

THE
JOURNAL
OF THE
Natural History Society of Siam.

Volume V.

Bangkok.

Number 2.

THE BIRDS OF SOUTH-WEST AND PENINSULAR SIAM.

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AND

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(Continued from page 87).

ACCIPITRIFORMES.

OSPREYS, HAWKS, EAGLES, KITES AND VULTURES.

1	{ No aftershaft to feathers ..	..	<i>Pandion haliaetus cristatus.</i>				
	{ With an aftershaft to feathers ..	..	..	..	..	..	2
2	{ Crown of head feathered ..	..	..	..	..	..	3
	{ Crown of head naked ..	..	..	..	..	..	36
3	{ With a double notch to the upper mandible ..	..	..	..	..	..	4
	{ With a single notch to the upper mandible ..	..	..	..	..	..	5
	{ With no notch to the upper mandible ..	..	..	..	..	..	8
4	{ Upper parts black; size smaller ..	..	<i>Baza lophotes burmana.</i>				
	{ Upper parts not black; size larger ..	..	..	<i>Baza jerdoni.</i>			
5	{ Size very small; wing under 5 inches ..	..	<i>Microhierax fringillarius.</i>				
	{ Size larger; wing over 6 inches ..	..	..	..	..	..	6
6	{ Upper parts reddish brown ..	..	<i>Cerchneis tinnuncula saturata.</i>				
	{ Upper parts greyish or blackish ..	..	..	..	..	..	7
7	{ Lower parts orange-brown; smaller ..	..	..	<i>Falco severus severus.</i>			
	{ Lower parts pinkish white; larger ..	..	..	<i>Falco peregrinus calidus.</i>			
8	{ Lores bristly ..	..	..	..	..	..	11
	{ Lores feathered ..	..	..	..	..	..	9
9	{ Bill thin, much compressed ..	..	..	<i>Machæramphus alcinus</i>			
	{ Bill normal ..	..	..	..	..	..	10
10	{ Crest in adults long ..	..	<i>Pernis ptilorhynchus ptilorhynchus.</i>				
	{ Crest in adults short or lacking ..	..	<i>Pernis ptilorhynchus ruficollis.</i>				
11	{ Tarsus feathered ..	..	..	..	..	..	12
	{ Tarsus partially or entirely bare ..	..	..	..	..	..	17

12	{ Claws much curved, hind claw longer than inner	<i>Ictinaetus malayensis.</i>	13
	{ Claws straight, hind claw shorter than inner		
13	{ Primaries exceeding secondaries by more than length of tarsus		14
	{ Primaries exceeding secondaries by less than length of tarsus		15
14	{ No elongate occipital crest	<i>Aquila maculata.</i>	
	{ An elongate occipital crest	<i>Lophotriorchis kieneri.</i>	
15	{ No elongate crest	<i>Spizetus cirrhatus limnaetus.</i>	
	{ An elongate crest .. .. ..	.. .. ..	16
16	{ Larger; wing exceeding 16 inches	<i>Spizaetus nipalensis.</i>	
	{ Smaller; wing less than 14 inches	<i>Spizaetus alboniger.</i>	
17	{ Tarsi reticulated; scutellae broader than high		18
	{ Tarsi with some scutellae broader than high		22
18	{ Tarsi more than $\frac{1}{2}$ length of bill from gape		19
	{ Tarsi less than $\frac{1}{2}$ length of bill from gape	<i>Elanus caeruleus caeruleus.</i>	
19	{ Scales in front of tarsus the same size as those behind		20
	{ Scales in front of tarsus larger than those behind	<i>Butastur indicus.</i>	
20	{ Not crested	<i>Circaetus gallicus.</i>	
	{ Crested .. .. ..	.. .. ..	21
21	{ Wing always exceeding 16 inches	<i>Spilornis cheela rutherfordi.</i>	
	{ Wing never exceeding 16 inches	<i>Spilornis cheela bassus.</i>	
22	{ Scales beneath toes rough and pointed		23
	{ Scales beneath toes not rough and pointed		25
23	{ Breast in adults grey; claws rounded beneath		
	{ Breast in adults white; claws grooved beneath	<i>Haliaetus leucogaster.</i>	24
24	{ Size large; wing exceeding 17 inches	<i>Polioaetus ichthyaetus.</i>	
	{ Size small; wing less than 17 inches	<i>Polioaetus humilis humilis.</i>	
25	{ Size moderate; wing over 12 inches		26
	{ Size smaller; wing under 11 inches		31
26	{ Tarsus short		
	{ Tarsus long		27
27	{ Tail rounded	<i>Haliastur indus intermedius.</i>	
	{ Tail forked .. .. ..	.. .. ..	28
28	{ Larger; a conspicuous white patch beneath wing	<i>Milvus melanotis.</i>	
	{ Smaller; no conspicuous white patch beneath wing	<i>Milvus migrans govinda.</i>	
29	{ Bill from cere to tip less than 0.75 inch	<i>Circus melanoleucus.</i>	
	{ Bill from cere to tip more than 0.75 inch .. .. ..	.. .. ..	30
30	{ Abdomen paler		
	{ Abdomen darker	<i>Circus spilonotus.</i>	
31	{ Crested	<i>Lophospizias trivirgatus rufininctus.</i>	
	{ Not crested .. .. ..	.. .. ..	32
32	{ Tarsus and toes thick; middle toe short		
	{ Tarsus and toes slender; middle toe elongate		33
33	{ Upper parts pale grey, beneath banded in adults; larger	<i>Astur badius poliopsis.</i>	
	{ Upper parts dark blackish grey, beneath uniform in adults; smaller	<i>Astur soloensis.</i>	34

34	{ Sexes nearly alike, always striped and barred beneath Sexes different, adult male nearly uniform beneath ..	..	Accipiter gularis.	35
35	{ Very dark above; wing 10 inches or over .. Lighter above; wing under 10 inches ..	..	Accipiter nisus, subsp. Accipiter affinis.	
36	{ Tail feathers 14 .. Tail feathers 12 ..	..	Gyps indicus tenuirostris. ..	37
37	{ Nostrils round; bare parts red; a neck wattle .. Nostrils a slit; bare parts greyish brown; no neck wattle	..	Otogyps calvus. Pseudogyps bengalensis.	

127. *Pandion haliaetus cristatus* (Vieill.).

Falco haliaetus, Linn., Syst. Nat. i, 1766, p. 129 (Europe).

Buteo cristatus, Vieill., Nouv. Dict. d'Hist. Nat. iv, 1816, p. 481 (New Holland).

Pandion haliaetus, A., p. 16 (Pakchan); C. ii, p. 221 (S. Tenasserim); F., p. 29 (Kedah).

Pandion haliaetus cristatus, I., p. 123 (Koh Lak).

Sparsely distributed on all coasts. There is not sufficient material extant to be certain whether the Siamese bird is to be referred to the typical or to the Australian race (*P. h. cristatus*). Not improbably both forms occur, but the differences are trivial. For the present we accept Gyldenstolpe's identification.

128. *Baza lophotes burmana* Scaler.

Falco lophotes, Temm., Pl. Col., 1824, pl. 10 (Pondicherry).

Baza lophotes, A., p. 24 (Malewoon, etc.); B., p. 77 (Junk Seylon); F., p. 25 (Trang); G., p. 151 (Ratburi and Petchaburi); L., p. 94 (Junk Seylon, Pulau Pangang Ghirbi).

Baza lophotes burmana, Sclat., Bull. B. O. C. xli, 1920, p. 31 (Malewoon).

♀. Tung Pran, Takuatung, W. Coast Siam. 14 February, 1919. (No. 3999).

♀. Koh Pra Tung, Takuapah, W. Coast Siam. 18 February, 1919. (No. 4104).

♂. Victoria Point, S. Tenasserim. 24 February, 1919. (No. 4187).

♂. Namchuk, Pakchan, Peninsular Siam. 26 February, 1919. (No. 4254).

♂. Tapi, Pakchan, Peninsular Siam. 6 March, 1919. (No. 4444).

"Iris dark; bill and feet pale slate."

Total length, ♂ 308, 315, 320, ♀ 315, 310; wing, ♂ 236, 247,

235, ♀ 236, 227; tail, ♂ 150, 146, 145, ♀ 150, 140; tarsus, ♂ 27, 27, 27, ♀ 29, 24; bill from gape, ♂ 25, 25, 24, ♀ 25, 24 mm.

Lower Siam seems to be the headquarters of this Cuckoo-Falcon; elsewhere in the Peninsula it is a rare winter visitor. Slater's characters hold good in the large majority of our considerable series so far as the absence of chestnut from the scapulars is concerned, though one specimen from an island in Ghirbi Bay has this colour very pronounced. As regards the colour of the band posterior to the white breast, some birds have it black, a few almost pure chestnut, while in the majority it is mixed.

129. *Baza jerdoni* (Blyth).

Lophastur jerdoni, Blyth, Journ. Asiatic Soc. Bengal, xi, 1842, p. 464 (Malacca).

Baza sumatrensis, A., p. 25 (Pakehan); C. ii, p. 209 (S. Tenasserim).

Baza jerdoni, F., p. 25 (Trang and Langkawi Ids.); M. 1, p. 30 (S.E. and Central Siam).

We have dealt with this Cuckoo-Falcon fairly fully in a former paper (Ibis 1911, p. 25); no additional specimens have since been obtained in our area.

130. *Microhierax fringillarius* (Drap.).

Falco fringillarius, Drap., Dict. Class. d'Hist. Nat., vi, 1824, p. 412, pl. v. (Sumatra).

Microhierax fringillarius, A., p. 5 (Laynah to Bankasoon); B., p. 77 (Junk Seylon); E., p. 113 (Patani); F., p. 24 (Malay Peninsula); G., p. 151 (Ratburi and Petchaburi); H., p. 90 (Bandon).

One of the commonest Accipitrine birds in the present area.

131. (?) *Cerchneis tinnuncula saturata* (Blyth).

Tinnunculus saturatus, Blyth, Journ. Asiatic Soc. Bengal, xxviii, 1859, p. 277 (Moulmein).

Tinnunculus alaudarius, C. ii, p. 217 (Malewoon).

Cerchneis tinnunculus, F., p. 29 (Trang and Langkawi).

Falco tinnunculus saturata, I., p. 131 (Koh Lak).

Cerchneis tinnuncula dorriesi, Swann, Synopt. List Accipitres, iv, 1920, p. 146 (Siberia, wintering in India, Ceylon, Burma).

? *Falco interstinctus*, McClelland, P. Z. S., 1839, p. 154 (Assam).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

♀. ad. Koh Lak, S. W. Siam. 6 April, 1919. (No. 5120).
 " Iris dark brown; bill grey, black at tip, cere yellow; feet yellow."

Total length 365; wing 260; tail 185; tarsus 445; bill from gape 23 mm.

An immature female from Langkawi, shot in November, has the wing 245 mm.

It is impossible to say whether these specimens are really representatives of the resident tropical race, or migrants, as the material is insufficient. From the date, the Langkawi bird is probably true *C. t. tinnunculus*, or the form recently described by Swann, and that from Koh Lak, *T. t. saturatus*. Both birds, however, agree with Swann's race in their rather long tails. Colour affords no help, as both are in very worn and faded plumage.

Mr. Williamson obtained a female at Koh Lak on Dec. 28, 1921 also in worn plumage but rather pale. Total length 340 (in flesh), wing 247, tail 193 mm.

Inglis notes that the Kestrel breeds in Cachar, and it is therefore quite possible that *Falco interstinctus* McClelland (P. Z. S., 1839, p. 154), from Assam, is the name really applicable.

132. *Falco severus severus* Horsf.

Falco severus, Horsfield, Trans. Linn. Soc. xiii, 1822, p. 135 (Java); Williamson, Journ. Nat. Hist. Soc. Siam, i, 1915, p. 198 (Bangkok).

Falco sp., I., p. 131 (Koh Lak).

Falco severus has been obtained near Bangkok by Williamson and we have examined the specimen therefrom. Gyldenstolpe doubtfully identifies a bird from the cliffs near Koh Lak with this species, and we have it from Cochin-China, so it will probably be found in Peninsular Siam.

Falco peregrinus calidus Lath.

Falco calidus, Latham, Ind. Orn. i, 1790, p. 41 (India)

Falco peregrinus, Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 30 (Bangkok).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 (first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
 (third part).

A not infrequent winter visitor to the Malay Peninsula and N. E. Sumatra, and certain to be found in South-west and Peninsular Siam.

133. *Machærhamphus alcinus* Westerm.

Machærhamphus alcinus, Westerm., Bijd. t. d. Dierk. i, 1848, p. 29, pl. 12 (Malacca); A., p. 24 (Malewoon); C. ii., p. 206 (Malewoon); H., p. 90 (Bandon).

This Bat-Hawk, which is of crepuscular habits, will certainly be found to occur in the vicinity of most of the limestone hills that are so common in Lower Siam. The bird we obtained in Bandon was breeding on a lofty tree on the banks of the Bandon river.

134. *Pernis ptilorhynchus ptilorhynchus* (Temm.).

Buteo cristatus, Cuv., Vieill. Tabl. Enc. Meth. Orn., March 1823, p. 1225 (Java), (nec *Buteo cristatus*, Nouv. Dict. iv, 1816, p. 481).

Falco ptilorhynchus, Temm., Pl. Col. p'. 44, July 1823 (Java and Sumatra).

Pernis brachypterus, Blyth, Journ. Asiat. Soc. Bengal, xxi, 1852, p. 436 (Megui?).

Pernis ptilorhynchus, C. ii, p. 207 (Tenasserim).

Pernis cristatus, F., p. 29 (Malay Peninsula); I., p. 130 (Koh Lak).

♂ imm. Tapli, Pakchan, Peninsular Siam. 8 March, 1919.
(No. 4492).

"Iris dark hazel; bill black, base of lower mandible pinkish horn; feet pale yellow".

Total length 635; wing (in moult) 432; tail, 283; tarsus 56; bill from gape 43 mm.

The question of the species or races of Honey Buzzards in the Oriental region has never been seriously tackled, and the extreme variability makes the allocation of specimens a very difficult one. It appears to be an established fact that birds from India (except southern India), west of the Bay of Bengal, never have a marked and distinct occipital crest. They cannot therefore be assigned to *P. cristatus* (Cuv.) of Java, which has slight priority over *P. ptilor-*

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|---|---|
| A. Hume, & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornis der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i. & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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ynchus Temm. (Java and Sumatra)*; the former was a uniform black bird, without a crest, but crested birds, also mainly black, are stated to occur in Java. We have examined about 20 birds from Sumatra, Borneo and the Malay Peninsula, which all have grey or black lores, and a lengthened occipital crest, but which vary in colour beneath, from an almost uniform white, through an almost uniform buffy brown, to birds barred and striped below with clear black and white, the black predominating. These birds agree exactly with descriptions and figures of *P. tweeddalii* Hume (Malay (Peninsula), which we cannot but regard as other than the very adult of *P. ptilorhynchus*. We have also two birds of a uniform brownish black, with no very lengthened crest, agreeing with the description and figures of *P. ptilorhynchus*, which we regard as a dimorphic form analogous with the case of *Sp. horsfieldi* and *Sp. caligatus* —forms of *Sp. limnaetus*.

On the strength of its lengthened crest the South Indian bird is probably entitled to sub-specific distinction as *P. c. ellioti*, but we have not examined specimens.

Immature birds of the non-crested Indian race appear to visit Siam and the Malay Peninsula in the winter months, and we possess specimens from Pulau Jeimor, in the Straits of Malacca, and Kuala Lumpur. The name for the Continental and Northern Indian bird is *P. pt. ruficollis* (Less.).

135. *Ictinaetus malayensis*.

Falco malayensis, Reinw., Temm. Pl. Col. 1824, pl. 117 (Java and Sumatra, and Malay Archipelago).

Aquila pernigra, Hodgs., Journ. Asiatic Soc. Bengal, v, 1836, p. 227 (Central and Northern Nepal).

Ictinaetus malayensis, F., p. 22 (Trang).

*Nevertheless the name cannot be used, as *Buteo cristatus* had previously been applied to an Australian Osprey.

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| I. | Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916. | M. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. | Robinson, Journ. F. M. S. Mus. vii, 1917. | | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. | Kloss, Ibis, 1918. | M. I. | Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
| L. | Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919. | | |

A strictly forest eagle, widely distributed but hard to procure. Swann (Synopt. List Accipitres, Part ii, 1919, p. 69) has revived Hodgson's name of *perniger* for the continental race. At the moment we have no Siamese or Malayan specimens available, but a male from Java, the type locality of *I. malayensis*, has the wing over 22 inches, which is more than Swann gives for *perniger*. The continental subspecies is, therefore, of rather dubious validity.

136. *Aquila maculata* (Gm.).

Falco maculatus, Gmelin, Syst Nat. i, 1788, p. 258 (?).

Aquila clanga, C. ii, p. 186 (Tenasserim).

Aquila maculata, I., p. 125 (Koh Lak); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918 p. 27 (Bangkok).

We have seen no specimens of this eagle.

137. *Lophotriorchis kieneri* (Sparre).

Astur kieneri, Sparre, Mag. Zool. 1835, Aves, pl. 35. (E. Himalayas).

Lophotriorchis kieneri, G., p. 151 (Ratburi and Petchaburi).

Very rare everywhere; we have never seen a specimen in the flesh; the F. M. S. Museums possess an adult and an immature from near Kuala Lumpur, and we have examined an immature bird from the highlands of Sumatra.

138. *Spizaetus cirrhatus limnaetus* Horsf.

Falco limnaetus, Trans. Linn. Soc. xiii. 1821, p. 138 (Java).

Spizaetus limnaetus, A., p. ii (Bankasoon); E., p. 114 (Patani); F., p. 23 (Trang); H., p. 144 (Koh Pennan); I., p. 127 (Koh Lak); L., p. 93 (Ghirbi and Junk Seylon)

♀. Kandhuli, Chaiya, Peninsular Siam. 21 September, 1919.

E. Seimund (C.).

A fully adult bird, in the striped plumage, wing 415 mm. Commoner, and frequenting more open country, than the other species of the genus.

139. *Spizaetus nipalensis*.

Nisaetus nipalensis, Hodgson, Journ. Asiat. Soc. Bengal, v, 1836, p. 229, pl. 7 (Nepal).

Spizaetus nipalensis, F., p. 22 (Terutau).

Spizaetus nipalensis nipalensis, I., p. 126 (Hue Sai, S. W. Siam).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

♀. ad. Tapli, Pakchan, Peninsular Siam. 3 March, 1919.
(No. 4399).

"Iris orange; bill black, base grey; feet pale yellow".

Total length 715; wing 438; tail 305; tarsus 105; bill from gape 50 mm.

This bird, shot in heavy jungle, is fairly adult, with the bars on the breast well developed and a crest of 100 mm. The bird from Terutau is immature and is entirely immaculate beneath.

W. L. Sclater (Bull. Brit. Orn. Club, xl, 1919, p. 37) has recently described Southern Chinese birds, *Sp. n. fokiensis*, as smaller than the Himalayan form (wing, ♂ 419—425, ♀ 445 mm.), against an average, in the Himalayan typical specimens, of ♂ 450, ♀ 485 mm., and in all cases lacking the long crest feathers. Our specimen, above, apparently agrees in size with the Chinese bird, but has the crest-feathers fully developed. We do not care to establish yet a third race on a single adult specimen. Swann, however, (Synopsis Accipitres, 2nd ed., part ii, Jan. 1922, p. 119, note), records the fact that Chinese and Hainan birds have the long crest feathers when fully adult.

140. *Spizaetus alboniger* (Blyth).

Nisaetus alboniger, Blyth, Journ. Asiat. Soc. Bengal, xiv, 1845, p. 173 (Malacca).

Spizaetus alboniger, A., p. 12 (Bankasoon); C. ii, p. 191 (Mergui and Bankasoon); M. I, p. 28 (Tung Song, Peninsular Siam).

This Harpy Eagle has only been recorded once from any part of Siam; we possess specimens from various parts of Perak. The bird frequents hilly regions covered with dense forest and is, therefore, very difficult to procure, though not really rare.

Elanus cæruleus cæruleus (Desf.).

Falco cæruleus, Desf., Mem. Acad. Sc., 1787, p. 503, pl. 15 (Algeria).

Elanus cæruleus cæruleus, I., p. 129 (Neighbourhood of Bangkok).

- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
Baker, Journ. N. H. Soc. Siam, iii, 1919.
Baker, Journ. N. H. Soc. Siam, iii, 1919.
M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(first part).
(second part).
(third part).

We have specimens of this kite from Taiping, procured in August and October, and from Kuala Lumpur, in November, where it is a winter migrant: though not recorded from Southern Tenasserim, or from Peninsular Siam, it will almost certainly be found there.

Mr. W. J. F. Williamson informs us that this bird breeds near Bangkok, and is not a mere winter visitor, as surmised by Gyldenstolpe.

141. *Butastur indicus* (Gm.).

Falco indicus, Gmelin, Syst. Nat. i, 1788, p. 264 (Java).

Butastur indicus, A., p. 19 (Tavoy to Pakchan); C. ii, p. 197 (Malewoon); F., p. 23 (Langkawi Ids.); L., p. 93 (Ghirbi); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 28 (Bangkok).

♂ ad. Namchuk, Pakchan, Peninsular Siam. 25 February, 1919. (No. 4209).

"Iris chrome; bill, anterior half black, basal half pale yellow; feet pale yellow".

Total length 410; wing 318; tail 195; tarsus 53; bill from gape 34 mm.

We have specimens from as far south as Perlis, but the bird is everywhere rare and probably only a winter visitor.

Mr. Williamson's collection includes a fine male from Naihoot, Langsuen shot on 31st October, 1921.

"Iris deep yellow, bill black, feet deep yellow."

Total length 415, wing (dry) 298, tail 189 mm.

142. *Circaetus gallicus* (Gm.).

Falco gallicus, Gmelin, Syst. Nat. i, 1788, p. 259 (France).

Circaetus hypoleucus, I., p. 127 (Koh Lak).

This species, also, we have never seen from Siam though it has been obtained in Selangor (*fide* Butler), but the specimen is no longer in existence.

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

143. *Spilornis cheela bassus* (Forst.).

Falco bassus, Forst., Naturgesch. African Vog. 1798, p. 55 (Java).
Spilornis rutherfordi, A., p. 14 (*partim*, Pakchan); C. ii, p. 194
 (*partim*, Tenasserim).

Spilornis cheela, D., p. 57 (Patelung and Patani).

Spilornis bacha, E., p. 114 (Patani).

Spilornis pallidus, F., p. 23 (Malay Peninsula); H., pp. 90, 144
 (Bandon and Koh Samui).

? *Spilornis cheela rutherfordi*, M. I, p. 28 (Tung Song, Peninsular Siam).

♂. Namehuk, Pakchan, Peninsular Siam. 25 February, 1919.
 (No. 4208).

"Iris chrome; bill slate; feet dirty wax-yellow."

Total length 613; wing 389; tail 275; tarsus 90; bill from gape 44 mm.

After a careful comparison of large series of these Serpent-Eagles from Siam, Cochin-China, the whole of the Malay Peninsula, Java, Borneo and Sumatra, we are bound to state that we are now unable to recognize with certainty more than two forms, which are only separable on size, *viz.*, a large Indo-Chinese form of which the southern limit will be Koh Lak, to which the name *S. c. rutherfordi* has been given, and a smaller Malaysian bird to which, as Richmond shows (Proc. U. S. Nat. Mus., 35, 1909, p. 592, note) the name *Falco bassus* Forst., applies. In the Malayan area darker coloured as well lighter birds are found, more or less in the same locality, and to the former the name *S. bido* Horsf., from Java, applies. Javanese birds, however, can be matched with others from Sumatra and the Malay Peninsula, and Bornean birds (*S. pallidus* Walden) with skins from the Malay Peninsula and Sumatra. *Spilornis raja* Sharpe, from Borneo, is only the quite immature stage.

All the Oriental species, with the exception of the Philippine and Celebesian forms, are certainly subspecies, and the mainland races in physical contact exhibit very obvious gradation. The small Andaman and Nicobar birds are merely depauperated island forms.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

K. Kloss, Ibis, 1918.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

iii, 1919.

144. *Haliaetus leucogaster* (Gm.).

Falco leucogaster, Gmelin, Syst. Nat. i, 1788, p. 257 (New South Wales, Mathews).

Haliaetus leucogaster, A., p. 17 (Mergui, Malewoon); F., p. 23 (Malay Peninsula); H., p. 144 (Koh Samui and Koh Pennan); I., p. 128 (Koh Lak).

Cuncuma leucogaster, B., p. 76 (Junk Seylon).

Haliaetus leucocoryphus, F., p. 25 (Langkawi Ids.).

Common along the sea-coast everywhere.

Re-examination of the two specimens from Langkawi, formerly identified by us as *H. leucocoryphus*, convinces us that they are large immature specimens of this species. We have also examined the specimens on which rest the record of *H. leucocoryphus* from Borneo, and do not consider them also to be other than this species.

145. *Polioaetus ichthyaetus* (Horsf.).

Falco ichthyaetus, Horsf., Trans. Linn. Soc., xiii, 1821, p. 136 (Java).

Polioaetus ichthyaetus, A., p. 16 (Pakehan); E., p. 113 (Patani); F., p. 30 (Malay Peninsula); G., p. 151 (Ratburi and Petchaburi); H., p. 144 (Bandon); L., p. 94 (Junk Seylon and Ghirbi); Hume, Stray Feathers, ix, 1880, p. 120 (Panguga).

Our experience of this species is that it is never found in heavy jungle, but is fairly common on the sea coast and on rice fields.

146. *Polioaetus humilis humilis* (Müll. & Schleg.).

Falco humilis, Müll. & Schleg., Verhandelingen, Aves, 1839-44, p. 47, pl. 6 (Sumatra).

Polioaetus humilis, H., p. 90 (Bandon).

More of a jungle bird than the preceding. Peninsular Siam birds are probably to be referred to the Malayan race, *P. humilis*, rather than to the much larger bird from continental India and the Himalayas, *P. h. plumbeus* (Hodgs.).

147. *Haliastur indus intermedius* Gurney.

Haliastur indus intermedius, Gurney, Ibis, 1865, p. 28 (Java).

Haliastur indus, A., p. 22 (Mergui, Bankasoon); B., p. 76 (Junk Seylon); C. ii. p. 201 (Tenasserim); D., p. 58 (Patchung and Patani); G., p. 151 (Ratburi and Petchaburi).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

Haliastur intermedius, E., p. 114 (Patani); F., p. 24 (Malay Peninsula); H., p. 144 (Bandon Ids.); I., p. 129 (Koh Lak); L., p. 93 (Ghirbi).

Imm. Renong river, Peninsular Siam. 22 February, 1919.
(No. 4167).

" Iris brown; bill and cere greenish lead; feet dirty yellowish grey."

The Brahminy Kite is common everywhere on the coasts, extending some distance inland over the rice fields.

We cannot agree with Slater (*fide* Baker, Journ. Nat. Hist. Soc. Siam, iv, 1920, p. 29) that *Haliastur indus intermedius* is confined to the Indo-Malayan Islands. Birds from the Malay Peninsula, nearly to Bangkok, are certainly nearer to this form, though in Central and Eastern Siam some approach is shown to the typical Indian race, *H. i. indus*.

148. *Milvus melanotis* (Temm. & Schleg.).

Milvus melanotis, Temm. & Schleg., Faun. Japon., 1845-50, p. 14.
pls. v, v b; G., p. 151 (Ratburi and Petchaburi).

Milvus lineatus, Gray in Hardw. Ill. Ind. Zool., i, 1832, p. i. pl. 18 (China); I., p. 129 (Bangkok).

Mr. Williamson's collection includes a female from Koh Lak shot on December 26, 1921.

" Iris dark brown; bill dark horn, gape light bluish-grey, cere dirty white; legs pale bluish-white, claws dark horn".

Total length 664 (flesh); wing 493; tail, 295 mm.

149. *Milvus migrans govinda* Sykes.

Milvus govinda, Sykes, P. Z. S. 1832, p. 81 (Dekkan, India); G., p. 151 (Ratburi and Petchaburi).

Milvus affinis, A., p. 23 (Tavoy, Mergui); C. ii, p. 202 (Tenasserim).

Milvus migrans govinda, Gyldenstolpe, Ibis, 1920, p. 746 (Bangkok and neighbourhood).

A very rare visitor to the Malay Peninsula; we have a single specimen from near Taiping, Perak, shot in November 1910.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

150. *Circus melanoleucus* (Forst.).

Falco melanoleucus, Forster, Ind. Zool. 1781, p. 12, pl. ii.

Circus melanoleucus, A., p. 21 (Tavoy, Malewoon, and Tongka); B., p. 78 (Junk Seylon).

♂ ad. ♀ imm. Namchuk, Pakchan, Peninsular Siam. 24–25 February, 1919. (Nos. 4202, 4230).

"*Male*. Iris and feet chrome; bill black." *Female*. Iris lemon; bill slate, cere and base yellowish green; feet pale yellow.

Total length, ♂ 442, ♀ 463; wing, ♂ 352, ♀ 364; tail, ♂ 217, ♀ 240; tarsus, ♂ 67, ♀ 80; bill from gape, ♂ 28, ♀ 32, mm.

This beautiful Harrier is a rare winter visitor to the southern parts of the Malay Peninsula as far south as Johore; Mr. Seimund has obtained several specimens in the swampy plains near Kuala Lumpur. It is common in Peninsular and S. W. Siam whence we have seen many specimens.

Circus spilonotus Kaup.

Circus spilonotus, Kaup in Jardine's Contr. Ornith. 1850, p. 59 (Asia); Williamson, Journ. Nat. Hist. Soc. Siam. iii, 1918, p. 29 (Bangkok, and Tachin river mouth).

Occurs in small numbers in the Malay Peninsula, but often confused with the preceding.

151. *Circus aeruginosus aeruginosus* (Linn.).

Falco aeruginosus, Linn. Syst. Nat. i, 1766, p. 130 (Europe).

Circus aeruginosus, A., p. 22 (Pakchan); B., p. 78 (Junk Seylon); F., p. 21 (Langkawi Ids.); I., p. 124 (Koh Lak).

2♂, ♀, Namchuk, Pakchan, Peninsular Siam. 25–26 February, 1919. (Nos. 4231, 4232, 4253).

"*Male*. Iris lemon; bill slate, cere and base yellowish green; feet pale yellow. *Female*. Iris yellow; bill black, cere and base greenish slate; feet dirty yellowish."

Total length, ♂ 510, 535, ♀ 521; wing, ♂ 395, 403, ♀ 400; tail, ♂ 243, 250, ♀ 235; tarsus, ♂ 85, 85, ♀ 88; bill from gape, ♂ 40, 38, ♀, 32 mm.

A. Hume & Davison, Stray Feathers, vi, 1878.

B. Müller, Die Ornith. der Insel Salanga, 1882.

C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.

D. Bonhote, P.Z.S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.

F. Robinson and Kloss, Ibis, 1910–11.

G. Gardner, Journ. N. H. Soc. Siam, i, 1915.

H. Robinson, Journ. F. M. S. Museums, v, 1915.

The Marsh Harrier was common on the rice fields bordering the upper reaches of the Pakchan Estuary; we did not meet with it elsewhere. In the winter, in suitable open spaces, it is fairly abundant as far south as Kuala Lumpur.

152. *Lophospizias trivirgatus rufitinctus* (McClell.).

Astur trivirgatus, Temm., Pl. Col. 1824, pl. 303 (Sumatra).

Spizaetus rufitinctus, McClelland, P. Z. S. 1839, p. 153 (Assam).

Lophospiza rufitinctus, A., p. 7 (Bankasoon).

Astur rufitinctus, Hume, Stray Feathers, viii, 1879, p. 152 (Kossoom).

Lophospizias trivirgatus, H., p. 90 (Bandon); L., p. 93 (Junk Seylon).

♂, ♀ ad. Tasan, Chumpon, Peninsular Siam. 13–14 March, 1919. (Nos. 4566, 4587).

"Iris, male chrome, female orange; bill slate, tip black, cere and gape yellow; feet, male bright yellow, female pale yellow".

Total length, ♂ 413, ♀ 455; wing, ♂ 221, ♀ 252; tail, ♂ 193, ♀ 210; tarsus, ♂ 62, ♀ 62; bill from gape, ♂ 29 ♀ 31 mm.

The northern race of the Crested Goshawk differs from the typical Sumatra bird in its larger size and in having the breast of the male duller, less reddish. The wings of two nearly adult Sumatran birds measure 198 and 216 mm.; the second, though sexed male, is probably a female. A nearly adult male from Temengoh, N. Perak, is 202 mm., and a male from Bandon 227 mm.

The sexes are nearly similar in colour, but males appear to have the dark marks on the breast and belly paler than in the females.

153. *Astur badius poliopsis* (Hume).

Micronisus poliopsis, Hume, Stray Feathers, ii, 1874, p. 325 (North Pegu); B., p. 78 (Junk Seylon).

Astur poliopsis, A., p. 7 (Pakchan); F., p. 22 (Trang).

Astur badius poliopsis, I., p. 24 (Koh Lak); K., p. 87 (Koh Lak); L. p. 93 (Junk Seylon and Pulau Panjang).

Common in open country, rare towards the Malayan border.

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|---|---|
| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
55, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

154. (?) *Astur soloensis* (Horsf.).

Falco soloensis, Horsfield, Trans. Linn. Soc. xiii, 1821, p. 137 (Java).
Astur soloensis, A., p. 8 (Malewoon and Mergui); F., p. 22 (Langkawi Ids.).

Apparently not common, very likely often confused with *Accipiter gularis*.

Sharpe (Cat. Birds Brit. Mus.) and Swann* (Synopt. List Accipitr. i, p. 25, 1920) are inclined to keep separate *A. soloensis* and *A. cuculoides* (Temm., Pl. Col. 1823, pl. 129). For the present, however, we are disposed to regard the latter, with its uniform tail, merely as the very adult bird. Both were originally described from Java, *A. soloensis* from Central, and *A. cuculoides* from Western, Java.

155. *Accipiter gularis* (Temm. & Schleg.).

Astur gularis, Temm. & Schleg., Faun. Jap. Aves, 1845-50, p. 5, pl. 2.

Accipiter gularis, Ogilvie Grant, Ibis, 1896, p. 104; Hartert, Nov. Zool., xvii, 1910, p. 211.

2 ♂ ad, 1 ♂, imm. Kandhuli, Chaiya, Peninsular Siam. 13-22 September, 1919. (E. Seimund collector).

The wings of these are:—ad. 172-168; imm. 159 mm.

The possession of specimens of the typical *A. virgatus* from Java, and others agreeing with it from Sumatra, enables us to state with some degree of confidence that the typical form of that species is not likely to occur on the continent of Asia, if *A. v. besra*, from Southern India and Ceylon, is maintained as distinct. Adult females of *A. virgatus* and *A. gularis* are totally distinct, but the males (if it is true that the form described as *A. rufotibialis* from Kina Balu, N. Borneo, is merely the adult of *A. virgatus*) approximate, except in size, the insular bird being much the smallest. It is, therefore

*This author has, however, sunk *A. cuculoides* as a synonym in the 2nd edition of the above quoted work (Part i, 1921, p. 41).

