base, decreasing in amount on the secondaries, which have also an edging of olivegreen; under wing coverts and axillaries, yellowish white, blotched with olive-green; tail feathers, blackish, browner towards the base, where they are edged with olive-green. Nasal plumes and upper lores, blackish; forehead, crimson, a narrow superciliary line almost meeting on the occiput also crimson; elongate nuchal crest, rich chrome-yellow, some of the longer feathers tinged with orange; lower lores, and an ill-defined stripe below the eye, whitish, mixed with olive; below this a crimson malar stripe, mingled with brown; ear coverts, greyish olive, with very fine, whitish shaft streaks. Beneath, dark olive-brown; feathers of the throat often with whitish bases; the flanks more greenish, with irregular spots and bars of whitish; thighs, dark brown, barred with white.

Adult females.—Differ from the male in having no crimson on the forehead, the crimson stripe on the side of the head only commencing behind the eye; the malar stripe is silky white, very conspicuous and broader behind.

Immature.—Without any crimson on the head and jaw, and very much more spotted and banded with whitish beneath.

Soft Parts.—Iris, crimson to reddish brown; bill, dark bluish slate; blackish on culmen and at tip, and generally yellowish at the base; feet, plumbeous green, strongly tinged with brown.

Dimensions.—Total length, 9 to 10 in.; wing, 4'9 to 5'1 in.; tail, 3'3 to 3'6 in.; tarsus, 0'85 in.; bill from gape, 1'1 in.; culmen, 0'95 to 1'05 in. Females are perhaps a little smaller than males, but no large series is available.

Range in the Malay Peninsula.—From the north of Perak to the south of Selangor.

Extralimital Range.—The race described is peculiar to the Malay Peninsula, but the species, as a whole, has a very wide range, from the Western Himalayas, Southern India and Ceylon, throughout Burma and Siam to French Indo-China, Yunnan, Hainan and also Sumatra. Usually a hill-country bird.

Nidification.—That of this race is, as yet, unknown. Allied forms breed in March and April in tunnels excavated in rotten trees and branches thereof, often quite close to the ground. The eggs are white, fine-grained and slightly glazed, and from three to five constitute a clutch. Eggs of the typical race,

P. c. chlorolophus, average 1 16 by 0 85 in.; of the Siamese race, P. c. chloro-

lophoides, 0.95 by 0.71 in. (Baker).

Habits.—This species replaces Picus puniceus continentis in the hills, above about 3000 ft., below which it is never found. It occurs in the Larut Hills and along the main range to Gunong Menang Gasing, south of Ginting Bidei in Selangor, but is not found on Gunong Tahan in Pahang. Nowhere is it particularly common. It is met with singly or in pairs amongst the smaller trees, in the undergrowth and often on fallen timber and dead trees in windfalls, but never, so far as is known, on the ground. In my experience it is not a noisy bird, but has the low, chattering note recorded of the Indian races by Stuart Baker.

Picus puniceus continentis

The Malay Crimson-winged Woodpecker

Very similar to the preceding species and approximately the same size, but differing in having the whole of the crown deep crimson; the longer feathers of the crest, pale lemon, not centred with green; the whole of the wing coverts and the outer webs of the secondaries, crimson, not partially green; under surface, deep olive-brown, shot with dark green in certain lights. The female differs from the male only in lacking the crimson stripe on the jaw.

Very common throughout the lowlands of the Peninsula up to about 3000 ft., and occasionally rather higher, and also in Singapore Island. Replaced in Java, Sumatra and Borneo by extremely closely allied subspecies, differing mainly in size, and the deep green tint of the rump and upper tail coverts.

Callolophus miniatus malaccensis

The Malayan Banded Red Woodpecker

Picus malaccensis, Latham, Ind. Orn., i., 1790, p. 241 (Malacca).

Chrysophlegma malaccense, Sharpe, P.Z.S., 1887, p. 442; Hargitt, Cat. Birds, Brit. Mus., xviii., p. 122; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 183.

Callolophus malaccensis, Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 29. Callolophus miniatus malaccensis, Robinson and Kloss, Journ. Nat. Hist. Soc. Siam. v., 1923, p. 188; Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 26.

Malay Name.—Pělatok or bělatok merah.

