

**AN ACCOUNT OF THE BORNEAN BIRDS IN THE ZOOLOGICAL
MUSEUM, BUITENZORG, WITH THE DESCRIPTION
ON A NEW RACE.**

By

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There are in the Raffles Museum, Singapore, large collections of Bornean birds, but ninety-nine per cent of the specimens come from the areas under British protection: British North Borneo and Sarawak, i.e., from the north and north-west of the island.

My colleague, Mr. F. N. CHASEN, and I have for some time had in hand for publication a report on a large acquisition made by us in the lowlands of British North Borneo in 1927: and desiring to compare this British Bornean material with material from other parts of the island I asked Dr. K. W. DAMMERMAN, Director of the Zoological Museum, Buitenzorg, Java, if he would submit his Bornean bird collection for examination. He was good enough to do this and I have written the following account of it.

The collection was not as large, nor from so far south, as I had hoped (for most of the forms described by TEMMINCK, MÜLLER, SCHLEGEL, BONAPARTE and more recent Dutch ornithologists came from south of the Equator) but it has helped, by direct comparison with skins from the north and north-west, to add a little to our knowledge of the distribution of subspecies in Borneo.

A difficulty in obtaining a correct view of the Bornean fauna is that practically no museums possess sufficient material from all parts of the island. British museums, taken altogether, have ample material from those parts under British protection, the collections in the museums of the Netherlands come practically from their own possessions only; and most of the skins in other continental and in American museums also come mainly from Netherlands Borneo.

Excluding the mountain birds, subspecies in the Malay Peninsula vary with latitude, in Java with longitude: but in Borneo neither of these artificial features are uniformly accompanied by geographical variation. The island is much larger than either the Peninsula or Java and, being much more rectangular in shape, is affected by variation both latitudinally and longitudinally. We find races differing sometimes north and south and sometimes east and west; sometimes there is no difference at all and sometimes a local form seems to be

confined to a small area of the island. Until the faunas of the various quarters have been actually compared with each other we shall lack a really sound knowledge of the fauna of Borneo as a whole. For want of sufficient material it is at present out of the power of any one institution to make a satisfactory comparison.

The latest list of the Birds of Borneo was drawn up by the late Dr. J. C. MOULTON, Director of the Raffles Museum (vide Journal, Straits Branch of the Royal Asiatic Society, No. 67, 1914, pp. 125-176. Singapore). It was, however, largely an uncritical compilation and suffers somewhat on that account. It is accompanied by a most useful Bibliography of ornithological papers (pp. 177-191).

In our account of North Bornean birds, which will be found in the Bulletin of the Raffles Museum, No. 4 (which might be read with this paper) Mr. CHASEN and I have commented, often at considerable length, on species and races so I have not thought it necessary to incorporate many critical remarks here.

With the exception of few odd specimens (CARL BOCK, VORDERMANN, etc.) the material in Buitenzorg comes from four localities:

1. North-west Borneo. From the Lawas River, Brunei. Collected by Mr. J. M. DUMAS in 1900 (Referred to as "Lawas River").
2. North-east Borneo. From the boundary between Netherlands Borneo and British North Borneo. Collected by the Dutch party of the Boundary Commission in 1912. (Referred to as "Northern Boundary").
3. Central East Borneo. From the lower Mahakkam or Koetai River (a few skins only) and along its tributary, the Telen River, coming from the north; at Moeara Antjaloeng (lat. $0^{\circ} 26' N.$), Moeara Marah, Moeara Wahau, Long Poetoes, Long Huet, Long Temelen, Long Liah Leng, Long Petah (lat. $1^{\circ} 34' N.$) and at Punt D, 1172 metres, about eight kilometres above Long Petah in the hills where rises the Telen. Collected by Mr. H. C. SIEBERS in 1925 ¹⁾ (when he was ornithologist in the Zoological Museum, Buitenzorg) and forming the greater part of the material submitted. (Referred to as "Telen River", unless specimens come from one station only or require particular mention, and "Punt D, 1172 metres"). Though various collections of birds have been made more recently in Netherlands East Borneo (ABBOTT, RAVEN, LUMHOLTZ) and local races have been described from the material obtained, the last collection to have been dealt with as a whole was that of NIEUWENHUIS described by FINSCH, during the binomial era, in Notes from the Leyden Museum, XXI, 1905, pp. 1-154.
4. South-west Borneo. From the Melawi River, a southern tributary of the Kapuas River. Collected by Mr. A. BLANCHEMANCHE in 1924-5. (Referred to as "Melawi River").

¹⁾ vide „Midden-Oost Borneo Expeditie 1925" Uitgave van het Indisch Comité voor Wetenschappelijke Onderzoekingen. Batavia, Kolff & Co., 1927.

Systematic

Alophoixus phaeocephalus medius subsp. nov. E. Borneo.

PHASIANIDAE.

Arborophila hyperythra hyperythra (SHARPE).

1 sex inc., West Borneo.

Wing 135 mm. Forehead and crown barred with rufous.

Haematortyx sanguineiceps SHARPE.

1 sex inc., Borneo (CARL BOCK).

Wing 165 mm.

Rollulus roulroul (SCOP.)

1 ♂ Lawas River; 8 ♂, 4 ♀ Northern Boundary; 3 ♂, 2 ♀, Telen River; 2 ♂, 1 ♀, Melawi River.

Wings: ♂ 136, 139, 140, 141, 141, 142, 142, 143, 143, 144, 145, 146, 148, 148, 151; ♀ 134, 136, 138, 142, 142, 142, 145 mm. The extremes come from the Boundary.

Two male pullets from Long Petah are chestnut, blackish on the rump, palest on the abdomen.

Excalfactoria chinensis lineata (SCOP.).

1 ♂ Lawas River; 1 ♀ "Borneo".

Wings: ♂ 74; ♀ 72 mm.

The male is inseparable from Malayan males. The female, like examples from Sarawak, is darker and more freely and heavily barred below than Malayan females, resembling *lineata* of the Philippines. Bornean birds have been separated (*caerulescens* HACHISUKA) without comparison with those of Java (*E. c. palmeri* RILEY), which are also described as darker than Malayan birds.

Lophura ignita (SHAW and NODDER) *vide* O.-GRANT, Cat. Birds B.M., XXII, 1893, p. 288.

Lophura nobilis (SCLATER) *vide* BÜTTIKOFER, Notes Leyden Mus. XVII, 1896, p. 175.

1 ♂ Marah; 1 ♀ Melawi River; 1 ♀ Sintang, West Borneo (OUWENS).

Wings: ♂ 270; ♀ 245, 255 mm.

Lobophasianus bulweri SHARPE.

1 ♂ Punt D, 1172 metres; 1 ♂ "Borneo" (CARL BOCK).

Wings: 265, 267 mm.

Argusianus argus grayi (ELLIOT).

1 ♀ Long Petah. Wing 395 mm.

TRERONIDAE.

Butreron capellei (TEMM.)

2 ♀ Northern Boundary. Wings: 191, 192 mm.

OBERHOLSER has named a bird from Klumpang Bay, S.E. Borneo, *B. c. messophora*. These two females and other birds from British North Borneo are not separable from Malayan birds (*magnirostris* STRICKLAND; but we have been unable to compare any of them with topotypes from Java where the bird now seems to be very scarce.

Treron fulvicollis fulvicollis (WAGL.)

1 ♂ Bandjermasin (VORDERMANN). Wing 138 mm.

In the northern half of Sarawak and in British North Borneo *T. f. baramensis* MEYER, is found.

Treron vernans griseicapilla SCHLEG.

1 ♂ Northern Boundary. Wing 142 mm.

In the S. E. and South of Borneo birds are, or closely approach, the East Javan form *T. v. purpurea* (GM.).

Treron olax (TEMM.)

1 ♀, Lawas River; 2 ♂, Northern Boundary. Wings: ♂ 115, 122; ♀ 120 mm.

OBERHOLSER has named a bird from N. E. Borneo, *T. o. arismicra*. Our considerable material shows no character to separate it from the typical form.

Ptilinopus jambu (GM.)

3 ♂, Northern Boundary; 1 ♀ Long Petah. Wings: ♂ 137, 138, 145; ♀ 136.

Ducula aenea aenea (LINN.)

2 ♂, 1 ♀, Northern Boundary. Wings: ♂ 230, 240; ♀ 232 mm.

Ducula badia capistrata (TEMM.)

1 ♀, Northern Boundary. Wng 233 mm.

SIEBERS (Treubia, XI, 1929, p. 149) upholds TEMMINCK's name for Javan and Bornean birds because of a smaller apical tail-band. The difference is of doubtful value and will probably disappear with more material.

PERISTERIDAE.

Chalcophaps indica indica (LINN.)

2 ♂, 1 ♀, Northern Boundary. Wings: ♂ 138 (imm.), 142; ♀ 131 (imm.).