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| A. Hume, & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905 |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i. & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

doubtful if there is any resident form of the genus in the Malay Peninsula proper or in Peninsular Siam.

156. *Accipiter affinis* Hodgs.

Accipiter affinis, Hodgson in Gray's Zool. Misc. 1844, p. 81; Gurney, List Diurnal Birds of Prey, pp. 39, 168-173 (Himalayas); Hartert, Nov. Zool. xvii, 1910, p. 211.

♀ ad. Hat Sanuk, nr. Koh Lak, S. W. Siam. 14 April, 1919. (No. 5302).

"Iris rich chrome; bill slate, culmen and tip black, cere greenish; feet yellow."

Total length 358; wing 202; tail 176; tarsus 61; bill from gape 23 mm.

This is the only definite record of an adult bird from the Malay Peninsula or from Peninsular Siam, but it is difficult to accumulate satisfactory material as the immense majority of birds visiting us on passage are quite immature and are referable to *A. gularis*. The present bird, when adult, is a close mimic of *Lophospizias trivirgatus rufitinctus*, from which it can be distinguished by the slender toes and the absence of the crest.

Accipiter nisus, subsp.

Accipiter nisus, subsp., Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 22 (Bangkok).

A subspecies of the European Sparrow Hawk occurs in Siam and probably just reaches our area, and there is one specimen, without precise location, in the F. M. S. Museums. The size of Williamson's specimens is rather large (wing 242, 252) and, according to Hartert (Vog. Palaarkt. Faun. ii, 1914, p. 1155), they would be referable to *A. nisus nisosimilis* Tickell (Journ. Asiat. Soc. Bengal, ii, 1833, p. 571, Borabhum).

Gyps indicus tenuirostris Hodgs.

Gyps tenuirostris, Hodgson in Gray's Gen. Birds, i, 1844, p. 6 (Nepal); Hume, Stray Feathers, vii, 1878, p. 326 (Nepal); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 26 (Bangkok).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

We have also a specimen from near Taiping, Perak. It may, therefore, occur in South-West and Peninsular Siam.

157. *Otogyps calvus* (Scop.).

Vultur calvus, Scop., Del. Flor. et. Faun. Insubr., ii, 1766, p. 85
(Pondicherry).

Otrogyps calvus, A., p. i (Pakchan); E., p. 115 (Patani); G., p. 151
(Ratburi and Petchaburi); I., p. 132 (Koh Lak)

As the succeeding species, and associating with it, but rather rarer.

158. *Pseudogyps bengalensis* (Gm.).

Vultur bengalensis, Gmelin, Syst. Nat. i, 1788, p. 245 (Bengal).

Pseudogyps bengalensis, A., p. (Tenasserim); B., p. 78 (Junk Seylon); E., p. 115 (Patani); G., p. 151 (Ratburi and Petchaburi); I., p. 131 (General); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 27 (Bangkok).

Common everywhere; not extending south of Taiping, in the Malay Peninsula.

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|--|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1892.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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STRIGIFORMES.

OWLS.

1	Middle toe pectinate on inner margin	2
	Middle toe not pectinate on inner margin	3
2	Colour above rich bay, smaller ..	..				<i>Photodilus badius.</i>
	Colour above greyish yellow, larger ..	..				<i>Tyto flammea javanica.</i>
3	Facial disc and ruff well marked ..	..	..	..	..	4
	Facial disc and ruff ill marked ..	..	..	..	..	5
4	Upper surface spotted with white ..	..				<i>Strix orientalis orientalis.</i>
	Upper surface not spotted with white ..	..				<i>Strix indracee maingayi.</i>
5	Ear tufts well marked ..	..	..	..	..	6
	Ear tufts wanting ..	..	..	..	..	14
6	Size large, wing over 12 inches ..	..	..	..	..	7
	Size small, wing under 8 inches ..	..	..	..	..	10
7	Tarsi nearly naked ..	..	..	..	..	8
	Tarsi mainly feathered ..	..	..	..	..	9
8	Paler ; under surface of tail with 5 cross bars ..	..				<i>Ketupa zeylonensis.</i>
	Darker ; under surface of tail with 20 cross bars ..	..				<i>Ketupa ketupu.</i>
9	Smaller ; wing less than 14.3 inches, under surface barred ; no shaft stripes to feathers ..					<i>Huluia sumatrana.</i>
	Larger ; wing more than 16 inches, under surface not barred ; with shaft stripes to feathers ..					<i>Bubo coromandus klossi.</i>
10	Claws and bill pale clear yellow ..	..	..	..	..	11
	Claws and bill corneous or tinged with greenish ..	..	..	..	..	12
11	Larger ; wing over 7 inches ; forehead whitish ..	..				<i>Otus sagittata.</i>
	Smaller ; wing under 6 inches ; forehead not white ..	..				<i>Otus luciae.</i>
12	Feathering not extending to base of toes ; more uniform above ; smaller ..	..				<i>Otus scops malayana.</i>
	Feathering extending to base of toes ; more blotched with black above ; larger ..	..	..	..	..	13
13	Larger, wing over 5.6 inches ; toes more feathered ..					<i>Otus bakkamoena lettia.</i>
	Smaller, wing less than 6.3 inches ; toes less feathered ..					<i>Otus b. lempiji.</i>
14	Barred above ..	..	..	..	..	15
	Uniform above ..	..	..	..	..	16
15	Smaller, with a cervical collar ..	..				<i>Glaucidium brodiei brodiei.</i>
	Larger, without a cervical collar ..	..				<i>Glaucidium cuculoides cuculoides.</i>
16	Wing over 8 inches ..	..	..	..	..	17
	Wing less than 8 inches ..	..	..	..	..	<i>Ninox scutulata malaccensis.</i>
17	Darker above ..	..	..	..		<i>Ninox scutulata scutulata.</i>
	Paler above ..	..	..	..		<i>Ninox scutulata burmanica.</i>

- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 J. Robinson, Journ. F. M. S. Mus. vii, 1917. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 K. Kloss, Ibis, 1918. (first part).
 L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. (second part).
 M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920. (third part).

Photodilus badius (Horsf.).

Strix badius, Horsfield, Zool. Res. Java, 1824, plate (Java).

Photodilus badius, E., p. 112 (Perak); I., p. 122 (North Siam).

A bird of extreme rarity, of which we have only obtained three or four specimens from the southern parts of the Peninsula. It is certain to be found in Patani.

159. Tyto flammea javanica (Gm.).

Strix javanica, Gmelin, Syst. Nat. i, 1788, p. 295 (Java).

Strix flammea, G., p. 150 (Ratburi and Petchaburi).

Apparently common in Bangkok, but of very doubtful occurrence from much further south.

160. Strix orientalis orientalis (Shaw).

Strix orientalis, Shaw, Gen. Zool. vol. vii, part i, 1809, p. 257 (China).

Syrnium seloputo, A., p. 28. (Bankasoon); E., p. 112 (Patani); F., p. 30 (Trang); L., p. 94 (Junk Seylon); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 26 (Bandon).

Syrnium sinense, C., ii, p. 164 (South Tenasserim); D., p. 58 (Patani).

Strix orientalis orientalis, Oberholser, Proc. U. S. Nat. Mus., 52, 1917, p. 191.

Strix seloputo, M. I., p. 26 (Peninsular Siam).

Certainly commoner in the northern parts of the Peninsula than further south.

161. Strix indranee maingayi (Hume & Davison).

Syrnium maingayi, A., p. 27 (Malacca); F., p. 31 (Trang); Sharpe, P. Z. S. 1887, p. 470 (Malacca).

Strix indrani maingayi, M. I., p. 26 (Tung Song, Peninsular Siam.)

We have six specimens of this rare owl from Trang southwards to Selangor, all agreeing well with Hume's and Sharpe's descriptions. We cannot agree that both *S. i. newarensis* and *S. i. maingayi* can occur in the same area, and the specimen referred to the former by Sharpe from the Larut Hills (P. Z. S. 1887, p. 434) must be *S. i. maingayi*, as we have a specimen from within a few miles of the locality, which is certainly that race. The female

A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burma, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gaider, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915.

from Chong, Trang, has the under surface rather less ochraceous than more southern birds.

162 Ketupa zeylonensis (Gm.).

Strix zeylonensis, Gmelin, Syst. Nat. i, 1788, p. 287 (Ceylon).

Ketupa zeylonensis, A., p. 33 (Tavoy, Pakchan); F., p. 30 (Trang); H., p. 90 (Bandon).

♂, ♀. Tapli, Pakchan, Peninsular Siam. 4-8 March, 1919 (Nos. 4421, 4488).

" Iris chrome; bill greenish-grey, tipped with black; feet dirty green."

Total length, ♂, 520; wing 420; tail 200; tarsus 88; bill from gape 48 mm.

Fairly common in ricefields, etc.

163. Ketupa ketupu (Horsf.).

Strix ketupu, Horsf., Trans. Linn. Soc. xiii, 1821, p. 141 (Java).

Ketupa javanensis, A., p. 33 (Tavoy to Malewoon); D., p. 58 Patani; F., p. 30 (Malay Peninsula); H., p. 91 (Bandon).

♀. Mamok, Pakchan, Peninsular Siam. 27 February, 1919. (No. 4298).

♂. Tapli, Pakchan, Peninsular Siam. 8 March, 1919. (No. 4514).

♀. Tasan, Chumphon, Peninsular Siam. 21 March, 1919. (No. 4752).

♀. Kandhuli, Chaiya, Peninsular Siam. 12 September, 1919.

" Iris chrome; bill black, cere greenish; feet dirty yellowish brown, pale greyish green."

Total length, ♂ 475, ♀ 477, 460; wing, ♂ 336, ♀ 365, 355; tail, ♂ 190, ♀ 200, 190; tarsus, ♂ 70, ♀ 70, 77; bill from gape, ♂ 43, ♀ 47, 53 mm.

We have examined series from Java, Borneo, Sumatra and the whole of the Malay Peninsula, and can distinguish no constant differences whatever, either in size or colouration, which can be associated with locality.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

164. *Huhua sumatrana* (Raffles).

Strix sumatrana, Raffles, Trans. Linn. Soc. xiii, 1822, p. 279
(Sumatra).

Bubo orientalis, A., p. 31 (Hankachin, Pakchan headwaters);
C. ii, p. 153 (S. Tenasserim).

Huhua orientalis, F., p. 31 (Trang).

We have examined series from Sumatra, Borneo and the north and south of the Malay Peninsula and can detect no differences in size. Malay Peninsular and Sumatran birds are identical and will, therefore, have to be called *H. sumatrana*, though whether they are truly distinguishable from the typical *H. o. orientalis* Horsf., from Java, is, in the absence of specimens, still an open question. The Bornean birds do not differ in size from the others, but are less distinctly barred beneath. Schlegel* has named the bird from Banka, *B. o. minor*, which seems to be identical with the Sumatran and Malay Peninsular bird.

165. *Bubo coromandus klossi* Robinson.

Bubo coromandus klossi, Robinson, Journ. F. M. S. Mus. iv, 1911,
p. 247 (Perak); K., p. 90 (Koh Lak); Herbert, Journ. N. H. S.
Siam. ii, 1916, p. 58 (S. W. or Peninsular Siam); M. I, p. 26
(Peninsular Siam).

" Iris yellow; bill greenish horny, black at base; feet leaden."

Total length, ♂ 540, ♀ 545; wing, ♂ 399 (type) 380, ♀ 385;
bill from gape, ♂ 46 (type) 43, ♀ 46 m.m.

This race is at present known from seven specimens only, ranging from Koh Lak in S. W. Siam to Malacca; it differs from the Indian form in its very much darker colour.

Otus sagittata (Cass.).

Ephialtes sagittatus, Cass., Proc. Ac. Nat. Sc. Philad. iv., 1850,
p. 121 (Malacca).

Scops sagittatus, A., p. 35 (Malewoon); C., ii, p. 156 (Malewoon).

A species of extreme rarity which, however, is certain to be found in the area; we have a single male from Bukit Tangga, Negri Sembilan.

* Mus. Pays Bas, *Oti.* p. 13 (1862), p. 5 (1873).

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| A. Hume, & Davison, <i>Stray Feathers</i> , vi, 1878.
B. Müller, <i>Die Ornith. der Insel Salanga</i> , 1882.
C. Oates, <i>Birds Brit. Burmah</i> , Vols. i. & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i | E. O. Grant, <i>Fasciculi Malayenses</i> , iii (Birds), 1905
F. Robinson and Kloss, <i>Ibis</i> , 1910-11.
G. Gairdner, <i>Journ. N. H. Soc. Siam</i> , i, 1915.
H. Robinson, <i>Journ. F. M. S. Museums</i> , v, 1915. |
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166. *Otus luciae* (Sharpe).

Heteroscops luciae, Sharpe, Ibis, 1888, p. 478 Kina Balu, Borneo).
Heteroscops vulpes, O. Grant, Bull. Brit. Orn. Club. xix, 1906, p. 11
(Pahang); H., p. 91 (Bandon).

Our single female from Bandon differs in certain respects from the rest of our series from the more southern parts of the Peninsula, notably in the colour of the flanks and abdomen, but we are not as yet prepared to name it, nor do we think that the separation of the Malayan and Bornean birds is justified on the existing material.

167. *Otus scops malayana* (Hay).

Scops malayana, Hay, Madras Journ. L. S., 1845, xiii, pt. 2., p. 147 (Malacca); B., p. 76 (Junk Seylon); F., p. 31 (Trang, Langkawi Ids.).

Otus scops malayana, J., p. 145 (Langkawi Ids.); L., p. 94 (Junk Seylon.).

Scops pennatus, A., p. 34 (Mergui).

The Little Owl is fairly common in the north of the Peninsula and is met with in two phases, a greyish brown and a clear rufous. The synonymy is so complicated, and the question of local races so obscure, that we have placed all our specimens under Hay's name, though it is possible that other or earlier titles may properly apply.

168. *Otus bakkamoena lettia* (Hodgs.).

Scops lettia, Hodgson, Asiat. Res. xix, 1836, p. 176 (Nepal).

Otus bakkamoena lettia, J., p 145 (Pulau Dayang Bunting, Langkawi Ids.).

Probably only a migrant or winter visitor in the extreme south of Peninsular Siam, but certainly separable from *O. b. lempiji* on account of its much larger size. It is this form which is common in Bangkok.

169. *Otus bakkamoena lempiji* (Horsf.).

Scops lempiji, Horsf., Trans. Linn. Soc. xiii, 1821, p. 140 (Java); F., p. 31 (Langkawi Ids.); H., p. 91 (Bandon).

Otus bakkamoena lempiji, J., p. 145 (Langkawi Ids.).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

K. Kloss, Ibis, 1918.

(second part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

iii, 1919.

(third part).

This is a southern resident form which probably extends well up Peninsular Siam, and also occurs in S. E. Siam and Cambodia.

170. *Glaucidium brodiei* (Burton).

Noctua brodiei, P. Z. S. 1835, p. 152 (Himalaya region).

Glaucidium brodiei, A., p. 39 (Tavoy); H., p. 91 (Kao Nong, Bandon).

♂, ♀. Tapli, Pakchan, Peninsular Siam. 4 March, 1919. (Nos. 4407-4408).

"Iris yellow; bill greenish-yellow, tip yellow; feet greenish yellow."

Total length, ♂ 148, ♀ 175; wing, ♂ 89, ♀ 101; tail, ♂ 58, ♀ 64; tarsus, ♂ 19, ♀ 20; bill from gape, ♂ 15, ♀ 15 mm.

The above specimens, and one from Bandon, have the top of the head broadly and clearly barred. In five specimens, from the mountains of Perak and Selangor, these bars are much less defined and smaller, almost assuming the appearance of a spot on either side of the shaft. There is also a tendency to a smaller number of tail bars. They are not referable to *G. b. sylvaticum* (Bp.), from the mountains of Sumatra and Borneo, which has a white cervical collar.

171. *Glaucidium cuculoides cuculoides* (Vigors).

Noctua cuculoides, Vigors, P. Z. S. 1830, p. 8 (Himalayas).

Glaucidium cuculoides, A., p. 37 (Tavoy and Estuary); G., p. 150 (Ratburi and Petchaburi); I., p. 122 (Hat Sanuk, nr. Koh Lak); K., p. 89 (Koh Lak).

Athene cuculoides brugeli, Parrot, Ornith. Geschell. in Bayern, viii, 1907, p. 104 (Bangkok).

Glaucidium cuculoides cuculoides, M. I., p. 27 (Maprit, S. W. Siam).

6 ♂. Koh Lak. 1-9 April, 1919. (Nos. 4924, 5085, 5176-7, 5196-7).

3 ♂, 1 ♀. Hat Sanuk, nr. Koh Lak. 13-16 April, 1919. (Nos. 5267, 5287, 5340, 5345).

"Iris chrome yellow; bill greenish, yellowish at tip, bluish at base; feet greenish yellow."

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|--|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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Total length, ♂ 230, 223, 210, 222, 218, 218, 245, 224, 233, ♀ 228; wing, ♂ 136, 145, 144, 142, 150, 152, 151, 146, 142, ♀ 140; tail, ♂ 82, 84, 85, 86, 90, 90, 93, 85, 84, ♀ 85; tarsus, ♂ 27, 27, 26, 24, 26.5, 24, 25, 25, ♀ 25; bill from gape, ♂ 21, 20, 21.5, 20, 21.5, 22, 21, 21, ♀ 21 mm.

On dimensions, etc., our large series are identical with the single specimen described by Parrot as above. We do not, however, see that he has made out a case for separating it from the N. W. Himalayan bird, and therefore have not used his name.

172. *Ninox scutulata malaccensis* (Eyton).

Athene malaccensis, Eyton, Ann. & Mag. Nat. Hist., xvi, 1845, p. 228 (Malay Peninsula).

Ninox scutulata malaccensis, J., p. 144 (Langkawi Ids); L., p. 94 (Junk Seylon).

The smaller darker resident form, common throughout the area.

173. *Ninox scutulata scutulata* (Raffles).

Strix scutulata, Raffles, Trans. Linn. Soc. xiii, 1822, p. 280 (Sumatra).

Ninox scutulata scutulata, J., p. 143 (Langkawi Ids; Pulau Lontar).

This is the larger migratory form, which is common on the islands of the Straits of Malacca during the winter months.

174. *Ninox scutulata burmanica* (Hume).

Ninox burmanica, Hume, Stray Feathers, iv, 1876, p. 285 (Pegu and Tenasserim); A., p. 40 (Mergui); *Ninox burmanica*, type region restricted to Tenasserim.

Ninox scutulata, C. ii, p. 159 (Tenasserim).

Ninox scutulata burmanica, K., p. 89 (Inner Gulf of Siam).

Ninox scutulata (subsp?); I., p. 121 (North Siam).

A bird larger and paler than *N. s. malaccensis*, found as yet only in the extreme north of our area and with difficulty separable from *N. n. scutulata*.

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|---|---|
| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl., 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. L. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

PSITTACIFORMES.

PARROTS.

1	{ Tail square	2
	{ Central tail feathers elongated	4
2	{ Wing coverts uniform green	3
	{ Wing coverts not uniform green	
3	{ Both mandibles black	
	{ Both mandibles orange	
4	{ Crown green	
	{ Crown not green	5
5	{ No frontal black band reaching to eyes	
	{ A frontal black band reaching to eyes	

Psittinus cyanurus cyanurus.

Loriculus galgulus.

Loriculus vernalis.

Palaeornis longicauda.

Palaeornis cyanocephala rosa.

Palaeornis alexandri fasciata.

175. *Psittinus cyanurus cyanurus* (Forst.).

Psittacus cyanurus, Forst., Faun. Ind. 1795, p. 6 (ex. Latham, Gen. Syn. Suppl. 1, p. 66, 1787, Malacca).

Psittinus incertus, A., pp. 120, 500 (Tavoy to Malewoon); C. ii, p. 501; D., p. 76 (Patani).

Psittinus malaccensis, E., p. 112 (Patani).

Seeing that it is common in Tenasserim, as far south as Tavoy, it is probable that it will be found quite abundant in Peninsular Siam. The species, however, like *Palaeornis longicauda*, though common in a district at one time may suddenly disappear for years. At present the only specimens on record are:—two males and a female, all obtained at Biserat, Jalor, in Patani, one by the Skeat expedition in June 1899, and two by Robinson in July and October 1901. We have specimens also from Pelarit, Perlis.

“Male. Iris red; upper mandible red, lower greenish; feet greenish. Female. Iris pale green with an outer ring of white; bill yellowish horn, darker on upper mandible; feet pale sage green.”

Mr. Williamson’s collector also obtained two females and a male at Naihoot near Langsuan in November 1921. He records the iris of all three as “yellowish white”. Total length, ♂ 190, ♀ 180, 175 mm.

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| A. | Hume, & Davison, Stray Feathers, vi, 1878. | E. | O. Grant, Fasciculi Malayenses, iii (Birds), 1905 |
| B. | Müller, Die Ornith. der Insel Salanga, 1882. | F. | Robinson and Kloss, Ibis, 1910-11. |
| C. | Oates, Birds Brit. Burmah, Vols. i. & ii, 1883. | G. | Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. | Bonhote, P. Z. S. 1901, Vol. i | H. | Robinson, Journ. F. M. S. Museums, v, 1915. |

176 *Loriculus galgulus* (Linn.).

Psittacus galgulus, Linn., Syst. Nat. i, 1766, p. 150 (India).

Loriculus galgulus, D., p. 73 (Patelung and Patani); E., p. 112 (Patani).

The only records from Peninsular Siam are, 2 immature males obtained by Robinson at Biserat, Jalor, in July 1901, and an unsexed bird from Patelung obtained by the Skeat expedition in April 1899; the latter was not improbably a cage bird. Mr. Williamson's collection also contains a male and an immature female from Bangnara, Patani State, shot on 29th July, 1916. We have also secured it at Pelarit, Perlis, in October 1911 within five or six miles of the Siamese boundary, so the species is probably quite common in the extreme south of Peninsular Siam; except for these records it has not been obtained north of Province Wellesley.

177. *Loriculus vernalis* (Sparrm.).

Psittacus vernalis, Sparrm., Mus. Carls. t. 29, 1787 (Unknown).

Loriculus vernalis, A., pp. 120, 500 (Tavoy to Malewoon); C., ii, p. 146 (Tenasserim to Tongka); F., p. 32 (Trang); H., p. 91 (Bandon).

Coryllis vernalis, B., p. 76 (Puket or Junk Seylon); M., p. 443 (Peninsular Siam).

♀. Tung Pran, Takuatung, W. Peninsular Siam. 14 February, 1919. (No. 4020).

♂, ♀. Tapli, Pakchan Estuary, Peninsular Siam. 2-8 March, 1919 (Nos. 4348, 4501).

♂ ♂. Tasan, Chumphon, Peninsular Siam. 15-20 March, 1919 (Nos. 4612, 4712).

"Iris white; bill orange; feet yellow." Total length, ♂ 142, 140, 128, ♀ 142, 146; wing, ♂ 90, 88, 89, ♀ 87, 93; tail, ♂ 41, 48, 43, ♀ 42, 43; tarsus, ♂ 9, 10, 11, ♀ 10, 10; bill from gape, ♂ 13, 12, 11, ♀ 11.5, 11.5 mm.

Sparingly but widely spread over the area; quite common at Takuatung among flowering shrubs near the beach; not met with in

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

such large flocks as *L. galgulus*. We have also examined a male shot in November 1921, at Naihoot, Langsuen, by Mr. Williamson's collector. "Iris yellowish-white; bill red; feet deep yellow. Length 135 mm.".

Palaeornis* longicauda (Bodd.).

Psittacus longicauda, Bodd., Tabl. Pl. Encl. 1783, p. 53 (Malacca).

It is probable that the Malay Green-headed Parroquet will be found in the southern districts of the Patani province. It has been recorded from Ulu Selama in North Perak (Bonhote, P. Z. S. 1901, p. 76), and is therefore inserted in our "key."

178. Palaeornis cyanocephalus rosa (Bodd.).

Psittacus rosa, Bodd., Tabl. Pl. Encl. 1783, p. 53 (India).

Palaeornis cyanocephalus, A., p. 118 (Tavoy); C., ii, p. 145.

Palaeornis rosa, G., p. 150 (Ratburi and Petchaburi); K., p. 90 (Koh Lak).

Koh Lak is the southernmost known limit of the eastern form of the Blossom-headed Parroquet, which is also found in Southern Annam.

179. Palaeornis alexandri fasciata (P. L. S. Müll.).

Psittacus fasciatus, P. L. S. Müll., Syst. Nat. Suppl. p. 74 of 1776.

Palaeornis melanorhynchus, A., p. 120 (Tavoy to Mergui).

Palaeornis fasciata, C., ii, p. 143 (Tenasserim); G., p. 150 (Ratburi and Petchaburi); Herbert, Journ. Nat. Hist. Siam, i, 1914, p. 118 (Chiengrak, nr. Bangkok).

♀. imm. Koh Pra Tang, Takuapah Inlet, W. Peninsular Siam.

17 February, 1919. (No. 4081).

"Iris whitish; bill black; feet dirty greenish white."

Total length, 272; wing 145; tail 90 (imp.); tarsus 15; bill from gape 22 mm.

The specimen, which is very young has a narrow black line from eye to eye across the forehead, which is lavender in front,

*Though Oberholser is doubtless correct in his contentions, we cannot bring ourselves to use *Conurus* as the name for this genus of parrot. *Conurus* is too well known for a large Neotropical genus.

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|---|--|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciuli Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gaiderner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

crown green, sides of face lavender-grey with broad black mandibular stripes, no yellowish green scapular patches; under wing-coverts green.

This example constitutes a southerly record for the species which has not hitherto been found south of the Isthmus of Kra.

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- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.
- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

PODARGIDAE.

FROGMOUTHS.

180. *Batrachostomus affinis* Blyth.

Batrachostomus affinis, Blyth, Journ. Asiatic Soc. Bengal. xvi, 1847, p. 1180 (Malacca); G., p. 150 (Ratburi and Petchaburi).

♂. Tasan, Chumphon, Peninsular Siam. 13 March, 1919. (No. 4555).

"Iris pale yellow; bill pinkish horn; feet pale pinky white."

Total length 228; wing 121; tail 125; tarsus 14; bill from gape 33 mm.

Shot in heavy evergreen jungle.

A bird marked female in Mr. Williamson's collection from Naihoot, Langsuen, shot on 6th November 1921, is almost uniform foxy red, except for the white, black-bordered spots on the scapulars and a band of similar spots on the breast and upper abdomen.

"Iris yellowish-white; bill above yellowish-brown and below yellow; legs flesh. Length 220 mm."

For the present we refer it to this species.

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|--|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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CORACIIDAE.

ROLLERS.

1	{ Bill compressed, black Bill depressed, vermillion	<i>Coracias affinis.</i>	2
2	{ Outer secondaries largely blue .. Outer secondaries largely black ..	..	..	<i>Eurystomus orientalis calonyx.</i> <i>Eurystomus orientalis orientalis.</i>	

181. *Coracias affinis* McClell.

Coracias affinis, McClelland, P. Z. S. 1839, p. 164 (Assam); A., p. 72 (Tavoy and S. Tenasserim); W. Davison (*in litt.* Junk Seylon and Kussoon); E., p. 109 (Patani); G., p. 150 (Ratburi and Petchaburi); I., p. 117 (Koh Lak); K., p. 91 (S. W. Siam). *Coracias affinis theresiae*, Parrot, Verhandl. Ornith. Gesellsch Bayern. viii, 1911, p. 97 (Bangkok).

♂, ♀. Koh Lak, S. W. Siam. 3–4 April, 1919. (Nos. 5003–5056).

"Iris dark hazel; bill black; feet dirty yellow."

Total length, ♂ 320, ♀ 310; wing, ♂ 187, ♀ 172; tail, ♂ 120, ♀ 118; tarsus, ♂ 25, ♀ 25; bill from gape, ♂ 42, ♀ 45 mm.

A male from Nong Khai, S. W. Siam, 31 December, 1917, measures, total length 315, wing 187; and two unsexed specimens from Patani, dated April 1916, wing 184, 182 mm. All in Mr. Williamson's collection.

The principal character for Parrot's race, *C. a. theresiae* (*loc. cit. supra*), is not borne out by the considerable series we have examined from Siam and Indo-China.

182. *Eurystomus orientalis calonyx* Sharpe.

Eurystomus calonyx, Sharpe, P. Z. S. 1890, p. 551 (Himalayan Terai); E., p. 110 (Patani); F., p. 32 (Trang).

Eurystomus orientalis calonyx, L., p. 95 (Ghirbi, Junk Seylon, Pulau Panjang); M., p. 432 (Peninsular Siam).

♂. Tung Pran, Takuatung, W. Siam. 14 February, 1919. (No. 4015).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919,

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

K. Kloss, Ibis, 1918.

L.

Robinson and Kloss, Journ. N. H. Soc. Siam,

iii, 1919.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920,

(third part).

"Iris dark hazel; bill and feet vermillion, former tipped black."

Total length 305; wing 202; tail 110; tarsus 20; bill from gape 33 mm.

The fact that these two races are often found in the same place, commented on by Stuart Baker (*loc. cit. supra*) is, of course, explained by the fact that *E. o. orientalis* is a resident breeding form, and *E. o. calonyx* a migratory race breeding in North China and the Himalayas (?).

183 *Eurystomus orientalis orientalis* (Linn.).

Coracias orientalis, Linn., Syst. Nat. 1766, p. 159 (India).

Eurystomus orientalis, D., p. 68 (Patani); E., p. 110 (Patani); F., p. 32 (Trang); p. 144 (Koh Samui and Koh Pennan); J., p. 151 (Trang); L., p. 95 (Ghirbi).

1 ♂. Koh Rah, Takuapah, 17 February, 1919. (No. 4062).

3 ♀. Namchuk, Pakchan, Peninsular Siam. 25-26 February, 1919. (Nos. 4239, 4249-50).

♂, ♀. Tapli, Pakchan, Peninsular Siam. 2nd March, 1919 (No. 4341, 4342) 2 ♂, 2 ? Hat Sanuk, nr. Koh Lak, S. W. Siam. 14-17 February, 1919. (Nos. 5289, 5349, 5350, 5352).

"Iris dark; bill vermillion tipped black; feet vermillion."

Total length, ♂ 300, 276, 274, 290, ♀ 278, 283, 278, 290; wing, ♂ 183, 177, 184, 186, ♀ 183, 186, 192, 172; tail, ♂ 107, 103, 106, 105, ♀ 107, 104, 100, 103; tarsus, ♂ 20, 22.5, 18.5, 20, ♀ 19, 19, 21, 21.5; bill from gape ♂ 39.5, 38, 38, 39, ♀ 35, 37, 41, 38 mm.

It is impossible to say to which race may belong the specimens recorded as *Eurystomus orientalis* from Tavoy to Bankasoon (A., p. 73), Junk Seylon (B. p. 41) and South Tenasserim (C. ii. p. 71).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

ALCEDINIDAE.

KINGFISHERS.

1	{ With three toes	..	..	..	..	..	2
	With four toes	..	..	..	..	..	3
2	{ Mantle bluish or black	..	..	Ceyx t. tridactylus.			
	{ Mantle reddish orange	..	..	C. r. rufidorsus.			
3	{ Plumage black and white	..	..	Ceryle rudis leucomelanura.			
	{ Plumage not black and white	..	..		..	..	4
4	{ Tail shorter than culmen	..	..		..	..	5
	{ Tail longer than culmen	..	..		..	..	8
5	{ Wing more than 3.5 inches	..	..	Alcedo euryzona.			
	{ Wing less than 3.2 inches	..	..		..	..	6
6	{ Ear-coverts ferruginous	..	..	A. atthis bengalensis.			
	{ Ear-coverts blue	..	..		..	..	7
7	{ Scapulars deep blue	..	..	A. m. meninting.			
	{ Scapulars black	..	..	A. m. scintillans.			
8	{ Plumage barred	..	..	Carcineutes pulchellus.			
	{ Plumage not barred	..	..		..	..	9
9	{ Wing 5.5 inches or more	..	..		..	..	10
	{ Wing at most 5 inches	..	..		..	..	12
10	{ Wings brown	..	..	Ramphalcyon amauropelta.			
	{ Wings blue	..	..		..	..	11
11	{ Pileum paler	..	..	R. capensis burmanica			
	{ Pileum darker	..	..	R. c. malaccensis.			
12	{ With no white on under surface	..	..		..	..	13
	{ Under surface partly or entirely white	..	..		..	..	14
13	{ Head and mantle uniform cinnamon rufous	..	..	Halcyon c. coromanda.			
	{ Head greenish, mantle blue or green	..	..	H. concreta.			
14	{ Head black	..	..		H. pileata.		
	{ Head blue	..	..		H. chloris.		
	{ Head chestnut	..	..		H. smyrnensis fusca.		

184. *Ramphalcyon amauropelta* (Pearson).

Halcyon amauropterus, Pearson, Journ. Asiat. Soc. Bengal, x, 1841, p. 635 (Calcutta).

Pelargopsis amauropelta, A., p. 73 (Mergui to Malewoon); B., p. 46 (Junk Seylon); C. ii, p. 78 (Tenasserim to Junk Seylon); F., p. 33 (Trang and Langkawi); J., p. 146 (Langkawi and Terutau).

Ramphalcyon amauropelta, Oberholser, Proc. U. S. Nat. Mus. xxxv, 1909, p. 661.

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| I. | Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. | M. | Baker, Journ. N. H. Soc. Siam, iii, 1919. |
| | 56, No. 2, 1916. | | (first part). |
| J. | Robinson, Journ. F. M. S. Mus. vii, 1917. | | Baker, Journ. N. H. Soc. Siam, iii, 1919. |
| K. | Kloss, Ibis, 1918. | | (second part). |
| L. | Robinson and Kloss, Journ. N. H. Soc. Siam, | M. I. | Baker, Journ. N. H. Soc. Siam, iv, 1920. |
| | iii, 1919. | | (third part). |

♂. Tung Pran, Takuatung, W. Peninsular Siam, 12 February 1919 (No. 3956).

"Iris dark; bill and feet blood red".

This Kingfisher is never found far from salt water, but is fairly common along the coasts and islands of W. Peninsular Siam and as far south as the Langkawi group: we are not aware that it has been met with on the east coast of the Peninsula.

185. *Ramphalcyon capensis burmanica* (Sharpe).

Pelargopsis burmanica, Sharpe, P. Z. S. 1870, p. 67 (Toungoo, Burma); A., p. 73 (Tavoy to Bankasoon); C. ii, p. 78; (Tenasserim and southwards).

Pelargopsis fraseri, E., p. 111 (Pattani?).

Ramphalcyon capensis burmanica, Oberholser, Proc. U. S. Nat. Mus. xxxv, 1909, p. 670.

Pelargopsis malaccensis, H., p. 145 (Koh Pennan); B., p. 46 (Junk Seylon?).

Pelargopsis capensis malaccensis, I., p. 114 (Koh Lak).

Pelargopsis gurial burmanica, Williamson, Journ. N. H. S. Siam, ii, 1917, p. 334 (Bangkok; S. W. Siam).