Description.—Adult male.—Bill, short and broad, rather flattened at base; with a lengthened occipital crest of lanceolate feathers. Lores and nasal plumes, dark brown; crown and nape, pale crimson, the longer crest feathers, lemon, irregularly barred with fuscous; upper mantle, back and rump, olivegreen, irregularly barred with buff, and occasionally flecked with red; lower back and rump streaked with pale yellow; longest upper tail coverts, blackish brown; scapulars, inner upper wing coverts, outer webs of inner primaries

and secondaries, deep crimson; primary coverts and primaries, dark brown, the latter notched with pale buff on the outer webs, and with large, pale buff spots on the inner webs; under wing coverts and axillaries, spotted or barred dark brown and pale buff; tail feathers, black. Sides of the head, rich brown, slightly speckled with blackish and white, and washed with crimson; throat and upper breast, rusty brown, the feathers often with paler edges, producing a scaly effect; the rest of the under surface with wavy bars of dark chocolate-brown and pale rufous buff, the bars more regular and broader on the flanks.

Adult female.—Forehead, sides of the face and chin, speckled brownish, black and dirty-white, with no crimson wash. Rufous brown of upper breast less uniform.

Immature.—Much duller than the adult; crown, dark brown, with scarlet tips to the feathers; mantle, barred with dark brown and buff. Below, with the bars much broader, the pale bars dull brown, not whitish buff; chin and throat, dull brown, with no rufous or brick-red tinge.

Soft Parts.—Iris, crimson, bright red or reddish brown; orbital skin, slaty black; upper mandible, black; lower, bluish slate; feet, greenish slate, plumbeous, or "glaucous green" (*Davison*). *Immature*: gape and tip of bill, pale horn.

Dimensions.—Total length, 10 to 10.5 in.; wing, 4.8 to 5.2 in.; tail, 3.4 to 3.6 in.; tarsus, 0.9 to 0.95 in.; bill from gape, 1.1 to 1.25 in.; culmen, 1 to 1.15 in.

Range in the Malay Peninsula.—Throughout its whole length, and in Singapore and Junk Zeylon islands; not recorded from Penang, but probably occurring there.

Extralimital Range.—Extending for a little way into Southern Tenasserim and in Sumatra. Allied races occur in the northern parts of Peninsular Siam, Java and Borneo.

Nidification.—Quite unknown

Habits.—This species has a wide range in altitude, and is not uncommon on Cameron's Highlands and on Fraser's Hill, and also on the lower ranges in Negri Sembilan and Johore. It also occurs, though not numerously, in the mangrove swamps. It is, of course, commonest in heavy, primeval jungle, where it frequents the lower trunks and occasionally fallen timber. It is met with quite often in pairs, and not infrequently singly, but not in parties of four or five as is the case with some of the smaller woodpeckers. It is not a particularly noisy species.

Chrysophlegma flavinucha wrayi

Wray's Yellow-naped Woodpecker

Chrysophlegma wrayi, Sharpe, P.Z.S., 1888, p. 279; Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 130, pl. 2; Bonhote, P.Z.S., 1901 (1), p. 71; Grant, Fascic. Malay., Zool., iii., 1906, p. 100; id. Journ. Fed. Malay States, iii., 1908, p. 41; Robinson, op. cit., ii., 1909, p. 183.

Malay Name.—Pělatok or bělatok ijau.

Description.—Adult male.—General colour above, olive-green, brighter on the mantle, darker on the rump and upper tail coverts; wing coverts, tertials and outer webs of secondaries the same. Primaries, blackish brown, strongly barred, except at the tips, with chestnut, the median ones clouded with crimson towards the base, and the inner ones also edged with green on the outer web; axillaries and under wing coverts barred with pale buff and black, whitish towards the base; tail feathers, blackish brown, the outer pairs paler, and with pale tips beneath. Nasal plumes, brownish; head, dark olive, strongly washed with ochreous chestnut; nuchal crest, bright vellow, only slightly tinged with orange; lores, sides of the face and ear coverts, very dark olivegreen, the lores mottled with white; a broad malar stripe, pale lemon-yellow narrowly bordered below with a blackish green line; extreme chin, also pale vellow, but this colour not extending as far down as the terminations of the malar stripes; the middle of the throat almost black, with very narrow white edgings to the feathers, often almost absent; rest of the under surface, olive-grey, with a greenish tinge, more marked on the under tail coverts and the sides of the breast; bases of the feathers of the belly and flanks, paler, purer grey.

Adult female.—The point of the chin and the malar stripes, rufous chocolate, not pale lemon, white edgings to the feathers of the throat rather more marked, otherwise not differing from the male.