RALLIDAE.

Amaurornis phoenicura javana (HORSF.)

2 sex inc., Lawas River. Wings: 112 (imm.), 137 mm.

CHARADRIIDAE.

Charadrius dubius curonicus, GM.

1 ♀, Telen River. Wing 114 mm.

ARDEIDAE.

Bubulcus ibis coromandus (BODD.)

1 ♀, Northern Boundary. Wing 235 mm.

Ixobrychus eurhythmus (SWINHOE).

1 ♀ imm., Northern Boundary. Wing 143 mm.

I. eurhythmus is the same size as, and very closely related to *I. cinnamomea* (if not a subspecies of it) from which it can apparently be distinguished at all ages by having the remiges and tail greyish or brownish black instead of cinnamon.

The plumage appears to vary considerably with age, younger birds having much of the upper surface spotted with white or pale buff, the wing-coverts variegated with large chestnut patches (instead of being plain olive-buff) and the foreneck and breast more freely streaked with brown.

The present example is in the stage of MEYER and WIGLESWORTH's lower coloured figure of *Ardetta eurhythmia* (Birds of Celebes, pl. XLV): the upper figure being that of the adult. We have examples of both stages before us from the Federated Malay States whence it has not yet been recorded.

This bird and *I. cinnamomea* both differ from other members of the genus in having the tibia naked above, instead of feathered nearly to, the tibio-tarsal articulation; while the basal joint of the middle toe is as long as the second instead of being much shorter. STEJNEGER has proposed for it the genus *Nannocnus*.

ANHINGIDAE.

Anhinga rufa melanogaster FORST.

1 sex inc. Koetai, Central East Borneo (CARL BOCK).

FALCONIDAE.

Microhierax fringillarius (DRAP.)

1 ♀ Telen River. Wing 102 mm.

In North Borneo occurs *M. latifrons* SHARPE.**Spizaetus cirrhatus limnaetus** (HORSF.)

1 ♂, Northern Boundary. Wing 398 mm.

Ichthyophaga ichthyaetus ichthyaetus (HORSF.)

1 sex inc., Borneo (CARL BOCK). Wing 460 mm.

BUBONIDAE.

Otus bakkamoena lempiji (HORSF.).

1 ♀, Marah. Wing 145 mm.

Glaucidium brodiei sylvaticum (BP.)

1 sex inc., Kilam Bolset (BUYS, coll.). Wing 94 mm.

Phodilus badius badius (HORSF.)

1 ♀, Northern Boundary. Wing 190 mm.

PSITTACIDAE.

Psittacula longicauda longicauda (BODD.)

1 ♂ Marah. Wing 152 mm.

Psittinus cyanurus cyanurus (FORST.)

2 ♂, Melawi River. Wings 114, 115 mm.

Coryllis galgulus galgulus (LINN.)

2 ♂ 1 ♀, Lawas River; 2 ♂ 2 ♀, Northern Boundary; 2 ♂ Moeara Antjaloeng;
2 ♂ Melawi River.

Wings: ♂ 80, 80, 80, 81, 82, 83, 83. ♀ 75, 81, 82 mm.

PODARGIDAE.

Batrachostomus stellatus (GOULD).

1 ♀ Northern Boundary. Wing 120 mm.

Batrachostomus affinis BLYTH.

1 ♀ Borneo. Wing 128 mm.

CORACIIDAE.

Eurystomus orientalis orientalis (LINN.)

1 ♀ Melawi River. Wing 186 mm.

Eurystomus orientalis calonyx HODGS.

1 ♀ Koetai (CARL BOCK), 1 ♂ Moeara Wahau; 1 ♀ Melawi River. Wings:
♂ 184, 202. ♀ 187.

ALCEDINIDAE.

Rhamphalcyon capensis javana (BODD.)

2 ♂ 1 ♀ Telen River. Wings: ♂ 137, 139 (imp.). ♀ 143 mm.

Alcedo meninting verrauxi DE LA BERGE.

1 ♂ (ear-coverts rusty) 1 ♀ (ear-coverts blue) Telen River.

Wings: ♂ 62. ♀ 62 mm.

Birds of Borneo, Sumatra and the Malay Peninsula are smaller and of a darker blue than the typical Javanese form. The colour of the ear-coverts varies considerably in the present race.

Alcedo euryzona TEMM.

1 ♀ Telen River. Wing 79 mm.

Lores rufous, lower eyelids partly rufous. Back bright turquoise, richest on mantle and tail-coverts.

Ceyx erithacus motleyi CHASEN & KLOSS, Journ. f. Ornith., 1929, Bd. 2, p. 106 (Sandakan).

2 ♂ 2 ♀ Telen River (paratypes)

Wings: ♂ 55, 59: ♀ 61, 61 mm.

Halcyon pileata (BODD.)

1 ♀ Northern Boundary; 3 ♂ Telen River.

Wings: ♂ 123, 124, 128: ♀ 124 mm.

Halcyon sancta sancta VIG. & HORSE.

1 ♂ Moeara Wahau. Wing 92 mm.

Halcyon concreta borneana CHASEN & KLOSS, Bull. Raffles Mus. No. 4, 1930, p. 24. North Borneo.

4 ♂, 2 ♀ Telen River.

Wings: ♂ 111, 112, 114, 115: ♀ 118, 118 mm.

Larger than the typical Sumatran form which also occurs in the Malay Peninsula.

Lacedo pulchella melanops (BP.)

1 ♀ Marah. Wing 83 mm.

This race has a curious distribution: — Borneo and Banka Island!

BUCEROTIDAE.

Buceros rhinoceros borneoensis SCHLEG. & MÜLL.

4 ♂, 5 ♀ Northern Boundary.

Buceros rhinoceros LINN. has for habitat "India" where, in the modern sense, the species does not occur. We, therefore select Malacca for *terra typica* as other localities in the range have been eliminated by having local races proposed for them, viz., *sumatranus* S. & M., for Sumatra; *borneoensis* S. & M. for Borneo; *sylvestris* VIEILL., for Java.

Birds from the Doeson, or Barito River, S. E. Borneo, were separated as being small, with a small casque:

Wing 430, casque 110-120 mm. These dimensions are apparently those of females.

Though our Malayan series is small (4 ♂, 2 ♀ only) the dimensions of males are so much larger than those of a series of eight adult males from Northwest, North and East Borneo that it is necessary to recognize a subspecies for the island.

Wings:	Malayan males	475-503.	Bornean males	425-475.
Casques:	"	"	"	"
		154-214.		128-163.
Bills from gape:	"	"	"	"
		250-280.		215-257.

On our series of females (7 Bornean) the differences are not perceptible:

Wings:	Malayan 420-448.	Bornean 420-450.
Casques:	" 132-145.	" 117-143.
Bills from gape:	" 210-251.	" 205-233.

According to SCHLEGEL and MÜLLER Sumatran birds are large: — wing 510, casque 180-190 mm. They may not be separable from the typical form.

We have only a pair from Siak:

	♂	♀
Wing:	483	460.
Casque:	167	120.
Bill from gape:	253	224.

Anorrhinus galeritus (TEMM.)

2 ♂, 5 ♀, Northern Boundary.

Wings: ♂ 350, 350: ♀ 318, 318, 325, 338, 340 mm.

In this bird the bill seems to be black in adult males, black and white in adult females, and white in juveniles of both sexes.

Anthracoceros coronatus convexus (TEMM.).

1 ♂ 1 ♀, Northern Boundary.

Wings: ♂ 315: ♀ 268 (imm.?) mm.

Anthracoceros malayanus (RAFFLES).

1 ♂, 1 ♀ Northern Boundary.

Wings: ♂ 316: ♀ 265 (imm.?) mm.

The first is the adult male of the Catalogue of Birds (XVII, p. 369) except that the superciliary stripe is grey instead of white; and except for this feature it is also the large adult male *malayanus* figured and described in ELLIOT's "Monograph of the Bucerotidae".

The description of "less mature specimens" in the Catalogue applies to the female which, also, has the eyebrow grey: except for this last character it is the female *malayanus* described by ELLIOT and figured on the right of his plate; the *nigrirostris* of BLYTH, and of SALVADORI. We intend to deal later with the status of these birds.

Rhinoplax vigil (FORST.)

1 ♂ 2 ♀ Northern Boundary. Wings: ♂ 480: ♀ 420, 450 mm.

MEROPIDAE.

Nyctiornis amicta (TEMM.)

2 ♀ Long Petah, 3 ♀ Melawi River.

Wings: 121 (imm.), 122, 126, 126, 128 mm.

CAPRIMULGIDAE.

Lyncornis temmincki GOULD.

1 ♂ Melawi River. Wing 203 mm.

MICROPODIDAE.

Cypsiurus batasiensis infumatus (SCLATER).

1 ♀ Melawi River. Wing 111 mm.

Hirundapus leucopygialis (BLYTH).

