

XXIII.—*On a Collection of Birds from British East Africa and Uganda, presented to the British Museum by Capt. G. P. Cosens.*—Part III. COLI—PICI. By CLAUDE H. B. GRANT, F.Z.S., M.B.O.U. *With Field Notes by the Collector, WILLOUGHBY P. LOWE, M.B.O.U.**

(Plate V. and Text-figure 6.)

INTRODUCTION.

THE third part of this paper deals with 41 species and subspecies, making a total of 212 to the end of the Woodpeckers. The new subspecies, all of which have recently been described in the Bulletin of the British Ornithologists' Club, are eleven in number, as follows:—

Centropus grillii wahlbergi, *C. superciliosus loandæ*, *C. s. sokotræ*, *Indicator minor alexanderi*, *I. exilis leona*, *I. e. ansorgei*, *Pogoniulus chrysoconus rhodesiæ*, *Dendropicos fuscescens cosensi*, *D. lafresnayi loandæ*, *Thripis namaquus intermedius*, *Jynx ruficollis cosensi*.

SYSTEMATIC LIST.

171. *Colius striatus affinis*. East African Striated Coly.

Colius leucotis affinis Shelley, Ibis, 1885, p. 312: Dar-es-Salaam.

a, b. ♂ ♀ ad. Kikuyu. Sept. 21.

c. ♂ ad. Annamuget, 3700 ft. Feb. 1.

d. ♂ ad. Gubba, Pader Dist., 3100 ft. Feb. 18.

Total length in flesh: ♂ $14\frac{1}{8}$, $12\frac{3}{4}$, & 11 inc hes; ♀ 14 inches. Wing: ♂ 101, 99, & 96 mm.; ♀ 98 mm.

The September female is in new dress and the male is completing the moult. Both the February specimens are showing signs of wear.

[Irides brown, the male from Gubba is marked as having yellow irides; bill bluish or bluish black, lower mandible white or bluish pink; legs and toes red. Common.]

In naming these specimens I have had to examine all the

* For Part I., with map of route, see pp. 1-76, Part II. pp. 235-316.

named races of *C. leucotis*, and in working them out I find that this group and the "*striatus*" group fall naturally in together and do not appear to overlap in any part of their extreme limits. Therefore I agree with Zedlitz (*cf.* Journ. für Orn. 1910, p. 755), that *C. leucotis* and its subspecies should in future be placed under *C. striatus*; thus making *Colius striatus* the parent species and all the others geographical races of it, though I do not agree that *C. castanotus* should be included also.

COLIUS STRIATUS STRIATUS.

Colius striatus Gmelin, Syst. Nat. vol. i. part 2, 1789, p. 843: Cape of Good Hope.

Of this, *Colius striatus intermedius* Shelley (Ibis, 1885, p. 311: Cape Colony) is a synonym.

The cheeks are of the same colour as the top of the head; there is no black on the forehead; and the legs and toes are dark crimson. Wing: ♂ (three) 94-90; ♀ (two) 97-92; no sex (five) 97-92 mm. King William's Town, ♂ (one) 98 mm.

Range. Cape Town district eastward to the Knysna and King William's Town.

COLIUS STRIATUS NIGRICOLLIS.

Colius nigricoilis Vieill. Nouv. Dict. d'Hist. Nat. vol. vii. 1817, p. 378: Malimbe, Portuguese Congo.

Of this, *Colius nigriscapalis* Rchw. (Journ. für Orn. 1892, p. 180: Buëa, Cameroon Mt., *cf.* p. 218) becomes a synonym.

This race differs from *C. s. striatus* in having the forehead black; the cheeks are the same colour as the top of the head, which is rather lighter in colour than the mantle; and from *C. s. cinerascens* in lacking the white cheeks and in having the under sides of the wings richer in colour. The legs and toes are red as in *C. s. cinerascens*, and thus differ from those in *C. s. striatus*. Wing-measurements: Congo, ♀ (one) 96, no sex (three) 100-88; Shari, Ubanghi, and Welle Rivers and Nadouma, Niam Niam, ♂ (three) 93, ♀ (two) 97-95, no sex 95-91; Cameroon, coast, ♂ (one,

Buea) 93, ♀ (two) 97-96, inland, ♂ (four) 96-91, ♀ (three) 95-91 mm.

Range. Kabinda or Portuguese Congo, to Cameroon and eastwards to the Shari, Ubanghi, and Welle Rivers and Niam Niam.

COLIUS STRIATUS LEUCOTIS.

Colius leucotis Rüpp. Mus. Senck. iii. 1845, p. 42, pl. 2 : Province of Temben, Abyssinia.

Of this, *Colius striatus hilgerti* Zedl. (Orn. Monatsb. 1910, p. 58 : Harar) and *Colius striatus erlangeri* Zedl. (op. cit. : Djam Djam, Abyssinia, cf. also Journ. für Orn. 1910, p. 755, pl. x.), become synonyms.

Rather paler generally and less black on the throat than *C. s. cinerascens*, mantle very distinctly barred, cheeks white, legs and toes red. Wing-measurements : Abyssinia, ♂ (four) 100-94, ♀ (seven) 102-95 ; Somaliland, ♂ (one) 93 ; Sudan and White Nile, ♂ (three) 94-92, ♀ (two) 95-93 mm.

Range. Upper White Nile and Egyptian Sudan to Abyssinia and British Somaliland.

COLIUS STRIATUS MINOR.

Colius minor Cab. Journ. für Orn. 1876, p. 94 : Natal.

Of this, *Colius kirbyi* Sharpe (Bull. B. O. C. vol. xxi. 1907, p. 32 : Lydenburg, E. Transvaal) must become a synonym, inasmuch as the type (a male) now before me is nothing but a semi-albino, and is not therefore a species at all. The size, wing 93 mm., agrees perfectly with normally coloured specimens.

Similar to *C. s. striatus*, but throat distinctly more blackish. Wing-measurements : Natal and Zululand, ♂ (three) 96-94, ♀ (three) 93-87, no sex (five) 96-90 ; Transvaal and Swaziland, ♂ (three) 93-83, ♀ (four) 92-91 ; Portuguese East Africa, ♂ (one) 90, ♀ (one) 92 ; south-east Rhodesia and Zambesi, ♂ (eight) 93-88, ♀ (four) 91 ; Shiré River (no sex) 82 ; Zomba, south Nyasaland, (one) 90 mm.

Range. Natal and Zululand northwards to the Transvaal, Portuguese East Africa, south-east Rhodesia and the Zambesi, also to Zomba in south Nyasaland.

COLIUS STRIATUS BERLEPSCHI.

Colius leucotis berlepschi Hartert in Ansorge, Under the African Sun, App. 1899, p. 333 : New Heligoland, north-east shores of Lake Nyasa, German East Africa.

Cheeks greyish white ; mantle no more distinctly barred than in *C. s. minor*. Differs from *C. s. cinerascens* in practically lacking the barring on the chest, throat and lores more dusky, no white tips to throat-feathers, rest of underparts on the average rather darker ; legs red. Wing-measurements: north Nyasaland, ♂ (six) 96-94, (one) 102, ♀ (three) 97-93 ; North-east Rhodesia and south-east Belgian Congo, ♂ (two) 101-99 mm.

Range. Country east and west of northern Lake Nyasa to North-eastern Rhodesia and south-east Belgian Congo.

COLIUS STRIATUS AFFINIS.

Colius leucotis affinis Shelley, Ibis, 1885, p. 312 : Dar-es-Salaam.

It appears to me that *Colius leucotis cinerascens* Neum. (Journ. für Orn. 1900, p. 190 : Irangi, north German East Africa) and *Colius kiwuensis* Reichw. (Orn. Monatsb. 1908, p. 191 : Lake Kiwu) are synonyms.

Differs from *C. s. berlepschi* in having whiter ear-coverts, the black throat distinctly tipped with white, and the chest clearly barred ; the mantle shows the barring, but nothing like so clearly as in *C. s. leucotis*. Legs red. Wing-measurements : north German East Africa, ♂ (three) 97-95, ♀ (one) 89, no sex (four) 96-86 ; British East Africa, ♂ (ten) 105-96, ♀ (eight) 101-92 ; Uganda, ♂ (nine) 102-62, one measures only 92, ♀ (four) 99-92 mm.

Range. Northern German East Africa, the greater part of British East Africa and Uganda, including Ruwenzori.

Nine specimens from Mombasa have rather less black on the throat than the generality of British East African specimens, they have the wing : ♂ 95-90, ♀ 92-90, no sex (four) 89-87 mm. One specimen from Zanzibar is generally rather rufous, especially below, has very little black on the throat, and has a wing of 87 mm. ; no sex.