Soft Parts.—Iris, "red-brown" (Wray) or bright chestnut-red; bill, bluish lead, greener on the lower mandible; feet, greenish lead or "ash-colour" (Wray).

Dimensions.—Total length, 10.5 to 11 in; wing, 5.6 to 5.9 in.; tail, 4.7 to 5 in.; tarsus, 0.9 to 1 in.; bill from gape, 1.5 in.; culmen, 1.25 to 1.3 in. Females are slightly the smaller.

Range in the Malay Peninsula.—From North Perak to Central Selangor. Peculiar to the Malay Peninsula.

Extralimital Range.—The Malayan bird is a smaller, darker form of the Himalayan *C. flavinucha flavinucha*. Other very closely allied races are found in Tenasserim and Western Siam, Eastern Siam and French Indo-China, South China and Hainan.

Nidification.—Unrecorded. Baker states that *C. f. flavinucha* makes its nesting holes in the main trunks of rotten trees from five to twenty feet from the ground. Eggs are from three to five in the clutch and average 1°13 by o°87 in. The male is said to take a great part in the duties of incubation. The clutch in the Malay form will probably be smaller in number, and the size of the eggs less.

Habits.—This handsome, yellow-naped woodpecker is found along the main range of the Peninsula from Gunong Inas in Northern Perak to Gunong Ulu Kali in Selangor, from 3000 to 5000 ft. in elevation. It has not been recorded from the Larut Hills near Taiping or from Gunong Tahan, nor has any representative been found in Peninsular Siam or in Central and Southern Tenasserim.

It is met with, usually in pairs, on good-sized trees, and is rather shy and restless, taking to flight on the least alarm, emitting a harsh scream or yell, very similar to that of the English green woodpecker.

Chrysophlegma mentale humii The Chequered-throated Woodpecker

Separable at a glance from the preceding by the colour of the wing coverts, which are deep crimson, not olive-green; under-surface more brownish olive, with a large brick-red patch on the lower throat, carried up to the chin in the female; in the male the chin and throat are striped black-and-white; malar stripe, dusky brown, spotted with black in the male, brick-red like the throat in the female. Size, about the same as *C. f. wrayi*.

This woodpecker is a fairly common jungle bird from the extreme north to the extreme south of the Peninsula, but rarer in the north, and only just extending into Tenasserim. It occurs in Singapore, and is common in Sumatra and Borneo. Most abundant in heavy, low-country jungle, occasionally even in or on the verge of the mangroves, this woodpecker is sometimes found as high as, or slightly higher than, 3000 ft., but apparently only in districts where *C. f. wrayi* is absent. Its distribution is probably correlated with that of the large timber trees of the order *Dipterocarpeæ*.

Blythipicus rubiginosus The Malaysian Maroon Woodpecker

Hemicircus rubiginosus, Swains., Birds of West Africa, ii., 1837, p. 150 (? West Africa, error: Malacca substituted).

Picus porphyromelas, Boie, Briefe geschr. aus. Oost.-Ind., 1832, p. 143 (nom. nud.).

Lepocestes porphyromelas, Sharpe, P.Z.S., 1887, p. 443; id. op. cit., 1888, p. 279; Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 382.

Pyrrhopicus rubiginosus, Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 51. Blythipicus rubiginosus, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 57.

Malay Name.—Pělatok or bělatok punggor.

Description.—Adult male.—Back, mantle and wing coverts, and the outer webs of primaries, except the outermost, and secondaries, very dark crimson-lake with a tinge of purple; the upper tail coverts darker, with indications of dusky barring; primaries and secondaries, dark blackish brown, with regular, narrow, dusky bars, fainter on the inner webs; under wing coverts and axillaries, blackish, with a suggestion of red; tail feathers, black, with black shafts faintly barred with dusky buff; top of head, brownish, as also sides of the head and ear coverts, becoming darker on the nape, on the sides of which and behind the ear coverts are two large patches of lustrous crimson, nearly, but not quite, meeting on the nape; region of the jaw, faintly washed with crimson. Whole under surface, sooty black, browner on the chin and throat, and faintly washed with dull red on the breast.

Adult female.—Like the male, but without the bright crimson nape patches, and with the under surface usually, but not always, more brown. In very old birds the crimson wash is sometimes present on the malar region and breast.