2 ♂, 4 ♀, Moeara Antjaloeng.

Wings: ♂ 115, 120: ♀ 118, 122, 123, 126 mm.

Collocalia brevirostris lowi (SHARPE).

1 ♂ 2 ♀, Telen River. Wings: ♂ 131: ♀ 117 (imp.), 124 mm.

We place these specimens under *C. b. lowi* as they appear to agree with STRESEMANN's description of that race rather than with his *C. b. tichelmani* from Tamaloeang, S. E. Borneo (Orn. Monats. XXXIV, 1926, p. 104).

Collocalia esculenta cyanoptila OBERH.

1 ♀ Moeara Antjaloeng. Wing 102 mm.

Hemiprocne comata comata (TEMM.)

1 ♂ 1 ♀ Telen River. Wings: ♂ 127. ♀ 128 mm.

TROGONIDAE.

Pyrotrogon diardi diardi (TEMM.)

2 ♀ Northern Boundary. Wings: 138, 142 mm.

Pyrotrogon fasciatus kasumba (RAFFL.)

1 ♂, 1 ♀ Northern Boundary; 1 ♂ 1 ♀ Telen River.

Wings: ♂ 132, 135 (imm.): ♀ 136, 139 mm.

P. whiteheadi, from Mt. Kinabalu may be a very distinct mountain form of this species, resembling the typical race of Ceylon in its grey breast. Females of the species do not differ greatly from each other: the males may be distinguished as follows: —

A. Foreneck and breast grey.

a. Crown and nape grey: a white breast-band.

f. fasciatus. Ceylon.

b. Crown and nape scarlet: no breast-band.

f. whiteheadi. Kinabalu,

Dulit and Mulu Mts, N. Borneo.

B. Foreneck and breast black or blackish: a white breast-band.

a. A scarlet nuchal collar *f. kasumba*. Sumatra,
Malay Peninsula and Borneo.

b. No nuchal collar *f. malabaricus*. S. India,
North to Western Bengal.

Pyrotrogon orrophaeus vidua (O. GRANT).

1 ♂ Punt D, 1172 metres. Wing 107 mm.

Pyrotrogon duvauceli (TEMM.)

3 ♀ Northern Boundary; 2 ♂ Long Petah; 1 ♂ 2 ♀ Melawi River.

Wings: ♂ 102, 103, 107; ♀ 101, 102, 103, 108, 110 mm.

CUCULIDAE.

Surniculus lugubris brachyurus STRESEM.

3 ♀ Telen River. Wings: 113, 117, 121 mm.

Hierococyx fugax fugax (HORSF.).

1 ♂ ad., 1 ♂ im., Long Petah; 1 sex inc. imm. „Borneo.”

Wings 163, 167, 168 mm.

Bills, tip to nostril, 17, 17, 18 mm.

This is the local breeding race; the two other races of the species, *H. f. nasicolor* (Hodgs. in Blyth) which breeds in Northern India and Southern China, and *H. f. hyperythrus* (GOULD) breeding in N. E. Asia and Japan, visit Borneo: the last having been recorded from the north and east of the island only. It is the largest form and is further distinguished from the others by having the dark bands of the tail bordered on their lower edges by indefinite pale brown stripes; it has the breast uniformly rufous as a rule in adults. *H. f. nasicolor* differs from *H. f. fugax* in having a shorter bill and the penultimate dark and light bars of the tail much narrower (cf. fig. 8, a, b, of SIEBERS, Treubia, VII, Suppl., 1930, p. 273).

Cacomantis merulinus.

1 ♂ Lawas River. Wing 101 mm.

If different from the Philippine bird, then *C. m. threnodes* CAB. & HEINE.

Chalcites xanthorhynchus (Subsp.).

1 ♂ ad. "Borneo". Two and three outer tail feathers with white terminal spots.

1 ♂ subad. Telen River. Three outer pairs with white terminal spots.

1 ♀ ad. Melawi River. Three outer pairs with white terminal spots.

These specimens seem on account of the tail pattern nearer to Philippine birds which have been named *amethystinus* by VIGORS, than to the typical Javanese form.

Chalcites malayanus malayanus (RAFFLES).

1 ♂ Telen River. Wing 92 mm.

[*Cuculus neglectus* SCHLEG., the type of Salvadori's genus *Heterococyx*, appears to be a young example of *C. basalis* (HORSF.)].

Centropus bengalensis javanensis (DUMONT).

1 ♂ 1 ♀ Northern Boundary. Wings: ♂ 154; ♀ 149 mm.

Rhopodytes diardi borneensis SALVAD.

1 ♂ Punt D, 1172 metres. Wing 125 mm.

Rhopodytes sumatranus (RAFFLES)

1 ♂ 1 ♀ Telen River; 1 ♂ 2 ♀ Melawi River.

Wings: ♂ 139, 140; ♀ 142, 142, 142 mm.

Rhinorhina chlorophaea chlorophaea (RAFFLES).

2 ♂ Lawas River; 3 ♂ 1 ♀ Northern Boundary; 3 ♂, ♀ 3 Telen River;
3 ♂ 3 ♀ Melawi River.

Wings: ♂ 195, 106, 107, 108, 110, 111, 111, 112, 112, 113, 113. ♀ 108, 108,
110, 112, 112, 113, 115 mm.

Phoenicophaus curvirostris borneensis (BLAS. & NEHR.).

2 ♂ 2 ♀ Northern Boundary; 3 ♂ Telen River; 1 ♀ Punt D, 1172 metres;
1 ♂ Borneo (VORDERMANN).

Wings: ♂ 150, 161, 162, 163, 164, 170, 171, 172.

♀ 157, 158, 163, 164 mm.

The series from the Boundary is small, wings 150-163; and we find birds from British North Borneo to be rather small also (152-167). The birds from elsewhere range larger, wings 161-172 mm.

Carpococcyx radiatus radiatus TEMM.

1 ♂ Lawas River. Wing 252 mm.

CAPITONIDAE.

Calorhamphus fuliginosus fuliginosus (TEMM.)

2 sex inc. "Borneo". Wings: 78 (VORDERMANN), 80 mm.

In the north of the island occurs the form *C. f. tertius* CHASEN and KLOSS (Journ. f. Ornith., 1929, Bd. 2, p. 110. Sandakan) with the red on the underparts not extending toward the abdomen, but confined to the upper breast.

Chotorhea chrysopogon chrysopsis (COFFIN).

1 ♂ 1 ♀, Telen River; 1 sex inc. Melawi River; 1 sex inc., Borneo (VORDERMANN).

Wings: ♂ 118; ♀ 119, sex inc. 114, 120 mm.

Chotorhea mystacophanes mystacophanes (TEMM.).

2 ♂ 2 ♀, Northern Boundary; 3 ♂ 1 ♀ Telen River.

Wings: ♂ 93, 93, 94, 96, 99. ♀ 91, 92, 99 mm.

Chotorhea rafflesi (LESS.) [*Chotorhea versicolor* auct.].

1 ♂ Northern Boundary; 1 ♀ Moeara Antjaloeng; 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 115, 120; ♀ 116, 120 mm.

Chotorhea monticola SHARPE.

1 ♂ 1 ♀ Punt D, 1172 metres. Wings: ♂ 103, ♀ 103 mm.

Mesobucco duvauceli duvauceli (LESS.).*M. d. borneonensis* (PARROT.).

1 ♂ Northern Boundary; 2 ♂ Marah.

Wings: 73, 75, 75 mm.

Ear-coverts black. Exactly like typical birds.

PICIDAE.

Picus puniceus observandus (HARTERT.).

1 ♀ Northern Boundary; 3 ♂ Telen River.

Wings: ♂ 118, 118, 125; ♀ 115 mm.

This is the race occurring in Sumatra as well.

Callolophus miniatus dayak STRESEM.

1 ♂, Marah. Wing 119 mm.

STRESEMANN separated Bornean birds (type locality Landak River, near Pontianak, S. W. Borneo) on account of small size (wings 119-122 mm.) and the examples from Marah agrees. The wing range of one bird from Sampit, S. Borneo, eight from Sarawak and two from Sandakan is 113-124 mm.

Callolophus miniatus malaccensis (LATH.).

1 sex inc. "BORNEO". Wing 132 mm.

This example perhaps came from the Lawas River as we have the long-winged *C. m. malaccensis* from the neighbourhood of Mt. Kinabalu. It would seem that over a small area in North Borneo the larger Malayo-Sumatran race occurs.

Chrysophlegma mentale saba CHASEN & KLOSS, Journ. f. Ornith., 1929, Bd., 2. p. III. (Sandakan).

3 ♂ 3 ♀ Telen River; 1 ♂ 1 ♀ Punt D, 1172 metres.

Wings: ♂ 125, 127, 129, 130. ♀ 122, 125, 127, 127 mm.