To sum up, the wing-measurements given show that apparently no great reliance can be placed on this as a diagnostic character, but other characters prove that this group of *Colies* divides itself naturally into six well defined races. The southernmost forms have dark-coloured legs; these become red or coral-pink in all the races to the northward, the western race retaining the brownish ear-coverts of the parent species, whereas the eastern forms assume greyish-white or white ear-coverts, and at its most northern limits assumes a distinctly barred mantle.

Since the above has been put into print I have seen the description of *Colius striatus jebelensis* Mearns (Proc. U. S. Nat. Mus. vol. xlvi. 1915, p. 394: Gondokoro). The wing-measurement given is, in males 93-92, and in females 95-93 mm. These measurements agree so well with those of the specimens from the Sudan and White Nile mentioned above under *C. s. leucotis*, that I consider a seventh race can be recognised under Mearns' name, having a range of the Upper White Nile and Sudan.

All the measurements given by me point to the males always being somewhat larger than the females, though the reverse (except for the type specimen) is the case with Mearns' measurements.

Mr. Mearns remarks that "Zedlitz has given excellent coloured figures," *cf.* Journ. für Orn. 1910, plate 10; with this I do not altogether agree, as the good series in the British Museum collection does not bear out the tone of coloration as depicted on that plate, and this has compelled me to sink Zedlitz' two subspecies.

172. *Colius macrourus pulcher*. East African Crested Coly.
Colius macrourus pulcher Neum. Journ. für Orn. 1900,
p. 190: Teita, German East Africa.

a. ♂ ad. Amala River, 5300 ft. Oct. 21.

b. ♂ ad. 20 miles S. of Baringo, 3800 ft. Dec. 24.

c. ♀ ad. Kozibiri River, 1800 ft. Jan. 16.

d. ♀ ad. Annamuget, 3700 ft. Feb. 1.

Total length in flesh: ♂ 14 & 13 inches; ♀ 14 & 13 $\frac{3}{4}$ inches.

Wing: ♂ 92 & 91 mm.; ♀ 92 & 89 mm.

These four specimens are fully adult, are showing signs of wear, and are beginning to moult.

[Irides red, reddish brown, or brown; bare skin round eyes red; bill red, apical point black; legs and toes red, dull red, or light claret-colour. Only a small flock seen on the Amala River, which were very wild. More plentiful in Uganda.]

Through the kindness of Mr. Rothschild and Dr. Hartert, I have been enabled to examine three specimens of *C. macrourus macrourus* from the type locality. These show that the Abyssinian bird is similar to the Senegal race, and therefore that only two races are recognisable as follows:

COLIUS MACROURUS MACROURUS.

Lanius macrourus Linn. Syst. Nat. 12th ed. 1766, p. 134 : Senegal.

Colius senegalensis Gmel. (Syst. Nat. i. part 2, 1789, p. 842 : Senegal River) is a synonym and cannot be raised to the rank of a race (cf. *Colius macrourus senegalensis* Gm., Neumann, Journ. für Orn. 1900, p. 190), as has already been pointed out by Oberholser in the Proc. U. S. Nat. Mus. vol. xxviii. 1905, p. 862.

As the Abyssinian birds agree perfectly with those from Senegal, *Urocolius macrourus syntactus* Oberh. (Proc. U. S. Nat. Mus. vol. xxviii. 1905, p. 863 : Abyssinia) becomes a synonym. Apparently neither Neumann nor Oberholser were able to examine specimens from Senegal.

Generally much paler throughout than *C. m. pulcher*, lacking the deep ashy tint of the upper surface, especially on the head. Wing-measurements: Senegal, ♀ (three) 90-88; Lake Chad and Shari River, ♂ (two) 89 & 88, ♀ (three) 89-85; Kordofan and White Nile, ♂ (three), 90-89, ♀ (one) 95, no sex (two) 91 & 86; Abyssinia, ♂ (four) 88-86, one measures 93, no sex (three) 91-87; Somaliland, ♂ (six) 92-89, ♀ (four) 93-86 mm.

Range. Senegal and Lake Chad district, eastward to Abyssinia and Somaliland, including Kordofan and Kaka on the White Nile.

COLIUS MACROURUS PULCHER Neum. op. cit.

Generally much darker throughout than *C. m. macrourus* especially on the upper surface, which is of a deep ashy tint, the under surface of the wings is also rather richer in colour. Wing-measurements: Baro River, ♂ (one) 95, ♀ (one) 91: Lado, ♂ 95; Uganda, ♂ (three) 97-92, ♀ (six) 93-87; British East Africa, ♂ (three) 97-91, ♀ (three) 89-87; northern Lake Nyasa, no sex, 99 mm.

Range. From the Baro River south to the Lado Enclave, Uganda (including Ruwenzori), greater part of British East Africa, German East Africa to north of Lake Nyasa.

This race is also somewhat larger, having in males a wing-measurement of 97-92 and in females 93-87 mm.; as against a wing-measurement in males of 93-86 and in females 95-85 in *C. m. macrourus*, though this is a character on which little reliance can be placed.

173. *Apaloderma narina narina*. Narina Trogon.

Trogon narina Steph. Shaw's Gen. Zool. vol. ix. 1815, p. 14: Auteniquoi, Knysna District, Cape Colony, *ex* Levaillant.

a. ♀ ad. Amala River, 5600 ft. Oct. 21.

b. ♀ ad. 12 miles east of Amala River, 5600 ft. Oct. 25.

c, d. ♂ ad. Mt. Maroto, 4300 ft. Jan. 28.

Total length in flesh: ♂ 13 & 12½ inches; ♀ 12½ & 12¼ inches. Wing: ♂ 134 & 130 mm.; ♀ 139 & 131 mm.

These four specimens are all adult, are in quite good dress, and agree perfectly with four specimens before me from the type locality, which have the wing in three males 135, 134, and 132, and in one female 128 mm.

This single female has the brown of the chest and throat deeper in tone than most specimens from east Africa, but some south African females agree perfectly with the east African birds.

[Irides brown; bare skin around eye blue above and blue and yellow below, mixed green and yellow in female; bill green, base yellow; legs and toes brownish flesh-colour, female rather paler. In the localities where this bird was

observed, it was only seen singly or in pairs. Stomach contained locusts.]

I am inclined to agree with Sharpe that his *Hapaloderma equatoriale* (Bull. B.O.C. vol. xii. 1901, p. 3: Efulen, Cameroon) is not really separable from *A. n. narina* (cf. 'Ibis,' 1904, p. 613). Four of the six adult males in the British Museum collection have broad markings on the wing-coverts, but the other two agree with males of *A. n. narina*, and the one adult female is practically indistinguishable. Three fully fledged young birds appear to show two distinct stages of plumage: one, a male, is moulting from the nestling plumage, which is "green above, much as in the adult, but has a number of conspicuous white spots on the coverts and inner secondaries; below, the breast is buffy, mottled and irregularly barred with green and dusky" (cf. Sclater, 'Ibis,' 1911, p. 721); the belly and under tail-coverts being also a mixture of white, dusky and buff, with *no* sign of the red coloration. This example is assuming a dress which is similar to the adult above, as the wing-coverts, except the outermost, have buff spots and the secondaries are mottled with buff, each feather having a broad buff tip; below, the belly and under coverts are as in the adult, but the breast and throat are deep buff, finely and regularly barred with dark green. This plumage is represented by a male and a female from Efulen. Thus there appears to be an intermediate dress between the first and the adult plumages in both sexes. The same thing is observable in south African specimens, though the green barring is not so well defined, and this character, when specimens in full second dress are available from the south, may prove sufficient to separate the Cameroon race.

The four adult males from the Gold Coast Colony show that Sharpe and Ussher's *Hapaloderma constantia* ('Ibis,' 1872, p. 181: Denkera, Fantee) is quite a good subspecies of *A. n. narina*; females, when obtained, may also show some distinctive character.

Hapaloderma rufiventre Dubois (P. Z. S. 1896, p. 999: Lake Tanganyika District) was undoubtedly described

from a spirit specimen, and this accounts for the pale coloration of the underparts. A specimen of *A. n. constantia* in the British Museum that has been skinned from spirit agrees perfectly in the coloration of the underparts with Dubois' figure in the 'Synopsis Avium,' 1902, pl. ii, and convinces me that preservation in spirit of wine has been the cause of removing the always evanescent red pigment and turned it to the colour described and figured by Dubois. Therefore *H. rufiventre* becomes a synonym of *A. n. narina*.