Note.—In very old birds of both sexes the tail tends to become uniform black, and the bars on the primaries to diminish. In one male from Sumatra (Siolak dras) there are no traces of bars on either primaries or secondaries, but the character is an individual one.

Immature.—Duller red above, with no bright crimson nape patches, but with the red suffused over the back of the head; wing coverts, primaries and secondaries more distinctly barred; top of the head, paler brown, and somewhat streaked; under surface not so blackish, the flanks and belly with dull cross-bars.

Soft Parts.—Iris, crimson, red, or Indian red; bill, wax-yellow, tinged with green at the base; feet, greenish slate, brownish, or purplish brown, very variable.

Dimensions.—Total length, 8.5 to 9.25 in.; wing, 4.9 to 5.2 in.; tail, 3.2 to 3.4 in.; tarsus, 0.9 to 1 in.; bill from gape, 1.3 to 1.55 in.; culmen, 1.2 to 1.4 in. Females have rather shorter bills than males.

Range in the Malay Peninsula.—Over its entire length. Specimens from Singapore in the British Museum are certainly Malacca skins. Birds from Penang in the Tweeddale and Hargitt collections in the British Museum are unauthenticated by date or collector's name.

Extralimital Range.—As far north as Mergui in Tenasserim, Sumatra and Borneo. The insular birds are a very little smaller.

Nidification.—Little is known. Mr A. T. Kellow found nests in February in holes bored in dead trees on the edge of heavy forest near Taiping, Perak. The measurements of the two eggs obtained were 1.26 by 0.95 in., and 1.26 by 0.87 in.

Habits.—This woodpecker has a wide range in altitude from near sea-level to well above 5000 ft., though it is commonest at about 2000 ft. It is found practically everywhere in the Peninsula in heavy jungle, keeping principally to the undergrowth, and especially to fallen timber in damp and gloomy gullies and along small watercourses, generally in pairs. I should describe it, for a woodpecker, as rather a silent bird, only occasionally uttering a harsh cackle, but Davison, who observed many in Tenasserim, states that it incessantly utters a single, sharp, metallic note.

Blythipicus pyrrhotis cameroni

The Malay Red-eared Bay Woodpecker

(PLATE 6, ubper figure, female; lower, male)

Blythipicus pyrrhotis cameroni, Robinson, Bull. Brit. Orn. Club, xlviii., 1928, p. 57 (Mountains of Perak and Selangor).

Lepocestes pyrrhotis, Sharpe, P.Z.S., 1888, p. 279; Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 380 (part).

Pyrrhopicus pyrrhotis, Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 50 (part); Robinson, Journ. Fed. Malay States, ii., 1909, p. 102.

Blythipicus pyrrhotis pyrrhotis (part), Kinnear, Bull. Brit. Orn. Club, xlvi., 1926, p. 73; Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 55.

Description.—Adult male.—Above, very dark brown, paler on the head, especially on the forehead, and darker on the rump; mantle, with a decided claret wash; wing coverts, primaries and secondaries regularly barred with black and orange-brown, the black bars nearly as wide as the orange-brown ones; upper tail coverts, similar; tail feathers, deep orange, with orange shafts and narrow black bars; sides of the head, ear coverts, chin and throat, greyish brown; a brilliant scarlet patch on the sides of the neck, just indicated on the nape; under surface, dark brownish black, paler on the under tail coverts, which have faint traces of barring.

Adult female.—Like the male, but rather paler on the head, with no scarlet on the neck, and with rather more barring on the under tail coverts and lower abdomen.

Immature.—Very young birds are not available, but, judging from allied races, these will probably have the head striped, with paler centres to the feathers and the lower parts more barred.

Soft Parts.—"Iris, warm light brown, bill, pale yellow, feet and legs, dull blackish brown" (L. Wray).

Dimensions.—Total length, about 10.5 in.; wing, 5.3 to 5.6 in.; tail, 3.5 to 3.8 in.; tarsus, 0.9 in.; bill from gape, 1.6 to 1.8 in.; culmen, 1.6 to 1.7 in. (from base of skull).

Range in the Malay Peninsula.—From South Perak to South Selangor along the main range. Peculiar to the Malay Peninsula.

Extralimital Range.—This is another species of continental facies, which has no representative in any of the Indo-Malayan Islands. Allied races are found in the Himalayas, from Nepal to Assam, south to Manipur, the Shan States, North Siam and North Tenasserim, the mountains of South China, Tonkin, Hainan and South Annam.