Pelargopsis javana malaccensis, Parrot, Verh. Orn. Ges. Bayern, 8, 1908, p. 112 (Petchaburi).

♂. Namchuk, Pakchan, Peninsular Siam, 25 February 1919 (No. 4234).

2 ♂. Koh Lak, S. W. Siam, 3 April 1919 (Nos. 4998-9).

♀. Hat Sanuk, S. W. Siam, 15 April 1919 (No. 5317).

♂. Kandhuli, Chaiya, Peninsular Siam, 13 September 1919 (E. Seimund).

"Iris dark, eyelid crimson; bill blood red, darker at tip; feet coral, claws dark horn."

Total length ♂, 372, 365, 373; ♀, 373; wing ♂, 141, 152, 148; ♀, 152; tail, ♂ 100, 108, 112; ♀, 113; tarsus ♂, 16, 18.5, 18; ♀, 16; bill from gape ♂, 93, 94, 94; ♀, 94 mm.

All this series have a dull clay-coloured cap, washed with green but quite unstreaked. Beneath, the colour is somewhat rich ochraceous rufous, deeper in tint than specimens of the Peninsula

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1906. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gaiderner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

from Kedah to Johore. On the whole it appears best to follow the majority of authors, including Dr. Sharpe, and assign the series to *R. c. burmanica*. We are, however, not entirely convinced that this form should not be regarded as restricted to a still more northerly habitat, seeing that the type came from Toungoo and that these birds are merely another intermediate link having stronger affinities with *R. c. burmanica* than with *R. c. malaccensis*, just as the reverse is the case with birds from localities further down the Peninsula. It is possible that individuals from the vicinity of Bandon and Junk Seylon and to the southward should all be listed as *malaccensis* (Sharpe), thus bringing that race into the area here dealt with.

186. *Ceryle rudis leucomelanura* Reichenb.

Ceryle leucomelanura, Reichenb., Handl. Alced., 1851, p. 21, Taf. 409B, fig. 3488.

Ceryle varia, G., p. 150 (Ratburi and Petchaburi); Herbert, Journ. N. H. S. Siam, i, 1914, p. 56 (neighbourhood of Bangkok).

Ceryle rudis leucomelanura, Williamson, Journ. N. H. S. Siam, ii, 1917, p. 329 (Bangkok); Gairdner, Journ. N. H. S. Siam, iii, 1919, p. 229 (Petchaburi river); M., p. 433. (Bangkok).

Will not improbably be found as far south as Koh Lak, in S. W. Siam.

187. *Alcedo atthis bengalensis* (Gm.).

Alcedo bengalensis, Gm., Syst. Nat. i, 1788, p. 450 (Bengal); A., p. 81 (S. Tenasserim); B., p. 44 (Junk Seylon); C. ii, p. 72; F., p. 32 (Peninsular Siam).

Alcedo isspida, G., p. 150 (Ratburi or Petchaburi).

Alcedo isspida bengalensis, I., p. 114 (Koh Lak); J., p. 146 (Trang; Langkawi; Terutau); K., p. 90 (Tachin; Koh Lak); L., p. 95 (Junk Seylon, etc.); Williamson, Journ. N. H. Soc. Siam, ii, 1917, p. 331 (Bangkok; Peninsular Siam).

♀. Tung Pran, Takuatung, W. Peninsular Siam, 12 February 1919 (No. 3957).

♂. Tasan, Chumporn, Peninsular Siam, 16 March 1919 (No. 4632).

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

♂. Koh Lak, Rajburi, S. W. Siam, 7 April 1919 (No. 5136).
 ♀. Hat Sanuk, Rajburi, S. W. Siam, 17 April 1919 (No. 5351).

" Male, iris dark; bill black, reddish at base of mandible only; feet vermillion, claws black. Female, with the lower mandible almost entirely dull red".

Total length ♂, 165, 164; ♀, 161, 168; wing ♂, 70, 68; ♀, 70, 70; tail ♂, 35, 33; ♀, 38, 38; tarsus ♂, 10, 9; ♀, 9, 9; bill from gape ♂, 45, 47; ♀, 45, 46 mm.

Universally distributed in suitable localities.

188. *Alcedo euryzona* Temm.

*Alcedo euryzona**, Temm, Pl. Col. livr. 86, text (Java); F., p. 33 (Trang); H., p. 91 (Bandon).

Alcedo nigricans, Blyth, Journ. Asiat. Soc. Bengal, xvi, 1847, p. 1180 (Malacca); A., pp. 81, 496 (Nwahabo and Bankiscon).

♀ subad. Chong, Trang, 18 December 1909, F. M. S. Mus. No. 461/10.

♂ ad. Patelung - Trang boundary, 25 December 1909, F.M.S. Mus. No. 463/10.

♂ ad., ♀ ad. Kao Nawng, Bandon, 1200-1500 ft., 17-18 June 1913.

" Male vix ad. Iris dark; bill black, whitish at tip; feet flesh. Female ad. Iris dark hazel; upper mandible dark horn, lower reddish; feet flesh.

The males above cited, and two others from Pahang, are all very nearly adult though two have pale tips to the bill: they differ from a male from Saribas, S. W. Sarawak, in having the flanks more or less washed with rufous and the blue tips to the feathers of the crown and wing coverts more conspicuous. The Bornean bird is, however, an extremely adult one and we do not think that it would be wise to admit *A. nigricans* Blyth, founded on a female, as a mainland race of *A. euryzona*.

*Spelt *eryzona* in the original description.

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| A. Hume, & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Inselalangka, 1882.
C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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189. *Alcedo meninting meninting* Horsf.

Alcedo meninting, Horsfield, Trans. Linn. Soc. xii, 1821, p. 172 (Java); B., p. 45 (Junk Seylon); E., p. 111 (Patani); F., p. 32 (Terutau); L., p. 95 (Junk Seylon).

Alcedo meninting meninting, Baker, Bull. Brit. Orn. Club, xxxix, 1918, p. 37 (Malay Peninsula, north to Bankasoon).

We have not sufficient material available to discuss in detail Mr. Stuart Baker's recent article on this Kingfisher (*tom. cit. supra*, pp. 37-40). The specimens referred to above are identical with birds from the southern Malay Peninsula, south to Johore, and have the scapulars deep blue, not black. All of our considerable series from the Malay Peninsula, south to Johore, Borneo and Sumatra, differ from a pair of adults from Java in having the blue of the upper surface deeper and less turquoise. If the distinction can be maintained, and judging from analogy it is probably a real one, our birds will have to be called *Alcedo meninting verreauxi* De la Berge, Rev. et Mag. de Zool. (2), iii, 1851, p. 305, pl. 9 (Borneo) — the bird described and figured being an immature female.

190. *Alcedo meninting scintillans* Stuart Baker

Alcedo bearani (part.), A., pp. 84, 499 (Tavoy to Malewoon).

Alcedo meninting scintillans, Stuart Baker, Bull. Brit. Orn. Club, xxxix, 1918, p. 38 (type locality Bankasoon, and between Lat. 10° and 16° N.); M., p. 433 (Peninsular Siam).

Stuart Baker has separated this southern Tenasserim and southern Siam bird on account of the scapulars being black in adult and immature birds alike. We have not yet seen specimens from the area now dealt with. Baker refers one specimen from Klong Wang Hip (Lat. 8° N.) to this new race to which, however, our specimen from Junk Seylon, in about the same latitude, cannot be attached.

191. *Ceyx tridactylus tridactylus* (Pall.).

Alcedo tridactyla, Pallas, Spic. Zool. vii, 1760, p. 10, ab. 2. fig. 1 (India : Assam restricted).

- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part.).

Ceyx tridactyla, A., pp. 80, 499 (Tavoy to Malewoon); B., p. 45 (Junk Seylon); C. ii, p. 80 (South Tenasserim); J., p. 146 (Terutau); Salvad., Ann. Mus. Civ. Gen. (2) vii, 1889, p. 433 (Malewoon); Williamson, Journ. Nat. Hist. Soc. Siam ii, 1917, p. 332 (Bangkok; Peninsular Siam).

7 ♂, ♀. Tasan, Chumporn, Peninsular Siam, 15-28 March 1919 (Nos. 4609, 2423, 4675, 4833-4, 4787-9).

"Iris dark; bill and feet vermillion".

Total length ♂, 130, 128, 121, 133, 138; wing ♂, 55, 53, 57, 65, 57; tail ♂, 27, 28, 28, 28, 27; tarsus ♂, 8, 9, 8, 8, 8; bill from gape ♂, 38, 38, 36, 39.5, 38 mm.

All this series are fairly uniform and all are quite adult, as is shown by the uniform blue mantle: in one the frontal blue spot is entirely absent and in another it is somewhat reduced.

192. *Ceyx rufidorsus rufidorsus* (Strickl.).

Ceyx rufidorsa, Strickland, P. Z. S. 1846, p. 99 (Malacca); B., p. 45 (Junk Seylon).

Ceyx erythrura, Sharpe, Cat. Birds Brit. Mus. xvii, 1892, p. 179 (Klang, Selangor); F., p. 34 (Trang); H. p. 92 (Bandon).

Ceyx rufidorsa rufidorsa, Hartert, Nov. Zool. ix, 1902, p. 430.

The specimens referred to above from Bandon represent the northernmost extension of this species.

We have for the present followed Dr. Hartert in using Strickland's name for this bird and not that of Sharpe. We fail to see, however, even if Strickland's type is not an immature *Ceyx tridactylus*, why it should not be regarded as a young specimen of *Ceyx dilwynni*.

193. *Carcineutes pulchellus* (Horsf.).

Dacelo pulchella, Horsfield, Trans. Linn. Soc. xiii, 1821, p. 175 (Java).

Carcineutes pulchellus, A., pp. 79, 499 (Tavoy to Malewoon); C. ii, p. 86; (Tenasserim); Müller, Journ. für Orn. 1882, p. 399; B., p. 47; (Junk Seylon); E., p. 111 (Patani); F., p. 34 (Trang); H., p. 92 (Bandon); G., p. 150 (Rajburi and Petcharaburi).

Carcineutes amabilis, Hume, Stray Feath. i, 1873, p. 474 (Pegu Hills).

Carcineutes pulchellus amabilis, M., p. 434 (Tung Song).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

♂. Tapli, Pakchan Estuary, Peninsular Siam, 7 March 1919
(No. 4470).

"Iris yellowish brown; bill and eyelid vermillion; feet yellowish brown".

Total length, 211; wing, 84; tail, 72; tarsus, 16; bill from gape, 45 mm.

The Banded Kingfisher is sparingly distributed in dry jungle throughout Peninsular Siam, but, like other jungle Kingfishers, seems rarer than it is further south. It extends northwards to a latitude of about 19° . The present specimen has the nuchal rufous collar well developed, but like other birds from dry districts, has the under-surface paler, especially on the flanks, than south Malayan and Javanese birds. We are not at present disposed to regard S. W. and Peninsular Siam birds as even subspecifically distinct from the typical race, whatever may be the status of the Burmese, N. and E. Siam, and Annamese birds, of which we have not sufficient female specimens.

The more northern specimens, broadly speaking, show signs of losing the chestnut cervical collar, and the females have the flanks less barred; but these characters also appear in typical Javan specimens.

194. *Halcyon coromanda coromanda* (Lath.).

Alcedo coromanda, Lath., Ind. Orn. i. 1790, p. 252, (Coromandel Coast, ex. Sonnerat : errore ! Rangoon, Oberholser).

Halcyon coromandus, E., p. 110 (Patani); F., p. 34 (Trang); A., p. 75 (Tavoy, Malewoon); C. ii, p. 81.

Halcyon coromanda coromanda, Hartert, Vog. Palaarkt. Faun. ii, 1912, p. 896; J., p. 147 (Terutau).

Entomophora coromanda coromanda, Oberholser, Proc. U. S. Nat. Mus. 48, 1915, p. 643-5 (type locality designated as Rangoon).

Callialcyon coromanda, Müller, Journ. für Orn. 1882, p. 398; B., p. 46 (Junk Seylon).

♂ ad. Tung Pran, Takuatung, W. Peninsular Siam, 14 February 1919 (No. 4004).

"Iris dark; bill coral; feet paler coral."

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

Total length, 255; wing, 108; tail, 70; tarsus, 17; bill from gape, 68 mm.

We have elsewhere dealt with this Kingfisher¹ and have shown that the N. E. Sumatran form is quite inseparable from that inhabiting the continent of Asia, except in the extreme south of the Peninsula, where *H. c. minor* occurs. The present species is widely though sparingly distributed along both coasts of Peninsular Siam, especially affecting casuarina groves. It is very numerous both in Singgora and at Tanjong Patani.

195. *Halcyon smyrnensis fusca* (Bodd.).

Alcedo fusca, Bodd., Tab. Pl. Enl., 1783, p. 54 (Malabar).

Halcyon smyrnensis, A., p. 74 (Tavoy to Pakchan); D., p. 69 (Patani); E., p. 110 (Patani); F., p. 34 (Peninsular Siam); H., pp. 92, 145 (Bandon; Koh Samui; Koh Peman).

Halcyon smyrnensis fusca, I., p. 116 (Koh Lak); K., p. 92 (Tachin); L., p. 96 (Ghirbi); Williamson, Journ. N. H. S. Siam, ii, 1917, p. 334 (Bangkok; S. W.; and Peninsular Siam),

♀. Namchuk, Pakchan Estuary, Peninsular Siam, 26 February 1919 (No 4257).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 8 March 1919 (No. 4495).

♀. Koh Lak, Rajburi, S. W. Siam, 4 April 1918 (No. 5058).

"Iris dark or dark brown; bill dark blood red, darker on tomia; feet reddish, dark red, or coral".

Total length ♂, 257; ♀, 283, 272; wing ♂, 120; ♀, 119, 116; tail ♂, 88; ♀, 88, 80; tarsus ♂, 16; ♀, 18, 17; bill from gape ♂, 65; ♀, 67, 62 mm.

There is much variation in the chestnut tint of the head and under surface, which is apparently due to age. Old specimens have a greenish gloss over the white of the breast, very perceptible in certain lights.

The species is widely distributed over the whole of Peninsular Siam near the sea and in open country, but is not met with in heavy jungle or at any great elevation.

1 Kloss, Journ. Fed. Malay States Mus. x, 1921, pp. 215-217.

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Orniss der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

196. *Halcyon pileata* (Bodd.).

Alcedo pileata, Bodd., Tabl. Pl. Enl, 1783, p. 41 (China).

Halcyon pileata, A., pp. 74, 499 (Tavoy to Bankasoon); E., p. 110 (Patani); F., p. 34 (Peninsular Siam); J., p. 148 (Langkawi and Terutau); L., p. 95 (Junk Seylon); Williamson, Journ. N. H. S. Siam ii, 1917, p. 335 (S. W. and Peninsular Siam).

Entomobia pileata, B., p. 46 (Junk Seylon).

♀. Pangnga, Peninsular Siam, 2 February 1919 (No. 3954).

♀. Tung Pran, Takuatung, Peninsular Siam, 14 February 1919 (No. 4010).

♀. Koh Rah, Takopah, Peninsular Siam, 15 February 1919 (No. 4028).

"Iris dark; bill blood red; feet dark red, scales edged with black."

Total length, 291, 305, 305; wing, 128, 130, 135; tail, 88, 93, 98; tarsus, 17, 17, 17; bill from gape, 68, 71, 77 mm.

Throughout its immense range, from Korea to Celebes, and from the Bombay Presidency to China, this species seems extraordinarily stable in its characters and is not divisible into local races.

It is very common in southern Peninsular Siam (though we did not actually collect specimens in Bandon) and rather less so as one travels northward.

197. *Halcyon chloris armstrongi* Sharpe.

Halcyon armstrongi, Sharpe, Cat. Birds Brit. Mus. xvii, 1892, p. 277, pl. vii, fig. 1 (Siam).

Halcyon chloris, A., p. 78 (Tenasserim; Mergui); K., p. 92 (Tachin).

Halcyon chloris armstrongi, I., p. 117 (Koh Lak).

Sauropatis chloris chloris, M., p. 435 (Meklong, nr. Bangkok).

Sauropatis chloris, Salvad. Ann. Mus. Civ. Gen. (2) VII, 1889, p. 433 (Malewoon).

♂. Koh Lak, S. W. Siam, 2 April 1919 (No. 4947).

"Iris dark; maxilla black, mandible pinkish white, tip black; feet greenish."

Total length, 240; wing, 101; tail, 72; tarsus, 17; bill from gape, 57 mm.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part.).

198. *Halcyon chloris humii* Sharpe.

Halcyon humii, Sharpe, Cat. Birds Brit. Mus. xvii, 1892, p. 281, pl. viii (Selangor).

Sauropatis chloris, B., p. 46 (Junk Seylon).

Halcyon humii, D., p. 69 (Patani); E., p. 110 (Patani).

Halcyon armstrongi, F., p. 34 (Langkawi and Terutau); H., p. 145 (Koh Samui and K. Pennan).

Halcyon chloris, J., p. 149 (Langkawi and Pulau Lontar); L., p. 96 (Pulau Panjang).

One of us has recently examined a large series of the Blue-and-white Kingfisher from the present area and is now of opinion that two races may fairly be recognised (Journ. F. M. S. Mus., x, 1921, p. 214), for though individuals do not always bear out this conclusion, yet in series the differences are quite tangible.

The northern form, *H. c. armstrongi*, has the ear-coverts of the same blue as the crown, though sometimes darker, the black nuchal band obsolete or absent, and only a slight buffy wash on the flanks. The southern race, *H. c. humii*, has ear-coverts more blackish, or of a darker different blue from the crown, the nuchal band pronounced, and the flanks more strongly washed with buff. The place where the forms intergrade seems to be in the neighbourhood of the Isthmus of Kra, and we have referred specimens accordingly.

199. *Halcyon concreta* (Temm.).

Dacelo concreta, Temm. Pl. Col. pl. 346, 1825 (S. W. Sumatra); Schleg. Mus. Pays Bas, Alced., 1863, p. 26.

Halcyon varia, Eyton, P. Z. S. 1839, p. 101 (Malacca, ♀).

Halcyon concreta, A., p. 76 (Bankasoon and Malewoon); C. ii, p. 84; F., p. 35 (Trang).

As far as Peninsular Siam is concerned, only recorded from Trang. In southern Tenasserim confined to the vicinity of the Pakchan Estuary where, however, we did not meet with it.

Most Bornean specimens have the blue of the upper surface darker, as also the blue malar stripe, which is blacker posteriorly; but the differences are not very definite and can be matched by one or two Malayan specimens. In females and younger males, both of Malayan and Bornean birds, the malar stripe is much brighter blue.

A. Hume, & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Inselalanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gardiner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

BUKEROTIDÆ.

HORNBILLS.

1	{ Central tail feathers much elongated	2
	{ Central tail feathers not elongated	3
2	{ Casque small, compressed, crest very full	Berenicornis comatus.
	{ Casque large, truncated in front, crest not full	Rhinoplax vigil.
3	{ Casque large and high	4
	{ Casque small and low	6
4	{ Casque broad, ending in a double point	Dichoceros bicornis.
	{ Casque compressed, ending in a single point	5
5	{ Outer tail feathers entirely white	Anthracoboceros coronatus convexus
	{ Outer tail feathers only tipped with white	A. albirostris.
6	{ Casque compressed, smaller	7
	{ Casque broad, composed of transverse ridges, larger	8
7	{ Chin and throat naked	Anorrhinus galeritus
	{ Chin and throat feathered	Ptilolaemus t. tickelli.
8	{ Bases of mandibles plicated	Rhytidoceros undulatus.
	{ Bases of mandibles not plicated	R. subruficollis.

200. *Dichoceros bicornis* (Linn.).

Buceros bicornis, Linn., Syst. Nat. i, 1766, p. 153 (Sunda Straits).

Dichoceros cavatus, A., p. 98 (Pakchan; Bankasoon; Malewoon).

Dicoceros bicornis, B., p. 50 (Junk Sylon); D., p. 70 (Patani); E., p. 108 (Patani); F., p. 35 (Terutau Id.); G., p. 150 (Ratburi and Petchaburi); J., p. 150 (Telibun Id.); L., p. 96 (Ghirbi).

♂. Tung Pran, Takuatung, Peninsular Siam, 13 February 1919 (No. 3983).

♂, ♀. Tapli, Pakchan, Peninsular Siam, 2 March 1919 (No. 4358, 4360).

"Iris red; bill ivory, stained with yellow, more orange at the tip, extremities of casque black, base of lower mandible black; female with no black on casque; feet greenish black".

Total length ♂, 1100, 1155; ♀, 1030; wing ♂, 425, 470; ♀, 465; tail, ♂ 420, 400; ♀, 330; tarsus ♂, 72, 60; ♀, 58; bill from gape ♀, 247, 212; ♀, 207 mm.

Common everywhere along the coast, especially on certain of the islands.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

201. *Anthracoceros albirostris* (Shaw & Nodder).

Buceros albirostris, Shaw & Nodder, Nat. Misc. xix, 1807, p. 809
(Chandernagore, Bengal).

Hydrocissa albirostris, A., p. 100 (Tavoy to Bankasoon); B., p. 47
(Junk Seylon).

Anthracoceros malabaricus, D., p. 70 (Patelung); E., p. 107 (Patani);
F., p. 35 (Trang; Langkawi; Terutau);

Anthracoceros albirostris, G., p. 150 (Ratburi and Petchaburi); J.,
p. 150 (Langkawi); L., p. 96 (Ghirbi).

♂, Tung Pran, Takuatung, Peninsular Siam, 12 February
1919 (No. 3962).

♂, ♀. Hat Sanuk, near Koh Lak, S. W. Siam, 13–15 April
1919 (No. 5276, 5318).

"Iris red, orbits silvery tinged with blue; bill ivory and
black; feet greenish grey or black."

Total length ♂, 747; ♀, 720; wing ♂, 285; ♀, 280; tail ♂,
285; ♀, 283; tarsus ♂, 44; ♀, 42; bill ♂, 139; ♀, 137 mm.

Specimens from the islands off Takuatung, and from Terutau
and Langkawi as well as from Junk Seylon, are all small with the
wing less than 265 mm., but judging from the casque are mostly
juvenile. An adult male from Chong, Trang, is large, with the wing
308 mm., completely agreeing in this respect with *A. affinis* (Blyth)
from the Himalayas. The birds do not appear to differ
except in size: but Trang is so far from the range of *affinis* (Dehra
Dun to Eastern Assam) that we hardly care to identify by that name
an isolated specimen found at the farther extremity of the range of
albirostris: nor, for the moment, do we use trinomials though we
have little doubt that *affinis* is merely a subspecies of *albirostris*.

There is some doubt as to the application of the earlier name
Buceros malabaricus Gmelin, so we do not use it here.

202. *Anthracoceros coronatus convexus* (Temm.).

Buceros convexus, Temminck, Pl. Col. 1831, pl. 530, (Java).

Anthracoceros convexus, D., p. 70 (Patani).

The southern form of the genus, reaching its northern limit
in Patani.

A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910–11.
G. Gaider, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915.

203. *Rhytidoceros undulatus* (Shaw).

Buceros undulatus, Shaw, Gen. Zool. viii, 1811, p. 26 (Java).

Rhytidoceros undulatus, A., p. 111 (Choungthanoung to Victoria Point); B., p. 48 (Junk Seylon); E., p. 36 (Terutau and Langkawi Ids.); J., p. 150 (Lontar Id.); L., p. 96 (Junk Seylon).

♂. Tapli, Pakchan, Peninsular Siam, 2 March 1919 (No. 4359).

♂. Tasan, Chumporn, Peninsular Siam, 19 March 1919 (No. 4692).

"Iris orange or red, orbit salmon or chrome; throat chrome with transverse band of blue or dark green; bill ivory, reddish at base; feet black."

Total length, ♂, 980, 1055; wing, 465, 502; tail, 350, 410; tarsus, 55, 62; bill from gape, 220, 210 mm.

204. *Rhytidoceros subruficollis* (Blyth).

Buceros subruficollis, Blyth, Journ. Asiatic Soc. Bengal, xii, 1843, p. 177 (vicinity of Moulmein, op. cit. x. 184¹, p. 917).

Rhytidoceros subruficollis, A., p. 112 (Bankasoon); G., p. 150 (Ratburi and Petchaburi).

A low country form in the Malay Peninsula, *R. undulatus* keeping more to the hills.

205. *Anorrhinus galeritus* (Temm.).

Buceros galeritus, Temminck, Pl. Col., 1824, pl. 520 (Sumatra).

Anorrhinus galeritus, A., pp. 109, 500 (Nwalabo, Bankasoon); M., p. 435 (Tung Song, Peninsular Siam).

A hill country hornbill. We have a male from Khao Ram, 1200 ft., Nakon Sri Tamarat, March 1922.

Ptilolæmus tickelli tickelli (Blyth).

Buceros tickelli, Blyth, Journ. Asiatic Soc. Bengal, xxiv, 1855, p. 266 (Hills east of Moulmein).

Ptilolaemus tickelli, G., p. 150 (Sai Yoke, Ratburi, W. Siam, *vide* Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 26).

Will possibly occur just within our limits.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

206. *Berenicornis comatus* (Raffles).

Buceros comatus, Raffles, Trans. Linn. Soc. xiii, 1822, p. 399
(Sumatra).

Berenicornis comatus, A., pp. 106, 500 (Nwalabo and Bankasoon).

Rare everywhere, feeding on very high trees.

Male from Khao Ram, 1200 ft., and two from Khao Luang, 2000 ft., Nakon Sri Tamarat, all in March 1922—the two last being obtained by Mr. W. J. F. Williamson's collector.

207. *Rhinoplax vigil* (Forst.).

Buceros vigil, Forst., Ind. Zool., 1781, p. 40. (Tenasserim).

Rhinoplax vigil, A., p. 115 (Bankasoon).

Fairly common in heavy jungle in the Malay States, but never very easy to obtain.

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|--|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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UPUPIDÆ.

HOOPES.

- Crest with a subterminal bar of white: larger .. *Upupa epops saturata*.
 Crest with no subterminal bar of white: smaller *Upupa epops longirostris*.

208 *Upupa epops saturata* Lonnberg.

Upupa epops saturata, Lonnberg, Arkiv. för Zool. v, 1909, No. 9, p. 29 (Kjachta); I., p. 111 (Koh Kak); K., p. 93 (Perak).

This form is insufficiently known, but the local occurrence rests on two birds, one from Perak, the other from Koh Lak, both shot in winter and possibly migrants.

209. *Upupa epops longirostris* (Jerd.).

Upupa longirostris, Jerdon, Birds India, i, 1862 p. 393 (Burma).

Upupa longirostris, A., p. 202 (Pakchan); B., p. 43 (Junk Seylon); C. ii p. 63 (Tenasserin; Junk Seylon).

Upupa indica, E., p. 108 (Patani); F., p. 34 (Trang); G., p. 150 (Ratburi and Petchaburi); H., p. 145 (Koh Samui.)

Upupa epops longirostris, I., p. 111 (Koh Lak); K., p. 62 (Koh Lak; Patani); L., p. 95 (Pulau Panjang); Williamson, Journ. N. H. S. Siam, ii, 1917, p. 339 (Bangkok; S. W. and Peninsular Siam).

♂, ♀. Mamok, Pakchan, Peninsular Siam, 27–28 February 1919 (Nos. 4300, 4305.)

2 ♂, 2 ♀. Namchuk, Pakchan, Peninsular Siam, 25–26 February 1919 (Nos. 4215, 4216, 4246, 4262).

♂. Tapli, Pakchan, Peninsular Siam, 8 March 1919 (No. 4508).

2 ♂. Koh Lak, S. W. Siam, 1–9 April 1919 Nos. 4878, 5209).

♂. Kandhuli, Chaiya, Peninsular Siam, 21 September 1919, E. Seimund (C.).

"Iris dark; bill black, corneous at base; feet grey."

Total length ♂, 317, 315, 280, 308, 290; ♀, 283, 300, 288; wing ♂, 145, 137, 145, 147, 142 (dry), 132 (yg.); ♀, 131, 133 130; tail ♂, 113, 108, imp. 106, 103; ♀, 98, 105, 98; tarsus ♂, 24, 24, 23, 23, 23; ♀, 20, 23, 21; bill from gape ♂, 70, 68, 70, 72, 50 (dry); ♀, 54, 55, 51 mm.

Males, as shown by this series, are larger than females, with considerably longer bills, which however seem to be much affected by wear.

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- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 (first part).
 J. Robinson, Journ. F. M. S. Mus. vii, 1917. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 K. Kloss, Ibis, 1918. (second part).
 L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
 (third part).

MEROPIDÆ.

BEE-EATERS.

1	{ Central tail feathers elongated	2
	{ Tail square, central tail feathers not elongated	4
2	{ Head chestnut	<i>Merops viridis.</i>
	{ Head not chestnut	3
3	{ Wing 4 inches or under	<i>M. orientalis birmanus.</i>
	{ Wing 5 inches or over	<i>M. superciliosus javanicus.</i>
4	{ Larger, breast plumes elongate	5
	{ Smaller, breast plumes normal	<i>Melittophagus e. erythrocephalus.</i>
5	{ Breast plumes blue	<i>Nyctiornis athertoni.</i>
	{ Breast plumes vermillion	<i>N. amictus.</i>

210. *Merops viridis* Linn.

Merops viridis, Linn., Syst. Nat. i, 1766, p. 182 (Java); J., p. 151 (Langkawi);

Merops sumatranus, D., p. 69 (Patani); E., p. 109 (Patani); F., p. 37 (Peninsular Siam and Langkawi); II., p. 92, 142 (Pandon, Koh Samui and Koh Pennan).

2 ♂, ♀. Koh Lak, S. W. Siam, 2–4 April 1919 (Nos. 4943, 5010, 5019).

“Iris carmine; bill black; feet brownish black.”

Total length ♂, 286, 302; ♀, 258; wing ♂, 110, 112; ♀, 108; tail (middle feathers) ♂, 165, 142; ♀, 130; tail (outer feathers) ♂, —, —; ♀, 80; tarsus ♂, 12, 11; ♀, 11; bill from gape ♂, 45, 44; ♀, 44 mm.

Mr. W. J. F. Williamson has examples from Chumporn and Bangtaphan.

It is curious that this bird should, so far as is known to date, not occur in Tenasserim, while it is found on the other side of the range at the above locality and also in Eastern Siam and French Indo-China. The species is, at all events, partially migratory, but less so than *M. javanicus*, though in the more southern parts of its range it may be met with throughout the year.

A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

211. *Merops orientalis birmanus* Neumann.

Merops viridis (nec Linn.), A., p. 67 (Tavoy and Mergui).

Merops viridis burmanus, Neumann, Ornith. Monatsb. xviii, 1910, p. 80 (Myingan, Irawadi).

Merops orientalis burmanus, Hartert, Vog. Palaarkt. Faun. ii, 1912, p. 864; I., p. 110 (Koh Lak).

Merops lamark burmanus, K., p. 93 (Koh Lak).

3 ♂, 4 ♀. Koh Lak, S. W. Siam, 2-8 April 1919 (Nos. 4941, 4942, 5954-5, 5060, 5072, 5179).

"Iris carmine; bill black; feet greyish brown or brownish."

Total length ♂, 187, 191, 138; ♀, 220, 222, 232, 213; wing ♂, 96, 97, 93; ♀, 91, 88, 92, 91; tail ♂, 77, 77, 128; ♀, 112, 112, 124, 103; tarsus ♂, 11.5, 11, 9.5; ♀, 11, 9, 9.5, 10; bill from page ♂, 33 (app.), 35, 35; ♀, 29, 30, 30 (app.), 32 mm.

These specimens are all in rather worn plumage, but in all the top of the head is more or less rich rufescent brown washed with green, thus conforming to Neumann's diagnosis. In several the bill is damaged or worn at the tip, which is probably due to the use of the bill for excavating nesting holes.

The species was very abundant at Koh Lak, in open country in the vicinity of the sea; we did not see it further south, and it certainly does not occur at Chumporn where we were specially on the look out for it. It has been taken by Williamson's collectors at Petchaburi and also at Nong Khae, in S. W. Siam.

212. *Merops superciliatus javanicus* Horsf.

Merops javanicus, Horsfield, Trans. Linn. Soc. xiii, 1821, p. 171 (Java).

Merops philippinus, A., p. 67, 498 (Bankasoon); B., p. 44 (Junk Seylon); E., p. 109 (Trang; Terutau Id.); G., p. 150 (Ratburi and Petchaburi); H., p. 146 (Koh Samui and Koh Pennan); J., p. 152 (Terutau Id.); K., p. 94 (Koh Lak); Williamson, Journ. Nat. Hist. Soc. Siam ii, 1917, p. 328 (Bangkok; Peninsular Siam).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 6 March 1919 (No. 4447).

♂. Tasan, Pakchan Estuary, Peninsular Siam, 15 March 1919 (No. 4614).

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|---|---|
| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

" Iris red ; bill black ; feet black or purplish black."

Total length, — , 302 ; wing, 136, 133 ; tail, — , 154 ; tarsus, 13, 11 ; bill from gape, 58, 42 mm.

Apparently nowhere very common in the more northern parts of the Peninsula.

213. *Melittophagus erythrocephalus erythrocephalus* (Gm.).

Merops erythrocephalus, Gmelin, Syst. Nat. i, 1788, p. 463 (Ceylon).

Merops leschenaulti, A., p. 68 (Tavoy to Bankasoon).

Melittias quinticolor, B., p. 44 (Junk Sylon).

Melittophagus swinhoei, E., p. 109 (Patani) ; F., p. 36 (Trang and Langkawi) ; H., p. 92 (Bandon) ; J., p. 152 (Terutau Id.) ; L., p. 96 (Ghirbi ; Junk Sylon ; Pulau Panjang).

We did not collect this Bee-eater on the present expedition, though, curiously enough, Davison notes that he came across immense numbers up the head waters of the Pakchan. In the southern parts of Peninsular Siam, and on Langkawi and Terutau Islands, it is very abundant during the winter months. It is found, though sparingly, in Penang and extends south as far as Parit on the Perak river, where large flocks were met with in September 1911.

214. *Nyctiornis athertoni* Jard. & Selby.

Nyctiornis athertoni, Jard. & Selby, Ill. Orn. ii, 1828, pl. 58 (Cachar) ; I., p. 111 (Koh Lak).

♀. Hat Sanuk, nr. Koh Lak, S. W. Siam, 15 April 1919 (No. 5266).

" Iris bronze ; bill black, whitish at base ; feet sage green."

Total length 345 ; wing 138 ; tail 135 ; tarsus 20 ; bill from gape 51 mm.

The above locality, in the neighbourhood of which Gyldenstolpe also secured two specimens, is considerably the most southerly recorded from Siam, though the species reaches a similar latitude in French Indo-China. The more bluish tint of the crown, noted on birds from north Siam by Gyldenstolpe, is probably the result of wear : it is very marked on the whole upper surface of our bird, which is in very worn plumage.

A. Hume, & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Inselalanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.
D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915.

215. *Nyctiornis amictus* (Temm.).

Merops amictus, Temm. Pl. Col. iv, 1824. pl. 310 (Bencoolen, Sumatra).

Nyctiornis malaccensis, Cab. and Heine, Mus. Hein. ii, 1860, p. 133 (Malacca : female).