174. *Turacus schalowi marungensis*. Marungu Long-crested Plantain-eater.

Turacus livingstonii marungensis Reichw. Vög. Afr. vol. ii. 1902, p. 52: Marungu, west of Lake Tanganyika.

a, b. ♂ ♀ ad. Amala River, 5300 & 5500 ft. Oct. 13 & 21.

Total length in flesh: ♂ $15\frac{1}{2}$ inches; ♀ $16\frac{1}{8}$ inches. Wing: ♂ 178 mm.; ♀ 169 mm.

Both are in quite good dress; the female having much more blue on the long feathers of the crest than has the male; the latter is in moult in the wings and tail, and shows that the tail fades slightly into a purplish tone.

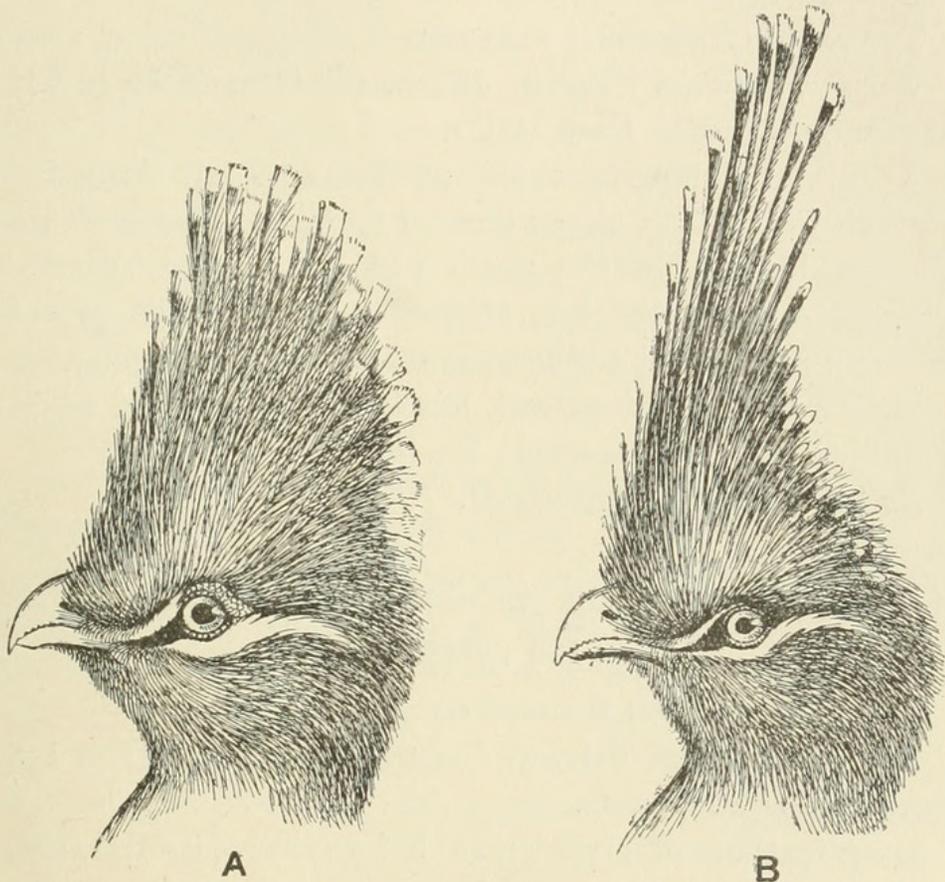
[Irides brown; eyelids red; bill red; legs and toes black. Common and nesting.]

In naming these two birds I have had to examine the large series in the British Museum, combined with the monograph by Prof. Neumann of *Turacus livingstonii livingstonii* and allies in the Nov. Zool. vol. xv. 1908, pp. 376-378, and through the kindness of Mr. Rothschild and Dr. Hartert I have had the loan of their specimens from Tring, including the type of *T. l. leitamus*.

On laying out the series it becomes at once apparent that these birds can be divided into two well defined groups by the form of the crest, one group having the crest comparatively short and graduated from the poll to the tip (text-fig. 6 A), and the other having the crest comparatively

long and not graduated from the poll to the tip (text-fig. 6 B). Also the shorter crested group has the longest

Text-figure 6.



A. Head of *Turacus livingstonii livingstonii* and ally.
B. Head of *Turacus schalowi schalowi* and allies.

crest-feathers comparatively broad, whereas the longer crested group has the longest crest-feathers comparatively narrow.

These two groups would therefore stand as follows with their subspecies :—

I. Crest short and graduated from poll to tip ; tail greenish.

TURACUS LIVINGSTONII LIVINGSTONII.

Turacus livingstonii Gray, Proc. Zool. Soc. 1864, p. 44 :
Manganja highlands, Nyasaland.

Tail green, or but faintly washed with blue towards the tip.

Range. Gorongosa district of Portuguese East Africa,

south-eastern Rhodesia and the lower Zambesi Valley to Nyasaland. I can find no evidence in support of the occurrence of this Turaco in Zululand, and do not think it can occur so far south.

TURACUS LIVINGSTONII CABANISI.

Turacus cabanisi Reichw. Journ. für Orn. 1883, p. 221 : Bagamojo, German East Africa.

A careful comparison of specimens from throughout German East Africa shows that no tangible difference exists between birds from the south and north, and therefore *Turacus hybridus* Reichw. (Journ. für Orn. 1898, p. 314 : northern end of Lake Nyasa) must become a synonym.

Similar to *T. l. livingstonii*, but tail more strongly washed with blue, especially towards the base.

Range. German East Africa.

II. Crest longer and not graduated from the poll to the tip ; tail purplish.

TURACUS SCHALOWI SCHALOWI.

Turacus schalowi Reichw. Journ. für Orn. 1891, p. 148 : Novo Redondo, Angola.

Long feathers of crest *green* before the white tips, short feathers on poll *green* with white tips, white line under eye.

Range. Angola.

TURACUS SCHALOWI CHALCOLOPHUS.

Turacus chalcophus Neum. Orn. Monatsb. 1895, p. 87 : Mt. Gurui, Irangi, German East Africa.

Long feathers of crest *blue* before the white tips, short feathers on poll *blue* with scarcely any white tips, white line under eye absent or only faintly indicated.

Range. Apparently confined to Mt. Gurui.

TURACUS SCHALOWI MARUNGENSIS.

Turacus livingstonii marungensis Reichw. op. cit.

On comparing the type of *Turacus livingstonei loitanus* Neum. (Nov. Zool. vol. xv. 1908, p. 378 : Loita Mts., British East Africa) with specimens of *T. s. marungensis*, I find that

they agree perfectly in every detail. The first-named certainly differs from *T. l. chalcophus*, with which Prof. Neumann compared his specimen, but is exactly similar to *T. s. marungensis*, even to the colour of the tail. Neumann's name must, therefore, become a synonym.

Long feathers of crest *blue* before the white tips, short feathers on poll *green* with white tips, white line under eye.

Range. North-eastern Rhodesia and Nyasaland, northwards to southern British East Africa.

Prof. Neumann in the *Nov. Zool.* 1908, p. 377, suggested the possibility of *Turacus reichenowi* being a distinct species, and I think this should be established.

TURACUS REICHENOWI.

Corythair reichenowi Fischer, *Orn. Centralb.* 1880, p. 174 : Nguru-Berge, German East Africa.

Form and coloration of crest as in *T. l. livingstonii* (see also *Journ. für Orn.* 1885, pl. v. fig. 5, though apparently no great reliance can be placed on these figures, as the head of *C. livingstonii* figured on this plate does not agree with the type and a large series in the British Museum collection); median, greater coverts, and secondaries of wings, rump, and tail deep blue.

Range. Nguru and Dar-es-Salaam in German East Africa, southwards to Beira, Portuguese East Africa.

By dividing these Turacos into two separate groups and reinstating *T. reichenowi* with the rank of a species, the muddle that has hitherto existed is elucidated, and the geographical races are more clearly defined; also by adopting this arrangement two subspecies do not occupy the same area, as would be the case if *T. cabanisi* and *T. marungensis* were placed under *T. livingstonii*, instead of being made subspecies of two distinct species as here proposed.

175. *Turacus leucolophus.* Heuglin's White-crested Plantain-eater.

Corythair leucolophus Heugl. *Journ. für Orn.* 1855, p. 65 : Bahr-el-Abiad, *i. e.* Upper White Nile.

a-e. ♂ ♀ ad. Mt. Maroto, 4300 & 6000 ft. Jan. 27-28 & 30.

f. ♀ ad. Pader, 3200 ft. Feb. 18.