These birds are best placed with the small form described from the neighbourhood of Sandakan which they approach nearest in the colour of the moustachial stripe and in size, though a little larger than the type series.

C. m. humei of the Malay Peninsula occurs also in Sumatra and in the western half of Borneo. The winglength of the two forms may be stated as

<i>C. m. saba</i>	♂ 120 — 130.	♀ 119 — 127.
<i>C. m. humei</i>	♂ 128 — 141.	♀ 125 — 139.

Chloropicoides rafflesi borneonensis (HESSE).

1 ♀ Marah. Wing 128 mm.

Dryobates moluccensis moluccensis (GM.).

1 ♀ Northern Boundary; 2 ♂ Moeara Antjaloeng.

Wings: ♂ 68, 72 (worn); ♀ 74 mm.

We cannot separate birds from the Malay Peninsula (selected as the type locality by OBERHOLSER in 1919 under the impression (erroneous) that this bird and *Tripsurus auroreus* EYTON, of Malacca are the same) Sumatra, Java and Borneo.

The Telen River examples are practically topotypes of *D. m. tantalus* RILEY (Mahakkam River), but they are inseparable from a Malayan-Javan series. The wings of Bornean birds run quite as large as the others.

Dryobates hardwicki aurantiiventris (SALVAD.)

1 ♂ 1 ♀ Melawi River. Wings: ♂ 77: ♀ 81 mm.

Males are more richly coloured on the underparts than females. STRESEMANN regards this bird as a race of *canicapillus*. The alliance is correct, but *canicapillus* itself is apparently but a subspecies of *hardwicki*.

Blythipicus rubiginosus parvus CHASEN and KLOSS, Journ. f. Ornith., 1929, Bd. 2, p. 112 (Sandakan).

1 ♂ 1 ♀ Long Petah. Wings: ♂ 115: ♀ 117 mm.

This is the Borneo-Sumatran race which is smaller than the typical form from the Malay Peninsula.

Meiglyptes tristis micropterus HESSE.

1 ♂ 2 ♀ Marah; 2 ♂ 2 ♀ Melawi River.

Wings: ♂ 89, 90, 91: ♀ 87, 89, 92, 92 mm.

Bornean birds are like those of Sumatra.

Meiglyptes tukki tukki (LESS.).

1 ♂ Northern Boundary; 1 ♂ 4 ♀ Telen River.

Wings: ♂ 99, 107: ♀ 96, 101, 103, 108 mm.

A bird from Southwestern Borneo has been named *M. t. percnerpes* by OBERHOLSER (Proc. Wash. Acad. Sci., XIII, 1923, p. 301).

Micropternus brachyurus badius (TEMME.).

1 ♀ Lawas River; 1 ♂ 2 ♀ Marah.

Wings: ♂ 110: ♀ 108, 113, 113 mm.

Bornean birds vary a good deal in colour irrespective of locality, but those from Marah are the dullest and darkest we have seen. (They have the appearance of having been preserved in a formalin solution).

Hemicercus concretus coccometopus (REICHENB.).

1 ♂ Marah; 1 ♀ Melawi River. Wings: ♂ 81 : ♀ 85 mm.

Bornean and Sumatran birds are alike.

Mulleripicus pulverulentus pulverulentus (TEMME.).

1 ♀ Marah. Wing 219 (very worn).

A male from the Baram River has the wing (somewhat worn) 237 mm.

Sasia abnormis abnormis (TEMME.).

5 ♂ 4 ♀, Telen River; 1 ♂ Melawi River.

Wings: ♂ 53 (imm.), 53, 54, 54, 54, 56: ♀ 54, 54, 55, 56 mm.

EURYLAIMIDAE.

Calyptomena viridis viridis RAFFLES.

5 ♂ 2 ♀ Northern Boundary.

Wings: ♂ 93, 94, 95, 99 (imm.), 100 (imm.) : ♀ 97, 99 mm.

Birds from Sumatra and Borneo are alike.

Calyptomena hosei SHARPE.

1 ♂ Long Petah. Wing, 120 mm.

Eurylaimus javanicus brookei ROBINSON & KLOSS.

1 ♂ 1 ♀ Long Petah. Wings: ♂ 106 : ♀ 104 mm.

Eurylaimus ochromalus kalamantan ROBINSON & KLOSS.

3 ♂ 1 ♀ Northern Boundary. 1 ♀ Moeara Wahau, 1 ♂ Melawi River.

Wings: ♂ 81, 81, 81, 85 : ♀ 76, 78 mm.

Corydon sumatranus brunnescens HARTERT.

1 ♀ Northern Boundary, 4 ♀ Marah.

Wings: ♂ 126 : ♀ 125, 126, 128, 128 mm.

Cymborhynchus macrorhynchus macrorhynchus (GM.).

2 ♂ Northern Boundary; 1 ♂ 2 ♀, 2 sex inc. Telen River; 4 ♂ 1 ♀ Melawi River.

Wings: ♂ 101, 104, 105, 107, 108, 108, 110 : ♀ 102, 105, 105 : sex inc., 107, 108 mm.

Five of the series have a slight irregular trace of white on the tail: in the others the tail is entirely black.

PITTIDAE.

Pitta brachyura cyanoptera TEMM. [*Pitta moluccensis* AUD.].

1 ♀ Borneo. Wing 122 mm.

Pitta venusta ussheri SHARPE.

1 ♀ Lawas River; 1 sex inc. Northern Boundary.

Wings: ♀ 87: sex inc. 90 mm.

Pitta granatina granatina TEMM.

1 ♀ Long Leang Leng. Wing 92 mm.

Pitta sordida mulleri BP.

1 ♀ Lawas River; 2 ♂ 2 ♀ Telen River.

Wings: ♂ 108, 110: ♀ 104 (imm.), 107, 112 mm.

There is often a patch of white feathers on the black foreneck. The thighs are brownish-green to blackish.

Pitta arcuata GOULD.

1 ♀ "Borneo".

***Eucichla guajana schwaneri* (BP.)**

cf. KLOSS, Journ. Malayan Branch, Royal Asiatic Soc., IV, 1926, p. 161.
1 ♂ Punt D, 1172 metres. Wing 96 mm.

MUSCICAPIDAE.

***Hemichelidon ferruginea* HODGS.**

1 ♂ Punt D. 1172 metres. Wing 69 mm.

An immature bird with a white-spotted blackish crown and large pale patches on the mantle.

***Hemichelidon sibirica sibirica* (GM.)**

1 ♂ 1 ♀ Long Petah. Wings: ♂ 79: ♀ 77 (immature: spotted white above).

***Cyornis concreta everetti* SHARPE.**

3 ♂ 1 ♀ Punt D, 1172 metres.

Wings: ♂ 83, 84, 86 (imm.): ♀ 83 mm.

The immature male has the head spotted with bright rufous and has an edge of rufous feathers to the mandible.

***Cyornis caerulata caerulata* (BP.)**

8 ♂, 2 ♀ Telen River.

Wings: ♂ 73 (imm.), 73, 74, 74, 75 (imm.), 75 (imm.), 75, 78: ♀ 70, 71 mm.

In Western Borneo occurs a slightly different race *C. c. rufifrons* WALLACE, the males more deeply coloured below, the females with more blue on the upper parts.

***Cyornis turcosa turcosa* BRUGGEMANN.**

5 ♂ 3 ♀ Telen River.

Wings: ♂ 76, 77, 77, 78, 78: ♀ 71, 72, 73 mm.

In North and West Borneo is found *C. t. rupatensis* OBERHOLSER.

***Cyornis superba* STRESEM.**

4 ♂ 2 ♀ Telen River.

Wings: ♂ 72, 73, 75, 76: ♀ 69, 71 mm.

The amount of white on the abdomen is variable. In a male from British North Borneo it is hardly present at all; on the other hand a female from Long Temelen, which has an unusually large area of white on the abdomen, has the under tail-coverts white also, and the foreneck unusually pale. Confined to Borneo.

***Oreicola dumetoria mülleri* (TEMM.)**

1 ♂ imm., Long Petah. Wing 61 mm.

Juvenile males closely resemble adult females: this example is beginning to assume its adult plumage. The wing is darker than in females, the fulvous edges turning white: rump and tail black.

***Hypothymis azurea prophata* OBERH.**

2 ♀ Telen River; 2 ♂ 1 ♀ Melawi River.

Wings: ♂ 67, 70; ♀ 67, 67, 71 mm.

Rhipidura perlata (S. MULL.)

1 ♂ Long Huet; 1 ♂ Punt D, 1172 metres.
Wings 86, 87 mm.

Rhipidura javanica longicauda (WALL.)

1 ♂ Moeara Antjaloeng. Wing 79 mm.
The typical form is confined to Java.

Terpsiphone paradisi borneensis (HARTERT).