Nyctiornis amictus, A., p. 69, 498 (Malewoon); F., p. 37 (Trang); G., p. 150 (Ratburi and Petchaburi); H., p. 92 (Bandon); L., p. 97 (Ghirbi).

♂. Renong river, Peninsular Siam, 22 February 1919 (No. 4160).

♀. Mamok, Pakchan Estuary, Peninsular Siam, 28 February 1919 (No. 4313).

♂, ♀. Tasan, Chumporn, Peninsular Siam, 14-22 March 1919 (No. 4582, 4771).

"Iris orange; bill black, whitish at base; feet pale green grey."

Total length ♂, 333, 323; ♀, 320, 308; wing ♂, 133, 124; ♀, 121, 123; tail ♂, 130, 117; ♀, 123, 120; tarsus ♂, 15, 15; ♀, 16, 16; bill from gape ♂, 60, 57; ♀, 49.5, 55 mm.

Examination of these and many others from various parts of the Malay Peninsula, Sumatra and Borneo shows that all but the adult males have some small trace of scarlet on the feathers of the forehead, which appears to be lost by a direct change to mauve or lilac, as many feathers are mauve at the tips with scarlet near the shaft.

Mr. Gairdner's record seems the most northerly for Siam; but on the Burmese frontier it has been obtained at Myawadee, 65 miles N. by E. of Moulmein. In the southern parts of Peninsular Siam it is a very common forest bird.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part.).

CAPRIMULGIDÆ.

GOATSUCKERS OR NIGHT-JARS.

1	{ Gape with bristles | Gape with no bristles	..	..	..	2
2	{ Four outer pairs of tail feathers with white tips | Two outer pairs of tail feathers with white tips	..	..	..	3
3	{ Wing more than 8 inches | Wing less than 8 inches	..	..	<i>Caprimulgus indicus jotaka</i>	4
4	{ Wing 6 inches or under | Wing 7 inches or over	..	..	<i>C. indicus innominatus</i>	
				<i>C. asiaticus</i>	
				<i>C. macrurus ambiguus</i>	

216. *Lyncornis cervineiceps cervineiceps* Gould.

Lyncornis cervineiceps, Gould, Icon. Av. pt. 11, 1838, pl. 14 (China or adjacent Islands! type locality here fixed as province of Trang, Peninsular Siam) : A., p. 60 (Pabyin; Bankasoon; Tongka); F., p. 38 (Trang); G., p. 150 (Ratburi and Petchaburi); I., p. 107 (Hat Sanuk); L., p. 97 (Junk Seylon); Hume, Stray Feathers, ix, 1880, p. 120. (Kasoon; Pangnaga).

♂. Kandhuli, Chaiya, Peninsular Siam, 14 September 1919, E. Seimund (C).

♀. Tung Pran, Takuatung, Peninsular Siam, 13 February 1919 (No. 3968).

"Iris dark; bill pinkish horn, culmen black; feet brownish horn."

Total length ♀, 405; wing ♂, 305; ♀, 323; tail ♀, 230; tarsus ♀, 18; bill from gape ♀, 29.5 mm.

Fairly common all over Peninsular Siam, except the Monthon of Patani.

217. *Caprimulgus indicus innominatus* Hume (?).

Caprimulgus innominata, Hume, Stray Feathers, iii, 1875, p. 318, note (Choungthanoung, Tenasserim).

Caprimulgus jotaka, A., p. 56 (Choungthanoung, Bankasoon?).

Caprimulgus indicus jotaka, J., p. 153 (Terutau Id.).

Specimens from Terutau Island, Annam and Hainan tend to show that Indo-China possesses a small dark resident race of this goatsucker (analogous to *C. i. kelaarti*, of Ceylon and South India), which is best recorded under Hume's name as above.

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- | | |
|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1906. |
| B. Miller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gaider, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

218. *Caprimulgus indicus jotaka* Temm. & Schleg.

Caprimulgus jotaka, Temm. & Schleg., Fauna Japon., Aves, 1847, p. 37, pl. 12 (Japan); F., p. 37 (Trang).

Caprimulgus indicus jotaka, J., p. 153 (Langkawi).

On the coasts and islands of the western side of Peninsular Siam this migratory species is not uncommon during the winter months.

219. *Caprimulgus asiaticus* Latham.

Caprimulgus asiaticus, Latham, Ind. Orn. ii, 1790, p. 588 (India, Bombay); G., p. 150 (Ratburi and Petchaburi); I., p. 109 (Koh Lak); K., p. 97 (Koh Lak).

Not known south of Koh Lak.

220. *Caprimulgus macrurus ambiguus* Hartert.

Caprimulgus macrurus ambiguus, Hartert, Ibis, 1896, p. 373 (Malay Peninsula; Burma; Assam; Eastern Himalayas); K., p. 94 (Koh Lak. Type locality restricted to South Tenasserim); L., p. 97 (Junk Sylon).

Caprimulgus macrurus, A., p. 58, 498 (Tavoy to Malewoon); B., p. 51 (Junk Sylon and Malay Peninsula); E., p. 107 (Patani).

Caprimulgus ambiguus, F., p. 37 (Trang).

Caprimulgus macrurus bimaculatus, I., p. 109 (Hue Sai and Hat Sanuk); J., p. 153 (Langkawi); M., p. 436 (Klong Wong Hip, Peninsular Siam).

♀. Koh Rah, Takuapah, Peninsular Siam, 16 February 1919 (No. 4075).

♂, ♀. Tapli, Pakchan, Peninsular Siam, 2-3 March 1919 (Nos. 4354, 4398).

"Iris dark; bill blackish; feet pinkish brown."

Total length ♂, 287; ♀, 273, 277; wing ♂, 198; ♀, 193, 189; tail ♂, 153; ♀, 135, 145; tarsus ♂, 18; ♀, 14, 16.5; bill from gape ♂, 34; ♀, 31, 34 mm.

Much has been written on the races of this widespread goat-sucker, which it is unnecessary to repeat here. It appears to be fairly well established that three races exist on the Asiatic continent, viz.,

C. macrurus albonotatus, Tickell, Journ. Asiat. Soc. Bengal,

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

ii, 1833, p. 580 (Bengal). A larger and paler form, not found in the area dealt with here.

C. macrurus ambiguus, Hartert, Ibis, 1896, p. 373. An intermediate race ranging south to about 6° or 7° N. Lat.

C. macrurus bimaculatus, Peale, U. S. Explor. Exped. viii, 1848, p. 170 (Singapore.) A smaller darker race found in the southern third of the Malay Peninsula.

Note. *Caprimulgus m. anamensis* Oberholser (Proc. U. S. Nat. Mus. xlviii, 1915, p. 593, Tanjong Katong, Singapore) is a pure synonym of the last.

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornis der Insel Salanga, 1892. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardiner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

APIDÆ.

SWIFTS.

1	{ Shafts of tail feathers stiff, ending in bare points	..	..	..	4
	{ Shafts of tail feathers normal	..	..	..	2
2	{ Tail very deeply forked ; crested or with ornamental plumes on the head ; sexes somewhat different	..	..	..	5
	{ Tail even, or at any rate not deeply forked ; not crested or with ornamental plumes on the head ; sexes similar	..	..	..	3
3	{ All four toes directed forwards	..	..	..	6
	{ Two toes directed forwards, two backwards	Tachornis b. infumatus	..	..	7
	{ Three toes directed forwards, one backwards	..	..	..
4	{ Wing over 7 inches	..	Chaetura gigantea indica	..	
	{ Wing under 5 inches	..	C. leucopygialis	..	
5	{ Eyebrow and moustachial plumes white	..	Hemiprocne c. comata	..	
	{ Eyebrow and moustachial plumes not white	..	H. longipennis harterti	..	
6	{ Abdomen with white tips to feathers	..	Apus p. pacificus	..	
	{ Abdomen uniform blackish	..	A. affinis subfurcatus	..	
7	{ Upper surface steel blue ; belly with white edgings to feathers	..	Collocalia linchi elachyptera	..	
	{ Upper surface sooty brown ; belly without white edgings to feathers	..	..	..	8
8	{ Wing 5 inches or more	..	C. innominata	..	
	{ Wing less than 5 inches	..	C. francica germanini	..	

Collocalia linchi elachyptera Oberh.

Collocalia linchi elachyptera, Oberholser, Proc. Acad. Nat. Sci. Philad. 1906, p. 207 (Bentinck Id., Mergui Archipelago).

Collocalia linchi, Blyth, Birds of Burma, p. 35 (Mergui Arch.).

Certain to occur in the neighbourhood of the Pakchan Estuary within Siamese territory, though no specimens are actually on record.

Collocalia innominata Hume.

Collocalia innominata, Hume, Stray Feathers, i, 1873, p. 294 (South Andaman Id.) ; A, p. 49 (Mergui and Bankasoon) ; J., p. 154.

Collocalia maxima (nomen nudum), Hume, Stray Feathers, iv, 1876, p. 223 (Mergui and Bankasoon).

This large Cave-Swiftlet will probably be found abundant on many of the islands on both coasts of Peninsular Siam.

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|----|---|-------|---|
| I. | Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. | Robinson, Journ. F. M. S. Mus. vii, 1917. | | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. | Kloss, Ibis, 1918. | M. I. | Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
| L. | Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | | |

221. *Collocalia francica germaini* Oust.

Collocalia germaini, Oustalet, Bull. Soc. Philom., 1876, p. 1 (Pulo Condor).

Collocalia spodiopygia, A., p. 51 (Mergui to Bankasoon); C. ii, p. 8 (Mergui Arch., south of Tavoy).

Collocalia merguiensis, H., p. 146 (Koh Samui and Koh Pennan).

Collocalia francica germaini, I., p. 106 (Koh Lak); J., p. 154 (Lontar Id.).

We found this swiftlet numerous on Koh Samui and Koh Pennan in the Bandon Bight. Specimens from these islands and from Pulau Condor, the typical locality, have been submitted to Dr. Hartert and pronounced to be identical. We have seen a specimen of Williamson's from Langsuan, taken in October 1921.

222. *Chaetura gigantea indica* Hume.

Chaetura indica, Hume, Stray Feathers, i, 1873, p. 471 (Southern India). A., p. 46 (Bankasoon, Malewoon); Hartert, Cat. Birds Brit. Mus. xvi, p. 476 (Salanga or Junk Sylon).

Chaetura gigantea, A., p. 46 (Malewoon; cf. Hartert, Cat. Birds Brit. Mus. xvi, p. 475).

Hirundinapus gigantea, C. ii, p. 5 (Malewoon).

We have not seen specimens of this race from S. W. or Peninsular Siam, but it is an occasional straggler as far south as Selangor. Intermediate forms also occur.

Chaetura leucopygialis (Blyth).

Acanthylis leucopygialis, Blyth, Journ. Asiat. Soc. Bengal, xviii, 1849, p. 809 (Penang).

Chaetura coracina, A., p. 45 (Choungthanoung; Pakchan).

Rhipidura leucopygialis, C. ii, p. 6 (S. Tenasserim).

Probably common, but hard to obtain.

223. *Apus pacificus pacificus* (Lath.).

Hirundo pacifica, Latham, Ind. Orn. Suppl., 1801, p. lviii (New South Wales).

Cypselus pacificus, A., p. 48 (Bankasoon); H., p. 146 (Koh Pennan).

♂. Kandhuli, Chaiya, Peninsular Siam, 12 September 1919, E. Seimund (C).

Wing 175 mm.

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardiner, Journ. N. H. Soc., Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

We are unable to say if the darker form described by the late Col. Harington as *C. p. cooki* from the Northern Shan States (Bull. Brit. Orn. Club, xxxi, 1913, p. 57: Goteik, N. Shan States) occurs in Peninsular Siam; the probabilities are that it does, as we have one specimen closely agreeing with the description, shot on the summit of Kedah Peak in December 1915.

224. *Apus affinis subfurcatus* Blyth.

Cypselus subfurcatus, Blyth, Journ. Asiat. Soc. Bengal, xviii, 1849
p. 807 (Penang); A., p. 47 (Malewoon); J., p. 155 (Koh Muk,
Trang).

Apus affinis subfurcatus, I., p. 107 (Koh Lak).

The common House-Swift in Peninsular Siam.

225. *Tachornis batassiensis infumatus* (Sel.).

Cypselus infumatus, Selater, P. Z. S. 1865, p. 602 (Borneo); A., p.
48 (Mergui to Malewoon).

Tachornis infumatus, E., p. 107 (Patani); F., p. 38 (Trang); H.,
p. 146 (Koh Samui); I., p. 107 (Koh Lak); Hartert, Cat. Birds
Brit. Mus. xvi, 1892, p. 468 (Kossoom and "Poonya" Pangnga?).

Common among the Lontar Palms (*Borassus flabellifer*)
wherever they occur.

226. *Hemiprocne longipennis harterti* Stres.

Hemiprocne longipennis harterti, Stresemann, Nov. Zool. xx, 1913,
p. 339 (Deli, Sumatra).

Dendrochelidon longipennis, A., pp. 52, 498 (Nwalabo to Malewoon).

Macropteryx longipennis, F., p. 38 (Trang).

227. *Hemiprocne comata comata* (Temm.).

Cypselus comata, Temminck, Pl. Col., 1824, pl. 268 (Sumatra).

Dendrochelidon comata, A., p. 51 (Choungthanoung to Malewoon).

Macropteryx comata, F., p. 38 (Trang).

Both these Tree-Swifts are common, especially on the banks
of the larger rivers in jungle country.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

K. Kloss, Ibis, 1918.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

iii, 1919.

(third part).

TROGONIDAE.

TROGONS.

1	{ Abdomen yellow or orange yellow	..	<i>Pyrotrogon oreskios uniformis</i>		
1	Abdomen brown or buffy brown	..	..	..	2
	{ Abdomen red or pink	..	..	..	3
2	{ Breast and abdomen uniform dark brown		<i>P. orrophæus</i> , ♀	..	.
2	Breast brownish grey, abdomen buffy brown		<i>P. kasumba</i> , ♀	..	.
3	{ Smaller, wing less than 5 inches	..	..	..	4
	Larger, wing more than 5 inches	..	..	..	6
4	{ Head and throat brown, abdomen pink	..	<i>P. duvauceli</i> , ♀	..	.
4	Head and throat black, abdomen red	..	..	..	5
5	{ Rump scarlet	..	<i>P. duvauceli</i> , ♂	..	.
	Rump light brown	..	<i>P. orrophæus</i> , ♂	..	.
6	{ Outer tail-feathers partly white speckled with black	..	..	..	7
	Outer tail-feathers partly uniform white	..	..	..	8
7	{ Head and breast black, nape pink	..	<i>P. neglectus sumatrurus</i> , ♂		
	Head, breast and nape brown	..	<i>P. n. sumatrurus</i> , ♀		
8	{ Head and breast black, a red nape-band	..	<i>P. kasumba</i> , ♂		
	Head, breast and nape dull red	..	<i>P. e. erythrocephalus</i> , ♂		
	(Head, breast and nape brown	..	<i>P. e. erythrocephalus</i> , ♀		

228. *Pyrotrogon kasumba* Raffles.

Trogon kasumba, Raffles, Trans. Linn. Soc. xiii, 1821, p. 282 (Sumatra).

Two males obtained by Mr. W. J. F. Williamson's collector at Bangnara, Patani, 10–14 July, 1916, constitute the first record for this species in Siam.

Pyrotrogon erythrocephalus erythrocephalus (Gould).

Trogon erythrocephalus, Gould, P. Z. S. 1834, p. 25 (near Rangoon). *Harpactes erythrocephalus*, C. ii, p. 99 (Muleyit); E., p. 106 (Perak-Pahang boundary).

Pyrotrogon erythrocephalus, I., p. 105 (North Siam).

This is one of the commonest mountain trogons in the Malay States and will certainly be found eventually in the Siamese portions of the Peninsula. Oates states that it is abundant in Pegu, where it is commonest in the hills, and Gyldenstolpe obtained several examples in North Siam.

A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gardiner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

229. *Pyrotrogon diardi sumatranaus* (Blasius).

Harpactes diardi sumatranaus, Blasius, Mitt. d. Geogr. Ges. u. d. Naturh. Mus. zu Lübeck, ii Reihe, Heft x, 1896, p. 95 (Sumatra and Malay Peninsula).

Pyrotrogon diardi, B., p. 61 (Malay Peninsula).

Pyrotrogon diardi neglectus, M., p. 438 (Tung Song, Peninsular Siam)

♀. Khao Luang, Nakorn Sri Tamarat, 2,000 ft., Peninsular Siam, 15 March 1922.

Müller's male from the Malay Peninsula probably came from the vicinity of Junk Seylon: and we obtained in 1909 another from Chong, Trang, Peninsular Siam.

Blasius's name antedates *neglectus* of Forbes and Robinson; but was published so inconspicuously that it was overlooked until attention was drawn to it by Snoukaert van Schauberg (Ibis, 1922, p. 665).

230. *Pyrotrogon oeskios uniformis* Robinson.

Pyrotrogon oeskios uniformis, Robinson, Journ. F. M. S. Mus. vii, 1917, p. 149 (Trang and Kedah, also Langkawi and Terutan Ids.); L., p. 97 (Junk Seylon).

Harpactes oeskios, A., pp. 66, 498 (Tavoy to Victoria Point); G., p. 150 (Ratburi and Petchaburi); O. Grant, Cat. Birds Brit. Mus. xvii, p. 495 (Tavoy to Victoria Point; Meklong, Siam).

Pyrotrogon oeskios, E., p. 106 (Patani); F., p. 39 (Trang and Langkawi Id.); H., p. 92 (Bandon); I., p. 105 Koh Lak).

Orescius gooldi, B., p. 61 (Junk Seylon).

♂. Renong river, Peninsular Siam, 21 February 1919 (No. 4148).

3 ♂. Tasan, Chumporn, Peninsular Siam, 16–28 March 1919 (Nos. 4619, 4747, 4908).

♂. Khao Luang, Nakorn Sri Tamarat, 3,000 ft., Peninsular Siam, 25 March 1922.

" Iris grey; orbits and base of bill small, culmen black; feet pale grey."

Total length ♂, 292, 285, 285; wing 123, 122, 122; tail 167, 172, 173; tarsus 1½, 12, 13; bill from gape 24, 22, 25 mm.

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|----|---|-------|---|
| I. | Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. | Robinson, Journ. F. M. S. Mus. vii, 1917. | | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. | Kloss, Ibis, 1918. | M. I. | Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
| L. | Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | | |

The Southern Malay Peninsula birds differ very slightly in having the bars on the secondaries and wing coverts rather closer together in both sexes than in the northern form. Both differ from the typical Javan bird in having the rump uniform chestnut without any wash of zanthine orange.

The species is generally distributed throughout the area under consideration, where it is, broadly speaking, very much commoner than it is in the more Southern Malay districts.

231. Pyrotrogon orrophæus Cab. & Heine.

Pyrotrogon orrophæus, Cab. & Heine, Mus. Hein., Th. iv, 1863, p. 156 (Malacca); B., p. 60 (Malay Peninsula).

The specimen recorded by Müller from the Malay Peninsula probably came from the neighbourhood of Junk Seylon. The most northerly example of *P. orrophæus* obtained by us is one from a few miles north of Taiping in Perak: it is apparently a very rare bird in the Malay States.

232. Pyrotrogon duvauceli (Temm.).

Trogon duvauceli, Temminck, Pl. Col., 1824, pl. 291 (Sumatra).

Harpactes duvauceli, A., pp. 63, 498 (Nwalabo to Malewoon); E., p. 106 (Patani); M. p. 437 (Tung Song, Peninsular Siam).

2 ♂. Tasan, Chumphorn, Peninsular Siam, 22–28 March 1919 (Nos. 4785, 4914).

"Iris dark; supraorbital region silvery cobalt, infraorbital white; bill small, deeper at gape, culmen black; feet purplish."

Total length 225,—; wing 103,—; tail 133,—; tarsus 10,—; bill from gape 23,— mm.

We can see no tangible differences between Northern Malay, Southern Malay, Sumatran and Bornean birds; but our series from the two latter regions is poor.

A. Hume, & Davison, *Stray Feathers*, vi, 1878.
 B. Müller, *Die Ornith. der Inselalanga*, 1882.
 C. Oates, *Birds Brit. Burmah*, Vols. i. & ii 1883.
 D. Bonhote, *P. Z. S.* 1901, Vol. i.

E. O. Grant, *Fasciculi Malayenses*, iii (Birds), 1905.
 F. Robinson and Kloss, *Ibis*, 1910-11.
 G. Gairdner, *Journ. N. H. Soc. Siam*, i, 1915.
 H. Robinson, *Journ. F. M. S. Museums*, v, 1915.

CUCULIDAE.
CUCKOOS.

1	{ Head crested	<i>Clamator coromandus</i>	2
	{ Head not crested		
2	{ Tarsus feathered anteriorly; wing pointed and longer than tail		3
	{ Tarsus naked; wing rounded and about equal to tail	<i>Eudynamis s. malayana</i>	18
	{ Tarsus naked; wing rounded and shorter than tail		
3	{ Secondaries scarcely exceeding half the length of wing		4
	{ Secondaries two thirds the length of wing or more		5
4	{ No subterminal black band on tail	<i>Cuculus canorus bakeri</i>	
	{ A subterminal black band on tail	<i>C. m. micropterus</i>	
5	{ Tail square or forked; plumage black	<i>Surniculus lugubris diceruroides</i>	6
	{ Tail rounded and graduated; plumage not black		
6	{ Larger, wing more than 5.5 inches; tail with 3 or 4 black bars		7
	{ Smaller, wing not more than 5 inches; tail with no bars or with many		10
7	{ Wing less than 6 inches: a distinct dark malar stripe	<i>Hierococcyx nanus</i>	
	{ Wing more than 6 inches: no distinct dark cheek stripe		8
8	{ Abdomen never banded: back in adults blackish grey: wing 6.7 to 7.5 inches	<i>H. fugax nisicolor</i>	
	{ Abdomen transversely banded in adults		9
9	{ Wing 7 to 8 inches: back in adults ashy grey	<i>H. varius</i>	
	{ Wing over 8.5 inches: back in adults brown	<i>H. sparverioides</i>	
10	{ Ground colour of throat not white		11
	{ Throat whitish with dark cross-bars		12
11	{ Fore neck rufous like the abdomen: head like the back, generally bronzed; white on inner webs of tail-feathers confined to the edge	<i>Cacomantis s. sepulchralis</i>	
	{ Fore neck grey contrasting with abdomen: head grey, paler than the back: white on inner web of tail-feathers extending to, or near, the shafts	<i>C. merulinus querulus</i>	
12	{ Upper parts always barred: not metallic	<i>Penthoceryx sonnerati venustus</i>	
	{ Upper parts unbarred in adults: metallic		13
13	{ Upper parts entirely or partly deep purple	<i>Chalcococcyx xanthorhynchus</i> , ♂	
	{ No purple above		14
14	{ Head rufous		15
	{ Head not rufous		16
15	{ Back, wings and tail barred rufous and green or greenish bronze: upper mandible dark throughout	<i>C. xanthorhynchus</i> , imm.	
	{ Back, wings and tail entirely coppery green: upper mandible pale at base	<i>C. maculatus</i> , ♀	
16	{ Upper parts deep shining green: upper mandible pale at base	<i>C. maculatus</i> , ♂	
	{ Upper parts not intense green: upper mandible entirely dark		17

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- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 J. Robinson, Journ. F. M. S. Mus. vii, 1917. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 K. Kloss, Ibis, 1918. (second part).
 L. Robinson and Kloss, Journ. N. H. Soc. Siam, iv, 1920. (third part.).
 iii, 1919. M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

17	{ Greenish bronze above; much white on forehead: | little chestnut in tail	<i>C. m. malayanus</i> , ♂, ♀
	{ Coppery green above; little or no white on forehead: | much chestnut in tail	<i>C. xanthorhynchus</i> , ♀ ad.
18	{ Claws of all toes similar .. .. | Claw of hind toe very long and nearly straight	19 24
19	{ Bill red throughout; general colour above grey .. | Bill wholly or partly green	<i>Zanclostomus javanicus pallidus</i> 20
20	{ Culmen almost straight, back ferruginous .. | Culmen much curved throughout, back metallic | green	<i>Rhinortha c. chlorophaea</i> 21
21	{ Tail-feathers tipped chestnut .. .. | Tail-feathers tipped white	<i>Phoenicophaeus c. erythrogaster</i> 22
22	{ Abdomen chestnut .. .. | Abdomen not chestnut	<i>Rhopodytes sumatranaus</i> 23
23	{ Wing 6 inches or more, abdomen grey .. .. | Wing about 5 inches, abdomen blackish	<i>R. tristis longicaudatus</i> <i>R. diardi</i>
	{ Wing about 5.5 inches, under wing-coverts | chestnut	<i>Centropus bengalensis javanicus</i>
24	{ Wing about 8 inches, under wing-coverts not | chestnut	<i>C. sinensis intermedius</i>

233. *Clamator coromandus* (Linn.).

Cuculus coromandus, Linn., Syst. Nat. i, 1766, p. 171 (Coromandel).
Coccyzus coromandus, B., p. 54 (Junk Seylon); F., p. 39 (Trang and Langkawi); J., p. 158 (Langkawi, Terutau and Telibon Ids.).

Not uncommon in the winter months over the whole of the Malay Peninsula.

234. *Surniculus lugubris dicruroides* (Hodgs.).

Pseudornis dicruroides, Hodgson, Journ. Asiat. Soc. Bengal, viii, 1839, p. 136, pl. (Nepal).

Cucangelus lugubris, B., p. 52 (Junk Seylon).

Surniculus lugubris dicruroides, J., p. 156 (Langkawi, Terutau, Telibun and Lontar Ids.; Trang; Perlis); K., p. 97 (Koh Lak); L., p. 97 (Junk Seylon; Ghirbi).

♀. Koh Lak, S. W. Siam, 2 April 1919. [No. 4946].

"Iris dark hazel; bill black; feet purplish grey."

Total length 250; wing 138; tail 134; tarsus 15.5; bill from gape 24.5 mm.

Adult birds from Khao Luang, Nakorn Sri Tamarat, have the wings 144, 138, 140, 126 mm., the last showing an approach to *S. l. brachyrurus*.

A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciuli Malayenses, iii (Birds), 1906.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

Practically all the specimens from Siam examined by us have been definitely referable to this northern form: it is probable, however, that lowland specimens from Patani will prove to belong to the smaller southern Malayan race, *S. l. brachyurus* Stresemann (Nov. Zool. xx, 1913, p. 340).

235. Hierococcyx sparverioides (Vig.).

Cuculus sparverioides, Vigors, P. Z. S. 1831, p. 173 (Himalayas).
Hierococcyx sparverioides, F., p. 40 (Trang); J., p. 159 (Langkawi and Lontar Ids.); L., p. 98 (Ghirbi and Pulau Panjang).

Presumably a winter visitor only. Not recorded from S. Tenasserim or any part of Siam other than the Peninsula.

236. Hierococcyx varius (Vahl.).

Cuculus varius, Vahl., Skriv. Nat. Selsk., iv, 1797, p. 61 (India).
Hierococcyx varius, Christiani in Williamson, Journ. N. H. Soc. Siam, ii, 1916, p. 61 (S. W. Siam).

A female obtained by Mr. C. J. Aagaard at Hua Hin on 14th, April 1914, is the only record for Siam.

237. Hierococcyx fugax nisicolor (Hodgs.).

Cuculus nisicolor, Blyth, Journ. Asiat. Soc. Bengal, xii, 1843, p. 943 (Nepal).
Hierococcyx nisicolor, F., p. 40 (Trang); H., p. 93 (Bandon); J., p. 159 (Terutau Id.).

Probably a winter visitor only: it is common as a migratory bird in the Straits of Malacca in October and November.

A nearly adult pair were obtained on Khao Luang, Nakorn Sri Tamarat, in March 1922.

238. Hierococcyx nanus Hume.

Hierococcyx nanus, Hume, Stray Feathers, v, 1877, p. 490 (Bankasoon); A., p. 157, 502 (Tavoy to Bankasoon); B., p. 53 (Junk Seylon).

Hierococcyx fugax nanus, M., p. 438 (Maprit, Peninsular Siam).

A rare and possibly resident form: we have a few specimens from various parts of the Malay Peninsula. Stuart Baker in claiming the Maprit bird as a record for Siam has overlooked Müller's

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| Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

specimen from Junk Seylon. We do not think it advisable to regard this bird as a subspecies of the widespread *H. fugax*, forms of which also occur in the district.

239. *Cuculus micropterus micropterus* Gould.

Cuculus micropterus, Gould, P. Z. S. 1837, p. 137 (Himalayas); A., p. 156 (near Mergui) : D., p. 74 (Patani) ; E., p. 40 (Trang; Langkawi) : J., p. 159 (Langkawi).

Cuculus striatus, B., p. 54 (Junk Seylon).

Fairly common in winter.

240. *Cuculus canorus bakeri* Hartert.

Faun. Pal. Vog. ii, 1912, p. 948 (Shillong).

♂ vix ad. Koh Lak, S. W. Siam, 6 April 1919 (No. 5123).

" Iris brown, orbital ring chrome; bill yellowish, black on culmen, reddish at base; feet pale yellow."

Total length 332; wing 198; tail 172; tarsus 19; bill from gape 28 mm.

It seems most convenient to refer this bird to the Assamese race. It has nothing to do with *C. micropterus*, as the tail is uniform blackish grey with no trace of a subterminal band; upper surface ash grey, paler on head; bands on chest dark brown, narrower than in *C. micropterus*.

241. *Penthoceryx sonnerati venustus* (Jerdon).

Cuculus venustus, Jerdon, Madr. Journ. xiii, 1842, p. 140 (Malacca).
Penthoceryx sonnerati, B., p. 52 (Junk Seylon); E., p. 40 (Trang); L. p. 98 (Ghirbi).

Penthoceryx sonnerati pravata, Robinson & Kloss, Journ. F. M. S. Mus. viii, pt. 2, 1918, p. 135 (North Malay Peninsula).

Penthoceryx sonnerati venustus, Baker, Bull. Brit. Orn. Club, xxxix, 1919, p. 46 (Central Tenasserim, southwards).

Our specimens possess the characters given for *P. venustus* (Jerdon) by Mr. Baker (*l. c. s.*).

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1892. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

242. *Cacomantis merulinus querulus* Heine.

Cacomantis querulus, Heine, Journ. f. Orn. 1863, p. 352 (Nepal; Burma).

Cacomantis threnodes, A., p. 158 (Mergui to Bankasoon); B., p. 53 (Junk Seylon); C. ii, p. 112 (Tenasserim and Malay Peninsula).

Cacomantis merulinus, Shelley, Cat. Birds B. M. xix, 1891, p. 268 (Mergui to Bankasoon); E., p. 105 (Patani); F., p. 40 (Trang); H., p. 146 (Koh Samui).

Cacomantis merulinus querulus, I., p. 101 (Koh Lak); K., p. 98 (Koh Lak); L., p. 98 (Junk Seylon).

♂. Mamok, Pakchan, Peninsular Siam, 28 February 1919 (No. 4315).

♂ ad, ♀ imm. Tapli, Pakchan, Peninsular Siam, 9 March 1919 (Nos. 4321, 4449).

♂ imm. Tasan, Chumporn, Peninsular Siam, 17 March 1919 (No. 4658).

" Iris crimson or reddish; bill black, gape yellow; feet ochreous or yellow."

Total length ♂, 216, 225, 212; ♀, 215; wing ♂, 103, 109, 107; ♀, 104; tail ♂, 115, 119, 113; ♀, 107; tarsus ♂, 16, 18, 16; ♀, 16; bill from gape ♂, 23, 22.5, 23; ♀, 24 mm.

The paler southern race, *C. m. threnodes* Cab. and Heine, of the Malay States, has not yet been met with in Peninsular Siam.

243. *Cacomantis sepulchralis sepulchralis* (Müller).

Cuculus sepulchralis, S. Müller, Verh. Nat. Gesch. Land-en Volkenk, 1839-44, p. 177, note (Java and Sumatra).

Cacomantis sepulchralis sepulchralis, J., p. 155 (Koh Muk; Trang).

♂ ad., ♀ imm. Tapli, Pakchan, Peninsular Siam, 4 March 1919 (Nos. 4416, 4423).

" Iris brown, orbital ring yellow; bill black, reddish at base; feet yellow, claws dark."

Total length ♂, 225; ♀, 240; wing ♂, 107; ♀, 112; tail ♂, 125; ♀, 127; tarsus ♂, 15; ♀, 16; bill from gape ♂, 23.5; ♀, 25 mm.

Two examples were obtained on Khao Luang, Nakawn Sri Tamarat, in March 1922.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part),

K. Kloss, Ibis, 1918.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

(third part).

244. *Chalcococcyx maculatus* Gm.

Trogon maculatus, Gmelin, Syst. Nat. i, 1788, p. 404 (Ceylon : errore ! Substitute Pegu).

Chalcococcyx maculatus, F., p. 41 (Trang) ; L., p. 98 (Ghirbi).

Both this species and *C. zanthonrhynchus* are commoner in the north of the Peninsula than the south, but are everywhere rare.

Though Gmelin described this bird as from Ceylon, the species does not seem to occur there and we have therefore selected Pegu for the typical locality.

245. *Chalcococcyx xanthorhynchus* (Horsf.).

Cuculus xanthorhynchus, Horsfield, Trans. Linn. Soc. xiii, 1821, p. 179 (Java).

Chalcococcyx xanthorhynchus, A., p. 506 (Bankasoon and Tavoy) ; E., p. 105 (Patani) ; F., p. 41 (Trang) ; H., p. 93 (Bandon) ; Shelley, Cat. Birds B. M. xix, 1891, p. 291 (Ghirbi ; Bankascon ; Tavoy) ; Williamson, Journ. Nat. Hist. Soc. iii 1918, p. 25 (Patani and Bangkok).

Chrysococcyx xanthorhynchus, C. ii, p. 114 (Malewoon) ; Salvad., Ann. Mus. Civ. Gen. (2) vii, 1889, p. 433 (Malewoon).

246. *Chalcococcyx malayanus malayanus* (Raffles).

Cuculus malayanus, Raffles, Trans. Linn. Soc. xiii, 1822, p. 286 (Malay Peninsula).

Chalcococcyx malayanus, E., p. 105 (Patani).

Possibly a winter visitor : the specimen from Patani is the only record for the Kingdom of Siam.

247. *Eudynamis scolopacea malayana* (Cab. & Heine).

Eudynamis malayana, Cabanis and Heine, Mus. Hein. iv, 1862, p. 52 (Sumatra) ; A., p. 162 (Tavoy to Bopyin) ; B., p. 54 (Junk Seylon) ; C. ii, p. 119 (Burma and Malay Peninsula).

Eudynamis honorata, D., p. 74 (Patani) ; E., p. 105 (Patani) ; G., p. 150 (Ratburi and Petchaburi).

Eudynamis orientalis, F., p. 41 (Trang) ; H., p. 146 (Koh Samui and Koh Pennan).

Eudynamis orientalis malayana, J., p. 161 (Trang ; Koh Pennan ; Koh Samui ; Langkawi) ; K., p. 99 (Tachin) ; L., p. 98 (Junk Seylon ; Pulau Panjang).