Total length in flesh: ♂ $16\frac{1}{2}$ -16 inches; ♀ $16\frac{1}{4}$ -15 inches.
Wing: ♂ 173-165 mm.; ♀ 169-166 mm.

All these six specimens are in moult and show strikingly the difference between faded and new feathering.

[Irides brown, eyelids red; bill yellow, base green; legs and toes black. This species was first met with in the Maroto Mts.; it was common wherever sufficient vegetation suited to its habits was found.]

The original description of this species by Heuglin appears to have been entirely overlooked; it is contained in a letter sent to L. Buvry, by whom it was communicated to the 'Journal für Ornithologie.' The description reads as follows:—"Corythaix mit langem weissen Federbusche und gezähntem Schnabel: daher *C. leucolophus* mihi."

176. *Turacus hartlaubi*. Hartlaub's Plantain-eater.

Corythaix hartlaubi Fischer & Reichw. Journ. für Orn. 1884, p. 52: Meru Mt., nr. Kilimanjaro, German East Africa.

a. ♂ ad. Hills south of Narossura, 7200 ft. Nov. 4.

Total length in flesh: $15\frac{1}{2}$ inches. Wing: 170 mm.

This single specimen is in good dress, but slightly worn and moulting in the tail.

Fischer and Reichenow give the wing-measurement of their type as 152 mm., which seems to point to its being a young bird, as a young bird in the British Museum collection has a wing of only 157 mm., whereas all the adults exceed 160 mm.

The range of this species appears to be from northern German East Africa to central British East Africa east of Lake Victoria Nyanza.

[Irides brown; bill dull red; legs and toes greyish black. Quite common, four or five often being seen together.]

177. *Musophaga violacea rossæ*. Ross's Violet Plantain-eater.

Musophaga rossæ J. Gould, P. Z. S. 1851, p. 93: said to have come from the western coast of Africa = Loanda, Angola.

a, b. ♂ ad. Amala River, 5500 & 5300 ft. Oct. 11 & 23.

Total length in flesh: 21 & 20 inches. Wing: 229 & 228 mm. Weight 1 lb.

These two specimens are in good dress and show but slight signs of wear.

[Irides brown, bare skin around eyes yellow; bill yellow, red at base of upper mandible, base of lower dirty red; legs and toes black. Several pairs seen.]

In the British Museum collection besides the type, which is a worn and faded caged bird, there is only one other west coast bird, an adult specimen from Loanda.

A series from the west coast may show that the east coast bird will be separable, as the two west coast birds mentioned above appear to be more violet on the upper surface than the majority of eastern specimens.

The type has a wing of 225 mm., and the Loanda bird a wing of 221 mm., neither are sexed.

178. *Chizaerhis africana zonura*. Abyssinian Plantain-eater.

Chizaerhis zonurus Rüpp. Neue Wirb. 1840, p. 9, pl. 4: Province of Temben, Abyssinia.

a, b. ♂ ad. Nakwai Hills, 3950 ft. Feb. 5.

c. ? ad. Pader District, 3100 ft. Feb. 17.

Total length in flesh: 22, 21½, & 21 inches. Wing: ♂ 246 & 245 mm.; no sex 249 mm.

These three specimens are in good dress and but slightly worn.

[Irides brown; bill greenish yellow, slight red stripe at base of upper mandible; legs and toes blackish or dark grey. This species was first noticed in some dense bushes

near water in the Nakwai Hills, where its loud cries attracted my attention. In the Pader District it was much more plentiful.]

The range of this race appears to be from Abyssinai, to British East Africa, Uganda, and the Bahr-el-Ghazal. The typical form of the subspecies is:—

CHIZAERHIS AFRICANA AFRICANA.

Phasianus africana Lath. Index Orn. vol. ii. 1790, p. 631: Africa = Senegal, cf. Levaill. Hist. Nat. Prom. 1806, p. 37, pl. 20.

This form ranges from Senegal and Gambia, through Sierra Leone, the Gold Coast Colony, and Nigeria to the Shari River, French Congo.

Latham says in the Syn. of Birds, Suppl. vol. i. 1787, p. 210, that his specimen was in the British Museum, but apparently it no longer exists in that collection. Levaillant was the first to give a particular type locality for this race, and this locality I support.

179. *Corythaixoides leucogaster*. White-bellied Plantain-eater.

Chizärhis leucogaster Rüpp. Mus. Senck. iii. 1842, p. 127: Southern Abyssinia.

a. ♂ ad. S. Guaso Nyiro, 2950 ft. Nov. 23.

b. ♂ ad. Mt. Maroto, Maroto Stream. Jan. 26.

Total length in flesh: 20½ & 19 inches. Wing: 223 & 213 mm.

These two specimens are fully adult and are showing signs of fading and wear. They have black bills; some in the British Museum collection have greenish bills, these being taken in February, March, April, June, and October; the black-billed birds being dated January, February, June, October, and November. One young bird, dated July, has a black bill.

Three of the four sexed green-billed birds are females, which seems to point to this being the character of the hen bird, the one marked a male probably being wrongly sexed.

○ The range of this bird appears to be as follows :—Somaliland, Abyssinia, British East Africa, and northern German East Africa.

[Irides brown ; bill, legs and toes black. The “Go away bird” was not observed until we reached the southern Guaso Nyiro River, where it was tolerably common. It was much more plentiful in the Maroto Mountains.]

180. *Gymnoschizorhis personata leopoldi*. King Leopold's Plantain-eater.

Schizorhis leopoldi Shelley, Ibis, 1881, p. 117 ; Ugogo, German East Africa.

a. ♀ ad. Lemek Valley, 6600 ft. Oct. 6.

b, c. ♂ ♀ ad. & imm. Amala River, 6500 ft. Oct. 11,

Total length in flesh : ♂ & ♀ 19 inches. Wing ♂ 204 mm. ; ♀ ad. 201 mm. ; imm. 206 mm.

Both the two adults are worn and moulting ; the immature bird is in first dress and is moulting into the adult plumage.

[Irides brown, bare skin of face black ; bill, legs and toes black. This bird was common and was observed feeding on seeds.]

The range of this race appears to be as follows :—Uganda and Ruwenzori, southern British East Africa, German East Africa to north Nyasaland ; whereas *Chizärhis personata* Rüpp. (Mus. Senck. iii. 1842, p. 127 : Southern Abyssinia) is confined to Abyssinia.

In the Bull. B. O. C. vol. xxi. 1908, p. 94, Neumann has described a subspecies under the name *Gymnoschizorhis personata centralis*, the type locality being Kitengule, Kagera River, west of Lake Victoria Nyanza, and states that it has the forehead and crest feathers and the whole upperside darker than in *G. p. leopoldi*.

Specimens before me from the country between Lake Victoria Nyanza and Lake Albert Nyanza do not differ from those taken at Ugogo and the Amala River. Therefore I prefer to place Neumann's name as a synonym.

Certainly specimens from northern Nyasaland are slightly

darker especially on the breast, but the difference being so slight, and not altogether constant, does not warrant separation.

181. *Clamator glandarius*. Great Spotted Cuckoo.

Cuculus glandarius Linn. Syst. Nat. 10th ed. 1758, p. 111:
Northern Africa.

a. ♀ ad. 30 miles N.W. of Baringo, 2800 ft. Dec. 29.
Total length in flesh: $14\frac{1}{2}$ inches. Wing: 187 mm.

This specimen is fully adult, is in rather worn dress and is starting to moult.

[Irides brown; bill black, lower half of lower mandible bluish; legs and toes plumbeous. Only two or three of this Cuckoo were seen in British East Africa.]

The small wing-measurement of this bird has induced me to measure the whole series of this Cuckoo in the British Museum collection, to see whether or no the south African bird which is reported to breed there (*cf.* Sclater, Fauna of S. Afr. vol. iii. 1903, p. 194) is not really a separable race, wintering, as suggested by Sclater, in central Africa. The appended measurements show that the bird that breeds in southern Europe and Asia runs in the maximum larger than the maximum of south African specimens, but in the minimum runs well into the southern bird, thus precluding any separation into two subspecies. The months of capture also show that this Cuckoo occurs usually in southern Africa during the northern winter, so that the somewhat questionable theory of double breeding must be for the present accepted.

The wing-measurements and months, as recorded in the comparatively few specimens that are dated, are as follows:—

SOUTH AFRICA (King William's Town, Orange River Colony, Transvaal, and Damaraland).

♂ ad. 208–180, juv. 189; ♀ ad. 202–181, juv. 196–188 mm.
October, November, December, January, and March.

WEST AFRICA (Gambia, Liberia, Gold Coast Colony, and Nigeria).