2 ♀ Northern Boundary; 5 ♂ Telen River; 1 ♂ 1 ♀ Punt D, 1172 metres.
Wings: ♂ 87 (in ♀ plumage), 93, 94, 95, 95: ♀ 87, 88, 89 mm.
The longest tail of the series is 385 mm.

Drymophila velata caesia (LESS.)

1 ♂ Northern Boundary; 1 ♂ 1 ♀ Long Huet; 3 ♂ Punt D, 1172 metres.
Wings: ♂ 96, 100, 100, 103, 104: ♀ 94 mm.
The typical form is confirmed to Java.

Drymophila pyrrhoptera pyrrhoptera (TEMM.)

2 ♂ 2 ♀ Telen River; 1 ♂ (?) Punt D, 1172 metres.
Wings: ♂ 84, 84, 82 (?): ♀ 79, 80 mm.

Rhinomyias umbratilis umbratilis (STRICKL.)

1 sex inc. Lawas River; 4 ♂ 1 ♀ Telen River; 1 ♀ Punt D, 1172 metres.
Wings: ♂ 76, 77, 78, 79: ♀ 74, 76; sex inc. 77 mm.

Rhinomyias ruficrissa SHARPE.

1 ♂ subad. 1 ♀ imm. Punt D, 1172 metres.
Wings: ♂ 81: ♀ 77 mm.

The immature female is an undoubted example of *ruficrissa*, but it has the crown darker than in adults and large fulvous spots on the mantle, sides of neck and wing-coverts. The male agrees exactly neither with this species nor with *umbratilis* but, having dark lores, appears to belong to *ruficrissa* though *umbratilis* occurs in the same locality (q.v.). It is paler above than either species, the upper parts having a distinct yellowish tinge.

Culicicapa ceylonensis ceylonensis (SWAINS.)

1 ♂ 1 ♀ Telen River; 1 ♂ Punt D, 1172 metres.
Wings: ♂ 61, 61; ♀ 56 mm.

CAMPEPHAGIDAE.

Coracina sumatrensis sumatrensis (S. MÜLL.)

1 ♂ Marah. Wing 147 mm.

Lalage fimbriata culminata (A. HAY.)

1 ♂ 1 ♀ Moeara Antjaloeng. Wings: ♂ 92: ♀ 87 mm.

PYCNONOTIDAE.

Aegithina viridissima viridissima (BP.).

1 ♂ Lawas River, 4 ♂ 1 ♀ Telen River, 1 ♂ Melawi River.

Wings: ♂ 60, 60, 62, 63, 63, 65: ♀ 62 mm.

Aegithina tiphia viridis (BP.).

2 ♂ 1 ♀ Lawas River, 1 ♂ Northern Boundary.

Wings: ♂ 61, 64, 64: ♀ 62 mm.

Aegithina tiphia damicra OBERH.

1 ♀ Koetai (CARL BOCK), 1 ♂ 1 ♀ Telen River, 1 ♂ Melawi River.

Wings: ♂ 59, 62: ♀ 58, 59 mm.

By erecting *Ae. t. damicra* for S. W. Borneo and *Ae. t. zophonota* for central East Borneo OBERHOLSER ¹⁾ has, by elimination, left only the northern part of the island as terra typica for *Ae. t. tiphia* (BP.). — a most unlikely locality whence birds would have reached TEMMINCK.

The specimens listed above are practically topotypes of both OBERHOLSER's races, but they are inseparable from each other. Birds from the southern half of Borneo though not smaller than those from the North-west, whence a large series has a wing-range of 59-64 mm., may however be known as *Ae. t. damicra* (which has place priority over *zophonota*) on account of being duller and greener than northern birds.

Chloropsis viridis zosterops VIG.

1 ♂ Lawas River; 1 ♂ Northern Boundary; 2 ♂ 1 ♀; Telen River, 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 100, 102, 102, 103, 105: ♀ 93, 94 mm.

When large series are examined it seems impossible to maintain *viriditectus* HARTERT for Bornean birds.

Chloropsis cyanopogon cyanopogon (TEMM.).

1 ♂ Lawas River; 2 ♂ 2 ♀ Telen River; 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 82, 83, 83, 88: ♀ 72, 75, 79 mm.

Chloropsis cochinchinensis viridinucha SHARPE.

1 ♀ Melawi River. Wing 80 mm.

Irena puella criniger SHARPE.

1 ♂ 1 ♀ Northern Boundary; 2 ♂ 2 ♀ Telen River; 1 ♂ Melawi River.

Wings: ♂ 117, 117, 117, 119: ♀ 115, 116, 116 mm.

Ixos malaccensis malaccensis (BLYTH.).

1 sex inc. Lawas River, 3 ♂ Melawi River.

Wings: ♂ 107, 109, 109: sex inc. 108 mm.

¹⁾ Smithsonian Misc. Collection, 76, No. 6, 1923, pp. 6, 7.

Iole olivacea charlottae (FINSCH.).

2 ♀ Lawas River, 1 ♀ Long Huet, 1 ♂ Melawi River.

Wings: ♂ 87; ♀ 81, 82, 82 mm.

Euptilosus euptilosus (JARD. & SELBY).

1 ♂ 1 ♀ Telen River. Wings: 95, 95 mm.

Brachypodius atriceps atriceps (TEMM.).

2 ♂ 2 ♀ Northern Boundary; 4 ♂ 1 ♀ Long Petah; 2 ♂ Melawi River.

Wings: ♂ 71, 72, 75, 75, 76, 77, 77, 78; ♀ 73, 74, 77 mm.

Criniger gutturalis gutturalis (BP.).

1 ♀ Northern Boundary, 1 ♂ 3 ♀ Telen River; 2 ♂ Melawi River.

Wings: ♂ 105, 107, 110; ♀ 102, 104, 105, 110 mm.

Criniger gutturalis ruficrissus SHARPE.

2 ♂ Punt D, 1172 metres. Wings: 112, 113 mm.

A mountain form of the last.

Criniger finschi SALV.

1 ♂ Melawi River. Wing 88 mm.

Alophoixus phaeocephalus connectens CHASEN & KLOSS.

Journ. f. Ornith., 1929, Bd. 2, p. 114 (Sandakan).

1 ♂ Northern Boundary. Wing 95 mm.

This form, based on Sandakan birds, obviously extends down the East Coast at least as far as the Northern Boundary of Netherlands Borneo.

It is distinguished among the Bornean races by the entire absence of yellow tips to the tail feathers: at most, a slight buffy tinge can be distinguished at the extremities on the lower side only.

From the typical *Alophoixus phaeocephalus* (HARTL.) of Malacca, occurring also in Sumatra, it differs in having the lower foreneck grey instead of white.

Alophoixus phaeocephalus medius subsp. nov.

1 ♀ Marah, 1 ♂ 1 ♀ Long Poetoes, 1 ♀ Long Huet, 2 ♂ 1 ♂ Long Petah, 1 ♂ Punt D, 1172 metres.

Wings: ♂ 94, 99, 102, 100; ♀ 90, 91, 92, 95 mm.

With these birds may be placed an example from Kabayo, near the foot of Mt. Kinabalu.

Intermediate between *A. p. diardi* (FINSCH) from Pontianak, S. W. Borneo, and *A. p. connectens* CHASEN and KLOSS, from Sandakan N. E. Borneo, having much less yellow at the tip of the tail than the former while the latter has no yellow tail-tip at all, at most an indefinite buffy edge being visible on the under surface.

Type. Adult male from Long Petah, Telen River, East Borneo. Collected by H. C. SIEBERS, on 24th October, 1925. Collectors Number 228.

A female from the type locality (No. 252) possesses the largest yellow tail-tip of the series, but it falls far short of the large clear yellow tip of *diardi*. A female from Marah (No. 403) shows approach to *connectens*, but its tail is still distinctly yellow-tipped.

A. p. connectens probably occupies the eastern half of British North Borneo and extends into the adjacent area of Netherlands Borneo.

A. p. diardi probably occurs in the western half of Netherlands Borneo: it extends through Sarawak to the Baram district.

The rest of the island, viz., Western British North Borneo, Brunei, part of the Baram District of Sarawak, and the greater part of Eastern Netherlands Borneo, is doubtless the habitat of *A. p. medius*. For to this somewhat variable race probably belong some of the birds from the Baram District which HOSE has recorded as *phaeocephalus* and *diardi* (Ibis, 1893, p. 390) and SCHWANER's bird from Bandjermasin listed as *phaeocephalus* (the only one so determined in the Leyden Museum) with others from the same area listed as *diardi* ¹⁾. [*Trichophorus sulphuratus* MÜLL. in Bp., said by BONAPARTE to be from Borneo, is actually based on a bird collected by HORNER in West Sumatra. Vide FINSCH, Notes, Leyden Museum, XXVI p. 107].

Tricholestes criniger viridis (Bp.).

2 sex. inc. Lawas River, 1 ♂ 5 ♀ Telen River.

Wings: ♂ 74; ♀ 66, 69, 69, 71, 72; sex inc. 68, 71 mm.