Eudynamis orientalis honorata, J., p. 161 (Langkawi).

♀. Pulau Mohea, Peninsular Siam, 2 February 1919 (No. 3917).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi. 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1906. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

♂, 2 ♀. Koh Pipidon, Ghirbi Bay, Peninsular Siam, 3 - 4 February 1919 (Nos. 3927-28, 3934).

♂. Tung Pran, Takuatung, Peninsular Siam, 12 February 1919 (No. 3960).

♀. Mamok, Pakchan, Peninsular Siam, 28 February 1919 (No. 4307).

"Iris red; bill bluish or greenish slate; feet plumbeous green."

Total length ♂, 395, 423; ♀, 408, 398, 428, 417; wing ♂, 198, 198; ♀, 201, 196, 210, 207; tail ♂, 194, 203; ♀, 203, 198, 208, 203; tarsus ♂, 31, 33; ♀, 38, 31, 33.5, 35; bill from gape ♂, 36, 39; ♀, 42, 40, 40, 39 mm.

From their larger dimensions this series would appear to belong to the Malayan form, *E. s. malayana*, but discrimination between this and the closely allied small Indian form, *E. s. scolopacea* (Linn.), is difficult and uncertain. Hartert gives the wing-length of the latter as 187-197 mm. (Nov. Zool. x, 1903, p. 236), and no Siamese birds we have seen are so small.

248. *Centropus sinensis intermedius* (Hume).

Centrococcyx intermedius, Hume, Stray Feathers, i, 1873, p. 454 (Dhoon; Dacca; Thayetmyo); A., p. 168 (Tavoy to Pakchan).

Centrococcyx rufipennis, B., p. 59 (Junk Seylon).

Centrococcyx eurycercus, B., p. 60 (Malay Peninsula).

Centropus sinensis, D., p. 74 (Patani); E., p. 105 (Patani); F., p. 41 (Trang); G., p. 150 (Ratburi and Petchaburi).

Centropus sinensis intermedius, H., pp. 92, 146 (Bandon; Koh Samui; Koh Pennan); J., p. 157 (Koh Muk and Koh Lontar; Trang); K., p. 99 (Koh Lak); L., p. 99 (Ghirbi; Junk Seylon; Pulau Panjang); M., p. 441 (Peninsular Siam).

♂ ?. Koh Pipidon, Ghirbi Bay, Peninsular Siam, 5 February 1919 (Nos. 3942, 3).

♂, ♀ ?. Koh Yam Yai, Renong, Peninsular Siam, 18 February 1919 (Nos. 4108, 4110).

♂ imm. Koh Tung Pran, Takuapah, Peninsular Siam, 18 February 1919 (No. 4100).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

K. Kloss, Ibis, 1918.

(second part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

2 ♀. Namchuk, Pakchan, Peninsular Siam, 25 February 1919
(Nos. 4221, 4229).

♂. Hat Sanuk, S. W. Siam, 14 April 1919 (No. 5298).

"Iris carmine; bill and feet black."

Total length ♂, 497, 498, 500; ♀, 475, 498, 560; wing ♂, 205, 197, 190; ♀, 196, 198, 209; tail ♂, 268, 256, 272; ♀, 258, 260, 280; tarsus ♂, 54, 48, 49; ♀, 52.5, 55, 55; bill from gape ♂, 47, 43, 41; ♀, 45, 47, 52 mm.

Birds from Patani probably belong to the South Malay and Sumatran race, *Centropus s. bubutus* (Horsf., Trans. Linn. Soc. xiii, 1821, p. 180), which has a longer wing and a longer but narrower tail, and is duller chestnut in colour.

249. *Centropus bengalensis javanicus* (Dumont).

Cuculus javanicus, Dumont, Dict. Sci. Nat. xi, 1818, p. 144 (Java).

Centropus bengalensis, A., p. 171 (Tavoy to Malewoon); G., p. 150 (Ratburi and Petchaburi).

Centrococcyx bengalensis, B., p. 58 (Junk Seylon); C. ii, p. 127 (Tenasserim).

Centropus javanicus, Shelley, Cat. Birds, B. M. xix, 1891, p. 355 (Tavoy; Bankasoon; Malewoon; Siam).

Common in long grass.

250. *Zanclostomus javanicus pallidus* Rob. & Kloss.

Zanclostomus javanicus pallidus, Rob. & Kloss, Journ. Fed. Malay States Mus. x, 1921, p. 203 (Kedah).

Zanclostomus javanicus, A., pp. 107, 506 (Tavoy to Malewoon); B., p. 57 (Junk Seyon); E., p. 104 (Patani); F., p. 42 (Trang); H., p. 94 (Bandon); Robinson and Kloss, Journ. Fed. Malay States Mus. vi, 1916, p. 226 (Kedah).

A hill bird, fairly common in heavy jungle.

The typical form, a more deeply coloured bird, is confined to Java, whence we have large series

251. *Rhopodytes tristis longicaudatus* Blyth.

Phaenicophaeus longicaudatus, Blyth, Journ. Asiatic Soc. Bengal, x, 1841, p. 923 (Moulmein); I., p. 104 (Koh Lak); K., p. 100 (Koh Lak).

Rhopodytes tristis, A., p. 162 (Tavoy; Tenasserim town); C. ii, p. 161 (Mergui; Tenasserim river); E., p. 103 (Patani); F., p. 42 (Trang); H., pp. 94, 146 (Bandon and Koh Samui).

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| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornis der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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♂ ad. Mamok, Pakchan, Peninsular Siam, 28 February 1919 (No. 4306).

♂ ad., ♀ ad. Tapli, Pakchan, Peninsular Siam, 6-8 March 1919 (Nos. 4445, 4506).

3 ♂, 1 ♀. Koh Lak, S. W. Siam, 2-7 April 1919 (Nos. 4928, 4970, 5117, 5137).

3 ♂, 1 ♀, 1 unsexed. Hat Sanuk, near Koh Lak, S. W. Siam 12-17 April 1919 (Nos. 5262, 5270, 5314, 5343, 5370).

" Iris red, orbital skin red; bill green; feet plumbeous."

Total length ♂, 587, 555, 603, 555, 555, 530, 568, 618; ♀, 468, 591, 503; wing ♂, 153, 150, 162, 159, 157, 155, 160, 169; ♀, 162, 156, 158; tail ♂, 390, 380, 420, 395, 373, 375, 410, 435; ♀, 290, 411, 340; tarsus ♂, 38, 36, 36, 41, 37, 35, 36, 36; ♀, 37, 37, 37; bill from gape ♂, 39, 41, 41, 38, 40, 37, 37, 38; ♀, 37, 37, 38, mm.

Hartert's *Rhopodytes tristis hainanus* of Hainan (Nov. Zool. xvii, 1910, p. 218) does not differ in size of wing from Blyth's earlier described but overlooked form from Tenasserim, and unless there exist differential characters hitherto unnoted, that name will have to rank as a synonym of *R. t. longicaudatus*.

252. *Rhopodytes diardi* (Less.).

Melias diardi, Lesson, Traité d'Ornith., 1831, p. 132 (Sumatra).

Rhopodytes diardi, A., p. 163 (Mergui to Malewoon); D., p. 75 (Patani); E., p. 103 (Patani); F., p. 42 (Trang); L., p. 99 (Ghirbi).

253. *Rhopodytes sumatranus* (Raffles).

Cuculus sumatranus, Raffles, Trans. Linn. Soc. xiii, 1822, p. 287 (Sumatra).

Rhopodytes sumatranus, A., p. 164 (Meigui to Malewoon); B., p. 56 (Malay Peninsula); J., p. 158 (Trang); L., p. 29, (Ghirbi); Salvad., Ann. Mus. Civ. Gen. (2) vii, 1889, p. 433 (Malewoon). *Poliococcyx sumatranus*, C. ii, p. 123 (S. Tenasserim).

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

254. *Rhinortha chlorophaea chlorophaea* (Raffles).

Cuculus chlorophaea, Raffles, Trans. Linn. Soc. xiii, 1822, p. 288 (Sumatra).

Rhinortha chlorophaea, A., p. 166 (Travoy to Bankasoon); B., p. 57 (Junk Seylen); E., p. 104 (Patani); F., p. 42 (Trang).

Rhinortha chlorophaea chlorophaea, M., p. 440, (Tung Song, Peninsular Siam).

♂. Tapli, Pakchan, Peninsular Siam, 3 March 1919 (No. 4377).

"Iris dark; orbital skin verditer; bill green; feet grey."

Total length 330; wing 116; tail 180; tarsus 27; bill from gape 33 mm.

255. *Phoenicophaës curvirostris erythrogynathus* Bp.

Phoenicophaës erythrogynathus, Bonaparte, Conspl. Av., i, 1850, p. 98 (Sumatra); A., pp. 165, 506 (Tavoy to Malewoon); M., p. 449 (Peninsular Siam).

Rhamphococcyx erythrogynathus, B., p. 57 (Junk Seylon and Malay Peninsula); Salvad. Ann. Mus. Civ. Gen. (2) vii, 1889, p. 433 (Malewoon).

Urocoecyx erythrogynathus, D., p. 76 (Patani); F., p. 43 (Trang); H., p. 94 (Bandon); L., p. 99 (Ghirbi and Junk Seylon).

3 ♂. Tasan, Chumporn, Peninsular Siam, 20–23 March 1919 (Nos. 4724, 4772, 4817).

"Iris orange, orbital skin crimson; bill green, red at base; feet greenish plumbeous."

Total length 465, 442, 460; wing 165, 170, 110; tail 280, 255, 260; tarsus 45, 42, 41; bill from gape 42, 45, 46 mm.

A. Hume, & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Inselalanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.
 D. Bonhote, P.Z.S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910–11.
 G. Gardiner, Journ. N.H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F.M.S. Museums, v, 1915.

CAPITONIDÆ.

BARBETS.

1	{ No green on plumage; no rictal bristles Prevailing colour green; long rictal bristles	<i>Calorhamphus fuliginosus hayi</i>	2
2	{ Head and neck brown, more or less streaked Head and neck with bright colours	.. .. ..	3
3	{ Ear-coverts and breast brownish Ear-coverts and breast green	<i>Thereiceryx lineatus intermedius</i> <i>T. f. faiostriata</i>	4
4	{ Breast striped Breast not striped	<i>Xantholæma hæmocephala indica</i>	5
5	{ Crown green Crown not green	<i>Cyanops incognita</i>	6
6	{ Lower cheeks bright yellow Lower cheeks not bright yellow	.. .. .. ..	12
7	{ Crown red Crown not red	<i>Chotorhea mystacophanes</i> (see 13)	7
8	{ Forehead black Forehead yellow	.. .. .. ..	11
9	{ Forehead red Crown blue	<i>Cyanops heurici</i>	9
10	{ Forehead red Crown yellow	.. .. .. ..	10
11	{ Subocular patch pure red, a distinct black gorget Subocular patch red and yellow, no marked black gorget	<i>C. d. duvauceli</i> <i>C. d. stuarti</i>	.
12	{ Crown uniform red Crown banded	<i>Chotorhea r. rafflesii</i> <i>Ch. chrysopogon laetus</i>	.
13	{ Forehead yellow Forehead blue	<i>Ch. mystacophanes</i> , ♂ <i>Ch. mystacophanes</i> , ♀	.

256. *Calorhamphus fuliginosus hayi* (J. E. Gray).*Bucco hayi*, Gray, Zool. Misc. 1832, p. 33 (Malacca).*Calorhamphus hayi*, A., p. 149 (Bankasoon and Malewoon); C. ii.
p. 138; F., p. 43 (Trang); H., p. 165 (Pulau Lontar); L., p. 99
(Tongkah or Puket).*Calorhamphus fuliginosa hayi*, M., p. 431 (Peninsular Siam).

♂. Tasan, Chumporn, Peninsular Siam, 16 March 1919
(No. 4627).

"Iris rich brown; bill black; feet orange vermillion."

Total length 177; wing 78; tail 56; tarsus 25; bill from gape 29 mm.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part.)

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part.)

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part.)

This species is strictly an inhabitant of evergreen forests: the present bird is the northernmost recorded.

257. Chotorhea chrysopogon laetus Rob. & Kloss.

Chotorhea chrysopogon, D., p. 72 (Patani); F., p. 43 (Trang); H., p. 94 (Bandon).

Chotorhea chrysopogon laetus, Robinson & Kloss, Journ. Fed. Malay States Mus. viii, pt. ii, 1918, p. 141 (Negri Sembilan).

Chotorhea chrysopogon chrysopogon, M., p. 429 (Peninsular Siam).

Common in heavy jungle in Trang and Bandon, where it attains its northern limit.

There is no variation in this barbet through its range in the Malay Peninsula. The mainland form is distinguished from the typical Sumatran race by its deeper coloured yellow malar patches, and from the Bornean *Ch. chrysopogon chrysopsis** by its larger size, duller forehead without bright yellow tips to the feathers, and paler ear-coverts.

258. Chotorhea rafflesii rafflesii (Lesson).

Bucco Rafflesii, Lesson, Rev. Zool. 1839, p. 137 (Sumatra).

Chotorhea versicolor, F., p. 43 (Trang); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 24 (Patani).

Megalaema versicolor, B., p. 74 (Coast adjacent to Junk Seylon ?)
"Iris chestnut; bill black, slaty at base; feet greenish lead."

This Gaudy Barbet is common in the interior of Trang, but is not recorded from further north than the vicinity of Puket, whence Müller obtained one example.

Specimens from the whole length of the Peninsula, Trang, Perlis, Kedah, Perak, Selangor and Pahang exhibit no differences *inter se*; but we have been unable to compare them with typical Sumatran birds. Bornean birds, on the other hand, even when fully adult, have a paler blue superciliary stripe, and the quadrate yellow spot on the sides of the throat paler, less orange yellow, though, with Shelley, we can see no differences in the extent of the red on

* *Megalaema chrysopsis*, Goffin, Mus. Pays Bas, Buccones, 1863, p. 15.

A. Hume & Davison, Stray Feathers, vi, 1878.	E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915.
B. Müller, Die Ornith. der Insel Salanga, 1882.	F. Robinson and Kloss, Ibis, 1910-11.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.	G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
D. Bonhote, P. Z. S. 1901, Vol. i.	H. Robinson, Journ. F. M. S. Museums, v, 1915.

the crown and nape. They should be known as *Chotorhea rafflesii borneensis* (*Megalaema versicolor borneensis*, Blasius, Verh. Z. b. Ges. Wien, xxxiii, 1883, p. 25.)

Stresemann has pointed out (Anz. Orn. Ges. Bayern, 1921, p. 24) that *Bucco versicolor* Raffles, the name by which this species has universally been known, is preoccupied by *Bucco versicolor* P. L. S. Müller, and that the next oldest name is Lesson's.

259. Chotorhea mystacophanes (Temm.).

Bucco mystacophanes, Temminck, Pl. Col. 315, 1827 (Sumatra).

Bucco quadricolor, Eyton, P. Z. S., 1839, p. 105 (Malacca).

Megalaema mystacophanes, A., p. 152 (Nwalabo to Malewoon); B., p. 75 (Junk Seylon).

Chotorhea mystacophanes, C. ii, p. 72; F. p. 43 (Trang); H., p. 94 (Bandon).

Cyanops mystacophanes, D., p. 73 (Patani); F., p. 102 (Patani); M., p. 429 (Peninsular Siam).

Cyanops mystacophanes aurantiifrons, L., p. 100 (Ghirbi).

♀. Pangnga river, W. Peninsular Siam, 11 February 1919 (No. 3950).

♂, ♀. Mamok, Pakchan Estuary, Peninsular Siam, 28 February – 3 March 1919 (Nos. 4314, 4391).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 14 March 1919 (No. 4858).

5 ♂, 4 ♀. Tasan, Chumphon, Peninsular Siam, 16 – 27 March 1919 (Nos. 4628, 4648, 4669, 4715, 4820, 4841–2, 4867, 4911).

Male. "Iris rich brown; bill black; feet greenish plumbeous." Female. "Bill black, pale lead at base of lower mandible."

Total length ♂, 213, 208, 232, 211, 215, 198, —; ♀, —, 232, 228, 237, 225, 222; wing ♂, 95, 94, 97, 96, 98, 95, —; ♀, —, 96, 94, 100, 100, 98; tail ♂, 60, 56, 58, 60, 60, 57, —; ♀, —, 60, 58, 58, 58; tarsus ♂, 27, 26, 27, 26, 27, 27, —; ♀, —, 27.5, 26.5, 26, 26, 26; bill from gape ♂, 41, 42, 44, 44, 43, 41, —; ♀, —, 48, 44, 45, 45, 46 mm.

The characters on which we founded *C. m. aurantiifrons* are not stable, and the name cannot be maintained: the orange red fore-

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
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head, in some cases almost uniform with the vertex, is evidently connected with age: but whether it is a sign of youth or very extreme age we are unable to say with certainty, though we incline to the belief that very old birds have a pure yellow forehead.

The very large series in our possession makes it practically certain that the sexes in this barbet, as suggested by Salvadori and Blanford, are widely different. We have no female whatever in which any part of the throat is uniform red, or which possesses a clearly defined yellow or red frontal band. The blue beneath the eyes is always paler and the yellow spot at the base of the bill much reduced. Neither have any of them a marked blue throat-patch. We possess but few juvenile males, but one bird, barely half grown, has the red throat and the blue gular patch beneath it strongly marked.

The species is very much commoner in the southern parts of Peninsular Siam than it is in British Malaya. It has not, however, been recorded from S. W. Siam, where possibly *C. davisoni* takes its place. Stuart Baker again erroneously records Herbert's Tung Song specimen as new to Peninsular Siam, whence it has been repeatedly obtained.

Cyanops incognita (Hume).

Megalaema incognita, Hume, Stray Feathers, ii, 1874, pp. 442, 486
 (25 miles north of Yea); A., p. 501 (neighbourhood of Tavoy).
Cyanops asiatica? *incognita*, M., p. 429 (Tung Song, Peninsular Siam).

This species has been obtained so near the northern boundary of the area here dealt with that it is reasonable to include it among birds which occur in the northern half of the Peninsula. Mr. Stuart Baker identifies specimens as this form with considerable doubt: they are stated to be young birds.

260. *Cyanops davisoni* (Hume).

Megalaema davisoni, Hume, Stray Feathers, v, 1877, p. 108
 (Central Tenasserim); A., p. 151.
Cyanops davisoni, C. ii, p. 184; Shelley, Cat. Birds Brit. Mus. xix, 1891, p. 65, pl. iv, fig. 1; H., p. 94 (Khao Nawng, Bandon, 3,500 ft.); G., pp. 137, 149 (Rajburi and Petchaburi).

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| A. | Hume, & Davison, Stray Feathers, vi, 1878. | E. | O. Grant, Fasciculi Malayenses, iii (Birds), 1905 |
| B. | Müller, Die Ornith. der Inselalangka, 1882. | F. | Robinson and Kloss, Ibis, 1910-11. |
| C. | Oates, Birds Brit. Burmah, Vols. i. & ii 1883. | G. | Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. | Bonhote, P. Z. S. 1901, Vol. i. | H. | Robinson, Journ. F. M. S. Museums, v, 1915. |

The two specimens recorded from the upper slopes of Khao Nawng were obtained on 23rd and 25th June 1913. Male and female closely resemble each other; but in the latter the scarlet patches on the sides of the throat are only slightly developed. The red occipital patch is much smaller than shown in Shelley's figure, and the yellow tips to the feathers of the frontal red band are practically non-existent, as indeed is mentioned in Hume's original description.

Four birds (1 ♂, 3 ♀) obtained on Khao Luang, 4,500 ft., Nakorn Sri Tamarat, in March 1922, precisely agree with the two from Khao Nawng.

Possibly *C. davisoni* is only the fully adult *C. incognita*, which has precedence by three years.

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There are four other barbets that may possibly be found in Peninsular Siam — all being birds with the general plumage green :—

***Cyanops oorti* (S. Müll.).**

Throat rich yellow, succeeded by blue; a narrow frontal red band; crown pale yellow.

This is only likely to occur on high elevations in the south. It is elsewhere known from Sumatra and the mountains of the British portion of the Malay Peninsula, with an allied form, *C. o. annamensis*, in the mountains of Annam.

***Cyanops ramsayi* (Wald.).**

Throat yellow, succeeded by a broad silvery grey gorget, forehead broadly red, crown bright yellow; sides of the head silvery grey.

This also is only likely to be found at considerable elevations: it is known from Karennee, North Tenasserim, North Siam, and the mountains of Perak, Selangor and Pahang.

***Cyanops henricii* (Temm.).**

Throat blue, without yellow; forehead and superciliary stripe rich yellow almost surrounding a blue crown.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

This is a lowland species; it will be probably found to occur in Patani as it is known from North Kelantan.

Cyanops asiatica (Lath.).

Like *C. davisoni* but rather larger: a broad black median crown-band succeeded by a red forehead, the posterior feathers tipped with yellow forming a narrow line of that colour.

This species may possibly occur: it is known from North Siam.

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261. *Thereiceryx lineatus intermedius* Stuart Baker.

Megalaema hodgsoni, A., p. 151 (Tavoy; Shymotee).

Cyanops hodgsoni, C. ii, p. 132.

Thereiceryx hodgsoni, F., p. 102 (Patani).

Cyanops lineata, E., p. 73 (Kedah).

Thereiceryx lineatus hodgsoni, Hartert, Nov. Zool. ix, 1902, p. 546 (Kelantan).

Thereiceryx lineatus, Kloss, Journ. Fed. Malay States Mus. iv, 1911, p. 139 (Trengganu); G., p. 149 (Petchaburi and Rajaburi); K., p. 100 (Lat Bua Kao, E. Siam).

Thereiceryx lineatus intermedius, Stuart Baker, Bull. Brit. Orn. Club, xxxix, 1918, p. 9 (Fahpoon, N. Tenasserim); id., Ibis, 1919, p. 214; M., p. 427.

♂, ♀. Victoria Point, S. Tenasserim, 23–24 February 1919 (Nos. 4168 4186).

6 ♂. Namchuk, Pakchan Estuary, Peninsular Siam, 25–26 February 1919 (Nos. 4202–3, 4210, 4214, 4251–2).

2 ♀, Mamoh, Pakchan Estuary, Peninsular Siam, 26 February 1919 (Nos. 4266–7).

♂. Tapli, Pakchan Estuary, Peninsular Siam, March 1919 (No. 4426).

3 ♂, 2 ♀. Koh Lak, Rajburi, S. W. Siam, 4–9 April 1919 (Nos. 5057, 5067, 5070, 5170, 5198).

♂, 2 ♀. Hat Sanuk, Rajburi, S. W. Siam, 13–15 April 1919 (Nos. 5271, 5278, 5304).

"Iris dark brown, orbits pale chrome; bill pale brownish horn; feet yellow."

- A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.
- E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915.
 F. Robinson and Kloss, Ibis, 1910–11.
 G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

Total length ♂,	275, 276, 276, 270, 260, 268, 270, 275, 254, 272, 272, 263 mm.
Wing	127, 126, 128, 123, 125, 125, 125, 119, 121, 125, 119 (worn), 126 mm.
Tail	83, 105, 90, 85, 88, 90, 88, 82, 78, 90, 86, 82, mm.
Tarsus	31, 29.5, 30, 30, 31, 29, 29, 31, 25, 28.5 27.5, 26.5 mm.
Bill from gape	39.5, 41, 41, 39, 40.5, 39.5 42, 40, 36, 37.5, 41, 39 mm.
Total length ♀,	273, 282, 270, 255, 270, 269, 278 mm.
Wing	121, 127, 121, 118, 120, 124, 127 mm.
Tail	86, 87, 84, 78, 82, 85, 85 mm.
Tarsus	30, 28, 29, 30, 29, 30, 26 mm.
Bill from gape	38 app., 41, 38, 41, 40, 41, 42 mm.

It is curious that Davison should not have obtained this barbet at Pakchan Estuary, as it was very common both on the Siamese side and at Victoria Point, where its gong-like note at once attracted attention.

Our considerable series noted above is very constant both in size and colour, the dark edges to the feathers of the breast being not nearly so marked as on the birds from Eastern Siam, which are freshly moulted.

The racial divisions as laid down by Baker seem well justified, but we should like to hear more details about the type of *Megalaema maclellandii* Horsf. and Moore, from Assam. It is within the bounds of possibility that this name is the one really applicable to the present form.

As noted in the synonymy, the species spreads as far south as the coast of Trengganu. It has never been obtained in the Federated Malay States.

- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
- J. Robinson, Journ. F. M. S. Mus. vii, 1917.
- K. Kloss, Ibis, 1918.
- L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.
- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
- Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
- M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

262. *Thereiceryx faiostriatus faiostratus* (Temm.).

Bucco faiostriatus, Temm. Pl. Col. v, 1831, pl. 527 (Cochin China).
Thereiceryx flavostrictus, K., p. 100 (Lat Bua Kao, Eastern Siam).
Thereiceryx faiostriata faiostriata, Stuart Baker, Ibis, 1919, p. 216; M., p. 428 (S. E. Siam).

♀. Hat Sanuk, Rajburi, S. W. Siam, 16 April 1919 (No. 5344).

"Iris reddish orange, orbits sage; upper mandible black, tomia pale, lower mandible pale horn; feet greenish."

Total length 248; wing 113; tail 70; tarsus 26; bill from gape 38 mm.

Agrees closely in size and other particulars with specimens from Eastern Siam and Annam. The occurrence is an interesting extension of range, as the species does not appear to have been recorded from west of the Menam river.

263. *Mesobucco duvauceli stuarti* Rob. and Kloss.

Mosobucco duvauceli stuarti, Robinson & Kloss, Journ. N. H. Soc. Siam, iii, 1919, p. 100 (Junk Seylon).

Megalaema cyanotis, A., p. 155 (partim : spms. from Nwalabo ?, Tavoy ? and Malewoon).

Xantholaema cyanotis, C. ii, p. 137 (Southern birds).

Xantholaema duvauceli, B., p. 75 (Puket or Junk Seylon).

Mesobucco duvauceli, E., p. 102 (Nongchik, N. Patani).

Mesobucco cyanotis, F., p. 43 (Trang), H., p. 94 (Bandon).

Cyanops durauclii robinsoni, Stuart Baker, Bull. Brit. Orn. Club, xxxix, 1918, p. 20 (partim ; Peninsular Siam and Burma) ; id., Ibis, 1919 p. 219 (partim: Malay Peninsula, excluding the Malay States).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 2 March 1919 (No. 4350).

"Iris dark brown; bill black, base of lower mandible slate; feet sage green."

Total length 168; wing 77; tail 49; tarsus 18; bill from gape 23 mm.

By the kindness of the Director of the Zoological Survey of India we have before us a series of this genus from the collection of the Indian Museum, including the type of *Bucco cyanotis* Blyth, Journ. Asiat. Soc. Bengal, xvi, 1847, p. 465 (Aracan), and find that

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1906. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

Mesobucco cyanotis orientalis, Robinson, Ibis, 1915, p. 738, from the Siamese south-eastern frontier, is synonymous with it, as Mr. Stuart Baker has already shown. On the other hand, Peninsular Siam birds south to Perlis (thirteen adult birds examined) differ from the types of *M. d. cyanotis* and *M. c. orientalis* in being distinctly smaller with the wing apparently always under 80 mm. The black throat-spot is always obsolescent and the ear-coverts almost unmixed verditer blue, except in the bird from Perlis which is approaching *M. d. duvauceli*. We have named this form, as above, *M. d. stuarti*. Stuart Baker has named the bird from Klang, Selangor, *C. d. robinsoni*, giving as the range the whole of the Malay Peninsula, and stating that the ear-coverts are mixed blue and black and the black spot on the breast small. As regards birds from Perak, Selangor and further south, this is however not the case: somewhat immature birds, in which the black forehead is not sharply defined, have frequently the ear coverts mixed with blue, but fully adult birds often have them as black as in specimens from Sumatra and Borneo. In very many south Peninsula birds the black spot on the breast is fully as pronounced as in Bornean examples, of which we have a very large series. Sumatran birds are rather smaller and are *Mesobucco duvauceli duvauceli* (Less.), while the Malayan bird, wing 73-79, and the Bornean, wing 72-76, if any division is to be made, will have to be known as *M. d. borneensis* Parrot (Abhandl. Ak. Wissensch. Math. Phys. München, 1907, Kl. xxiv, pp. 149, 288). We have seen no birds from South Patani, nor are any on record; but, since Perlis examples are intermediate, they may possibly belong to the southern race.

Perhaps *very* large series of birds from the British portion of the Malay Peninsula and from Borneo may make it possible to retain the name *M. d. robinsoni* for the former, but on the very considerable numbers now in our possession we are quite unable to separate them.

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- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.: 56, No. 2, 1916.
 J. Robinson, Journ. F. M. S. Mus., vii, 1917.
 K. Kloss, Ibis, 1918.
 L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
 (first part).
 Baker, Journ. N. H. Soc. Siam, iii, 1919.
 (second part).
 M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
 (third part).

The type locality decides the question: the name *M. d. robinsoni* can only apply to birds from Selangor and those which agree with them, viz., birds of the Malay States. Those from more northern parts of the Peninsula, though associated by Baker with these, are different.

264. *Xantholaema haemacephala indica* (Lath.).

Bucco indicus, Lath. Ind. Orn. i, 1790, p. 205 (India).

Xantholaema haemacephala, A., p. 155 (Tavoy to Bankasoon); C. ii, p. 136; B., p. 75 (Puket or Junk Seylon); F., 44 (Trang); H., p. 95 (Bandon); G., p. 149 (Petchaburi and Rajaburi); Robinson & Kloss, Journ. Fed. Malay States Mus. viii, pt. ii, 1918, pp. 142, 143 (Sumatra); L., p. 101 (Junk Seylon; Ghirbi; Pulau Panjang); I., p. 101 (Koh Lak); Salvad. Ann. Mus. Civ. Gen. (2) vii, 1889 p. 432 (Malewoon); Williamson, Journ. Nat. Hist. Soc. Siam, ii, 1917, p. 325 (S. W. and Peninsular Siam).

Xantholaema haemacephala indica, Stuart Baker, Ibis, 1919, p. 221; M., p. 431 (Peninsular Siam).

♂. Namchuk, Pakchan Estuary, Peninsular Siam, 24 February 1919 (No. 4200).

♂, ♀. Koh Lak, Rajburi, Peninsular Siam, 1-3 April 1919 (Nos. 4925, 5011).

"Iris hazel, orbital ring crimson lake; bill black, pale at base; feet crimson."

Total length ♂, 155, 164; ♀, 161; wing ♂, 84, 24; ♀, 80; tail ♂, 38, 36; ♀, 38; tarsus ♂, 18, 20; ♀, 21; bill from gape ♂, 23, 23; ♀, 23 mm.

Baker's conclusions are in the main the same as ours. In the absence of specimens from the Philippines we refrained from dividing the species into races; but as he has now shown that the Philippine bird has a very much larger bill, *X. h. indicus* is correctly indicated as the name for the continental race.

We cannot, however, agree that the continental and Sumatran races are identical. We have now compared over thirty specimens of the latter with an equal number of the former, and find that in all the Sumatran birds the yellow patch below the scarlet one on the

A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915

breast is very much reduced or even entirely lacking; the difference is so striking and so constant that Parrot was fully justified in separating the Sumatran bird as *Megalaema haemacephala delica* (Abh. K. Bayer. Acad. d. Wissensch. 11. Kl., Bd. 24, 1 Abh., 1907 p 169: Deli, N. E. Sumatra). *Bucco rafflesius* Boie, applied to this bird, is a nomen nudum.

INDICATORIDAE.

INDICATORS OR HONEY-GUIDES.

265. *Indicator archipelagicus* Temm.

Indicator archipelagicus, Temminck, Pl. Col. 1832, pl. 542, fig. (Borneo); F., p. 44 (Trang).

The only record for Siam is the bird obtained by us in Trang in 1909.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
(second part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

PICIDAE.

WOODPECKERS.

1	{ Tail feathers with stiff shafts (Picinae)	..	..	..	2
	{ Tail feathers with flexible shafts (Picumninae)	..	..	..	24
2	{ Toes four	..	..	..	3
	{ Toes three	..	..	..	22
3	{ Primaries spotted or banded	..	..	..	4
	{ Primaries uniform	..	..	..	19
4	{ With more or less green in the plumage	..	..	..	5
	{ With no clear green in the plumage	..	..	..	12
5	{ Lower surface without stripes or cross-bars	..	..	..	6
	{ Lower surface with either stripes or cross-bars	..	..	..	9
6	{ Throat uniform	..	..	..	7
	{ Throat chequered black and white	..	..	..	8
7	{ Wings largely olive	..	..	<i>Picus canus microrhynchus</i>	
	{ Wings largely crimson	..	..	<i>P. puniceus continentis</i>	
8	{ Breast rufous	..	..	<i>Chrysophlegma mentale humei</i>	
	{ Breast not rufous	..	..	<i>C. flavinucha lylei</i>	
9	{ Under parts cross-banded	..	..	<i>Callolophus miniatus</i>	
	{ Under parts striped	..	..	..	10
10	{ Breast uniform	..	..	<i>Picus vittatus eisenhoferi</i>	
	{ Breast striped like belly	..	..	..	11
11	{ Dark colour predominating below; rump greenish yellow or green	..	..	<i>P. viridanus</i>	
	{ Pale colour predominating below; rump yellow or orange	..	..	<i>P. myrmecophoneus</i>	
12	{ Back unbarred	..	..	..	13
	{ Back cross-barred	..	..	..	15
13	{ Lower parts uniform	..	..	..	14
	{ Lower parts squamated	..	..	<i>Chrysocolaptes g. gutticristatus</i>	
14	{ Rump white or yellow	..	..	<i>C. validus xanthopyggius</i>	
	{ Rump dull crimson	..	..	<i>Blythipicus rubiginosus</i>	
	{ Rump brown	..	..	<i>B. pyrrhotis</i>	
15	{ Rump uniform cream	..	..	<i>Meiglyptes tristis grammithorax</i>	
	{ Rump barred like back	..	..	..	16
16	{ Upper parts not black and white	..	..	..	17
	{ Upper parts black, barred with white	..	..	..	18
17	{ Colour blackish brown, barred buff	..	..	<i>M. tukki tukki</i>	
	{ Colour rufous, barred black	..	..	<i>Micropternus brachyurus</i>	
18	{ Vent red: wing about 3.75 inches	..	..	<i>Dryobates analis longipennis</i>	
	{ Vent like belly: wing about 3.75 inches	..	..	<i>D. canicapillus canicapillus</i>	
19	{ Size small: wing less than 4 inches	..	..	..	20
	{ Size large: wing over 8 inches	..	..	..	21
20	{ Throat creamy	..	..	<i>Hemicircus c. canente</i>	
	{ Throat grey	..	..	<i>H. concretus sordidus</i>	
21	{ General colour black	..	..	<i>Thripornax javensis</i>	
	{ General colour grey	..	..	<i>Mülleripicus pulverulentus harterti</i>	
22	{ Lower parts squamated	..	..	<i>Dinopium javanense</i>	
	{ Lower parts uniform	..	..	..	23

- A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.
- E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

23	{ Throat like the breast ..	..	Gecinulus viridis
	{ Throat brownish buff ..	..	Chloropicoides rafflesii peninsularis
24	{ Under surface white, spotted black ..	..	Picumnus innominatus malayorum
	{ Under surface uniform rufous in adults, ..	..
	{ green in young ..	..
25	{ A white stripe above the eye ..	..	Sasia ochracea reichenowi
	{ No white stripe above the eye ..	..	S. abnormis

266. *Picus vittatus eisenhoferi* Gyldenstolpe.