Nidification.—Of the local race unknown. The typical race (B. p. pyrrhotis) breeds in Assam in June, in holes in living trees or dead stumps, often very close to the ground, and never ten feet above it. The eggs number two to four and average 1'15 by 0'04 in. (Baker). The nesting habits of the Malay race are certain to be similar, but the clutch will very probably be smaller and the eggs less in size.

Habits.—Very little is known. The bird is not common, and has been found only on Cameron's Highlands in Perak, on Fraser's Hill above the Semangko Pass, and on Mengkuang Lebar in the Selangor main range. It has not been recorded either from the Larut Hills or from Gunong Tahan. It, like B. rubiginosus, inhabits dark forest, not below 3500 ft. in altitude, and ranging upwards to over 5000 ft. It keeps near the ground, often actually upon it, and is generally seen in pairs or singly. On Gunong Mengkuang Lebar it frequented the rotting trunks of the large screw-pine (Pandanus) from which

the mountain takes its name. Baker, Davison and others state that the typical form is a very noisy species, but we have no information about our local birds. The one or two birds that I myself have seen in life uttered no sound, and my Dyak collectors were not acquainted with its note.

The birds figured, two-thirds natural size, are a male from Gunong Mengkuang Lebar, Selangor, March, and a female from Fraser's Hill above the Semangko Pass, February.

Chrysocolaptes validus xanthopygius

The Malaysian Orange-backed Woodpecker

This is a very large species, total length about 10.5 to 12 in., with a very constricted neck; general colour, in the male, deep orange-red below; head, the same; wings, deep brown, with chestnut-buff bars; back and rump, flame-coloured. The female has the lower surface dingy, greyish brown; the head is dark brown, and the back and rump clear white, with a slight creamy tinge.

This handsome woodpecker is widely distributed in heavy forest throughout the Malay Peninsula, from Peninsular Siam to Johore, and apparently in Penang and Singapore Island, where it was collected by A. R. Wallace. It is commonest from 1000 to 1500 ft., and is seen only rarely as high as 3000 ft., though it has been obtained at that elevation on Gunong Tahan. Mr Seimund has recently obtained a female on Gunong Kledang, near Ipoh, at 2600 ft. It will be described at length in Volume IV.

Micropternus brachyurus squamigularis The Malay Rufous Woodpecker

Vol. I., p. 155, pl. 13 (top and right-hand figures).

This species is essentially an inhabitant of dry, secondary jungle and open country at low levels, as noted above. It has, however, been obtained on the track between the Semangko Pass and Fraser's Hill at a height of rather over 3000 ft., and also in a small clearing in deep jungle at the foot of Gunong Tahan. These occurrences must, however, be regarded as exceptional.

Meiglyptes tukki tukki

The Buff-necked Barred Woodpecker

This species can be recognized by its small size—total length, extended, about 8 in.—and by its dingy, olive-brown coloration; the upper surface narrowly barred with pale buff, and with a conspicuous patch of buff on the sides of the neck.

This is one of the commonest jungle woodpeckers, and is widely spread throughout the Peninsula, and occurs in Singapore and Penang Islands. It does not, however, ascend the mountains to a height of more than 3000 ft., and is rare even at 2500 ft. It will not, therefore, be commonly met with at any of the hill stations or bungalows, and its full description is deferred until Volume IV.

Meiglyptes tristis grammithorax

The Fulvous-rumped Barred Woodpecker

Rather like the preceding, but a little smaller; blackish brown, narrowly barred with creamy white, so that it appears a much lighter bird; the lower back and rump are pale yellowish buff.

The distribution in the Peninsula and the altitude reached are precisely those of the preceding species.

Hemicircus concretus sordidus

The Malay Grey-and-Buff Woodpecker

This is a small species, with a wing of about 3.5 in., and is perhaps most easily recognized by its grey plumage, the wing coverts coarsely mottled with creamy white. Male, with the head crimson, as also a long occipital crest; female, with these parts grey. The head is disproportionately large, and the neck very constricted.

The species is one of the rarer local woodpeckers, and frequents the low-country jungle and the lower foothills, being most abundant where there is much bamboo. Usually it appears to avoid the hills, but has been met with near the summit of Gunong Pulai, in Johore, and on Ginting Bidei, in Selangor.

Gecinulus viridis robinsoni

The Malay Bamboo Woodpecker

(PLATE 7, upper figure, female; lower, male)

Gecinulus viridis robinsoni, Kloss, Ibis, 1918, p. 105.