♂ ad. 207–198, juv. 195; ♀ juv. 207–189 mm.
September, December, February, April, and June.

CENTRAL, EAST, AND NORTH-EAST AFRICA (Suakim, Abyssinia, Bahr-el-Ghazal, Somaliland, Uganda, Upper Congo, and British East Africa).

♂ ad. 205-191, juv. 198-196; ♀ ad. 203-182, juv. 192-183; one adult not sexed reaches 216 mm.

November, December, January, February, March, and April.

TANGIER AND EGYPT.

♂ ad. 213-208, juv. 213-207; ♀ ad. 201, juv. 197 mm.

March, one nearly fledged young bird in the same month.

EUROPE AND ASIA (Spain, Asia Minor, Persian Gulf, and Cyprus).

♂ ad. 217-196, juv. 203; ♀ ad. 201-197, juv. 202 mm.

January, March, April, and May. One April female taken at Seville is breeding, and one nearly fledged young from the same locality in June.

The evidence appears to point to the southern African bird eventually becoming a smaller and specialized form.

182. *Chrysococcyx caprius*. Golden Cuckoo.

Cuculus caprius Bodd. Tabl. Pl. Enlum. 1783, p. 40: Cape of Good Hope; cf. Montbeillard, Hist. Nat. vol. vi. 1779, p. 385.

a. ♂ imm. Loita, 6300 ft. Nov. 27.

Total length in flesh: $7\frac{3}{4}$ inches. Wing: 111 mm.

This single specimen is in fresh new dress and still retains some of the secondaries and wing-coverts of the first plumage, showing that the full adult dress is assumed at the first moult.

[Irides brown, eyelids red; bill dark brown, lower mandible whitish at base; legs and toes black. The Golden Cuckoo was only twice seen in British East Africa.]

In checking the nomenclature, I find that Boddaert's spelling of the name founded on D'Aubenton's plate (which is an excellent representation of the Golden Cuckoo) is "*caprius*," and therefore the "*cupreus*" Bodd. of authors is non-existent. Sherborn, in his 'Index Animalium,' 1902, p. 174, also quotes Boddaert's name as *Cuculus caprius*.

To be quite sure that a possible printer's error in Tegetmeier's reprint of Boddaert's Table and Sherborn's Index Anim. would account for the fact that all works, including the 'Catalogue of Birds,' 1891, p. 285, and Reichenow's Vögel Afr. vol. ii. 1902, p. 94, quote Boddaert's name as *Cuculus cupreus*, I have examined the original copy of Boddaert's Table in the Banksian Library, now in the British Museum, and find that the name is spelt as in Tegetmeier's reprint, i. e. *Cuculus caprius*.

The "*Cuculus cupreus* Bodd." of authors being non-existent, the name can no longer be confounded with the Golden Cuckoo, and has to be disposed of elsewhere.

Investigation shows that the first time the name "*cupreus*" occurs is in G. Shaw's 'Museum Leverianum,' 1792, p. 157, under the generic term *Cuculus*; see also Sherborn's Index Anim. p. 272.

The description and plate given by Shaw undoubtedly refers to the Emerald Cuckoo, and moreover to the bird that has the under tail-coverts uniformly coloured with the abdomen.

Mr. Bannerman, in 'The Ibis,' 1912, pp. 244-247, has not only gone thoroughly into the synonymy of the Emerald Cuckoo, but has shown that two distinct races exist: i. e., *Chrysococcyx smaragdineus* Swains., confined to the north and ranging from Senegal across to Abyssinia, and *C. s. intermedius* (*Chrysococcyx intermedius*) Hartl. (Birds W. Afr. 1857, p. 191: Gaboon), which breeds in South Africa and winters as far north as Gaboon and perhaps Uganda (*cf.* Bannerman, *op. cit.*). It is unfortunate that Hartlaub should have given his type locality so far north, but it will probably be found that in its winter quarters the South African race overlaps the northern form. The birds found on the islands of Principe and San Thomé belong to the northern form (*cf.* Bannerman, *Ibis*, 1914, p. 616, & 1915, p. 107).

Shaw gives the comprehensive locality of Africa, but as his name undoubtedly refers to the bird with the yellow under tail-coverts, it applies to the west coast form (*cf.*

Bannerman, Ibis, 1912, p. 244), and therefore preoccupies the *Chalcites smaragdineus* Swains. (Birds W. Afr. vol. ii, 1837, p. 191): Gambia; which locality I designate for Shaw's name.

By adopting Boddaert's name as spelt, and thus allowing Shaw's name to stand for the Emerald Cuckoo, the whole nomenclature of these two Cuckoos is in my opinion simplified, and the only real alteration that takes place is in placing *C. smaragdineus* Swains. as a synonym of *C. cupreus* Shaw.

Mr. W. L. Sclater, whom I have consulted on the point, thinks with me that this change to strict priority places the names and original descriptions on a better basis.

I agree with Bannerman that Reichenow's *Metalococcyx* is synonymous with Boie's *Chrysococcyx* (cf. Ibis, 1912, p. 246).

183. *Centropus grillii grillii*. Black-and-rufous Lark-heeled Cuckoo.

Centropus grillii Hartl. Journ. für Orn. 1861, p. 13: Gaboon.

a. ♂ juv. Lengototo, 6200 ft. Nov. 11.

Total length in flesh: $13\frac{3}{4}$ inches. Wing: 154 mm.

This specimen is in first dress and has assumed some of the adult feathering in the wings and tail.

[Irides yellowish brown; bill: upper mandible brown, lower flesh-colour; legs and toes dark plumbeous.]

Prof. Neumann, in the Bull. B. O. C. vol. xii. 1902, p. 75, records that he has examined the type of *Cuculus nigrorufus* Cuv. (Règ. Anim. vol. i. 1817, p. 426, which was founded on plate 220 of Levaillant, Ois. d'Afrique, vol. v. 1806, p. 78: Swart River, Cape Colony), and that "the species proved to be not an African bird, but the bird afterwards called *Centropus purpureus*," which was described by Shelley in the Catalogue of Birds in the British Museum, vol. xix. 1891, p. 348, from Sumatra.

Levaillant's plate certainly agrees better with the Sumatran bird than it does with the African, and I therefore, under the circumstances, support this re-distribution of names; this re-arrangement was apparently first proposed

by Finsch (*cf.* Notes Leyden Museum, vol. xxiii. 1901, p. 156).

Since Neumann's remarks were published a young specimen has been taken by Bates in Cameroon, and two young birds by Boyd Alexander near Lake Chad; this places the occurrence of this bird on the west side of Africa beyond question.

Two races of this Cuckoo have been described, *Centropus thierryi* Reichw. (Orn. Monatsb. 1899, p. 190: Mangu, Togoland), and *Centropus grillii cæruleiceps* Neum. (Journ. für Orn. 1904, p. 380: Gandjule See, *i. e.* Lake Abaya). The former is said to differ from *C. g. grillii* in having the lesser under wing-coverts black, but this character is observable in a specimen from Nyasaland, taken with others having wholly brown under wing-coverts. Through the kindness of Mr. Rothschild and Dr. Hartert I have been enabled to examine and compare the type of *C. g. cæruleiceps* with the series in the British Museum collection, and find that it certainly differs in the coloration of the head from birds taken in German East Africa and Nyasaland, which Neumann for purposes of comparison has taken as Hartlaub's *C. grillii*, but is very closely matched by a bird from Port Natal. This Port Natal bird differs from Nyasaland specimens in having the whole head, except for the ear-coverts, glossy blue-black, without the green sheen, but not quite so deep a blue as shown in the type of *C. g. cæruleiceps*; the mantle is chestnut, rather darker than the wing-coverts, but altogether lacks the dark blackish coloration of the Nyasaland bird. The blue head is sharply defined and does not grade into the coloration of the back as in Nyasaland birds. These characters seem to me worthy of subspecific differentiation, and I have therefore proposed the following name:—

CENTROPUS GRILLII WAHLBERGI.

Centropus grillii wahlbergi Claude Grant, Bull. B. O. C. xxxv. 1915, p. 99: Umslango, Port Natal.

Type in the British Museum. ♀ not quite adult. Umslango, Port Natal. 28.11.40. Wahlberg Coll. Wing 173; culmen 27; tail 189; tarsus 38 mm.

Until, however, adults are available from Gaboon, the position of the north-eastern, eastern, and south-eastern forms cannot be accurately determined.