Picus vittatus eisenhoferi, Gyldenstolpe, Ornith. Monatsber., 1916, p. 28 (North Siam).

Gecinus vittatus eisenhoferi, Williamson, Journ. Nat. Hist. Soc. Siam, ii, 1917, p. 320 (S. W. Siam).

Picus vittatus vittatus, Baker, Ibis, 1919, p. 189; M., p. 420.

This large race of *G. vittatus* does not seem to have been met with south of Nong Khae and Hua Hin, whence came Williamson's specimens: and no other examples of the species have been met with between these localities and the Langkawi Islands, where occurs an apparently isolated form, *P. v. connectens*,¹ distinguished by its dark grass-green back and wings and lack of bronze tinge. It is intermediate in size between *P. v. eisenhoferi* and *P. v. vittatus*, which is known in the Malay States from Selangor southwards.

267. *Picus viridanus* (Blyth).

Picus viridanus, Blyth, Journ. Asiatic Soc. Bengal, xii, 1843, p. 1000 (Aracan); I., p. 89 (Koh Lak).

Gecinus vittatus (non Vieill.); A., p. 136 (Tavoy to Bankasoon).

Gecinus weberi, B., p. 69 (Puket or Junk Sylon).

Gecinus viridanus, C. ii, p. 48; E., p. 101 (Patani); F., p. 45 (Trang); H., p. 95 (Bandon); J., p. 164 (Telibun; Pulau Muntia; Pulau Lontar); K., p. 104 (Koh Lak); L., p. 101 (Junk Sylon; Pulau Panjang; Ghirbi); Salvad., Ann. Mus. Civ. Gen. (2) vii, 1889, p. 432 (Malewoon).

Picus vittatus viridanus, Stuart Baker, Ibis, 1919, p. 189 (critical remarks); M., p. 420 (Patiyu).

♂. Tung Pran, Takuatung, Peninsular Siam, 14 February 1919 (No. 4009).

2 ♀. Koh Rah, Takuapah Inlet, Peninsular Siam, 15–17 February 1919 (Nos. 4029, 4049).

1 Robinson and Kloss, Bull. B. O. C. xi, 1919, p. 13 (Langkawi Ids.); F., p. 45; J., p. 164.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).

K. Kloss, Ibis, 1918. M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

♂, ♀. Koh Pra Tung, Takuapah Inlet, Peninsular Siam, 17-18 February 1919 (Nos. 4067, 4105).

♀. Renong River, Peninsular Siam, 22 February 1919 (No. 4166).

♂, 2 ♀. Namechuk, Pakchan Estuary, Peninsular Siam, 24-26 February 1919 (Nos. 4205, 4244, 4261).

♂, ♀. Mamok, Pakehan Estuary, Peninsular Siam, 27 February 1919 (Nos. 4278, 4279).

5 ♂, ♀. Koh Lak, Rajburi, Peninsular Siam, 3-10 April 1919 (Nos. 4980, 5173-5, 5194, 5235).

♂, 3 ♀. Hat Sanuk, Rajburi, Peninsular Siam, 12-15 April 1919 (Nos. 5252, 5292, 5300, 5326).

"Iris Indian red or reddish brown, orbits slate; upper mandible black, lower yellow, often dark at tip; feet greenish slate."

Total length ♂, 288, 313, 305, 306, 305, 303, 305, 293, 290, 310 mm.

Wing 137, 137, 135, 137, 142, 136, 135, 138, 132, 136 mm.

Tail 108, 113, 112, 112, 117, 111, 120, 110, 110, 110 mm.

Tarsus 27, 30, 27, 26, 28, 27, 28, 25, 28, 26 mm.

Bill from gape 38, 39, 39, 38, 37, 39, 37, —, 36.5, 35 mm.

Total length ♀, 305, 305, 287, 298, 310, 293, 290, 297, 293, 294, 298 mm.

Wing 138, 136, 137, 133, 136, 135, 130, 137, 130, 136, 130 mm.

Tail 118, 113, 110, 114, 114, 118, 113, 108, 115, 112, 113 mm.

Tarsus 28, 26, 26, 27, 28, 24, 26, 26, 24, 28, 25 mm.

Bill from gape 39, 40, 37 (imp.), 35, 38, 35, 36, 37, 35, 35, 35 mm.

- A.** Hume & Davison, *Stray Feathers*, vi, 1878.
B. Müller, *Die Ornith. der Insel Salanga*, 1882.
C. Oates, *Birds Brit. Burmah*, Vols. i & ii, 1883.
D. Bonhote, *P. Z. S.* 1901, Vol. i.
- E.** O. Grant, *Fasciculi Malayenses*, iii (Birds), 1905.
F. Robinson and Kloss, *Ibis*, 1910-11.
G. Gairdner, *Journ. N. H. Soc. Siam*, i, 1915.
H. Robinson, *Journ. F. M. S. Museums*, v, 1915.

This species is in the main a bird of the sea coast and dry low country scrub and jungle. It is not, so far as our experience goes, found in dense evergreen jungle or in districts of heavy rainfall.

As the above synonymy goes to show, the species is well known in the northern parts of Peninsular, and also in S. W., Siam and we do not therefore quite understand Stuart Baker's remarks that Herbert's birds are the first actual record from that country. Birds obtained by ourselves in Patani and Bandon are emphatically this species, while birds from Junk Seylon are correctly included in the synonym of *viridanus* and not of *vittatus*. We cannot admit that *vittatus* and *viridanus* stand in merely subspecific relationship to each other, seeing that where the ranges of the two species touch or approach there is not the slightest sign of intergradation. *P. viridanus* extends southward on the west side of the Peninsula as far as the State of Perlis and on the east side at least as far as Patani. *P. vittatus*, on the other hand, extends north on the west side as far as the island of Langkawi, where it is slightly differentiated, but otherwise has not been found north of Selangor. It also occurs in Cochin-China, while in Siam proper and Annam it has become the larger form, *P. vittatus eisenhoferi*, which has nothing whatever to do with *G. viridanus*. The extreme variability of the species, commented on by Baker, is equally marked in the series of 50 specimens now before us, but very bright and very dull specimens occur in the same locality: the former seem to correspond to a stage that has become permanent in *P. vittatus eisenhoferi*, from which, of course, *viridanus* can be at once distinguished by having the *whole* of the underparts striped.

268. *Picus myrmecophoneus* Stresemann.

Picus myrmecophoneus, Stresemann, Verh. Orn. Ges. Bayern xiv, 1920, p. 289. Nom. nov.

Picus striolatus, Blyth, Journ. Asiat. Soc. Bengal, xii, 1843, p. 1000 (Himalayas). Nom. praeocc.

Gecinus striolatus, K., p. 104 (Koh Lak); C. ii, p. 49.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919. |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919. (first part). |
| K. Kloss, Ibis, 1918. | Baker, Journ. N. H. Soc. Siam, iii, 1919. (second part). |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920. (third part). |

Picus xanthopygus, Oberholser (nec Bp.), Proc. Biol. Soc. Washington, 32, 1919, p. 8.

The only example on record from our region is that obtained by Kloss at Koh Lak.

269. *Picus canus microrhynchus* Rob. & Kloss.

Gecinus canus microrhynchus, Robinson and Kloss, Bull. Brit. Orn. Club, xl, 1919, p. 12 (Koh Lak, S. W. Siam).

Picus occipitalis, A., p. 501 (Tavoy)?; C. ii, p. 51 (Tavoy)?

Gecinus occipitalis, Hargitt, Cat. Birds Brit. Mus. xviii, 1890, p. 59 (Meklong and Petchaburi).

Picus canus hessei, Baker, Ibis 1919, p. 184 (partim: Peninsular Burma and Siam).

♂, ♀. Koh Lak, Rajburi, S. W. Siam, 6-8 April 1919 (Nos. 5102, 5160).

5 ♂, 2 ♀. Hat Sanuk, Rajburi, S. W. Siam, 14-19 April 1919 (Nos. 5291, 5316, 5319, 5320, 5330, 5339, 5401).

"Iris red, orbits slate; bill black, sometimes tinged with greenish; feet greenish slate."

Total length ♂, 323, 332, 316, 313, 296, 312; ♀, 320, 312, 321; wing ♂, 147, 148, 146, 148, 141, 146; ♀, 142, 146, 146; tail ♂, 122, 118, 120, 118, 110, 112; ♀, 113, 116, 122; tarsus ♂, 29, 27.5, 27, 26, 28, 26.5; ♀, 28.5, 27, 28; bill from gape ♂, 43, 43, 43, 41, 41.5, 42; ♀, 42, 43, 40 mm.

Probably ranging from the Meklong river southwards into Peninsular Siam: but not known at present from the west side.

270. *Picus puniceus continentis* (Rob. & Kloss).

Brachylophus puniceus continentis, Robinson and Kloss, Journ. Fed. Malay States Mus. x. 1921, p. 204 (Renong).

Callolophus puniceus, A., p. 139 (Laynah and Bankasoon).

Chrysophlegma puniceus, C. ii, p. 44.

Gecinus puniceus, E., p. 101 (Patani).

Gecinus puniceus observandus, Hartert, Nov. Zool. iii, 1896, p. 542 (Sumatra).

Gecinus observandus, E., p. 46 (Trang).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 3 March 1919 (No. 4382, type).

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| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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♂, ♀. Tasan, Chumporn, Peninsular Siam, 15-22 March 1919 (Nos. 4596, 4780).

"Iris red or reddish brown, orbits slate; upper mandible black, lower and the tomia yellow; feet green, sage green or olive brown."

Total length ♂, 261, 285; ♀, 231; wing ♂, 132, 136; ♀, 125; tail ♂, 97, 102; ♀, 98; tarsus ♂, 23, 26; ♀, 22.5; bill from gape ♂, 36, 32; ♀, 34 mm.

This subspecies is essentially an inhabitant of the damper evergreen forests throughout the Malay Peninsula.

271. *Chloropicoides rafflesii peninsularis* (Hesse).

Gauropicoides rafflesii, A., p. 146 (Bankasoon); C. ii, p. 42 (S. Tenasserim); E., p. 100 (Perak).

Gauropicoides rafflesii peninsularis, Hesse, Ornith. Monatsb. xix, 1911, p. 192 (Malacca); Stuart Baker, Ibis, 1919, p. 210; M., p. 426 (Tung Song).

♂. Tasan, Chumporn, Peninsular Siam, 29 March 1919 (No. 4921).

Wing, dry, 146 mm.; tail 122 (worn); bill from gape 40 mm.

Our material of this genus is not extensive; such as it is, it confirms the validity of Hesse's two subspecies from the mainland and Borneo. The present bird, like others from the Peninsula, has the mantle brighter golden yellow than Sumatran specimens; the rump is strongly flecked with scarlet.

Chloropicoides Malherbe, has priority by eleven years over the same author's *Gauropicoides*.

272. *Gecinulus viridis viridis* (Blyth).

Gecinulus viridis, Blyth, Journ. Asiatic Soc. Bengal, xxxi, 1862, p. 341 (Toungoo); H., p. 144 (Mergui and Pakchan); C. ii, p. 41; H., p. 95 (Bandon); K., p. 105 (East Siam).

2 ♂, ♀. Tapli, Pakchan Estuaay, Peninsular Siam, 3-5 March 1919 (Nos. 4381, 4418, 4428).

♂. Tasan, Chumporn, Peninsular Siam, 17 March 1919 (No. 4641).

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

"Iris hazel or deep brown; bill pale livid grey or whitish slate; feet greenish or greenish slate, claws grey."

Total length ♂, 260, 265, 260; ♀, 233; wing ♂, 127, 126, 127; ♀, 129; tail ♂, 103, 98, 110; ♀, —; tarsus ♂, 25, 26, —; ♀, 28; bill from gape ♂, 30, 29, 32; ♀, 29 mm.

This woodpecker is never found far from bamboo jungle, where it occurs in pairs or more rarely in parties of three or four.

*273. *Gecinulus viridis robinsoni* Kloss.

Gecinulus viridis robinsoni, Kloss, Ibis, 1918, p. 105 (Ginting Bidei, Selangor-Pahang boundary, 2000 ft.); L., p. 101 (Ghirbi).

Gecinulus viridis, Hume, Stray Feathers, ix, 1880, p. 112 (Kasoom).

The occurrence of this race in the Kingdom of Siam rests on the specimen from Ghirbi above quoted, and on another from Kasoom in the British Museum. Our bird is, of course, somewhat intermediate between the southern race and the typical form from North Tenasserim.

274. *Dryobates canicapillus canicapillus* (Blyth).

P(icus) canicapillus, Blyth, Journ. Asiatic Soc. Bengal, xiv, 1845, p. 197 (Aracan); C. ii, p. 36 (S. Tenasserim).

Yungipicus canicapillus, A., pp. 124, 500 (Tavoy to Malewoon).

Iyngipicus pumilus Hargitt, Ibis, 1881, p. 599 (South Tenasserim: Malewoon); id. op. cit. 1882, p. 39 (S. Tenasserim); id. Cat. Birds B. M. xviii, 1890 p. 321 (Tavoy; Mergui; Malewoon; Kossoum);? Salvador, Ann. Mus. Civ. Gen. (2 a) vii, 1889 p. 432 (Malewoon); C. ii, p. 37 (Malewoon).

Iyngipicus canicapillus, E., p. 98 (Patani); F., p. 46 (Trang); H., p. 147 (Koh Samui).

♂. Tung Pran, Takuatung, Peninsular Siam, 13 February 1919 (No. 3985).

♂. Namchuk, Pakchan Estuary, Peninsular Siam, 25 February 1919 (No. 4240).

"Iris sienna or brown; bill greenish lead, culmen black or slaty black; feet plumbeous green or greenish slaty."

* We have not inserted this race in our key: it differs merely from the typical form in being slightly darker and in having the white spots on the inner webs of the primaries smaller.

- A. Hume, & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornith. der Insel Langsa, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.
 D. Bonhote, P. Z. S. 1901, Vol. i.

- E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F. M. S. Museums, v, 1915.

Total length 137, 145; wing 84, 82; tail 43, 48; tarsus 13.5, 15; bill from gape 20.5, 20 mm.

Much commoner, as a rule, near the coast, especially among casuarinas, but also found inland.

We have followed Blanford, as has Gyldenstolpe (I., p. 93), in not maintaining *I. pumilus* Hargitt, even as a local race of this species, and Baker's remarks on the subject (Ibis, 1919, p. 192) are in accordance. Incidentally it may be pointed out that there is an unfortunate, though obvious, misprint in his passage. In the fourth line *picatus* should replace *auranteiventris*, which is a very distinct and perfectly good species: later on *auranteiventris* is misprinted *aurieventris*.

The specimen from Namchuk has only one small spot on one median tail feather, while that from Tung Pran has four large spots on both.

It is not impossible that birds from Central and Southern Tenasserin, Siam and French Indo-China may ultimately prove separable from more northern Burmese and Assamese birds, which are typical *I. canicapillus* (type, Ramree Id., Aracan). In this case they would after all have to bear the name *I. pumilus* (type from Malewoon), though the characters may be other than those assigned to that race in the original description.

Comparison of the series of ten birds from the Northern Malay Peninsula, which may or may not be true *I. canicapillus*, show that the Southern Malay bird (21 specimens examined) is quite readily separable, and we have named it *I. c. suffusus* (Bull. B. O. C., xl., 1914, p. 14 (type from Kuala Lumpur).

275. *Dryobates analis longipennis* (Hesse).

Dendrocopos analis longipennis, Hesse, Orn. Monatsb. xx, 1912, p. 82 (Bangkok); id. Mitt. Zool. Mus. Berlin, 86, 1912, p. 156 (Siam).

Picus pectoralis, Blyth, Journ. Asiatic Soc. Bengal, xv, 1846, p. 15 (Habitat unknown). Preoccupied by *Picus pectoralis* Latham, Ind. Orn. Suppl. 1801, p. 32.

Dryobates analis, Stresemann, Nov. Zool. xx, 1913, p. 349 (partim: Indo-China).

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
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Dendrocopos pectoralis, Williamson, Journ. N. H. Soc. Siam, i, 1914, p. 45; id. op. cit. ii, 1917, p. 321 (Bangkok).

Dendrocopos analis, Robinson & Kloss, Ibis, 1919, p. 435 (S. Annam).

Dendrocopos pectoralis pectoralis, M., p. 424 (Bangkok).

♂, 2 ♀. Koh Lak, S. W. Siam, 9-10 April 1919 (Nos. 5215, 5219, 5220).

"Iris dark brown or reddish; bill slate, culmen dark; feet slate with a greenish tinge".

Total length ♂, 175; ♀, 178, 171; wing ♂, 100; ♀, 102, 100; tail ♂, 63; ♀, 62, 60; tarsus ♂, 17; ♀, 16.5, 16.5; bill from gape ♂, 25; ♀, 24, 23.5 mm.

These specimens certainly confirm Hesse's separation of the mainland form, insomuch that they are all 100 mm. or over in wing measurement, while an Annam female is 100 and the type, from Bangkok, is 101 mm.

Birds collected by us in West Java measure 91-98 (16 ex.), Mid-Java 90-98 (5 ex.) and East Java 92-98 (10 ex.). No bird seems to have been recorded from Java with a wing longer than 98 mm., nor from Bali longer than 100 mm.

On the other hand, as Stresemann's measurements show (Nov. Zool. xx, p. 349), Burmese birds range from 93 to 104, Annam 102; Siam from 96 to 102 and Cochin-China from 92 to 101 mm.

In addition to attaining a greater maximum wing length, Indo-Chinese birds seem to have the black spots on the breast more pronounced than Sundanese examples.

276. *Blythipicus rubiginosus* (Swains.).

Hemicircus rubiginosus, Swainson, Birds of West Africa, ii, 1837, p. 150 (Malacca ? Hartlaub).

Picus porphyromelas, Boie, News Staatsbürgerl. Mag. 1, 1832, p. 489 (Nomen nudum).

Picus melanogaster, Hay, Madras Journ. 1844, p. 153 (Malacca).

Venilia porphyromelas, F., p. 46 (Trang).

Blythipicus porphyromelas, M., p. 244 (Patiyu).

3 ♂, ♀. Tasan, Chumporn, Peninsular Siam, 14-26 March 1919 (Nos. 4592, 4642, 4857-8).

A. Hunne, & Davison, Stray Feathers, vi, 1878.

B. Müller, Die Ornith. der Inselalanga, 1882.

C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883.

D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.

F. Robinson and Kloss, Ibis, 1910-11.

G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.

H. Robinson, Journ. F. M. S. Museums, v, 1915.

"Iris red; bill wax yellow, tinged with green at base; feet greenish slate."

Total length ♂, 218, 230, 231; ♀, 221; wing ♂, 124, 122, 123; ♀, 123; tail ♂, 82, 77, 79; ♀, 78; tarsus ♂, 24.5, 24, 23; bill from gape ♂, 36, 38, 38; ♀, 33 mm.

Strictly a bird of the evergreen forests.

Sumatran birds range from 113–122 mm. in length of wing.

Blythipicus pyrrhotis (Hodgs.).

Picus pyrrhotis, Hodgs. Journ. Asiat. Soc. Bengal, vi, 1837, p. 108 (Nepal).

As this species occurs in North Tenasserim and North Siam, and has also been collected by us in the hills of the Malay States, it is almost certain to be found eventually in the intervening area.

277. Meiglyptes tristis grammithorax (Malh.).

Phaiopicus grammithorax, Malherbe, Picidae, ii, 1862, p. 12, pl. xlvi, figs. 4, 5 (Malay Peninsula).

Meiglyptes tristis (nec Horsf.), A., pp. 131, 501 (Nwalabo and Bankasoon); B., p. 72 (Puket or Junk Seylon).

Meiglyptes grammithorax, F., p. 46 (Trang); H., p. 95 (Bandon); Williamson, Journ. Nat. Hist. Soc. Siam, iii, 1918, p. 25 (Patani).

Meiglyptes tristis grammithorax, M., p. 422 (Tung Song and Patiyu).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 2 March 1919 (No. 4347).

2 ♂, 4 ♀. Tasan, Chumporn, Peninsular Siam, 13–26 March 1919 (Nos. 4544, 4670, 4730, 4854–6).

"Iris red, more usually reddish brown; bill black; feet greenish slate."

Total length ♂, 178, 183, 178; ♀, 177, 177, 175, 175; wing ♂, 94, 100, 95; ♀, 96, 98, 98, 97; tail ♂, 55, 55, 58; ♀, 57, 55, 51, 53; tarsus ♂, 19, 18, 17; ♀, 19.5, 20, 18.5, 18; bill from gape ♂, 23.5 app., 24, 20; ♀, 21, 24, 22, 22 mm.

We can discover no difference between northern and southern Malay birds except that the southern birds are, as usual, slightly smaller: eight Sumatran birds range from 89–96 mm. in wing, and ten southern Malay birds 92–100 mm.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vil, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. Kloss, Ibis, 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

Bornean birds are distinctly smaller (four specimens measure 85–91 mm.), and have been named by Hesse *M. t. micropterus*, Ornith. Monatsb. xix, 1911, p. 182. Oberholser has also named the Nias bird *M. grammithorax micropterus*, as resembling "*M. g. grammithorax*, but smaller." (Smiths. Misc. Coll. 60, No. 2, 1912, p. 6.). We do not know how it is to be distinguished from the Bornean bird, the name for which has priority.

It has by some authors been assumed that birds of this genus, and especially of this species, possess two phases of plumage, a greyer and a browner one. From an examination of our large series we are enabled to state, with some confidence, that this is largely a post mortem change, skins even when kept away from light gradually becoming buffier on their light area and more rufous brown in their dark parts. Freshly collected birds in fresh plumage have the light parts delicate creamy and the dark parts greyish black, the whole bird appearing as if washed over with very pale glaucous green or grey.

This also is an evergreen forest bird, common wherever it is found.

278. *Meiglyptes tukki tukki* (Less.).

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

Hemicercus brunneus, Eyton, P. Z. S. 1839, p. 106 (Malacca).

Meiglyptes tukki, A., p. 132 (Bankasoon); C. ii, p. 61; D., p. 71 (Patani); E., p. 98 (Patani).

2 ♂, ♀. Tasan, Chumporn, Peninsular Siam, 16–26 March 1919 (Nos. 4633, 4805, 4853).

"Iris reddish brown; upper mandible black, lower pale greenish slate or greenish black; feet greenish yellow, greenish olive brown or greenish slate."

Total length ♂, 203, 208; ♀, 210; wing ♂, 101, 101; ♀, 101; tail ♂, 70, 64; ♀, 73; tarsus ♂, 21, 21; ♀, 21; bill from gape ♂, 28, 27; ♀, 28 mm.

These are the most northerly specimens hitherto recorded.

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910–11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901; Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

We can perceive no difference between Sumatran, Bornean or Malayan birds either in size or colour.

279. Micropternus brachyurus squamigularis Sundev.

Picus squamigularis, Sundevall, Conspectus Picin., 1866, p. 89 (Malacca).

Micropternus brachyurus, B., p. 72 (Junk Seylon); D., p. 72 (Patani); H., p. 95 (Bandon).

Micropternus phaioceps, E., p. 99 (Patani); L., p. 102 (Ghirbi).

♀. Mamoh, Pakchan, Peninsular Siam, 27 February 1919 (No. 4280).

6 ♂, 2 ♀, 1 ♀ imm. Tasan, Chumphorn, Peninsular Siam, 13-24 March 1919 [Nos. 4280, 4545, 4602, 4637, 4652, 4731, 4791, 4798, 4831, 4844].

"Iris hazel; bill black, base of lower mandible slate; feet brownish black."

Total length ♂, 237, 228, 236, 236, 230; ♀, 225, 241, 231; wing ♂, 120, 112, 118, 116, 112, 115; ♀, 118, 122, 117; tail ♂, 70, 70, 67, 72, 70; ♀, 72, 68, 73; tarsus ♂, 22, 20.5, 20, 21, 23, 22; ♀, 22, 22, 26; bill from gape ♂, 28, 27.5, 28, 27, 28, 27.5; ♀, 28, 30, 28 mm.

The above are not typical *squamigularis*, but are best placed with that race. The black barring is much heavier than in the following subspecies and the throats are much darker.

280. Micropternus brachyurus williamsoni Kloss.

Micropternus brachyurus williamsoni, Kloss, Ibis, 1918, p. 107 (Koh Lak, S. W. Siam); M., p. 424 (Bangkok, Meklong); Baker, Ibis, 1919, p. 202.

Micropternus phaioceps, A., pp. 145, 501 (Tavoy and Nwalabo).

Micropternus brachyurus, A., p. 145 (Mergui to the Pakchan); C. ii, p. 58 (Mergui to Malewoon); G., p. 149 (Ratburi or Petchaburi); M., p. 425 (Patiyu).

3 ♂, 2 ♀. Koh Lak, S. W. Siam, 2-7 April 1922 (Nos. 4931, 5059, 5109, 5146, 5183).

"Iris hazel; bill black, grey at base; feet brownish black."

Total length ♂, 232, 235, 248; ♀, 238, 238, wing ♂, 120, 118 (worn), 122; ♀, 116, 116; tail ♂, 67, 75 (worn) 68; ♀, 73, 67; tarsus

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

♂, 23, 22, 23; ♀, 23, 21; bill from gape ♂, 29, 29.5, 30; ♀, 27, 29 mm.

Apart from the southern Indian *M. b. gularis*, the Ceylon representative *M. b. lanka*, the transitional *M. b. mesos* from Orissa, the very distinct *M. b. badiosus* from Borneo, and the southern Chinese forms, which we do not propose to discuss, we regard the following forms, working from south to north (and disregarding Oberholser's "Barussan" birds, of which we have no material or description to base an opinion on), as probably sufficiently distinct to merit a name:—

(a). *Micropternus brachyurus brachyurus* (Vieill.).

Picus brachyurus, Nouv. Dict. d'Hist. Nat. xxv, 1818, p. 103 (Java).

We have one example only, but it confirms Hargitt's statement that "specimens from Java are larger than the Sumatran bird and have the feathers of the throat blacker with white margins" (Ibis, 1885, p. 12). These characters suffice to separate it from the following:—

(b). *Micropternus brachyurus badius* (Raffles).

Picus badius, Trans. Linn. Soc. xiii, 1822, p. 289 (Sumatra).

(c). *Micropternus brachyurus squamigularis* (Sundev.)

Picus squamigularis, Conspl. Picin., 1866, p. 89 (Malacca).

Our south Malayan birds average lighter, more ochreous, less chestnut bay, than the seven Sumatran birds that we have examined; they may therefore be kept distinct under this name. Range, from the extreme south of the Peninsula northwards to about 9° N.

Between Bandon and Victoria Point birds, though very constant in their characters, *inter se*, are quite intermediate and defy even trinomial division (10 specimens examined). By the time we reach Koh Lak (Lat. 12° N.) the birds have become larger, black markings have diminished and the tail bars narrowed; these birds are:—

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- | | |
|--|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Façiculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910-11.
G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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(d). *Micropternus brachyurus williamsoni* Kloss.

Micropternus brachyurus williamsoni, Ibis, 1918, p. 107 (Koh Lak, S. W. Siam).

This form probably ranges over the whole of South Tenasserim and S. W. Siam and grades into:—

(e). *Micropternus brachyurus burmanicus* Hume.

Micropternus burmanicus, Proc. Asiat. Soc. Bengal, 1872, p. 71 (Thayetmyo, Pegu).

Still larger, with markings more reduced.

This race probably occupies all Siam, north of Bangkok, N. Tenasserim and the Shan States, South and Central Burma, and possibly Arracan (wing 129 mm.). North of this area is found:—

(f). *Micropternus brachyurus phaeocephalus* Blyth.

Micropternus phaeocephalus, Journ. Asiat. Soc. Bengal, xiv, 1849, p. 195 (Neighbourhood of Calcutta¹).

This race is smaller on the whole than *burmanicus*, less immaculate, more rufous on the shafts of the primaries and tail feathers. Range—Bengal and Assam, meeting the preceding in the South and East: *M. brachyurus mesos* in the South-west: and in the North-west:—

(g). *Micropternus brachyurus blythii* (Malherbe).

Phaiopicus Blythii, Rev. & Mag. Zool. (2) i, 1849, p. 534 (Nepal).

Because authors have been unable, or have omitted, to refer directly to Malherbe's own writing, there has been a good deal of confusion about this race which, however, was cleared up by Hesse in 1912 (Mitt. Zool. Mus. Berlin, vi, 1912, p. 195 et seq.).

Malherbe first called the race *Picus rufinotus* in 1844, but gave no description: hence the name is invalid. In 1849 (*l. c. s.*) he described the bird and renamed it *Phaiopicus Blythii*: “dédiée au savant directeur du Muséum de Calcutta, habite le Nepaul.....Elle a été apportée par M. Hodgson” (Hodgson). Still later he withdrew *blythii* and again called the race *rufinotus* “Le Phaiopic rufinote

1. The actual types of this form are a male and female collected by E. Blyth in 1844 in the neighbourhood of Calcutta.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.

(first part).

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

a été rapporté du Nepaul par M. Hodgson,.....J'avais en 1849 changé le nom que j'avais donné primitivement à cette espèce, pour la dédier à l'honorable directeur du Muséum à Calcutta : mais les observations réitérées qui m'ont été adressées à ce sujet, m'ont décidé à maintenir à regret le nom de *rufinotus* déjà inserit dans les musées de l'Europe et dans plusieurs publications." (Monogr. Picid., Text II (1862) pp. 1-3, De 46, Figs. 1, 2). Meanwhile, in 1850, Bonaparte had recorded *Picus rufinotus* with a description (Consp. Gen. Av., p. 113: Central Asia—Specimen in the British Museum), but too late to save the name which ranks as a synonym of *P. blythii*.

In the Cat. Birds. Brit. Mus. xviii, p. 395, the type of *P. rufinotus* Malh., is stated to be a skin from Bengal. Baker writes (Ibis, 1919 p. 203) "The name *rufinotus* is a synonym of *gularis*. The specimen said to be the type is marked as having been taken by McClelland in Assam: in the B. M. catalogue it is said to come from Bengal, but the bird itself is a typical *gularis* from Southern India"! As shown, however, Nepal is the type locality of *Micropternus phaioceps blythii*, and the type is one of Hodgson's specimens in the Natural History Museum.

This is a larger race than *M. b. phaioceps*, getting larger from South-East to North-West.

(h). *Micropternus brachyurus humei* Kloss.

Micropternus brachyurus humei, Ibis 1918, p. 109 (Kumaon).

The most north-westerly and the largest form.

281. *Dinopium javanense javanense* (Ljung).

Picus javanensis, Ljungh, K., Vet. Ak. Nya Handl. xviii, 1797, p. 137 (Batavia, Java).

Chrysonotus javanensis, B., p. 64 (Puket or Junk Seylon).

Tiga javanensis, D., p. 72 (Patani); E., p. 99 (Patani); F., p. 47 (Trang); H., p. 95 (Bandon); Hesse, Mitt. Zool. Berlin, 6, 1912, p. 188 (critical).

Tiga javanensis javanensis, Stuart Baker, Ibis, 1919, p. 207 (critical); Williamson, Journ. Nat. Hist. Soc. Siam, ii, 1917, p. 324 (Patani).

- A. Hume & Davison, Stray Feathers, vi, 1878.
 B. Müller, Die Ornis der Insel Salanga, 1882.
 C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
 D. Bonhote, P.Z.S. 1901, Vol. i.

- E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
 F. Robinson and Kloss, Ibis, 1910-11.
 G. Gardner, Journ. N. H. Soc. Siam, i, 1915.
 H. Robinson, Journ. F.M.S. Museums, v, 1915.

Dinopium javanense palmarum, Stresemann, Arch. f. Naturgesch. 87, 1921, p. 93 (Sumatra and Malacca).

2 ♂, * 2 ♀. Tung Pran, Takuatung, Peninsular Siam, 14 February 1919 (Nos. 3989, 3990*, 3991, 4011).

"Iris chestnut; bill slate, culmen black; feet plumbeous sage green."

Total length ♂, 271, 283*; ♀, 262, 270; wing ♂, 134, 141*; ♀, 133, 136; tail ♂, 103, 108*; ♀, 102, 110; tarsus ♂, 23, 23*; ♀, 22, 22; bill from gape ♂, 34, 34.5*; ♀, 33, 33 mm.

Dr. Stresemann has recently separated Sumatran birds from the typical Javan form on account of smaller size and named them *D. j. palmarum* (*l. c. s.*), giving the wing-length as 122–136 mm. 10 ex.). Hesse records 128–132 (4 ex.): Sumatran birds measured by us have wings 122–135 (19 ex.): on the other hand, Baker (*Ibis*, 1919, p. 206) records Sumatran measurements as 118–139 (8 ex.).

For Javan birds Stresemann has 131–140 (6 ex.). Hesse records specimens of 136.5 and 142.5: our series measures 126–137 (21 ex.) and Baker gives 124–138 (23 ex.).

Birds of the Malay Peninsula south of 10° lat. measure, according to Baker, 122–136 (31 ex.): our series has wings 125–141 (27 ex.).

To summarise these figures:—

Java, wings 124–142.5

Malay Peninsula, south of 10°, wings 122–141

Sumatra, wings 118–139.

There seem scarcely any grounds for separation in these dimensions: but we are not concerned for the moment with Sumatran birds. Stresemann has, however, associated Malayan birds (south of the Isthmus of Kra) with *D. j. palmarum*; but we cannot separate them from the typical Javanese form.

* No. 3990 (♂) is practically *D. javanense intermedia*.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. Baker, Journ. N. H. Soc. Siam, iii. 1919.
(first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917 | Baker, Journ. N. H. Soc. Siam, iii. 1919.
(second part). |
| K. Kloss, <i>Ibis</i> , 1918. | |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |

282. *Dinopium javanense intermedium* (Blyth).

Picus (Tiga) intermedius, Blyth, Journ. Asiatic Soc. Bengal, xiv, 1845, p. 193 (Aracan).

Tiga javanensis (part.), A., pp. 146, 501 (Nwalabo to Malewoon); C. ii, p. 55.

Tiga javanensi: intermedia, I., p. 95 (Koh Lak); K., p. 109 (Koh Lak); Stuart Baker, Ibis, 1919, p. 208; Williamson, Journ. Nat. Hist. Soc. Siam, ii, 1917, p. 323 (Koh Lak).

Tiga intermedia, Salvad., Ann. Mus. Civ. Gen. (2) vii, 1889, p. 432 (Malewoon).

♂. Renong river, Peninsular Siam, 21 February 1919 (No. 4136).*

♀. Victoria Point, S. Tenasserim, 24 February 1919 (No. 4181).*

♂. Tapli, Chumporn, Peninsular Siam, 5 March 1919 (No. 4429).