Gecinulus viridis, Hume, Stray Feath., ix., 1880, p. 112; Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 136; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 181.

Malay Name.—Pělatok or bělatok buloh.

Description.—Adult male.—Golden olive-brown, much paler and more yellow on the sides of the head, darker and more greenish on the wing coverts; rump flecked with dark crimson. Primaries, dark brown, washed with the colour of the back on the outer webs, all except the outermost with rounded, clearly defined white spots on the inner webs, larger towards the base, absent from the apical fourth; under wing coverts, dark olive, with dull white edges; tail feathers, blackish brown, edged with olive towards the base, the inner webs with dull whitish spots on the margins. Nasal plumes, brownish; crown

and a short nuchal crest, brilliant pale crimson, the bases of the feathers, brownish olive; lower surface, olive-brown, with a greenish cast in fresh skins.

Adult female.—Like the male, but the whole crown pale olive-yellow, lighter than the rest of the upper parts, not crimson. Crimson present on the rump.

Immature male.—The whole under surface, brownish black, greyer on throat, and faintly washed with olive-green on the belly and flanks; upper surface, brownish olive, without the golden tinge of adult birds; head, greyish brown, the feathers broadly tipped with golden olive, the occipital region more or less washed with scarlet; rump flecked with scarlet.

Soft Parts.—Iris, chestnut; bill, livid bluish grey, whiter at the tip; feet, plumbeous green.

Dimensions.—Total length, 10.5 in.; wing, 4.7 to 5.2 in.; tail, 3.4 to 3.6 in.; tarsus, 0.95 to 1.1 in.; bill from gape, 1.15 in.; culmen, 1 in.

Range in the Malay Peninsula.—Along the main range from the north of Perak to the south of Selangor.

Extralimital Range.—The typical race occurs from Central Burma south to Tenasserim, and in the greater part of Siam. The Malay form is extremely close to it, and specimens from the northern parts of the Peninsula are quite intermediate.

Nidification.—Unknown.

Habits.—The southern race of this woodpecker is widely spread throughout the Malay Peninsula, along the main range from Temengoh in Northern Perak to South Selangor, from 2000 ft. to about 4500 ft. in the more southern districts, but at quite low elevations, often not as much as 500 ft., in the north. It is not found either on the Larut Hills or on Gunong Tahan. In Malaya it frequents, almost exclusively, high bamboo forest, and in such country is by no means uncommon, though few collectors, except ourselves, appear to have met with it. Running up and down the tall bamboo stems it is, however, by no means a conspicuous bird, the more so as it is, for a woodpecker, extremely silent.

Note.—This species again, has reached the Malayan area from the north; members of the genus are unknown in Sumatra, Borneo or Java.

The birds figured, half natural size, are from Ginting Bidei, Selangor, 2300 ft., the male shot in April 1917, and the female in September 1914.

Chloropicoides rafflesii peninsularis

The Malayan Three-toed Woodpecker

Gauropicoides rafflesi peninsularis, Hesse, Ornith. Monatsb., xix., 1911, p. 192 (Malacca); Stuart Baker, Ibis, 1919, p. 210.

Gauropicoides rafflesi, Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 132 (part); Ogilvie-Grant, Fascic. Malay., Zool., iii., 1906, p. 100; Robinson, Journ. Fed. Malay States Mus., i., 1905, p. 29.

Chloropicoides rafflesi peninsularis, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 75.

Malay Name.—Pělatok or bělatok rimba.

Description.—With three toes only; a long and pointed occipital crest.

Adult male.—Lores and forehead, yellowish brown; crown and crest, pale scarlet, the bases of the feathers pale brown; hind neck, black; rest of the upper surface, golden olive, with brighter tips to the feathers, the rump often flecked with scarlet, the longer upper tail coverts blackish. Primary coverts and primaries, blackish brown, the latter with pale buff tips and with rounded white spots on the inner web, not reaching either the shaft or the inner margin of the feathers; under wing coverts and axillaries, spotted white and blackish. Tail, black, the outer feathers somewhat bronzy. From above and below the eye, two buffy white stripes, joining in a large spot on the side of the neck, and separated by a broad, black stripe from behind the eye; below the lower white stripe, a broad black stripe. Chin and throat generally pale fulvous, sometimes richer, verging on orange; rest of the lower parts, deep olive-brown; the flanks with buffy white spots on either web of the feathers towards the tips.