Trachycomus zeylanicus (Gm.).

2 ♂ 1 ♀ Northern Boundary, 1 ♂ Moeara Wahau, 1 ♂ 2 ♀ Melawi River.

Wings: ♂ 111, 119, 119, 121; ♀ 115, 117, 118 mm.

Pycnonotus goiaver gourdini JACQ. & PUCH.).

1 ♀ Northern Boundary. Wing 82 mm.

Pycnonotus plumosus insularis CHASEN & KLOSS.

Journ. f. Ornith. 1929, Bd. 2, p. 115 (Banguay Id.).

1 ♀ Lawas River, 2 ♂ 1 ♀ Moeara Wahau, 1 ♂ Melawi River.

Wings: ♂ 81, 82, 84; ♀ 84, 85 mm.

Pycnonotus brunneus brunneus MOORE.

1 ♂ 3 ♀ Telen River.

Wings: ♂ 80; ♀ 73, 78, 80 mm. One of the females is very small, but on colour belongs to this species.

Pycnonotus simplex perplexus CHASEN & KLOSS.

Journ. f. Ornith., 1929, Bd. 2, p. 116 (Balambangan Id.).

1 ♂ Lawas River, 1 ♀ Marah. Wings: 80, 80 mm.

On the presumption that these birds have red irides, like all other Bornean examples accompanied by data that we possess, we place them under the above name.

¹⁾ vide FINSCH, Notes Leyden Mus., XXVI, 1905, pp. 107, 108.

***Pycnonotus erythrophthalmos salvadori* SHARPE.**

4 ♂ 2 ♀ Telen River, 1 ♂, 1 sex inc. Melawi River.

Wings ♂ 74, 74, 75, 75, 75: ♀ 70, 75: sex inc. 76 mm.

***Pycnonotus cyaniventris paroticalis* (SHARPE).**

1 ♂ Punt D, 1172 metres. Wing 76 mm.

***Otocompsa flaviventris montis* SHARPE.**

1 ♀ Punt D, 1172 metres. Wing 81 mm.

TIMALIIDAE.

***Pomatorhinus montanus borneensis* (CAB.).**

1 ♂ 1 ♀ Long Petah, 1 ♂ 1 ♀ Punt D, 1172 metres. 1 sex inc. Borneo (VORDERMANN).

Wings: ♂ 85, 87, 90: ♀ 84, 86 mm.

***Malacocincla abbotti büttikoferi* FINSCH.**

1 ♂ Moeara Wahau. Wing 75 mm.

***Malacocincla sepiaria rufiventris* (SALVAD.).**

3 ♂ Telen River, 1 ♀ Melawi River.

Wings: ♂ 73, 75, 77: ♀ 73 mm.

***Erythrocichla bicolor* (LESS.).**

1 ♂ Long Huet. Wing 87 mm.

***Pellorneum capistratum capistratoides* (TEMM.).**

1 sex inc. Lawas River, 1 ♂ 5 ♀ 2 ♀ imm., Telen River.

Wing: ♂ 70: ♀ 65, 66, 67, 68, 70 mm.

In the north of the island occurs *P. c. morrelli* CHASEN and KLOSS, (Journ. f. Ornith. 1929, Bd. 2, p. 118. Kudat) a paler bird with the ear-coverts greyer.

***Aethostoma rostrata macroptera* (SALVAD.).**[syn. *witmeri* SHARPE, *umbratile* auct.].

2 ♂ Telen River. Wings: 68, 70 mm.

***Aethostoma pyrrhogenys canicapillus* (SHARPE).**

2 ♀ Punt D, 1172 metres. Wings 67, 68 mm.

These two specimens collected in 1925 and two from Mr. DULIT, N. Sarawak, collected in 1919 are darker and more rufous above than three recently secured topotypes. If all had been collected at the same date I should have no hesitation in separating the former birds, but I think the difference in colour is due to postmortem changes in the older specimens to which birds of their colour are very liable.

Malacopteron magnum magnum EYTON.

4 ♂ 1 ♀ Telen River, 1 sex inc. Borneo (VORDERMANN).

Wings: ♂ 90, 91, 91, 94: ♀ 86: sex inc. 87 mm.

In the North of the island occurs a race with much less black on the occiput, *M. m. saba* CHASEN and KLOSS, Bull. Raffles, Mus, No. 4 1930, p. 75. North Borneo.

Malacopteron cinereum cinereum EYTON.

2 ♂ Long Peth. Wings: 78, 80 mm.

Malacopteron magnirostis kalulongae (SHARPE).

1 ♀ Long Huet, 1 ♂ Punt D, 1172 metres.

Wings: ♂ 78: ♀ 75 mm.

Malacopteron affine affine (BLYTH).

1 sex inc. Lawas River, 11 ♂ 9 ♀ Telen River, 1 ♂ Melawi River.

Wings: ♂ 74, 75, 76, 77, 77, 77, 77, 78, 79, 79; ♀ 67, 70, 70, 72, 72, 72, 74, 75 mm.

The small female has the secondaries rufous and the head paler than the others.

Anuopsis malaccensis saturatus ROB. & KLOSS.

2 ♂ Melawi River. Wings: 68, 69 mm.

This is the form inhabiting the west of Borneo, at least from the Kapuas to the Baram River: it occurs, apparently, on the upper Mahakkam River also (vide BÜTTIKOFER, Notes Leyden Museum XXI, p. 241). It is richly coloured below and has the crown earthy brown, or concolorous with the mantle, and the tail scarcely tinged with rufous.

Anuopsis malaccensis poliogenis STRICKLAND.

4 ♂ 2 ♀ Telen River, 1 ♀ Punt D, 1172 metres.

Wings: ♂ 70, 71, 73, 75: ♀ 64, 68, 70 mm.

Two specimens from the Karau River; S. E. Borneo¹⁾, and two from the Trusan River, Brunei, were stated by BÜTTIKOFER (l.c.s.) to differ from birds of the upper Kapuas River (which are *A. m. saturatus*). He further considered that the South-eastern birds were more richly tinged with orange-rufous on the lower side (as in *saturatus*) than were the Brunei specimens.

The former represent *poliogenis*, the latter *A. m. sordidus* CHASEN & KLOSS. (Journ. f. Ornith., 1929, Bd 2, p. 119. Sandakan).

The seven birds listed here from Central East Borneo are a little more richly coloured below than eight from North Borneo, but they can be matched by eight others from the same area (and it is possible that BÜTTIKOFER's two specimens from each locality did not represent the individual variation). They agree with northern birds in having a rufous-tinged crown

¹⁾ A left bank tributary of the Barito, and probably the type locality of *Brachypteryx poliogenis* Strickl.

and more rufous tail feathers than *saturatus* as well as in being less richly coloured below. They should stand as *A. m. poliogenis* to the synonymy of which may, for the present, be relegated *A. m. sordidus* though, later, differences may be found to exist between birds from the north and from the southern type locality.

Turdinulus epilepidotus exsul SHARPE.

1 ♂ 1 ♀ Punt D, 1172 metres. Wings: 57, 57 mm.

Alcippe cinerea cinerea BLYTH.

1 sex inc., Lawas River, 4 ♂ 3 ♀ Telen River.

Wings: ♂ 69, 70, 70, 71: ♀ 64, 67, 67: sex inc. 68 mm.

The Lawas River example, an old faded specimen, agrees exactly with the description of *A. eriphaea* OBERHOLSER, from Liang Koebang, Central Borneo (Smithsonian Misc. Collns. 74, No. 2, 1922, p. 2), which was based on a skin twenty-eight years old.

Freshly collected birds from the Malay Peninsula, Natuna Islands, Borneo and Sumatra are all alike. We have not seen *A. hypocneca* OBERH., from the Batu Islands.

Stachyris poliocephala poliocephala (TEMM.).

Stachyris poliocephala diluta ROBINSON & KLOSS.

1 ♂ Northern Boundary, 2 ♂ 1 ♀ Long Petah, 2 ♂ Melawi River.

Wings: ♂ 68, 69, 70, 71, 73: ♀ 69 mm.

Stachyris nigricollis nigricollis (TEMM.).

1 ♂ Long Huet: 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 73, 75: ♀ 70 mm.

Stachyris maculata maculata (TEMM.).

1 ♂ 1 ♀ Telen River. Wings: 88 and 81 mm.

Cyanoderma erythroptera bicolor (BLYTH.).

2 sex inc., Lawas River, 5 ♂ 7 ♀ Telen River, 1 ♂ Melawi River.

Wings: ♂ 57, 60, 60, 61, 61, 62: ♀ 55, 56, 67, 67, 58, 60: sex inc. 60, 61 mm.

This name (type locality, Labuan) may be used for all Bornean birds except those of the south (*C. e. rufa* CHASEN & KLOSS. Sampit). It is true that individuals from the extreme north are paler above than those from the equator, but birds from Labuan and its vicinity practically illustrate all the variation.