2 ♂, 5 ♀. Koh Lak, S. W. Siam, 1–10 April 1919 (Nos. 4880, 4894, 5066, 5083, 5172, 5185, 5242).

“Iris chestnut, orbits slate; culmen black; feet greenish slate or pale plumbeous green”.

Total length ♂, 280*, 280, 287, 282; ♀, 275*, 274, 285, 283, 271, 275; wing ♂, 140*, 141, 141, 145; ♀, 138*, 141, 142, 142, 142; tail ♂, 105*, 98, 98, 112; ♀, 108*, 108, 98, 102, 107, 110; tarsus ♂, 23*, 24, 23, 23; ♀, 24*, 23, 23, 23, 22; bill from gape ♂, 34*, 35, 36, 36, ♀, 33.5*, 32.5, 35, 33, 32, 34 mm.

We are, on the question of the races of this woodpecker, in substantial agreement with the views of Baker (*l.c.s.*), though there are one or two points on which remarks may not be amiss.

As in so many instances, the area with which we are now dealing extends over both sides of a well defined faunal boundary. The specimens from Koh Lak in our collection are undoubtedly *D. j. intermedia*; while specimens from Bandon and Trang, south to Selangor, are just as clearly *D. j. javanense*. Birds from the Pakchan

*Nos. 4136 (♂) and 4181 (♀) are ranging towards *D. j. javanense*.

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910–11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

Estuary are more nearly the former; while the series from Takuatung is closest to the latter. The birds are therefore strictly in accordance with the geographical facts: their variation, as pointed out by Baker, is mainly a function of latitude. It is of interest to note that, when we get to Java and Bali, variation is a matter of longitude.

In Mr. Baker's paper referred to, Aracan is fixed as the type locality of *D. j. intermedia*, and with this also we agree; but for the sake of definiteness would further restrict it to Ramree Island, for the following reasons. The race was described in 1845 by Blyth, and in his Catalogue of Birds in the Museum of the Asiatic Society, Calcutta, p. 56, he listed seven specimens, viz.,

- 254 A. ♂, from Tenasserim (Rev. J. Barbe 1841).
- „ B. ♂, from Ramree Id., Aracan (Capt. J. R. Abbott, 1844).
- „ C. D. ♀ ♀, from Aracan (Capt. Phayre, 1844-5).
- „ E. ♂, „
- „ F. G. ♀ ♀, } from Penang (Rev. L. Barbe, 1846).

All these specimens are still extant, and have been examined by us. Nos. 254 E. F. and G. need not be considered; further, they were received after the race was described, and do not as a matter of fact belong to it: their wings measure, E. ♂ 132, F. ♀ 127, G. ♀ imm. 119.5 mm.

No. 254 A., male from Tenasserim, has a wing 144.5 mm. It probably came from the neighbourhood of Ye.

No. 254 B. has a wing of 144 mm., bill from gape 34; we select it as the ♂ type of the species.

No. 254 C. has a wing of 146 mm., bill from gape 33.5. We select this as the ♀ type of the species.

It should be noted that Blyth, in his capacity of Curator of the Museum of the Asiatic Society of Bengal, forwarded in 1844 and 1846 large collections of birds by several separate despatches to London, c.f. Horsfield and Moore (Cat. Birds Mus. East Ind. Co., vol. i,

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

1854, p. v). Amongst these was a male, locality unspecified, of *Tiga intermedia*, which is claimed by those authors as the type of the race [*op. cit.* ii, 1856-8, p. 658], and is also recorded as such by Hargitt (Cat. Birds Brit. Mus. xviii, 1890, p. 416, spm. *w*). There is no evidence, however, that this is the case, and in the absence of definite locality, it would be extremely inconvenient to regard it as such.

Finally, we think that the very large size of birds from the north of Burma would fully have justified the description of yet another subspecies. The Zoological Survey of India possesses a male from Yebok, South Shan States, collected by the late Col. Bingham on 15th December 1899, having a wing measurement of 153.5 mm. and bill from gape of 36 mm.

283. *Callocephalus miniatus malaccensis* (Lath.).

Picus malaccensis, Latham, Ind. Orn. i, 1770, p. 241 (Malacca).

Chrysophlegma malaccensis, E., p. 100 (Patani); E., p. 46 (Trang); H., p. 95 (Bandon).

Callocephalus malaccensis, A., p. 140 partim (Bopyin to Malewoon); B., p. 68 (Junk Seylon).

Callocephalus miniatus malaccensis, L., p. 101 (Ghirbi and Puket).

♀. Tapli, Pakchan Estuary, Peninsular Siam, 2 March 1919 (No. 4346).

♀. Tasan, Chumporn, Peninsular Siam, 14 March 1919 (No. 4591).

♀. Khao Tong, 300 ft., Nakorn Sri Tamarat, Peninsular Siam, 20 February 1922.

"Iris red; upper mandible black, lower slate; feet greenish slate."

Total length 247, 262,—; wing 128, 127, 129; tail 88, 90, 92; tarsus 24, 23, 22; bill from gape 30, 28, 28 mm.

The transition from typical *C. m. malaccensis* to the northern form discussed below is, of course, gradual; but we consider the above birds nearest to the typical Malaccan race. All have the crest and mantle strongly barred.

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| A. Hume, & Davison, Stray Feathers, vi, 1873. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Inselalanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i. & ii 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

284. *Callolophus miniatus perlatus* Kloss.

Callolophus malaccensis, A., p. 140 partim (Tavoy to Tenasserim Town); C. ii, p. 47.

Chrysoplegma miniatum malaccense, Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916, p. 91 (Hat Sanuk).

Callolophus miniatus perlatus, Kloss, Ibis, 1918, p. 110 (Koh Lak); Stuart Baker*, Ibis, 1919, p. 193 (critical remarks).

Callolophus mineatus malaccensis, M., p. 423 (Patiyu).

2 ♂, vix ad. Hat Sanuk, Rajburi, S. W. Siam, 18–18 April 1919 (Nos. 5272, 5389).

"Iris red or vienna brown; upper mandible black, lower silvery slate; feet sage or plumbeous green."

Total length 263, 268; wing 136, 135; tail 98, 98; tarsus 25, 25; bill from gape 30, 33 mm.

Stuart Baker in some critical remarks on this race has laid down that it cannot be maintained; but his statements in support of his opinion are very generalised and the facts are against him. In the past the use of large scale charts has been urged by British politicians, and the advice is equally pertinent to modern day systematists. The political entity, Siam, covers fully 15 degrees of latitude, or a sixth of the earth's quadrant from pole to equator; it comprises districts with a rain-fall varying from 400 inches to 40, and with a range of temperature which may be 50 degrees or may not exceed 20. It is, therefore, surely unscientific to contend, because birds found in one district or area, which include in their descriptive data the word "Siam," do not agree in characters with another set in which this word is also included, that characters not found in both sets have no real existence and are not differential.

Mr. Baker's further contention that because a character or set of characters which are dominant in one locality occur in another area, therefore a subspecies founded on them is invalid, strikes at the whole modern conception of subspecies. Nature proceeds in the

* Spelt *perlatus*.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
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main by a method of trial and error, and variations which prove to be better adapted than others to the environment become dominant in that environment; it does not necessarily follow that that variation which is dominant in one locality, and has, therefore, acquired subspecific distinction, may not more or less frequently occur in other localities and environment where, however, it is more or less rapidly suppressed.

Incidentally it may be remarked that Mr. Baker, as evidenced by his work on the Dicruridae, and on the woodpeckers as noted above, is a great believer in average. His average is merely the arithmetic mean and, therefore, assumes that his curve of variability is symmetrical in all cases, which is extremely improbable. It would be far better if he would plot his dimensions and give us the median. In the particular case of this woodpecker, he can be safely challenged to plot the lengths on a base line of latitude and then state that increase of wing-length is not definitely associated with increase of latitude. It is probable, of course, that another factor may tend to obscure the result, as birds inhabiting higher altitudes are usually larger than those from near sea-level.

In regard to our present series, four birds have had exact data recorded, all from the immediate vicinity of Koh Lak. Their wing measurements are 140, 139, 135, 136 mm., while one from Bandon measures 135 mm.

Nineteen birds from various localities from the Pakchan Estuary to North Johore range from 122–133 mm. in length of wing, five being 130 or over: of these five, four are from altitudes of 2000 feet and over, while of the remaining fourteen, four only are from the hills. Four birds from Borneo measure 120–123 mm. (*C. m. dayak* Stresemann).

Eleven birds from Sumatra measure 116–132 mm., of which one only is over 130, while that with a wing of 116 is worn.

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|---|---|
| A. Hume & Davison, <i>Stray Feathers</i> , vi, 1878.
B. Müller, <i>Die Ornith. der Insel Salanga</i> , 1882.
C. Oates, <i>Birds Brit. Burmah</i> , Vols. i & ii, 1883.
D. Bonhote, <i>P. Z. S.</i> 1901, Vol. i. | E. O. Grant, <i>Fasciculi Malayenses</i> , iii (Birds), 1905.
F. Robinson and Kloss, <i>Ibis</i> , 1910–11.
G. Gairdner, <i>Journ. N. H. Soc. Siam</i> , i, 1915.
H. Robinson, <i>Journ. F. M. S. Museums</i> , v, 1915. |
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We think, then, that in face of these figures it must be contended that the birds of the species inhabiting the area north of about 10° N. are larger birds, and that birds of high elevations are also larger.

As regards colour :

(a) Two out of the four northern birds available for examination have the yellow crest unbarred.

Two out of twenty of the southern birds have the yellow crest unbarred.

(b) Interscapulum strongly barred in three out of four northern birds. Interscapulum uniform or slightly spotted in fourteen out of twenty one southern birds; barred more or less strongly in the remaining seven.

This difference is also noted by Hume and Davison, *op. cit. supra.*

Northern birds have generally the pale interspaces on the undersurface broader and paler than in southern birds, but the character cannot be fully relied on as some southern birds have it. We think, therefore, that *C. m. perlatus* can fairly be maintained as a northern local race which, however, is not found south of about 10° 30', as Chumporn and Pakchan birds are, on the whole, to be referred to *C. m. malaccensis*.

[A pair from Bangtaphan, S. W. Siam, lent by Mr. Williamson are also *C. m. perlatus*. Wings, 135, 136; bill from gape 32, 30 mm. Interscapulum strongly barred; one with yellow crest unbarred, one barred; underparts with pale bars broad].

285. *Chrysophlegma mentale humii* Hargitt.

Callolophus mentalis (nec. Temm.), A., p. 138 (Bankasoon); C. ii, p. 46.

Chrysophlegma humii, Hargitt, Ibis, 1889, p. 231 (δ , Malacca; φ , Klang); E., p. 100 (Patani); F., p. 46 (Trang); H., p. 95 (Bandon), M., p. 423 (Tung Song).

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919,

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919.

(second part).

K. Kloss, Ibis, 1918.

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

iii, 1919.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.

(third part).

♀. "Iris brown-hazel; upper mandible plumbeous green, lower greenish horn; feet greenish."

The bird is rare in the north and only just reaches British India at Bankasoon, Tenasserim.

286. *Chrysophlegma flavinucha lylei* Kloss.

Chrysophlegma flavinucha lylei, Kloss, Ibis, 1918, p. 110 (Koh Lak); id., Journ. Nat. Hist. Soc. Siam, iv, 1921 p. 52; Stuart Baker, Ibis, 1919, pp. 192-3 (critical remarks).

Chrysophlegma flavinucha pierrei (partim), M., p. 423 (Koh Lak).

4 ♂ ad., 1 ♀ vix ad., 1 ♀ juv. Hat Sanuk, nr. Koh Lak, Rajaburi, S. W. Siam, 12-18 April 1919 (Nos. 5250-1, 5254, 5372, 5387-8).

Male adult, "Iris red, orbits sage; bill greenish ivory, whitish at tip; feet greenish slate." Female. "Iris red, orbits dark sage; bill greenish ivory, paler at tip; feet greenish slate."

Total length ♂, 322, 336, 355, 317; ♀, 328; wing ♂, 167, 160, 159, 158; ♀, 156; tail ♂, 125, 137, 123, 128; ♀, 127; tarsus, ♂, 26, 26, 29, 27; ♀, 25; bill from gape ♂, 43, 42, 47, 39; ♀, 40 (app.) mm,

The four males agree well with the type, especially in the amount and tint of the yellow on the throat: the area immediately beneath the stripes on the throat is, however, darker, and the white edgings creating the striped effect are narrower: in one specimen the lores are almost uniform with the forehead, having hardly any white.

The not quite adult female differs from the male in having the malar stripes and chin rufous, not pale yellow; and in having the lores and ocular region more extensively mottled with white.

Mr. Baker (*loc. cit.*) has gone badly astray in considering these birds as identical with *pierrei*, of which we have now a large series, including actual topotypes. Those differ in being on the whole even paler below than our Koh Lak birds: the yellow malar stripes are more restricted and so is that colour on the chin. Even in quite adult birds the white edgings to the black feathers of the throat are narrower and mixed with rufous, which is quite absent in *Ch. f. lylei*. The colour of the bill, which is important in woodpeckers, also confirms the distinction.

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| A. Hume & Davison, <i>Stray Feathers</i> , vi, 1878. | E. O. Grant, <i>Fasciculi Malayenses</i> , iii (Birds), 1915. |
| B. Müller, <i>Die Ornith. der Insel Salanga</i> , 1882. | F. Robinson and Kloss, <i>Ibis</i> , 1910-11. |
| C. Oates, <i>Birds Brit. Burmah</i> , Vols. i & ii, 1883. | G. Gardner, <i>Journ. N. H. Soc. Siam</i> , i, 1915. |
| D. Bonhote, <i>P. Z. S.</i> 1901, Vol. i. | H. Robinson, <i>Journ. F. M. S. Museums</i> , v, 1915. |

As regards dimensions, the above series agree well with the type, though it should be noted that its tail is only partially grown, and, therefore, unduly short. It will be seen, however, that one of our birds has a wing of 167 mm., which falls very little short of the upper limit for Himalayan birds, a male from Darjiling measuring 169 mm. and one from the Abor Hills, collected by S. W. Kemp, 170 mm.

If the race is to be maintained, and it seems fairly entitled to rank as a subspecies, it will rest on its somewhat pale colouration above and below, especially on the flanks.

The species was fairly common at Hat Sanuk along the course of the little stream which was flanked by extremely large fig trees. The birds were very wild, flew very high and were therefore hard to get. They were very noisy, uttering the usual penetrating woodpecker shriek.

Stuart Baker has put forward the suggestion that *C. f. pierrei* Oust., and *C. f. wrayi* from the mountains of Selangor and Perak, may possibly prove to be one and the same. We can assure him that they are two different birds. To begin with, *C. f. pierrei* is decidedly larger, the wings of adult males averaging about 155 mm., with females almost the same; while *C. f. wrayi* has a wing of 147 mm. in males and 142 in females. In the second place, *C. f. wrayi* is a very much darker bird, the yellow malar patches in the male much restricted and not extending across the chin, the stripes on the throat in adult birds almost non-existent, and the yellow nuchal crest much shorter and paler in colour: the bill, again, is different in colour, being recorded as "bluish lead, greener in the lower mandible," or "slate colour"; whereas in *C. f. pierrei* it is "maxilla black, sides of base grey; mandible grey, tip and edges black."

A readily understandable misprint requires correction, as liable to cause confusion in the future. S. Baker records a female *wrayi* from Salanga which is a synonym of the island of Puket, Tongka, or

- I.** Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919.

- M.** Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

Junk Seylon, off the west coast of Peninsular Siam. With the exception of the specimen obtained by the Skeat Expedition on Gunong Inas in North Perak, which is the most northerly record, all known specimens of this woodpecker in Europe or elsewhere have been sent home by the F. M. S. Museums. We have never obtained *Ch. f. wrayi* in Salanga, or within 300 miles of it, and the citation is obviously a misprint for Selangor, in the mountains of which State the bird is fairly common.

Without wishing too frequently to belabour the matter of Mr. Baker's geographical inexactitudes (*Ibis*, 1919, p. 193), they being rather his misfortune than his fault, since owing to special circumstances he had to depend on labels written by a native collector, it must be noted, in the interests of correctness, that Chan Tuck (Chanteuk) and Pakchan or Pakjan (Pak Jong or Pak Chong) are not in the same part of Siam as Koh Lak, whence the type of *C. f. lylei* was procured: the latter is in S. W. Siam, not far south-east of Mergui: both the former are in the range of hills between Saraburi and Korat, which separate the basins of the Menam and Mekong. Birds from this district are undoubtedly *pierrei*, as had been previously stated by one of us, the range of which in Southern Siam is probably bounded westward by the Menam: those from S. W. Siam are, just as undoubtedly, not that bird.

287. *Chrysocolaptes guttacristatus guttacristatus* (Tick.).

Picus guttacristatus, Tickell, Journ. Asiatic Soc. Bengal, ii, 1833, p. 578 (Borabhum).

Chrysocolaptes sultaneus, A., p. 133 (Mergui to Bankasoon).

Chrysocolaptes strictus (nec. Horsf.), C. ii, p. 53.

Indopicus strictus, B., p. 61 (Puket or Junk Seylon).

Chrysocolaptes guttacristatus, E., p. 99 (Patani); F., p. 47 (Trang); H., p. 147 (Koh Samui, Bandon Bight).

Chrysocolaptes guttacristatus indo-malayicus, Hesse, Ornith. Monatsb. xix, 1911, p. 182 (Junk Seylon); Gyldenstolpe, Konigl. Svenska Vetensk. Akad. Handl. 50, No. 8, 1913, p. 49 (Central Siam); Robinson, Ibis, 1915, p. 739 (S. E. Siam); J., p. 161 (Terutau).

Chrysocolantes strictus gutticristatus, K., p. 111 (E. Siam).

A. Hume & Davison, Stray Feathers, vi, 1878.

B. Müller, Die Ornith. der Insel Salanga, 1882.

C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.

D. Bonhote, P. Z. S. 1901, Vol. i.

E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915.

F. Robinson and Kloss, Ibis, 1910-11.

G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.

H. Robinson, Journ. F. M. S. Museums, v, 1915.

Chrysocolaptes guttacristatus guttacristatus, I., p. 95 (North Siam); L., p. 102 (Ghirbi and Puket).

Chrysocolaptes guttacristatus delesserti (part.), Stuart Baker, Ibis, 1919, p. 197 (critical); M., p. 424 (Patiyu).

♂. Koh Yam Yai (Sugar loaves), Peninsular Siam, 18 February 1919 (No. 4113).

♀. Renong river, Peninsular Siam, 22 February 1919 (No. 4165).

2 ♂, ♀. Tapli, Pakchan Estuary, Peninsular Siam, 7 March 1919 (Nos. 4486, 4513, 4520).

♂. Tasan, Chumporn, Peninsular Siam, 26 March 1919 (No. 4869).

2 ♂, ♀. Koh Lak, Rajburi, S. W. Siam, 8-9 April 1919 (Nos. 5171, 5186, 5202).

2 ♂, 2 ♂ imm., 2 ♀ vix ad. Hat Sanuk, Rajaburi, S. W. Siam, 14-17 April 1919 (Nos. 5290, 5327-9, 5361-2).

Total length ♂ 308, 305, 320, 322, 293, 305, 300, 295,
288 mm.

Wing 159, 157, 154, 165, 160, 163, 164, 159,
158 mm.

Tail 107, 80, 90, 110, 96, 95, 103, 96, 93 mm.

Tarsus 29, 30, 30, 32, 30, 29, 30, 29, 29 mm.

Bill from gape 52, 55, 54, 54, 48, 53, 52, 48 49.5 mm.

Total length ♀, 303, 313, 310, 285, 288 mm.

Wing 162, 161, 168, 156, 154 mm.

Tail 98, 104, 103, 90, 95 mm.

Tarsus 26, 29, 29, 29, 28 mm.

Bill from gape 48, 52, 52, 48, 47 mm.

"Iris light red, reddish orange, sometimes yellow, orbits slate; bill greyish black; feet greenish slate."

We have again gone through our very considerable series of this bird and have also examined the whole of the series in the

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii. 1919.

(first part).

J. Robinson, Journ. F. M. S. Mus. vii. 1917

Baker, Journ. N. H. Soc. Siam, iii. 1919.

(second part).

K. Kloss, Ibis, 1918.

M. I. Baker, Journ. N. H. Soc. Siam, iv. 1920.

(third part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii. 1919.

Indian Museum, Calcutta (Zool. Survey of India), and can recognise the following continental forms:—

(a). *Chrysocolaptes guttacristatus sultaneus* (Hodgs.).

A large bird with a very large bill, wing 168 mm. and upwards.

Range. Himalayas and Himalayan foot-hills, eastwards to Northern Burma (specimen from Bhamo, wing 180 mm.).

(b). *Chrysocolaptes guttacristatus guttacristatus* (Tick.).

A medium sized bird, wing 155–165 mm.

Range. Bengal, Orissa south to Godaverry, Assam, Aracan, the whole of Burma, Siam, Cochin-China, Malay Peninsula south to Patani: possibly Sumatra, where a form of the species is known to occur.

(c). *Chrysocolaptes guttacristatus delessertii* (Malh.).

A small bird, wing not exceeding about 155 mm., more deeply and more richly coloured than other forms.

Range. India, south of the Godaverry, and Western India to the Konkan, where two specimens collected by Dr. Armstrong in April 1878 measure 156 and 149 mm. respectively.

(d). *Chrysocolaptes guttacristatus chersonesus* Kloss.

A small bird, even smaller than *C. g. delessertii*, wing from 142–150 mm., with a correspondingly shorter bill and less bright colouration.

Range. Johore, Singapore, Rhio Archipelago and Sumatra.

We are in fair agreement with Mr. Baker's discussion of the species, but we cannot admit that the south Indian and south Malayan birds are identical, separated as they are by the intervening subspecies *S. g. guttacristatus*. The southernmost known specimen of *C. g. guttacristatus* is a female collected by Robinson at Biserat, Jalor, in Pattani on June 29th 1901. South of that, until we reach the extreme south of Johore, the bird has never been met with, though the area has probably been as well collected over as any

- A.** Hume, & Davison, *Stray Feathers*, vi, 1878.
B. Müller, *Die Ornith. der Inselalanga*, 1882.
C. Oates, *Birds Brit. Burmah*, Vols. i. & ii 1883.
D. Bonhote, *P. Z. S.* 1901, Vol. i.
- E.** O. Grant, *Fasciculi Malayenses*, iii (Birds), 1905.
F. Robinson and Kloss, *Ibis*, 1910–11.
G. Gairdner, *Journ. N. H. Soc. Siam*, i, 1915.
H. Robinson, *Journ. F. M. S. Museums*, v, 1915.

similar extent of country in Asia. Besides Singapore and the extreme southern point of Johore, we have collected *C. g. chersonesus* at Bliah, Kundur, one of the Rhio archipelago, and the specimens are now in the Tring Museum: it has also been taken at least twice in Sumatra. It is incredible that there are (as Mr. Baker states) specimens from Johore in the British Museum with wings exceeding 170 mm. There were no specimens at all from Johore in the Museum when the Catalogue was compiled in 1892, nor when one of us searched the collection in 1920, and we cannot but think that some mistake has been made in reading the labels.

288. *Chrysocolaptes validus xanthopygius* Finsch.

Chrysocolaptes xanthopygius, Finsch, Notes Leyden Museum, xxvi, 1905, p. 34 (Upper Mahakam river, Dutch Borneo).

Chrysocolaptes validus, F., p. 47 (Trang).

Chrysocolaptes validus xanthopygius, Robinson and Kloss, Journ. Fed. Malay States Mus. viii, pt. 2, 1918, p. 148 (Sumatra).

The Bornean, Sumatran, and Malay Peninsula birds differ at a glance from the typical Javan form in having the back and rump orange, flicked with flame colour, not deep crimson.

A male from Lamra, collected on 22nd February 1910, a female from Koh Khau, on January 7th 1910, a male from Chong, 24th December 1910, and a pair from Khao Ram, 1000 ft., Nakon Sri Tamarat, 23rd February 1912, are the sole records for Siam; the bird is not found at all within British Indian limits.

289. *Hemicircus concretus sordidus* (Eyton).

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

Hemicercus sordidus, A., p. 128 (Bankasoon); F., p. 47 (Trang).

A single female shot at Chong, Trang, on 8th December 1909, and a male from Khao Ram, 1200 ft., Nakon Sri Tamarat, 26th February 1922, constitute the records for Siam: a male from Bankasoon, S. Tenasserim, is the sole record for British India.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.

56, No. 2, 1916.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919,

(first part).

J. Robinson, Journ. F. M. S. Mus. vii, 1917.

Baker, Journ. N. H. Soc. Siam, iii, 1919,

(second part).

K. Kloss, Ibis, 1918.

M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920,

(third part).

L. Robinson and Kloss, Journ. N. H. Soc. Siam,

iii, 1919.

Our two Peninsular Siam birds differ in no way from southern Malayan specimens of which the wing-lengths range from 81 to 89 mm. Sumatran birds, wings 81–84.5, do not seem to attain the size of the mainland ones: they have been named *H. coccometopus* by Reichenbach (1854). Bornean birds, of which we have only a pair, wings 79–81, also seem smaller: but, like Sumatran examples, do not differ otherwise. They should be placed with the latter apparently; though if comparison of large series discloses differences, the name *H. brookeanus* Salvad. (1868: Borneo) is available. No value attaches to the tint of the pale parts (cf. Hesse, Mitth. Zool. Mus. Berlin, vi, 1912, pp. 151–153).

290. *Hemicircus canente canente* (Less.).

Picus canente, Less., Cent. Zool., p. 215, pl. xxiii, ♂, 1830 (Pegu).
Hemicercus canente, A., p. 127 (Tavoy to Bankasoon); C. ii, p. 30;
 Hume, Stray Feathers, ix, 1880, p. 112 (Kasoom).

2 ♀. Tapli, Pakchan Estuary, Peninsular Siam, 2–7 March 1910 (Nos. 4338, 4467).

"Iris reddish or brown; bill black or dark greenish."

Total length 149, 143; wing 93, 91; tail 40, 40; tarsus 16, 16; bill from gape 21, 22 mm.

These specimens, and the one obtained by Darling at Kasoom, are the only records for Peninsular Siam.

291. *Mülleripicus pulverulentus harterti* (Hesse).

Mülleripicus pulverulentus harterti, Hesse, Ornith. Monatsb. xix, 1912, p. 182; id. Mittheil. Zool. Mus. Berlin, vi, 1912, pp. 231, 232 (Pya, Upper Chindwin); I., p. 96 (North Siam).

Mülleripicus pulverulentus, A., p. 133 (Pakchan; Bankasoon; Malewoon).

Alophonerpes pulverulentus, C. ii, p. 29; F., p. 47 (1911); H., p. 95 (Bandon); J., p. 163 (Pulau Lontar and Terutan).

Alophonerpes pulverulentus harterti, Robinson and Kloss, Ibis, 1919, p. 439 (Cochin-China and Annam).

Hemilophus pulverulentus harterti, M., p. 426 (Tung Song and Patiyu).

♀ ad. Hat Sanuk, Rajburi, S. W. Siam, 12 April 1919 (No. 5255).

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|---|---|
| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salangka, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910–11.
G. Gairdner, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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"Iris blackish brown; bill pale whitish slate, culmen dark; feet bluish slate."

Total length 485; wing 239; tail 187; tarsus 37; bill from gape 68 mm.

It is unprofitable to discuss the races of this woodpecker until a series from Java is available for comparison. In the meantime we use this name for all the continental birds. The Bornean race, apparently distinct from the present one, has already a name, *M. müllerii* (Bp., Conspl. Av. I, p. 131, 1850), and it is therefore improbable that any mainland form is identical with the Javan one.

Young birds have the bill pale throughout and the throat and foreneck cream. A first year male from Bandon has the forehead washed with red and the foreneck slightly tinged with the same colour.

292. *Thripornax javensis* (Horsf.).

Picus javensis, Horsfield, Trans. Linn. Soc. xiii, 1821, p. 175 (Java).
Picus maximus malayensis, Bland, Journ. Asiat. Soc. Bengal, vi, 1837, p. 952 (Johore).

Thripornax javensis, A., p. 135 (Laynah to Malewoon); C. ii, p. 27; B., p. 72 (Junk Seylon or Puket); F., p. 47 (Trang); Hargitt, Ibis, 1885, p. 148 (Malewoon).

The Trang example (a female shot at Chong on 11th December 1909, wing 222 mm.) is interesting, having a few of the feathers of the rump faintly tipped with white, while Hargitt (Cat. Birds Brit. Mus. xviii, p. 499) records an adult from Malewoon having the rump feathers white with a subterminal band of black. Both birds, of course, show the commencement of gradation to *T. j. feddeni*.

293. *Thripornax javensis feddeni* (Blanf.).

Mülleripicus feddeni, Blanford, Journ. Asiat. Soc. Bengal, xxxii, 1863, p. 75 (Burma, probably Ava); Hargitt, Ibis, 1885, p. 154 (Petchaburi).

Thripornax javensis feddeni, Stresemann, Nov. Zool. xx, 1913, p. 321; I., p. 95 (North Siam).

♀ ad. Koh Lak, Rajburi, S. W. Siam, 9 April 1919 (No. 5187).

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| I. | Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916. | M. | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part). |
| J. | Robinson, Journ. F. M. S. Mus. vii, 1917. | | Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part). |
| K. | Kloss, Ibis, 1918. | M. I. | Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part). |
| L. | Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | | |

"Iris pale yellow; bill black; feet greenish grey."

Total length 417; wing 216; tail 175; tarsus 30; bill from gape 53 mm.

The present bird is slightly larger than specimens from Cochin-China and Annam, with which we have compared it. It has practically no trace of white tips to the primaries.

The present record is a considerable extension of range for the species, the nearest localities where it has been taken being Petchaburi (C. Bock) and Meklong (H. C. V. Hunter), *vide* Cat. Birds Brit. Mus. xviii, p. 505.

Picumnus innominatus malayorum Hartert.

Picumnus innominatus malayorum, Hartert, Vogel palaarkt. Fauna, 1912, p. 937 (Perak).

Picumnus innominatus, Hargitt, Cat. Birds Brit. Mus. xviii, p. 549 (Thoungyeen river, Tenasserim).

This species is recorded from Tenasserim, as above, while we have it also from Annam and from the Malay States: it is therefore highly probable that it will be met with eventually in the northern half of the Peninsula.

294. *Sasia abnormis abnormis* (Temm.).

Picumnus abnormis, Temminck, Pl. Col. No. 371, fig. 3 (1825) Java.
Sasia abnormis, E., p. 97 (Patani); F., p. 48 (Trang); H., p. 96 (Bandon).

Sasia abnormis everetti, L., p. 102 (Ghirbi).

Sasia abnormis abnormis, Baker, Ibis, 1919, p. 21 (Maprit in Patiyu); M., p. 427 (Tung Song and Patiyu).

We have this species recorded from Patani, Trang, Ghirbi and Bandon, while Baker states that it occurs in Herbert's collection from Maprit, S. W. Siam, so that the ranges of the two species, *S. ochracea* and *S. abnormis*, slightly overlap.

295. *Sasia ochracea reichenowi* Hesse.

Sasia ochracea reichenowi, Hesse, Ornith. Monatsb. xix, 1911, p. 181 (Burma); id. Mitt. Zool. Mus. Berlin, vi, 1912, p. 149 (type locality, Tavoy); I., p. 97 (North Siam); Baker, Ibis, 1919, p. 211 (Mergui); K., p. 113 (Lat Bua Kao, E. Siam).

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciuli Malayenses, iii (Birds), 1905. |
| B. Müller, Die Ornith. der Insel Salangka, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gardner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

♀. Mamoh, Pakchan Estuary, Peninsular Siam, 26 February 1919 (No. 4276).

♂. Tapli, Pakchan Estuary, Peninsular Siam, 5 March 1919 (No. 4443).

2 ♂, ♀. Tasan, Chumphorn, Peninsular Siam, 15–24 March 1919 (Nos. 4597, 4797, 4846).

"Iris red or reddish, orbits black, blackish red, dark slate or slate; upper mandible black, lower pale grey or slate, in one case yellow; feet yellow, orange or gamboge."

Total length ♂, 87, 83; ♀, 90, 84; wing ♂, 51, 53; ♀, 54, 55; tail ♂, 24, 24; ♀, 24, 28; tarsus ♂, 12, 13; ♀, 11.5, 13; bill from gape ♂, 16, 14; ♀, 13, 14 mm.

The series detailed above appears to agree well with the diagnosis of the race, which is a paler and brighter form of the typical Nepalese bird, though both forms, according to the describer, are found together in North Cachar. It is unfortunate that, while dealing with the genus critically, Baker has not investigated the status of *S. lacrymosa* Lafresnaye, a name revived by Hesse (*loc. cit. supra*) for a large form from the N. W. Himalayas with a wing 58 mm. and other differences.

It is perhaps worthy of note that our series listed above appears to have darker orbits than other birds of the same race, as recorded by Davison, Gyldenstolpe and Kloss.

- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.,
56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919.

- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

EURYLÆMIDÆ.

BROADBILLS.

1	Nostrils concealed by feathers	..	<i>Calyptomena viridis continentis</i>	2
	Nostrils exposed	..	..	..
2	Tail longer than wing	..	<i>Psarisomus dalhousiae</i>	3
	Tail shorter than wing	..	..	..
3	Scapulars lemon-yellow	..	..	4
	No yellow on wings	..	..	5
4	Throat black, fore-neck white, a white collar	..	<i>Eurylaimus o. ochromalus</i>	
	Throat and fore-neck greyish vinous, no white collar	..	<i>E. javanicus karterti</i>	
5	Head black	..	..	6
	Head not black	..	..	7
6	A black band on breast	..	<i>Cymborhynchus m. malaccensis</i>	
	No black band on breast	..	<i>Corydon sumatrana</i>	
7	Tertiaries and secondaries paler, ear-coverts more fulvous	..	<i>Serilophus l. lunatus</i>	
	Tertiaries and secondaries darker, ear-coverts more drabby	..	<i>S. l. stolidus</i> .	

296. *Calyptomena viridis continentis* Rob. and Kloss.

Calyptomena viridis continentis, Robinson and Kloss, Journ. Fed. Malay States Mus. xi, 1923, p. 54 (Isthmus of Kra.).

Calyptomena viridis, A., pp. 86, 409 (Amherst to Malewoon); B., p. 41 (Junk Sylon); C. i, p. 422; E., p. 96 (Patani); F., p. 50 (Trang); H., p. 96 (Bandon); I., p. 85 (Hat Sanuk); L., p., 103 (Junk Sylon); M., p. 419 (Tung Song).

♂. Koh Rah, Takuapah, Peninsular Siam, 17 February 1919 (No. 4055).

♀. Tapli, Pakchan Estuary, Peninsular Siam, 5 March 1913 (No. 4430).

♂, 4 ♀. Tasan, Chumporn, Peninsular Siam, 13 – 15 March 1919 (Nos. 4561, 4568, 4570, 4581, 4598).

“ Iris dark; bill sage green, culmen black; feet green.”