Adult female.—Like the male, but the crown and crest deep jet-black; the forehead and lores, brown; mantle and back rather greener, less golden olive.

Immature.—Have the under surface more greenish olive, and the throat dusky, less orange-buff. Young males have the greater part of the crown dull black, the hinder part with the feathers tipped with red; the scarlet crest present.

Soft Parts.—Iris, sienna-brown; bill, bluish horn; feet, plumbeous green. Dimensions.—Total length, about 11 in.; wing, 54 to 56 in.; tail, 43 in.; tarsus, 095 to 105 in.; bill from gape, 15 to 16 in.; culmen, 125 to 14 in.

Range in the Malay Peninsula.—Throughout the entire length of the Peninsula, and on Singapore and islands in the vicinity.

Extralimital Range.—Northwards nearly to Moulmein. The typical Sumatran race is a rather duller bird, and that from Borneo is distinctly smaller, and rather darker.

Nidification.—Quite unknown.

Habits. — This species ranges up to about 4000 ft. in altitude, and specimens are on record from Cameron's Highlands, from the lower slopes of Gunong Tahan at 3300 ft., and from Gunong Angsi in Negri Sembilan. North of Malacca it is, however, a distinctly rare species, and little is known about it, except that it keeps to the densest evergreen jungle. It is often found in small trees and in the undergrowth; the single specimen that I myself have obtained was shot on a fallen trunk stemming a stream. Davison collected numerous specimens in Tenasserim, and states that it has the same habits and note as the golden-backed, three-toed woodpecker, *Dinopium javanense*, and that he had seen it low down and on fallen trees, but never feeding on the ground. It was generally met with in pairs, sometimes singly, never in parties.

Additional specimens and information on the nesting habits, etc., in Malaya are much needed.

Sasia abnormis everetti

The Malaysian Rufous Piculet

PLATE 8 (upper figures: left, adult; right, immature male)

Sasia everetti, Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 559, pl. 15 (Lumbidan, North Borneo).

Sasia abnormis, Sharpe, P.Z.S., 1888, p. 279; Hargitt, Cat. Birds, Brit. Mus., xviii., p. 557 (part); Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 98.

Sasia abnormis everetti, Hartert, Nov. Zool., ix., 1902, p. 547; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 184.

Malay Name.—Pělatok or bělatok kechil.

Description.—With three toes only. Tail feathers soft, not spiny; orbits, broadly naked.

Adult male.—Above, including the wing coverts, yellowish olive; primaries and primary coverts, brownish black, externally olive, inner webs edged with whitish, under wing coverts and axillaries, silky white, with a slight yellowish tinge; longest tail coverts and the tail, deep black. Nasal plumes, forehead, superciliary stripes, rump and entire under surface, deep ochraceous orange, deepest on the sides of the head, lightest on the throat. Forehead and an ill-defined area on the middle of the breast, shining golden yellow.

Adult female.—Like the male, but lacking the golden yellow on the forehead, and with that colour on the breast much reduced or absent.

Immature.—Quite different from the adults, with no trace of orangerufous anywhere, whole plumage above and below, dull, slaty olive-green, greener on the secondaries; tail, deep black as in the adults.

Soft Parts.—Iris, carmine; orbital skin, pinkish red; upper mandible, black, lower, pale horn-colour or lemon-yellow; feet, gamboge-yellow.

Dimensions.—Total length, about 3.5 in.; wing, 2 to 2.2 in.; tail, 0.9 to 1.1 in.; tarsus, 0.5 in.; bill from gape, 0.55 to 0.6 in.; culmen, 0.45 to 0.5 in.

Range in the Malay Peninsula.—Throughout its length, but not on any of the adjacent islands.

Extralimital Range.—Extending north for a short distance into South Tenasserim and South-West Siam; Borneo and Sumatra. The typical form from Java, S. a. abnormis (Temm.), is said to differ in having a slightly shorter wing and smaller bill, but I have seen few specimens from that island. The bird from Nias (S. a. magnirostris), on the other hand, has the bill exceptionally large.

Nidification.—There are no local records. Baker has received eggs from Yê, which is the extreme northern record for the species; he describes them as laid in a bamboo, and just like those of *S. ochracea*, which are white and very round, averaging o 60 by o 48 in.

Habits.—Very widely spread throughout the lowland and submontane

forests of the Peninsula, and straying upwards to a maximum height of 4000 ft., though there must be some mistake about the bird said to have been obtained between 5000 to 7000 ft. in Gunong Tahan by Waterstradt.