Mixornis gularis borneensis BP.

2 ♂ 1 sex inc. Lawas River, 5 ♂ 1 ♀ Telen River.

Wings: ♂ 60, 64, 65, 65, 66, 67, 67: ♀ 61: sex inc. 63 mm.

This race occurs southwards of Brunei: it is replaced in British North Borneo by *M. g. montana* SHARPE.

Macronus ptilosus reclusus HARTERT.

1 ♂ Northern Boundary, 5 ♂ 1 ♀ Telen River, 2 ♂ 2 ♀ 1 sex inc. Melawi River.

Wings: ♂ 70, 71, 73, 74, 74, 75, 75, 77: ♀ 70, 70, 71: sex inc. 75 mm.

Staphidia castaneiceps everetti, SHARPE.

1 ♂ Punt D, 1172 metres; 1 ♀ Melawi River.

Wings: 63 and 60 mm.

TURDIDAE.

Geocithla interpres interpres (KUHLE in TEMM.).

2 ♂ 1 ♀ Telen River. Wings: ♂ 101, 103: ♀ 100 mm.

Enicurus ruficapillus TEMM.

1 ♂ Northern Boundary. Wing 90 mm.

Enicurus leschenaulti frontalis BLYTH.

1 ♂ 2 ♀ Long Petah.

Wings: ♂ 95: ♀ 89, 97 mm.

Tails ♂ 102: ♀ imp., 86 mm.

I regard *frontalis* of the Malay Peninsula, Sumatra and Borneo as a small form of *leschenaulti* with a relatively shorter tail. As in the Javan bird the white area of the head is elongated and rather pointed posteriorly. SHARPE's genus *Hydrocichla* seems unnecessary.

Enicurus leschenaulti borneensis SHARPE.

1 ♀ imm., Punt D, 1172 metres. Wing 96, tail 115 mm.

No white on forehead; head, neck, breast and mantle dark brown with a few black feathers.

A mountain form: somewhat larger than *frontalis* with a longer tail. It differs from *leschenaulti* and *frontalis* and agrees with the northern forms of the species (*indicus* and *sinensis*) in having the white area of the forehead rounded posteriorly.

Five examples measure: — Wings 96-102, tails 115-130 mm. Fifteen specimens of *frontalis* from its various habitats measure: — Wings 85-97, tails 82-102 mm.

Copsychus saularis pluto Bp.

2 ♂ ad 1 ♀ juv. Telen River.

Wings: ad. 107, 109 mm.

Copsychus saularis pluto > **niger** WARDL. RAMS.

1 ♀ Northern Boundary. Wing 102 mm.

Copsychus saularis niger > **problematicus** SHARPE.

1 ♀ Lawas River. Wing. 102 mm.

Copsychus saularis problematicus SHARPE.

1 ♂ Melawi River. Wing 106 mm.

For a treatment of the Malaysian forms of *Copsychus* see CHASEN and KLOSS in Bull. RAFFLES Museum, No. 4, pp. 84-90. 1930.

Kittacincla stricklandi stricklandi (MOLL. & DILLW.).

1 ♂ imm. 2 ♀ Northern Boundary.

Wings: ♂ 100: ♀ 90, 90 mm.

The male (immature) has large rufous spots on the wing-coverts.

Kittacincla malabarica suavis SCLATER.

Kittacincla malabarica zaphonota OBERHOLSER, Smithsonian Misc. Collns, 76, No. 6, 1923, p. 6: Central Borneo to S. W. Borneo.

♂ Lawas River, 1 ♂ Northern Boundary, 3 ♀ Telen River, 1 ♂ Melawi River.

Wings: ♂ 101, 102, 103: ♀ 87, 88, 88 mm.

The Melawi River example probably represents *zaphonotha*, but it does not differ from the others.

Trichixos pyrropyga LESS.

1 ♂ Lawas River, 1 ♂ 3 ♀ Telen River.

Wings: ♂ 103, 108: ♀ 93 (juv.), 97, 97 mm.

SYLVIIDAE.

Orthotomus atrogularis atrogularis TEMM.

1 ♂ Long Petah. Wing 46 mm.

At Sandakan occurs *O. a. humphreysi* CHASEN & KLOSS (Journ. f. Ornith., 1929, Bd 2, p. 120) with the underparts pale lemon yellow.

Orthotomus ruficeps sericeus TEMM.

1 ♂ 1 ♀ Telen River. Wings 52 and 50 mm.

Orthotomus sepium borneoensis SALVAD.

1 ♂ 2 ♀ Telen River. Wings: ♂ 47: ♀ 44, 46 mm.

Phylloscopus borealis borealis (BLAS.).

1 ♂ 1 ♀ Long Petah, 1 ♂ 1 ♀ Punt D, 1172 metres, 3 sex inc. Melawi River.

Wings: ♂ 65, 67: ♀ 62, 63: sex inc. 63, 63, 65.

One of the latter possesses the long first primary attributed to *P. b. xanthodryas* SWINH.

Prinia flaviventris superciliaris SALVAD.

2 ♂ Telen River. Wings: 47, 48 mm.

LANIIDAE.

Pityriasis gymnocephala TEMM.

1 ♀ Koetai (VORDERMAN). Wing 140 mm.

Hemipus hirundinaceus (TEMM.).

1 ♀ Lawas River. Wing 62 mm.

Platylophus galericulatus lemprieri NICHOLSON.

2 ♂ 2 ♀ Northern Boundary. Wings: ♂ 120, 123: ♀ 122, 134 mm.

None of these are quite so pale as topotypes of the race which occurs at Sandakan.

Platylophus galericulatus coronatus (RAFFLES).

2 ♂ Telen River. Wings 131, 134 mm.

One of these shows approach to the paler *lemprieri*, as do some birds from Sarawak.

Lanius tigrinus DRAP.

1 ♂ 1 ♀ Melawi River. Wings: 85 and 79 mm.

Pachycephala hypoxantha SHARPE.

1 ♂ 1 ♀ Punt D, 1172 metres. Wings 84 and 86 mm.

A mountain bird.

SITTIDAE.

Sitta frontalis corallipes SHARPE.

1 ♂ Long Huet. Wing 75 mm.

CORVIDAE.

Platysmurus leucopterus aterrimus (TEMM.).

1 ♂ 1 ♀ Northern Boundary. Wings: 196 and 177 mm.

DICRURIDAE.

Dissemurus paradiseus brachyphorus (BP.).

2 ♂ 2 ♀ Northern Boundary, 2 ♂ 4 ♀ Marah, 1 ♂ 2 ♀ 1 sex inc. Melawi River.

Wings: ♂ 136, 137, 139, 141, 145: ♀ 129, 130, 130, 133, 133, 134, 137, 139 mm.

ORIOOLIDAE.

Oriolus xanthonotus xanthonotus HORSF.

1 ♀ Lawas River. Wing 97 mm.

This race occurs in Sarawak and probably over all western Borneo.

Oriolus xanthonotus consobrinus WARDL. RAMS.

1 ♂ Northern Boundary, 4 ♂ 2 ♀ Telen River.

Wings: ♂ 110, 112, 114, 114, 115: ♀ 107, 108 mm.

This race is found in British North Borneo and perhaps extends throughout the eastern parts of the island.

STURNIDAE.

Gracula javana javana (Cuv.).

3 ♀ Northern Boundary, 1 ♀ Melawi River.

Wings: 173, 173, 175, 177 mm..

Aplonis panayensis strigatus (HORSF.).

3 ♂ Northern Boundary, 1 ♂ Moeara Wahau.

Wings 95 (M. Wahau) 96, 98, 99 mm.

These are the shorter-winged birds which also occur in Sarawak, not the larger race with a heavier bill [*A. p. heterochlorus* (OBERH.)] occurring on the islands of the South China Sea and on Balambangan and Banguay Islands, though two of the examples from the Boundary show an approach to it in this feature and may be indicated as *A. p. strigatus* > *heterochlorus*.

OBERHOLSER has described from Eastern Borneo (type locality Kota Bangoen, on the Mahakkam River, about 50 miles N. W. of Samarinda) a subspecies of glossy starling under the name of *eustathis* (Journ. Wash. Acad. Sci., 16, 1926, p. 516). The wing of the type male is given as 93.5 mm., which is well within the range of the Javanese race, *A. p. strigatus*. It is said to differ from Sumatran birds (which are themselves of the Javanese race) in having the green of the plumage more oily or yellowish. I can see no colour or any other differences except the slightly more robust bill in most of the more northern specimens (Boundary, British North Borneo and Labuan) between the Bornean birds and a Javanese series. These northern birds are unstable intermediates — the bills varying considerably — and do not deserve a name.