Attention must be drawn to the fact that Mr. Austin Roberts recently recorded a pair of *C. g. caeruleiceps* from Sabi, eastern Transvaal (*cf.* Ann. Transv. Mus. vol. iv. 1914, p. 175); considerable confusion is entailed by taking a name, and that only a subspecific (geographical) one, from north-east Africa, and fixing it on to a south African bird, thus defeating the laws governing geographical forms, and creating unnecessary synonyms.

Mr. Roberts has also remarked that the female differs from the male in being *banded*; this is of course the character of the young and immature birds. When adult, the sexes can only be distinguished by the female being slightly larger and not by the markings, as is shown by nine sexed birds in the British Museum collection from Natal and Nyasaland in black and rufous plumage, six of which are females and three males.

184. *Centropus monachus monachus*. Purple-headed Lark-heeled Cuckoo.

Centropus monachus Rüpp. Neue Wirb. 1835, p. 57, pl. 21. fig. 2: Kulla, North Abyssinia.

a. ♀ ad. Kikuyu, 6000 ft. Sept. 23.

Total length in flesh: 18 inches. Wing: 191 mm.

[Irides red; bill, legs and toes black. Quite common.]

In naming this specimen I have had to examine the whole of this group, and cannot uphold more than two races of this Cuckoo:—

CENTROPUS MONACHUS MONACHUS.

Centropus monachus Rüpp. op. cit.

Back uniformly chestnut-brown, dusky on the ends of the inner secondaries and flight-feathers.

Range. Abyssinia southwards to Kikuyu, British East Africa; not occurring near Victoria Nyanza or in the Nile Valley, where its place is taken by the following.

CENTROPUS MONACHUS FISCHERI.

Centropus fischeri Reichw. Journ. für Orn. 1887, p. 57 : Niakatschi, N.E. Victoria Nyanza (Kavirondo Country).

Back chestnut-brown, mixed with or entirely washed with dark olive or blackish brown, including also the ends of the inner secondaries and flight-feathers.

Range. Eastwards of a line through the Sobat River to the east shore of Victoria Nyanza, throughout the Upper Nile Valley, Egyptian Sudan, to north Angola and Gold Coast Colony.

The large series in the British Museum collection shows that specimens from Uganda, the Upper Nile Valley, north Angola, and the mainland along the Gulf of Guinea are indistinguishable both in size and coloration, and therefore the following names become synonyms :—

Centropus monachus occidentalis Neum. Bull. B. O. C. vol. xxi. 1908, p. 77 : Ogowe River, Gaboon.

Centropus monachus angolensis Neum. op. cit. : Canhoça, north Angola.

Centropus heuglini Neum. Verh. V. Intern. Ornith. Kongr. for 1910, 1911, p. 504, pl. i. : Bahr-el-Ghazal.

Shelley, in the 'Catalogue of Birds Brit. Mus.' vol. xix. 1891, p. 359, says that he considers the *C. fischeri* of Reichw. to be applicable to the young of *C. anselii* Sharpe (P. Z. S. 1874, p. 204, pl. xxxiii. fig. 1 : Danger river, Gaboon), but the description and measurements agree well with the dark race of *C. monachus*, and I have therefore adopted Reichenow's name for it.

It is worthy of note that in worn specimens the tail fades to a coppery brown, approaching somewhat the coloration of *Centropus cupreicaudatus* Reichw. (Orn. Monatsb. 1896, p. 53 : Angola), though that species is at once distinguished by its much larger size, and by having the rump as well as the tail always clear coppery brown, the former being barred. The range of this bird is from Angola to Lake Ngami and the Zambesi Valley to Angoniland, Nyasaland.

185. *Centropus senegalensis senegalensis*. Senegal Lark-heeled Cuckoo.

Cuculus senegalensis Linn. Syst. Nat. 12th ed. i. 1766, p. 169: Senegal.

a. ♀ ad. Kamchuru, 3250 ft. Feb. 12.

Total length in flesh: 16 inches. Wing: 168 mm.

[Irides red; bill black; legs and toes plumbeous, middle claw white. Four only were seen at Kamchuru.]

The large series in the British Museum collection shows that this bird ranges from Senegal to the mouth of the Congo River, eastwards across the Niger, upper Nile, upper Congo, and Uganda to Somaliland; its place in Egypt being taken by a larger race:—

CENTROPUS SENEGALENSIS ÆGYPTIUS.

Cuculus aegyptius Gmelin, Syst. Nat. i. 1788, p. 420: Egypt.

Size much larger than in *C. s. senegalensis*; top of head and nape much duller and more sooty in colour; mantle and inner secondaries olive-brown, contrasting with the chestnut flight-feathers.

Range. Egypt only.

And to the south its place is taken by:—

CENTROPUS SENEGALENSIS FLECKI.

Centropus flecki Reichw. Orn. Monatsb. 1893, p. 84: Nukana, in northern Bechuanaland Protectorate.

Very similar to *C. s. senegalensis*, but mantle and inner secondaries generally clear chestnut, as are the flight-feathers; in *C. s. senegalensis* the mantle and inner secondaries are more or less washed with olivaceous, contrasting slightly with the flight-feathers; size on the average perhaps rather larger than *C. s. senegalensis*, but not approaching anywhere near to the size of *C. s. aegyptius*.

Range. North of Lake Nyasa and North-eastern Rhodesia, to Mashonaland, Matabeleland, Lake Ngami, Zambesi River, and the Transvaal.

The good series in the British Museum collection shows

that a wholly black bill is assumed by this bird, but whether this is due to age or season is not clear.

186. *Centropus superciliosus superciliosus*. White-eyed-browed Lark-heeled Cuckoo.

Centropus superciliosus Hempr. & Ehr. Symb. Phys. 1823, fol. r: Southern Arabia.

a. ♂ imm. Amala River, 5400 ft. Oct. 18.

b. ♀ imm. Narossura River, 5000 ft. Nov. 14.

c. ♂ imm. Weiwei River, 3000 ft. Jan. 8.

d. ♀ imm. Slopes of Nakwai Hills, 3600 ft. Feb. 8.

Total length in flesh: ♂ $15\frac{1}{4}$ & $14\frac{1}{2}$ inches; ♀ $15\frac{1}{2}$ & 15 inches. Wing: ♂ 160 & 152 mm.; ♀ 154 & 147 mm.

These four specimens still retain the barred wings and tail of the immature dress, the rest of the plumage being similar to the adults. All are worn, the October and January birds are assuming by a moult the adult feathering of the wings and tail.

[Irides red; bill black; legs and toes bluish; the February bird having the bill bluish-horn with the culmen black. Quite common.]

Whilst naming these specimens I have taken the opportunity to examine the large series in the British Museum, both of this species and of *Centropus burchellii* Sw. (Anim. Menag. 1838, p. 321: South Africa, *ex* Burchell, Cape Colony), with the immature of which *C. superciliosus* appears always to have been confounded, at least as regards its occurrence south of the Zambesi. Mr. W. L. Sclater, in Fauna of S. Afr. vol. iii. 1903, p. 208, has questioned previous references to the occurrence of *C. superciliosus* in southern Africa.

That *C. superciliosus* comes within the South African limit is shown by specimens taken on the Zambesi, but I can find no evidence of its occurrence farther south. The birds named *C. superciliosus* in the British Museum collection from southern Africa are undoubtedly the immature of *C. burchellii*, which has in this stage a distinct eye-streak; a good example being the female obtained by myself at

Coguno, Port. East Africa, which has been named *C. superciliosus*, cf. Sclater, Ibis, 1911, p. 735, but which, as shown by two blue feathers on the nape, I take to be the immature of *C. burchellii*.

Although the immature *C. burchellii* can and has been confounded with *C. superciliosus*, a series shows that characters are present by which the species can be separated. In the immature of *C. burchellii* the eye-stripe is nearly always present, but only in exceptional instances is it as broad as in *C. superciliosus*; where streaks are present on the nape and mantle, they do not usually extend so far down the back as in *C. superciliosus*, also the underparts are not streaked and banded; in specimens where the underparts are more or less streaked and banded, thus approaching *C. superciliosus* in this respect, it will usually be found that the streaks on the nape and mantle are altogether lacking or only few in number.

On comparing young birds in first dress of *C. burchellii* from southern Africa with young birds in first dress of *C. superciliosus* from Nyasaland and Uganda, no distinguishing characters can be noted, both having the head and nape mottled and streaked, more or less uniform with the back, though certainly some young *C. burchellii* have blackish on the head and nape, and the difficulty would appear to arise as to how birds in this dress can be separated in localities where they occur together; but young birds of *C. burchellii* from the northernmost limits of its range have the top of the head, the ear-coverts, and the nape *black*, with a more or less distinct eye-streak and some streaks on the nape, thus being clearly separable from the young of *C. superciliosus* from the southernmost limits of its range.