The species frequents the lower trees and undergrowth, and is especially abundant in bamboo forest. Some of the Indian races are stated to be found amongst coarse reeds, etc., but the Malayan forms are seen only occasionally even in old secondary jungle, and never in more open country. At times they are semi-social in their habits, and may be met with in parties of four or five. The birds are very active and quick in their motions, and though they run round the smaller trunks and branches, like other woodpeckers and nuthatches, they not infrequently perch transversely across small boughs. The food is almost exclusively ants, spiders and small bark-beetles, and the birds do not seem to drill for wood-living larvæ, like many of their larger relatives. The call is a creaking note of many syllables, but is not often heard.

The adult male bird figured is from the Batang Padang Valley, South Perak, on the approach to Cameron's Highlands, shot on 23rd February 1915; the immature male is from Bentong, Pahang, obtained in June 1910.

Picumnus innominatus malayorum

The Malaysian Speckled Piculet

PLATE 8 (lower figures: left, male; right, female)

Picumnus innominatus malayorum, Hartert, Vög. Palaarkt., Faun., ii., 1912, p. 937 (Gunong Ijau, Perak); Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 94.

Vivia innominata, Sharpe, P.Z.S., 1887, p. 443.

Picumnus innominatus (part), Hargitt, Cat. Birds, Brit. Mus., xviii., 1890, p. 549; Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 76; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 184.

Malay Name.—Pĕlatok or bĕlatok bĕlang.

Description.—Plumage very soft; tail feathers not stiffened; orbits not so broadly bare as in Sasia.

Adult male.—Nasal plumes, cream; forehead, dark olive; middle of the crown, with the tips of the feathers, orange, the bases blackish; back of the crown and nape, dark olive, more yellowish on the rest of the upper surface, including the wing coverts; primaries, dark brownish, the outer webs edged with golden olive, the inner webs with creamy white margins towards the base; tail feathers, blackish, the middle pair white on their inner webs, the three outer pairs with a diagonal subterminal band, white. Sides of the head, dark olive-green, with two narrow whitish stripes running down to the sides of the neck, one from the base of the mandible and one from the hinder part of the orbit, almost joining, and broadening posteriorly; under parts yellowish white, blackish on the extreme point of the chin, with large guttate black spots which become bars on the flanks; under tail coverts, greenish white, with minute black tips.

Adult female.—Like the male, but without the orange tips to the feathers of the crown.

Soft Parts.—"Iris, sepia-brown; upper mandible, horn-black; lower, lead-colour; tip, horn-black; feet and claws, lead-colour" (Jacobson). "Iris, dark; orbital skin, black; bill, plumbeous; tip, black; feet, plumbeous" (Kloss).

Dimensions.—Total length, about 4 in.; wing, 2 2 to 2 4 in.; tail, 1 35 to 1 4 in.; tarsus, 0 4 in.; bill from gape, 0 55 in.; culmen, 0 4 to 0 45 in.

Range in the Malay Peninsula.—Perak and the district round the Semangko Pass on the Selangor-Pahang border; Gunong Tahan in Pahang.

Extralimital Range.—Mountains of Tenasserim, Eastern Burma, the South Shan States and North Siam, mountains of Sumatra, North Borneo and the Langbian Plateau in Southern Annam. Allied forms are found in the Himalayas; in the mountains of Southern India and in China.

Nidification.—That of the local race unknown. In Assam, according to Baker, the Himalayan bird nests in holes, in dead or living bamboos, laying two to four hard, glossy white little eggs, averaging 0.58 by 0.47 in.

Habits.—This little piculet is distinctly a rare bird in the Malay Peninsula, and less than a dozen specimens are on record from the Larut Hills, from Fraser's Hill, and from the lower slopes of Gunong Tahan. Possibly the bird is not really very rare, but in the Malay Peninsula it keeps largely to the tops of trees in thick jungle, and is not at all noisy; it is, therefore, hard to see, and still harder to obtain. In Sumatra, Jacobson met with it in dense forest, travelling in a mixed association of such birds as racquet-tailed drongos, nuthatches and minivets.

Note.—The male bird figured is from Wray's Camp, Gunong Tahan, Pahang, 3000 ft., shot on 26th June 1911, and the female from Fraser's Hill, Selangor-Pahang border, 4000 ft., shot on 22nd October 1909.