Total length ♂, 177, 177; ♀, 197, 192, 197, 185, 198; wing ♂, 106, 100; ♀, 112, 108, 111, 103, 109; tail ♂, 50, 53; ♀, 65, 58, 60, 60, 66; tarsus ♂, 22, 21; ♀, 23, 21, 21.5, 22, 22; bill from gape ♂, 24, 25; ♀, —, 25, 25, 27, 25, mm.

Though this bird, which is distinguished from the typical Sumatran form by the attainment of greater size, has been obtained

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| A. Hume & Davison, Stray Feathers, vi, 1878. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1915. |
| B. Müller, Die Ornith. der Insel Salanga, 1882. | F. Robinson and Kloss, Ibis, 1910-11. |
| C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883. | G. Gairdner, Journ. N. H. Soc. Siam, i, 1915. |
| D. Bonhote, P. Z. S. 1901, Vol. i. | H. Robinson, Journ. F. M. S. Museums, v, 1915. |

as far north as Amherst in Tenasserim, it has not been recorded from Siam north of Hat Sanuk. In Bandon we found it breeding in June. We have it from Khao Ram, 1200 ft., and Khao Luang, 2000 ft., in Nakon Sri Tamarat. Females seem to run a little larger than males.

Psarisomus dalhousiae dalhousiae (Jameson).

Eurylaimus dalhousiae, Jameson, Edinb. N. Ph. Journ., xviii, 1835, p. 389 (North India).

Psarisomus dalhousiae, A., p. 499 (Nwalabo).

Though not yet recorded from any locality in the area now dealt with, this bird occurs on Nwalabo, at a height of 3000 ft., and is certain to be secured eventually in the mountains, as it is well known in the Malay States.

297. Eurylaimus ochromalus ochromalus Raffles.

Eurylaemus ochromelas, Raffles*, Trans. Linn. Soc. xiii, 1822, p. 297 (Sumatra); A., p. 91 (Laynah to Malewoon); B., p. 42 (Tongkah or Puket); C. i., p. 426; F., p. 50 (Trang); H., p. 97 (Bandon); M., p. 418 (Tung Song).

♀. Tapli, Pakchan Estuary, Peninsular Siam, 3 March 1919 (No. 4390).

♀. Tasan, Chumporn, Peninsular Siam, 14 March 1919 (No. 4583).

"Iris chrome; bill robin's-egg blue, tip of upper mandible green, tomia black; feet pinkish or purplish flesh."

Total length 167, 160; wing 78, 78; tail 48, 55; tarsus 20.5, 20.5; bill from gape 27, 27 mm.

On the Tenasserim side this species reaches its northern limit at Ye, in about Lat. 15° N. In Peninsular Siam the above specimens are the most northerly recorded.

298. Eurylaimus javanicus harterti Van Oort.

Eurylaemus javanicus harterti, Van Oort, Notes Leyden Museum, xxxi, 1909, p. 209 (Sumatra).

Eurylaemus javanicus, A., p. 89 (Nwalabo to Bankasoon); C. i., p. 427; H., p. 96 (Bandon).

* Spelt as above by this author.

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| I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. | M. Baker, Journ. N. H. Soc. Siam, iii, 1919. |
| 56, No. 2, 1916. | (first part). |
| J. Robinson, Journ. F. M. S. Mus. vii, 1917. | Baker, Journ. N. H. Soc. Siam, iii, 1919. |
| K. Kloss, Ibis, 1918. | (second part). |
| L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919. | M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920. |
| | (third part). |

The Sumatran bird, with which the majority of Malayan specimens agree, has been separated from the typical Javan bird, which has yellow under tail-coverts, these being vinaceous in the present form. It is not impossible, however, that the bird from the Lampongs District, South Sumatra, adjacent to the Sunda Straits, belongs to the Javan form.

Though found in the Karen Hills and North Siam, the three specimens from Bandon recorded above, and a pair from Khao Luang, 2000 ft., Nakon Sri Tamarat, 14th March 1922, are the only ones hitherto obtained from Peninsular Siam, where, however, it must be fairly common. The two males now before us differ from a long series of Malayan and Sumatran birds in being paler both above and below.

299. *Corydon sumatranaus sumatranaus* (Raffles).

Coracias sumatranaus, Raffles, Trans. Linn. Soc. xiii, 1822, p. 303 (Sumatra).

Corydon sumatranaus, A., p. 97 (Bankasoon and Malewoon); C. i, p. 430; B., p. 43 (Tengkah or Puket); G., p. 149 (Ratburi); I., p. 87 (Koh Lak); L., p. 103 (Puket).

♂, ♀. Tung Pran, Takuatung, Peninsular Siam, 14 February 1919 (Nos. 4017, 4018).

3 ♀. Tasan, Chumphorn, Peninsular Siam, 13–22 March 1919 (Nos. 4562, 4753, 4787).

2 ♂. Hat Sanuk, Rajburi, Peninsular Siam, 16 April 1919 (Nos. 5341–2).

"Iris dark hazel or black; bill and orbits pinkish horn; feet black or brownish black."

Total length ♂, 271, 278, 272; ♀, 270, 272, 266, 272; wing ♂, 134, 138, 132; ♀, 131, 129, 135, 136; tail ♂, 98, 105, 105; ♀, 98, 102, 109, 103; tarsus ♂, 26, 27.5, 26; ♀, 26, 28, 28, 28; bill from gape ♂, 41, 40, 38; ♀, 42, 40, 39, 39 mm.

Continental and Sumatran birds do not differ. Bornean birds have the general colour dark sepia brown instead of dull black, and

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| A. Hume & Davison, Stray Feathers, vi, 1878.
B. Müller, Die Ornith. der Insel Salanga, 1882.
C. Oates, Birds Brit. Burmah, Vols. i & ii, 1883.
D. Bonhote, P. Z. S. 1901, Vol. i. | E. O. Grant, Fasciculi Malayenses, iii (Birds), 1905.
F. Robinson and Kloss, Ibis, 1910–11.
G. Gaider, Journ. N. H. Soc. Siam, i, 1915.
H. Robinson, Journ. F. M. S. Museums, v, 1915. |
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have been named *Corydon sumatranaus brunneascens* (Hartert, Bull. Brit. Orn. Club, xxxvii, 1916, p. 4). Fairly common in Peninsular Siam, extending northwards to Chiengmai and the Karen Hills.

Fresh skins have the concealed back spot almost invariably fiery orange or scarlet, which in many cases fades to apricot or pinkish yellow.

300. *Serilophus lunatus lunatus* (Gould.).

Eurylaimus lunatus, Gould, P. Z. S. 1833, p. 133 (Rangoon).

Serilophus lunatus, A., p. 89 (Nwalabo); C. i, p. 424; Salvad. Ann. Mus. Civ. Gen. (2) v, 1888, p. 574 (Tenasserim); id. op. cit. (2) vii, 1889, p. 383 (Karen).

Serilophus lunatus lunatus, M., p. 419 (partim: Patiyu and S. E. Siam).

4 ♂, 6 ♀. Tapli, Pakchan Estuary, Peninsular Siam, 1-7 March 1919 (Nos. 4338, 4361-5, 4374, 4380, 4480-1).

♂. Tasan, Chumporn, Peninsular Siam, 27 March 1919 (No. 4909).

" Iris greyish green or dull green, orbits greenish yellow; bill pale blue, tomia whitish, gape and base deep chrome; feet oil-green, claws pale blue."

Total length ♂, 168, 164, 177, 170, -; ♀, 176, 168, 170, 172, 180, 165; wing ♂, 81, 87, 87, 87, -; ♀, 87, 85, 82, 85, 86, 85; tail ♂, 73, 67, 68, 65, -; ♀, 70, 68, 68, 68, 65, 70; tarsus ♂, 20, 18, 18, 17, -; ♀, 17, 18, 21, 20, 18, 18; bill from gape ♂, 21, 22.5, 22, 22, -; ♀, 21.5, 21.5, 23, 23, 23, 23 mm.

This bird was found to be very abundant in dry bamboo jungle at Tapli, flying in flocks of five or six individuals and, as Davison notes, not at all easy to alarm. At Tasan in deeper, more evergreen, jungle it was much rarer, and at other places we did not come across it at all.

Davison did not collect it on the Pakchan, nor did Oates's collectors, so that the present series is a considerable extension of range for the form.

I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl. 56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917.
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam, iii, 1919.

M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M. I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

301. *Serilophus lunatus stolidus* Rob. & Kloss.

Serilophus lunatus stolidus, Robinson and Kloss, Bull. B. O. C. xl, 1919, p. 16 (Khao Nawng, Bandon).

Serilophus lunatus, H., p. 97 (Khao Nawng, Bandon).

Serilophus lunatus lunatus, M., p. 419 (partim : Tung Song).

This form, based on five examples from the central part of Peninsular Siam, differs from the more northern race (*antea*) in having deeper coloured inner secondaries and tertaries and less fulvous ear-coverts. From *S. l. rothschildi*, of the Federated Malay States, which may also occur in the south, it is separated by the more fulvous, less grey, crown and ear-coverts and paler rump and secondaries.

302. *Cymborhynchus macrorhynchus malaccensis* Salvad.

Cymborhynchus malaccensis, Salvad. Atti. R. Acad. Tor. ix, 1874, p. 425 (Malacca); F., p. 50 (Trang); H., p. 96 (Bandon).

Cymborhynchus macrorhynchus, A., pp. 92-5 (Tavoy to Malewoon); C. i, p. 428; B., p. 42 (Tongkah or Puket); D., p. 68 (Patani); G., pp. 39, 149 (Rajburi and Petchaburi).

Cymborhynchus macrorhynchus lemniscatus, I., p. 87 (Hat Sanuk).

Cymborhynchus macrorhynchus malaccensis, L., p. 103 (Ghirbi); M., p. 419 (Tung Song).

2 ♀. Tung Pran, Takuatung, Peninsular Siam, 14 February 1919 (Nos. 4013-4).

♂, ♀. Renong river, Peninsular Siam, 22 February 1919 (Nos. 4163-4).

♀. Mamoh, Pakchan Estuary, Peninsular Siam, 27 February 1919 (No. 4292).

3 ♂. Tapli, Pakchan Estuary, Peninsular Siam, 2-9 March 1919 (Nos. 4366, 4446, 4527).

♂, ♀. Tasan, Chumphorn, Peninsular Siam, 21-22 March 1919 (Nos. 4733, 4783).

♂, ♀. Hat Sanuk, Rajburi, Peninsular Siam, 15 April 1919 (Nos. 5324-5).

"Iris emerald; bill robin's-egg blue, lower mandible mostly chrome; feet purplish blue."

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| A. Hume & Davison, <i>Stray Feathers</i> , vi, 1878. | E. O. Grant, <i>Fasciuli Malayenses</i> , iii (Birds), 1905. |
| B. Müller, <i>Die Ornith. der Insel Salanga</i> , 1882. | F. Robinson and Kloss, <i>This</i> , 1910-11. |
| C. Oates, <i>Birds Brit. Burmah</i> , Vols. i & ii, 1883. | G. Gardiner, <i>Journ. N. H. Soc. Siam</i> , i, 1915. |
| D. Bonhote, <i>P. Z. S.</i> 1901, Vol. i. | H. Robinson, <i>Journ. F. M. S. Museums</i> , v, 1915. |

Total length ♂, 208 (app.), 225, 213, 216, 225, 218; ♀, 213, 220, 217, 208, 212, 223; wing ♂, 97, 98, 100, 96, 99, 100; ♀, 101, 96, 96, 97, 98, 99; tail ♂, 84 (app.), 87, 85, 93, 93, 90; ♀, 93, 95, 88, 93, 87, 90; tarsus ♂, 23, 26, 23, 24, 24, 24; ♀, 24, 24, 22.5, 24, 25, 22; bill from gape ♂, 31, 29, 30, 29, 30, 33 (?); ♀, 29, 28, 31, 28.5, 29, 29 mm.

Consistently common in every suitable locality visited in Peninsular Siam, affecting chiefly bamboo jungle near water; not as a rule found near the sea or in the mangrove zone.

The races of this Broadbill have recently been discussed *ad nauseam*, but after all little has been elicited that has not appeared in Hume and Davison's classic paper. Broadly speaking it may be stated that there is a progressive increase in the amount of white on the tail as we proceed northwards. Bornean birds have least, and to this locality the name *Cymborhynchus macrorhynchus macrorhynchus* is attached, though it is by no means certain that it properly applies: West Sumatran birds are next; and if distinct, will have to be called *C. m. lemniscatus* Raffles, while the continental birds south of Aracan are *C. m. malaccensis*. The present series have white on the four outer pairs of tail feathers; one male from Tasan has it on five, one female from Tasan on three pairs only.

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- I. Gyldenstolpe, Kungl. Sv. Vet. Akad. Handl.
56, No. 2, 1916.
J. Robinson, Journ. F. M. S. Mus. vii, 1917
K. Kloss, Ibis, 1918.
L. Robinson and Kloss, Journ. N. H. Soc. Siam,
iii, 1919.

- M. Baker, Journ. N. H. Soc. Siam, iii, 1919.
(first part).
Baker, Journ. N. H. Soc. Siam, iii, 1919.
(second part).
M.I. Baker, Journ. N. H. Soc. Siam, iv, 1920.
(third part).

ADDENDA AND CORRIGENDA, VOL. V. PAGES 1-207.

- Page 2, line 2 from bottom. *For the third word read* :—British.
- Page 3. Hume's three papers on "The Birds of the Western Half of the Malay Peninsula (Stray Feathers, viii, 1879, pp. 37-72, 151-163; op. cit. ix, 1880, pp. 107-132) have not been mentioned in the synonymy as fully as they should have been: they contain references to many birds from Peninsular Siam.
- Page 16, bracket 15. For *Tropidoperdix* in the last two entries read :—*Tropicoperdix*.
- Page 17, No. 1. The Francolin of Southern Indo-China will possibly have to be known, on account of smaller size than the Chinese bird, as *Francolinus pintadeanus phayrei* Blyth (Journ. Asiatic Soc. Bengal, xii, 1843, p. 1011; id. op. cit. xxiv, 1855, p. 480. Pegu). See Bangs, Bull. Amer. Mus. Nat. Hist. xliv, 1921, p. 576.
- Do. No. 2. Read :—*Rhizothera longirostris longirostris* (Temm.).
- Page 20, line 2. *For p. 25 read* :—p. 28 (Penang).
- The type of *Phasianus castaneus* Gray was, therefore, almost certainly an imported bird.
- Page 22, line 1. *For 532 read* 632.
- Page 23, No. 15. If the bird of the Malay Peninsula differs from other races, with which we have not been able to compare it, it will be known as :—
- Turnix pugnax atrogularis* (Eyton).
- Hemipodius atrogularis*, Eyton, P. Z. S. 1839, p. 107. Malay Peninsula.
- Page 29, No. 20. *Treron bisincta domvillii* of Hainan has wings (*fide* Hartert in litt.), ♂♂ 155, 162, 163, 163, 164, 165; ♀♀ 151, 152, 155 mm.
- We associate birds from E. and S. E. Siam with the small Javanese race, *T. b. javana* Rob. and Kloss (Journ. Fed. Malay States Mus. xi, 1923, p. 53).
- Page 31, No. 23. Mr. W. J. F. Williamson has a pair of *Treron olax* obtained at Naihoot, Langsuan, thus considerably increasing the northern range of the species in the Peninsula.

Page 44, No. 43. Read :—*Porphyrio calvus viridis* Begbie.

Porphyrio viridis, Begbie, The Malayan Peninsula, 1834, p. 515
(Malacca).

Elliot's name for Saigon and Bangkok birds, *P. edwardsi*, will have to rank as a synonym of *P. viridis*, an overlooked name which antedates it by many years. Hume determined a Selangor specimen as "not *calvus*, but Elliot's new Siamese species". We now have specimens from the Malay States which we find to be the same as birds from Chainat, near Bangkok. All these differ from typical *calvus* of Java and Sumatra by having a considerable amount of grey on the head and by larger size. A large series of *P. c. calvus* has wings 210–230 mm: the wings of continental specimens known to us measure from 240 to 275 mm.

Page 45. For *Podicepedidae* read :—*Podicipidae*.

Do. No. 44. Read :—*Podiceps ruficollis philippensis* (Bonn.)
Colymbus flaviatilis Tunstall, is antedated by *C. ruficollis* Pallas.

Page 47, bracket 10. Read :—

Large, wing over 11' inches	11
Medium, wing between 8 and 11 inches	12
Small, wing less than 8 inches	15

Do. bracket 15.

For *S. sinensis* read :—*S. albifrons sinensis*.

" *S. minuta* " *S. a. albifrons*.

" *S. saundersi* " *S. a. saundersi*.

Page 48, No. 46. An earlier name for this tern is *Hydrochelidon leucopareia* (Temm.).

Sterna leucopareia, Temm., Man. d' Orn. ii, 1820, p. 746 (Hungary).

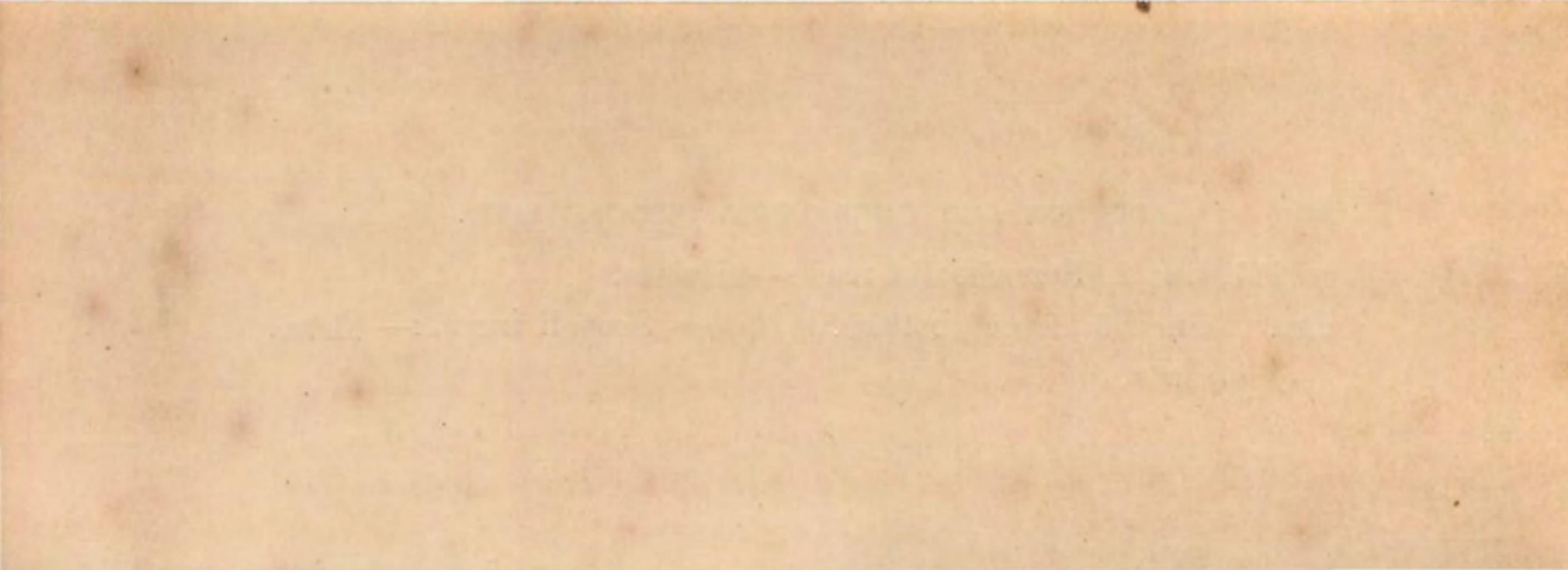
Birds from Java, India and China have received the names of *javanica* Horsf., *indica* Stephens, and *swinhoei* Mathews, respectively, but we are not in a position to determine Siamese birds subspecifically. Mathews considers them to be *H. l. javanica* (Horsf.).

Do. No. 47. Horsfield named a Javanese specimen *Sterna grisea*, and Mathews thinks that this name should be used for the birds of S. E. Asia. Hartert only recognises the typical form.

ADDENDA AND CORRIGENDA (SECOND LIST).

Page 211, line 2. For nilocita read :—nilotica.

Do., line 5 from bottom. *Before Scopoli insert* :—*Sterna
pileata*.



Page 49, No. 48. Read:—*Hydroprogne caspia caspia* (Pall.).

Do. No. 49. Read:—*Geochelidon nilocita* (Gm.).

Sterna nilotica, Gmelin, Syst. Nat. ii, 1789, p. 606 (Egypt).

Some authors regard the form of S. E. Asia as distinct and call it *G. n. affinis* (Horsf.). Type locality Java.

Page 50. For *Sterna media* read:—*Sterna bengalensis bengalensis* Less.

Sterna media Horsf. is preoccupied by *Sterna media* Vieill., and this species must therefore be known as *Sterna bengalensis* Less. (Traité d' Orn. 1831, p. 621. Indian Coasts). Local birds appear to belong to the typical race and are, therefore, *S. b. bengalensis*.

Do. No. 52. Read:—*Sterna hirundo* Linn.

Sterna hirundo, Linn., Syst. Nat. i, 1758, p. 137 (Europe).

This name considerably antedates *Sterna fluviatilis* Nauman.

The Asiatic form is *S. hirundo tibetana*, but the European race, *S. h. hirundo*, is reported to occur in the Malay Peninsula in winter. As noted, the material we have examined is inadequate for subspecific determination.

Page 52, No. 55. Read:—*Sterna albifrons sinensis* Gm.

Page 53. For *Sterna minuta* read:—*Sterna albifrons albifrons* Pall.

Sterna albifrons, Pallas, Vroeg's Cat. Vers. Vog. Adumbr. 1764, p. 6 (Holland).

The name *Sterna minuta* is antedated by the one above given.

Do. For *Sterna saundersi* read:—*Sterna albifrons saundersi* Hume.

Do. For *Anous stolidus* (Linn.) read:—*Anous stolidus pileatus* (Seop.).

Scopoli, Del. Faun. & Flor. Insubr. ii, 1876, p. 92 (Philippines).

Eastern Asiatic birds differ from the typical Atlantic form.

Page 54, bracket 12. For *Squatarola helvetica* read:—*Squatarola s. hypomelus*.

- Page 54, bracket 16. For *Aegialites geoffroyi* read:—*Aegialites leschenaulti*.
- Page 55, bracket 23. For *Macrorhamphus g. taczanowskii* read:—*Macrorhamphus g. semipalmatus*.
- Do. bracket 24. Reverse the names (the bird with the tail not barred is *L. l. melanuroides*), and for *L. lapponica novae-zelandiae* read:—*L. lapponica baueri*.
- Do. bracket 30. For *Totanus calidris* read:—*Totanus t. eurhinus*; and for *Totanus fuscus* read:—*Totanus erythropus*.
- Do. bracket 37. Delete the numbers 9 and 7.
- Do. bracket 39. For *Aencylochilus subarquatus* read:—*Aencylochilus ferrugineus*; and for *Limicola platyrhyncha* read:—*Limicola falcinellus sibirica*.
- Page 56, bracket 40. For *Rostratula capensis* read:—*Rostratula b. benghalensis*.
- Page 59, No. 61. Read:—*Arenaria interpres interpres* (Linn.).
- Page 60, No. 64. Read:—*Squatarola squatarola hypomelus* (Pall.).
Charadrius hypomelus, Pallas, Reis. Russ. Reich. iii, 1766, p. 699
 (Siberia).
- Tringa squatarola* Linn. antedates *Tringa helvetica* Linn.,
 and eastern birds differ from the typical western form.
- Do. No. 65. Read:—*Charadrius apricarius fulvus* Gm.
- Do. No. 66. Read:—*Aegialites leschenaulti* (Less.).
Charadrius leschenaulti, Lesson, Dict. Sci. Nat. xlvi, 1826, p. 36
 (Pondicherry).
- This name antedates *geoffroyi* (Wagler).
- Page 61, No. 67. Read:—*Aegialites mongolus mongolus* (Pall.).
 For *Ae. pyrrhothorax* (in text) read:—*Ae. mongolus atrifrons*
 (Wagler)—[an earlier name].
- Page 64, No. 73. Read:—*Macrorhamphus griseus semipalmatus*
 Jerdon.
Macrorhamphus semipalmatus, Jerdon in Blyth, Journ. Asiat. Soc.
 Bengal, xvii, 1848, p. 252 (Calcutta).
 The name antedates *taczanowskii*.

Page 64, No. 74. For *Limosa lapponica novae-zelandiae* Gray read:—*Limosa lapponica baueri* Nauman.

Limosa baueri, Nauman, Vog. Deutschl. viii, 1836, p. 429 (New Holland; i.e., Victoria).

This name has priority over *novae-zelandiae*.

Page 65. *Totanus ochropus* becomes No. 75 A. We have recently seen specimens in Mr. Williamson's collection from Nong Kae, S. W. Siam.

Do. No. 77. Read:—*Totanus totanus eurhinus* Oberh.

Oberholser, Proc. U. S. Nat. Mus. xxii, 1900, p. 217 (Ladak).

Scolopax totanus Linn. antedates *Scolopax calidris* Linn., while the Eastern Asiatic bird differs from the typical western one.

Page 66, No. 78. Read:—*Totanus erythropus* (Pall.).

Scolopax erythropus, Pallas, Adumbr. Vroeg's Cat. d' Ois. Quad. & d' Ins., 1764, p. 6 (Holland).

This name has priority over *fuscus*.

Page 68, No. 84. For *Erobia* in the synonymy read:—*Erolia*.

Do. *Limonites temmincki* becomes No. 84 A. A male was obtained at Koh Lak, S. W. Siam, in December 1921 by Mr. W. J. F. Williamson.

Do. No. 86. Read:—*Ancylorhynchus ferrugineus* (Brünn.).

Tringa ferruginea, Brünnich, Orn. Bor. 1764, p. 53 (Iceland).

This name has priority over *subarquatus*.

Page 69, No. 87. Read:—*Limicola falcinella sibirica* (Dresser).

Limicola sibirica, Dresser, P. Z. S. 1876, p. 674 (Siberia).

S. Falcinellus Pontop. antedates *T. platyrinchus* Temm., while eastern birds differ from the typical western form.

Do. No. 88. Read:—*Rostratula benghalensis benghalensis* (Linn.).

Rollus benghalensis, Linn. Syst. Nat. i, 1758, p. 153 (Asia).

An older name for the species.

Page 70, No. 90. For *sthenura* read:—*stenura*.

Page 78, No. 104. Tavoy birds may be the subspecies *H. a. modesta* (Gray. *Ardea modesta*, Zool. Misc. 1831, p. 19. India).

Do. No. 105. Read:—*Mesophoyx intermedia intermedia* (Wagl.).

- Page 79, No. 107. Read :—**Demiegretta sacra sacra** (Gm.).
 Do. do., line 2 of synonymy. *For I. read* :—A.
 Do. For **Nycticorax nycticorax** read :—**Nycticorax nycticorax nycticorax** (Linn.).
 Do. No. 108. Insert as first item in the synonymy :—
Ardea melanolopha, Raffles, Trans. Linn. Soc. xiii, 1822, p. 326
 (Sumatra).
 Page 80, No. 109. Read :—**Butorides striatus javanicus** (Horsf.).
 Do. No. 112. Read :—**Bubulcus ibis coromandus** (Bodd.).
 Page 81, No. 113. Read :—**Ardetta sinensis sinensis** (Gm.).
 Page 85, For **Plotus melanogaster** read :—**Plotus rufus melanogaster** (Penn.).
 Do. No. 124. Read :—**Phalacrocorax carbo** (Linn.).
 Tickell's name *Carbo albiventer* is preoccupied and the Siamese bird is probably *P. c. sinensis* (*Pelecanus sinensis* Shaw and Nodder, Nat. Misc. xiii, 1801, pl. 529 and text. China), with which, according to Ticehurst (Ibis, 1923, p. 458) *P. c. indicus* Mathews is synonymous.
 Page 86. For **Pelecanus roseus** read :—**Pelecanus onocrotalus roseus** Gm.
 Page 89, bracket 6. Read :—*Cerchneis tinnunculus*.
 Page 90, bracket 17. *Insert no before scutellae.*
 Do. bracket 18. *For $\frac{1}{2}$ in both lines read* :— $1\frac{1}{2}$
 Page 91, No. 128. Read :—**Baza leuphotes** (Dumont).
Falco leuphotes, Dumont, Dict. Sci. Nat. xvii. 1820, p. 217
 (Pondicherry).
 On further consideration of our series of fourteen specimens, southwards from the Isthmus of Kra in the Malay Peninsula, we find ourselves in agreement with Swann's view as to *B. l. burmana* being only a synonym of *B. leuphotes* (Syn. Accipitres, ed. 2, 1922, p. 167). Only two of our specimens have chestnut on the scapulars and these also have chestnut breast-bands, the individual having most chestnut on the scapulars having the brightest chestnut breast and being of small size. The remaining twelve have scapulars black and white: two of them have pure black breast-bands;

in the rest the breast-band varies from chestnut-black to blackish chestnut. Swann seems correct in stating that *B. l. burmana* has been arrived at through comparing adult Burmese birds with immature Indian ones.

Page 92, No. 129 Read:—*Baza jerdoni jerdoni* (Blyth).

No. 131. Read:—*Cerchneis tinnunculus* subsp.

It is probable that all the specimens mentioned are examples of *Cerchneis tinnunculus dorriesi*, the Siberian Kestrel, which Swann states has a much longer tail than in other forms (σ 172–194; φ 178–200 mm.).

Other races to be considered in connection with S. W. and Peninsular Siam, having regard to the distribution given by Swann (Syn. Accip. ed. 2, p. 216), are *C. t. interstinctus* McClell. (of which *saturatus* Blyth is a synonym), the Assamese Kestrel, visiting the Malay Peninsula in winter; and perhaps *C. t. japonicus* (Temm. and Schleg.), the Japanese Kestrel, known in winter from Hainan, the Philippines and Borneo.

Page 93, line 4. *For 445 read:—44.5.*

Page 94, No. 134. Add to the synonymy:—

Pernis brachypterus, Hume, Stray Feathers, ix, 1880, p. 122 (Malacca).

Pernis tweeddalei, Hume, tom. cit., p. 446; Gurney, tom. cit., p. 446, Hume, op. cit. x, 1887, p. 513 and plate (Malacca).

Pernis apivorus orientalis, Tacz., the Siberian form of the Crestless Honey Buzzard, may occur, as it travels south as far as the Sunda Islands in winter.

The common bird in the Malay Peninsula is undoubtedly *P. pt. ptilorhynchus*; but it may be visited in winter by the North Indian race, *P. pt. ruficollis*, and the Siberian form, *P. a. orientalis*.

Page 99, No. 143, line 2. *For (Java) read:—(Sumatra, fide Oberholser).*

Do. Do. Add to the synonymy:—

Spilornis cheela malayensis, Swann, Syn. List. Accipitr, 1920, p. 83 (Pahang).

It may be just possible to maintain Javanese birds as *S. c. bido* (Horsf.) on account of very slightly darker colour, but this character is not constant and, as we have stated, Javanese examples can be matched by specimens from other parts of Malaysia.

Page 99, Add :—

143. A. *Spilornis cheela rutherfordi* Swinh.

Spilornis rutherfordi, Swinhoe, Ibis, 1870, p. 85 (Hainan); A., p. 14 (Tavoy); C. ii, p. 194 (*partim*, Tenasserim and Siam).

Spilornis cheela, G., p. 151 (Ratburi or Petchaburi).

Spilornis bacha, I., p. 128 (Huey Sai near Koh Lak).

Spilornis cheela floweri, Swann, Syn. List. Accipitr., 1920, p. 81 (Takhmen, Central Siam).

♂. Koh Lak, S. W. Siam, 6 April 1919 (No. 5119).

" Iris chrome; bill grey, tip black, cere and base yellow; feet greenish grey."

Total length 610, wing 425, tail 270, tarsus 100, bill from gape 45 mm.

The Koh Lak example agrees with birds from Cochin-China.

This race only differs from *S. c. bassus* in being larger: there are no colour distinctions.

Page 101, No. 148. Read :—*Milvus lineatus* (Gray).

Haliaetus lineatus, Gray, Hardwicke's Ill. Ind. Zool. i, 1832, p. 1, pl. 11 (China).

This is an earlier name for *M. melanotis*.

Page 105. *Accipiter nisus* subsp. *Forsteri* p. 22, in synonymy, read, p. 29.

Page 108, No. 159. Read :—*Tyto alba javanica* (Gm.).

Page 109, No. 163. Read :—*Ketupa ketupu ketupu* (Horsf.).

Page 111, No. 166. Read :—*Otus luciae siamensis* Rob. and Kloss, Journ. Fed. Malay States Mus. x, 1922 p. 261 (Khao Nong, Bandon, 3500 ft: also from Khao Luang, Nakon Sri Tamarat, 5000 ft.).

Page 116, No. 178. Read :—*Palaeornis cyanocephalus bengalensis* (Forst.).

Psittacus bengalensis, Forst., Ind. Zool. 1781, p. 40 (Bengal).

Forster's name has precedence of Boddaert's.

Page 121, bracket 2. For *Ceyx t. tridactylus* read :—*Ceyx e. erithaca*.

Page 125, No. 191. For *Ceyx tridactylus tridactylus* (Pall.) read :—

Ceyx erithaca erithaca (Linn.).

Alcedo erithaca, Linn., Syst. Nat. i, 1758, p. 115 (Bengal).

Laubmann has shown (Orn. Monatsb. xxxi, 1923, p. 89) that this species must be known by Linneus's name, which is eleven years earlier than that of Pallas.

Page 143. For *Apidae* read :—*Micropodidae*.

Page 144, No. 223. For *Apus* read :—*Micropus*.

Page 145, No. 224. For *Apus* read :—*Micropus*.

Page 149, bracket 4. For *Cuculus canorus bakeri* read :—*Cuculus optatus*.

Page 152. For No. 240 read :—

Cuculus optatus Gould.

Cuculus optatus, Gould, P. Z. S. 1845, p. 18 (North Australia);

Hartert, Vog. palaukt. Fauna, 1912, p. 949 (Malay Peninsula).

(Specimen and details as recorded).

The advent of a second example of this species from Sumatra (♂, wing 198 mm.) has caused us to reconsider our determination; and Dr. Hartert who has examined the specimens agrees with us that they are *C. optatus*. Though very like *C. canorus* this species is too small to belong to either of the two Asiatic local races, *C. c. bakeri* and *C. c. telephonus*. It has nothing to do with *C. micropterus*, etc.

Page 154, No. 247. We should have stated that the wing lengths of *E. s. scolopacea* given by Hartert are those of males only: thus our males have wings only 1 mm. more than Hartert's maximum. Without doubt, however, they are properly determined as *E. s. maluyana*, for in a series of both sexes from Central and Eastern Siam, the wings range from 198 to 222 mm.; and with the exception of three specimens (wings 190, 196, 196) a large series of Malay Peninsula males have wings 197–212. mm.

Page 159, bracket 7. *Read at end of second line* :—.....8.

Page 166, No. 262, line 1. For faiostriatus faiostriatus read :—faiostriatus faiostriatus.

Page 180, line 4. For micropterus read :—microterus.

Page 200, No. 294, last word of text. For overlap read :—overlap.