The races and ranges of the two species appear to be as follows:—

CENTROPUS SUPERCILIOSUS SUPERCILIOSUS.

Centropus superciliosus Hempr. & Ehr. op. cit.

Mantle and inner secondaries earthy brown, top of head and ear-coverts a little darker than the mantle.

Range. South Arabia, Somaliland, Egypt, Abyssinia, British East Africa, Uganda, German East Africa, island of Zanzibar, south to Nyasaland and the Zambesi, where it appears to be scarce.

CENTROPUS SUPERCILIOSUS LOANDÆ.

Centropus superciliosus loandæ Claude Grant, Bull. B. O. C. vol. xxxv. 1915, p. 54; nr. Dalla Tando, northern Angola.

Generally much darker than *C. s. superciliosus*; top of head and ear-coverts almost black, nape of neck also almost black, the white streaks thus appearing much more distinct, mantle and inner secondaries chestnut-brown, the latter washed with olive.

Type in British Museum: ♂ ad. Nr. Dalla Tando, north Angola. 21. viii. 1908. Dr. W. J. Ansorge coll.

Range. Angola to mouth of Congo River, eastwards to eastern Belgian Congo and North-eastern Rhodesia.

Many of the British East African, German East African, and Uganda specimens are somewhat intermediate between typical south Arabian birds and this race, as also are one or two North-eastern Rhodesian specimens, though the majority from this latter locality agree with the typical west coast form. Thus, when the whole series is laid out, it can be seen that a more or less gradual change takes place from the east to the west, so that it does not appear that any intermediate forms can be separated, but only the two extremes, which differ markedly from each other in the characters given.

CENTROPUS SUPERCILIOSUS SOKOTRÆ.

Centropus superciliosus sokotræ Claude Grant, Bull. B. O. C. vol. xxxv. 1915, p. 55: Adho Dimellus, Sokotra.

Nape, sides of neck, and all the underparts much paler than in *C. s. superciliosus*, almost lacking the strong buff coloration of the typical form, which thus gives the Sokotra bird a very grey appearance.

Type in British Museum: ♂ ad. Adho Dimellus, Sokotra. 5. ii. 1899. W. R. Ogilvie-Grant & H. O. Forbes coll.

Range. Confined to the Island of Sokotra.

Therefore three well-marked forms of *C. s. superciliosus* are recognisable ; the two forms of *Centropus burchellii* are as follows :—

CENTROPUS BURCHELLII BURCHELLII.

Centropus burchellii Swains. op. cit.

Of this *Centropus natalensis* Shelley (Ibis, 1882, p. 246 : Natal) is a synonym.

Young in first dress have the head, ear-coverts, and nape *mottled and streaked* as the mantle, wing-feathers banded.

Judging by the specimens collected by myself, the sexing of which I think I can rely on, the adult female has the head, ear-coverts, and nape dullish sooty-black ; the adult male, on the other hand, has these parts metallic blue or greenish black ; also the female is somewhat larger than the male.

More than one stage of dress is assumed before the full adult is reached, two of which seem to be recognisable as follows, though many more, especially carefully sexed specimens, are required before any definite conclusions can be arrived at.

From the first young dress a second plumage appears to be assumed, having a more or less distinct eye-streak, head, ear-coverts and nape blackish, the nape and upper back streaked and the wing-feathers banded.

From this dress apparently a third plumage is donned :— Eye-streak very imperfect, more confined to between the eye and the base of the bill, nape and upper back generally less streaked than in the second plumage, the wing-feathers being as in the adult. After this the bird appears to assume the full adult dress.

Range. Cape Colony, Natal, north to the Transvaal and the Inhambane district of Portuguese East Africa.

Should the female of *C. b. burchellii* prove to be constantly different in the coloration of the head from the female of *C. b. fasciopygialis*, then the immature female from Coguno, Inhambane district, would belong to the northern race, as the two blue feathers on the nape appear to be metallic and not sooty-black.

CENTROPUS BURCHELLII FASCIOPYGIALIS.

Centropus fasciopygialis Reichw. Orn. Monatsb. 1898, p. 23: Quilimane, Portuguese East Africa.

In his original description Prof. Reichenow has compared this bird with *C. senegalensis*, but in the Vög. Afrikas, vol. ii. 1902, p. 61, he has placed it as a race of *C. burchellii*; in this I agree with him.

Young in first dress have the head, ear-coverts and nape black, and the wing-feathers rather less banded than the young of *C. b. burchellii*.

The adult female has the head metallic blue-black, as in the male; the adult male not being distinguishable from the adult male of *C. b. burchellii*.

This race appears to go through the same stages of plumage as does *C. b. burchellii*.

Range. Beira and Zambesi Valley, northwards to southern German East Africa and southern Nyasaland.

Centropus superciliosus superciliosus and its two races appear to assume only one intermediate stage of dress before the adult is reached; this being identical with the full adult but having the wing-feathers banded.

Since the above has been written, my attention has been drawn to Mr. Roberts' paper in the Ann. Transv. Mus. vol. iv. 1914, where on page 175 he has also come to the conclusion that the records of *C. superciliosus* in southern Africa are referable to the immature of *C. burchellii*.

He has also described a new form allied to *C. superciliosus* under the name *Centropus pymi*, the type-locality of which is apparently given as Draaibosch, Kaffraria, though the type is not designated. Burchell's specimen was probably also secured very near this locality.

On page 175 the bird is merely said to be larger than *C. superciliosus*, but on page 177 a fuller description is given; without seeing Mr. Roberts' specimens it would appear from this description that *C. pymi* is one of the immature dresses of *C. burchellii*; also, the measurements given in the table do not differ appreciably from those of *C. burchellii*.

187. *Ceuthmochares æreus australis*. South African Coucal.

Ceuthmochares australis Sharpe, P. Z. S. 1873, p. 609 : Natal.

a. ♀ ad. Nakwai Hills, 3500 ft. Feb. 7.

Total length in flesh : $13\frac{1}{8}$ inches. Wing : 123 mm.

This single specimen agrees perfectly with birds from Natal, and is in somewhat worn dress.

[Irides red ; bill yellow, base of culmen black ; legs and toes black. Appears to be rare, as this was the only specimen seen during the whole trip.]

In naming this bird I have examined all the specimens of this group in the British Museum, and can recognise four distinct races as follows :—

CEUTHMOCHARES ÆREUS ÆREUS.

Cuculus æreus Vieill. Nouv. Dict. d'Hist. Nat. vol. viii. 1817, p. 229 : Malimbe, Portuguese Congo.

Head dark grey, not washed with violet ; back, wings, and tail steel-blue, the tail in some specimens having a wash of greenish ; tail below washed with violet, but not so deep as in *C. æ. flavirostris* ; rest of underparts somewhat paler than in *C. æ. flavirostris*.

Range. Cameroon and Gaboon, French Congo to Bembe in northern Angola ; also the island of Fernando Po.

CEUTHMOCHARES ÆREUS FLAVIROSTRIS.

Zanclostomus flavirostris Swains. Birds W. Afr. vol. ii. 1837, p. 183 ; West Africa = Senegal.

Head dark grey, washed with violet ; back, wings, and tail deep violet-blue, tail below washed with purple ; rest of underparts grey, faintly washed with violet.

Range. From Senegal to the Gold Coast Colony.

CEUTHMOCHARES ÆREUS AUSTRALIS.

Ceuthmochares australis Sharpe, op. cit.

Head olive-grey ; back, wings, and tail clear bronze-green, tail below bronze-green ; rest of underparts buff or ochraceous.

Range. Natal, Zambesi, Portuguese East Africa, Nyasaland, British East Africa to Nakwai Hills in Uganda.

CEUTHMOCHARES ÆREUS INTERMEDIUS.

Centhmochares intermedius Sharpe, Journ. Linn. Soc., Zool. xvii. 1884, p. 432 : Semmio, Bahr-el-Ghazal.

Head much paler grey than in *C. æ. æreus* ; back, wings, and tail dark, but distinctly washed with bronzy green ; tail below more washed with steel-blue ; rest of underparts as in *C. æ. æreus*.

Range. Uganda (Entebbe, Mabira, Msozi and Fort Portal) to Semliki Valley, Bahr-el-Ghazal, and Welle and Shari Rivers.

188. *Indicator indicator*. Black-throated Honey-Guide.