Several races of Glossy Starling have been proposed from islands lying off Borneo which itself (except in the extreme north as stated above) is occupied by *A. p. strigatus* (HORSF.). The wings of Javanese birds range from 89 mm (fide STRESEMANN, Nov. Zool. XX, 1913, p. 376) to 102 mm (in my collection) and the race further occupies Sumatra (syn. *insidiator* RAFFLES), Banka, the whole of the Malay Peninsula (syn. *halictypus* OBERH.) and Borneo, except as above.

The wings of the typical Philippine bird, *A. p. panayensis* (SCOP.), measure from 95 to 111 mm. and the race differs in colour from *strigatus* (fide STRESEMANN l.c.s.). As all the Malaysian birds I have seen are alike in colour, it may be taken that all differ from *panayensis* in this respect, whatever their size.

The first of the more recent forms to be proposed is *heterochlorus* (OBERHOLSER, 1917) from the Anamba Islands between the Malay Peninsula and Borneo, described (inter alia) as larger than *strigatus* and of different colour from *panayensis*: the wings of two males were given as 108 and 112 mm. With it OBERHOLSER later (1919) associated birds of the Tambelan Islands, also in the Southern China Sea (wings of a male and female 100.5 and 103.5 mm.). Our series of topotypes measures: — wings ♂ 108, 109; ♀

104, 105, 106, 110 mm. With this race can probably be placed *richmondi* (OBERHOLSER, 1919) from the islet Taya, between Singkep and Banka Islands, also in the Southern China Sea: wings of two males 107 and 108 mm.

We consider to be *heterochlorus* birds from the islands of Aor and Tioman, near the south-eastern coast of the Malay Peninsula: from the Natuna Islands, northeast of the Anamba Group, from the Mantanani Islets, west coast of British North Borneo and from the islands of Balambangan and Banguey off the north coast of Borneo.

As will be seen from the measurements given below *heterochlorus* is larger than *strigatus*: it has also a larger bill: characters developed on apparently all the off-shore small and medium-sized islands of Malaysia. I can find no colour differences.

Aor,	Wings ♂ 103, 105, 105, 105, 106, 107, 110, 112: ♀ 102, 103, 105, 105, 105, 106 mm.
Taya,	♂ 107, 108 mm.
Anambas,	♂ 108, 108, 109, 112: ♀ 104, 105, 106, 110 mm.
Tambelans,	♀ 103.5 mm.
Natunas,	♂ 105, 105, 108, 108: ♀ 102, 102, 102, 104, 104, 104, 105, 105, 106, 106 mm.
Mantanani,	♂ 108 mm.
Balambangan & Banguey	♂ 102, 105, 106, 108, 109: ♀ 103, 104 mm.

Range ♂ 102-112: ♀ 102-110: both sexes 102-112 mm., i.e., larger than *strigatus*: within the range of *panayensis* but averaging larger and (fide authors) differently coloured. Bill probably heavier.

For birds from islands off the East coast of Borneo two forms have been proposed: *alipodis* (OBERHOLSER, 1926) from Pulo "Pandigang" (wing of the type male 111 mm) and *suggrandis* BANGS and PETERS (1927) from the islands of Maratua and Derawan (lat. 2° 10'-20' N), wings ♂ 111, 113, 113, 114: ♀ 107, 109, 111, 115 mm. A male paratype (wing 111 mm) is indistinguishable from Anambas birds, but the measurements of the series of *suggrandis* indicates that the eastern island birds average larger: BANGS and PETERS apparently overlooked *alipodis* when describing the Maratua bird: it is possible that that name will have to be used for all East Bornean islands birds and that *suggrandis* is a pure synonym of it. The name "Pandigang" is unknown: and I am informed that it is a misprint for "Pandjang". The type of *alipodis* was collected by Dr. H. C. RAVEN about the time of his visit to Maratua Island from which Pulo Pandjang lies about twenty-five miles north east. Derawan is about five miles south of Pandjang.

PLOCEIDAE.

Munia atricapilla jagori MARTENS.

1 ♂ Marah. Wing 51 mm.

Agrees with North Bornean examples.

Munia fuscans (CASS.).

1 ♀ Northern Boundary, 3 ♂ 1 ♀ Telen River, 1 ♂ 1 ♀ Upper Mahakkam River (VORDERMANN).

Wings: ♂ 49, 50, 50, 51: ♀ 49, 50, 50 mm.

Erythrura prasina coelica BAKER.

3 ♂ Northern Boundary. Wings 56, 58, 59 mm.

These birds have the red of the lower parts more intense and extending farther posteriorly than in the typical form, but none differ from it in colour above: and only one has the more extensive blue area on the breast attributed to Bornean birds (Bull. B.O.C., XLV, 1925, p. 84).

MOTACILLIDAE.

Motacilla cinerea caspica (S. G. GM.).*

1 ♀ Long Petah. Wing 79 mm.

Motacilla flava simillima HART.

1 ♀ Long Petah. Wing 79 mm.

NECTARINIIDAE.

Aethopyga temmincki (S. MULL.).

2 ♂ Punt D, 1172 metres. Wings: 55, 57 mm.

Aethopyga siparaja siparaja (RAFFLES).

2 ♂ Telen River, 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 49, 50, 50: ♀ 47 mm.

Leptocoma jugularis ornata LESS.

1 ♂ 1 ♀ Lawas River. Wings 51 and 48 mm.

Birds from Eastern Borneo have been named *heliomanis* by OBERHOLSER (Journ. Wash. Acad. Sci., XIII, 1923, p. 231).

Anthreptes macularia hypogrammica (S. MÜLL.).

Anthreptes hypogrammica intensor HARTERT.

1 ♂ Lawas River. 4 ♂ 2 ♀ Telen River.

Wings: ♂ 65, 66, 66, 66, 67: ♀ 62, 63 mm.

Bornean birds are like those of Sumatra; both are yellower below than Malayan birds.

Anthreptes simplex (S. MÜLL.).

1 ♂ Lawas River, 3 ♂ 2 ♀ Telen River, 1 ♀ Melawi River.

Wings: ♂ 58, 64, 64, 66: ♀ 54, 56, 58 mm.

A bird from "Central Borneo" collected by NIEUWENHUIS has been named *simplicior* by OBERHOLSER (t.c.s., p. 229).

Anthreptes malaccensis malaccensis (SCOP.).

4 ♂ Telen River. Wings: 64, 65, 65, 67 mm.

Anthreptes malaccensis bornensis RILEY.

1 ♂ 1 ♀ Lawas River. Wings 66 and 59 mm.

The birds of this species occurring in North Borneo have been separated on account of their richer colouring.

Arachnothera longirostra büttikoferi VAN OORT.

1 ♂ Lawas River, 5 ♂ 3 ♀ Telen River, 1 ♂ Punt D, 1172 metres, 1 ♂ Melawi River.

• Wings: ♂ 68, 68, 68, 68, 69, 69, 70: ♀ 61, 61, 63 mm.

Arachnothera affinis modesta (EYTON).

1 ♀ Long Leang Leng, 1 ♂ Melawi River.

Wings: 81, 81 mm.

Arachnothera chrysogenys TEMM.

• 1 ♂ Northern Boundary, 1 ♂ Long Petah.

• Wings: 82, 85 mm.

• Malayan, Sumatra and Bornean birds do not differ from Javanese topotypes except for possible small differences in the length of the bills which have very doubtful value.

Arachnothera crassirostris (REICHENB.).

• 1 ♂ Long Petah. Wing 86 mm.

DICAIEIDAE.

Dicaeum cruentatum nigrimentum SALVAD.

4 ♂, 1 ♀ Lawas River. Wings: ♂ 47 (imm.), 47 (imm.) 49, 50: ♀ 45 mm.

We think Bornean birds should stand as above owing to their tendency to develop a black throat or foreneck in males, though some are indistinguishable from the typical form.

Dicaeum trigonostigma dayakana CHASEN & KLOSS.

Journ. f. Ornith., 1929, Bd 2, p. 121 (Sandakan).

1 ♂ Marah, 1 ♂ 1 ♀ Melawi River.

Wings: ♂ 47, 48: ♀ 46 mm.

Dicaeum concolor borneanum LONN.

Dicaeum minullum borneanum LONNBERG, Sarawak Museum Journal, III, 1925, p. 1, North Sarawak.

1 ♂ Marah, 1 ♀ Telen River.

Wings 45 and 42 mm.

This race, which inhabits Malaysia, differs from *D. c. olivaceum* WALDEN, in being less creamy below: the foreneck, in particular, is more greyish.

Prionochilus xanthopygius xanthopygius SALVAD.

1 ♂ Lawas River, 6 ♂ 5 ♀ Telen River, 1 ♀ Melawi River.

Wings ♂ 52, 53, 53, 54, 55, 55, 56: ♀ 48, 49, 50, 50, 51, 52 mm.

Prionochilus maculatus maculatus (TEMM.).

1 ♂ Long Petah.

Wing 54 mm.