Cuculus indicator Gmelin, Syst. Nat. vol. i. 1788, p. 418 : Interior of Africa. "A quelque distance du Cap de Bonne Espérance," cf. Buffon, vol. vi. 1779, p. 392.

a. ♀ juv. 12 miles E. of Amala River, 5900 ft. Oct. 26.

b. ♂ ad. West of Mt. Leganisho, 5600 ft. Oct. 28.

c. ♀ juv. Mt. Maroto, 4300 ft. Jan. 28.

Total length in flesh : ♂ $8\frac{1}{2}$ inches ; ♀ $7\frac{1}{2}$ & $7\frac{1}{4}$ inches. Wing : ♂ 114 mm. ; ♀ 110 & 104 mm.

The male is fully adult and shows slight signs of wear ; the two females are in the dress of *Indicator major*, are somewhat worn, the yellow colour having faded from the breast and abdomen, and are starting the moult in the wings and tail.

[♂. Irides light brown ; bill pink, with white tip ; legs and toes greyish brown ; in the females the bill is black, the irides brown. Tolerably common and very noisy ; several were seen in young dress both in Uganda and British East Africa.]

A careful examination and comparison of the large series in the British Museum collection, both of *Indicator indicator* and *Indicator major* Steph. (Gen. Zool. vol. ix. 1815, p. 139, pl. 27 : Auteniquoi, Knysna Dist., Cape Colony), shows that the latter is merely the first plumage birds of the former, and that the names are therefore synonymous, as was first pointed out by Boyd Alexander (Bull. B. O. C. vol. xxi. 1908, p. 91).

The evidence of this is that all the birds having olive backs and yellow underparts (*I. major*) are always in fresh plumage and have a young appearance; when the dress shows signs of wear the birds are moulting and are assuming feathering in the wings, tail and back exactly resembling the coloration of these parts in *I. indicator*. In the males at this stage black is replacing the yellow on the throat, and a yellow patch is appearing on the shoulders; in more advanced specimens the dress is identical with that of *I. indicator*, except for the remains of the feathering of *I. major* on the top of the head, wing-coverts, throat, and chest.

The same sequence of plumages is to be found with the female.

Moreover, in the whole series of *I. indicator* I cannot find one specimen that could be called a first plumage bird; this is quite a striking point. In every case, too, where worn specimens of *I. major* are examined the birds are assuming the darker dress of *I. indicator*, so that the logical conclusion is that *I. major* is nothing but the young bird of *I. indicator*.

I can see no characters on which races of this bird can be separated, so that the following names will have to become synonyms:—

Indicator flavicollis Swains. Birds W. Africa, vol. ii. 1837, p. 198: Senegal.

Indicator barianus Hartl. Orn. Westafr. 1857, p. 274: Bari country, Upper White Nile, cf. Heugl. Sitzb. Ak. Wien, 1856, p. 300 (nom. nud.), also J. f. O. 1864, p. 33 (descrip.).

Indicator böhmi Reichw. Journ. für Orn. 1891, p. 39: East Africa.

189. *Indicator minor teitensis*. East African Little Honey-Guide.

Indicator minor teitensis Neum. Journ. für Orn. 1900 p. 195: Bura, Teita, British East Africa.

a. ? ad. Mt. Maroto, Maroto Stream, 3700 ft. Jan. 25
Total length in flesh: $6\frac{1}{4}$ inches. Wing: 90 mm.

This single specimen, though not sexed, is apparently a male, judging by the white feathers at the base of the upper mandible and the moustachial streak. It is in good plumage.

[Irides brown ; bill black ; legs and toes plumbeous.]

In naming this bird I have examined the whole series in the British Museum collection of these small, thick-billed Honey-Guides, and I find that they fall naturally into three groups ; these groups with their races and distribution being as follows :—

INDICATOR MINOR MINOR.

Indicator minor Steph. Gen. Zool. vol. ix. 1815, p. 140 : Cape of Good Hope, *ex* Levaillant.

Of this, *Indicator minimus* Temm. Pl. Col. 1822, pl. 542 : South Africa, *ex* Levaillant ; *Indicator buphagoides* Leadb. Trans. Linn. Soc. vol. xvi. 1829, p. 91 : Interior of Africa ; and *Indicator apivorus* Licht. Nom. Av. 1854, p. 78 : Kaffirland (nom. nud.), are synonyms.

Top of head washed with olivaceous ; underparts pale grey washed with olive. Wing in males 95–89 mm. ; in females 86–83 mm.

The males are always larger than the females, the latter lacking the white feathering at the base of the upper mandible, or having it only faintly indicated, and the moustachial streak is by no means so clearly defined.

Range. Cape Colony and Natal northwards to southern Nyasaland and northern Angola.

The pair before me from Angola agree very well with Cape Colony specimens, being perhaps slightly darker on the chest, and the three from Damaraland are slightly paler on the top of the head than specimens from further south ; however, as slight individual variation occurs in Cape Colony and Natal birds, these differences do not appear to be geographical.

INDICATOR MINOR DIADEMATUS.

Indicator diadematus Rüpp. Neue Wirb. 1835, p. 61 : Abyssinia.

Rüppell's description agrees well with the Abyssinian

form of *I. minor*, which has been named *Indicator lovati* O.-Grant (Bull. B. O. C. vol. x. 1900, p. 39 : Gelongol, Abyssinia). Therefore *I. lovati*, the type of which is in the British Museum, becomes a synonym.

This form differs from *I. m. minor* in having the top of the head and the whole of the underparts much darker grey and with little or no olive wash. Wing: ♂ 88 & 86 mm.; ♀ 89-86-84 mm.; the two males are undoubtedly immature.

Range. Abyssinia and Somaliland.

The Somaliland bird differs slightly from the two Abyssinian specimens in having the upper parts rather paler olive-green; and a much larger series may show that *Indicator exilis erlangeri* Zedl. (Orn. Monatsb. 1913, p. 59 : S. Somaliland; compared to *I. m. teitensis*, and wing given as 83-81 mm.) can be upheld, though the evidence before me points to this name becoming a synonym.

INDICATOR MINOR TEITENSIS.

Indicator minor teitensis Neum. op. cit.

Differs but very slightly from *I. m. minor*, being slightly darker on the upper surface and rather darker grey beneath. Wing: ♂ 91 & 90 mm.; ♀ 87-82-81 mm.

Neumann gives the wing of his type as 79 mm., which points to an immature bird and comes within the wing-measurement of the *I. exilis* group; there are, however, two specimens in the British Museum collection bearing in Neumann's handwriting the name of his new subspecies.

Range. Nyasaland and German East Africa to British East Africa and Uganda, across to Lake Chad and Benue River.

Southern specimens run very close to the Cape form and northern specimens very close to the Abyssinian form, and a larger series may show that the dividing line will be found somewhere across Uganda and British East Africa, and that *I. m. teitensis* should be placed as a synonym and not upheld as a race.

INDICATOR MINOR ALEXANDERI.

Indicator minor alexanderi C. Grant, Bull. B. O. C. xxxv 1915, p. 99 : Gambaga, Gold Coast Colony.

Size as in *I. m. minor*, from which it differs in having the top of the head and nape clearer grey without the olive wash, the whole of the underparts clear grey without any olive tinge, and the markings on the wings and back rather more clearly defined and brighter in colour.

Type in British Museum: ♂ ad. Gambaga, Gold Coast Hinterland. 28. xii. 1900. Boyd Alexander coll. Wing 95, culmen 12, tail 64, tarsus 11 mm. Named in honour of the late Lieut. Boyd Alexander.

Wing: ♂ 95 mm.; ♀ 90 mm.

Range. Gold Coast Colony.

INDICATOR CONIROSTRIS CONIROSTRIS.

Melignotheres conirostris Cass. Proc. Acad. Philad. 1856, p. 156; Moonda River, Gaboon; id. 1859, pl. ii.

Of this, *Indicator occidentalis* Hartl. (Birds W.-Afr. 1857, p. 185) is a synonym.

Head and nape dark grey, faintly washed with olive. Wing: ♂ 93-88 mm.; ♀ 88-79 mm.

Range. Gaboon north of Ogowe River, and Cameroon.

INDICATOR CONIROSTRIS USSHERI.

Indicator ussheri Sharpe, Bull. B. O. C. vol. xii. 1902, p. 80: Fantee.

Head and nape dark olive-green, similar to back. Wing 93 & 92 mm., in two examples; neither is sexed, the first being the type.

Range. Gold Coast Colony.

INDICATOR EXILIS EXILIS.

Melignotheres exilis Cass. Proc. Acad. Philad. 1856, p. 157: Moonda River, Gaboon; id. 1859, pl. i. fig. 1.

Of this, *Indicator pygmæus* Reichw. (Journ. für Orn. 1892, p. 132: Bukoba, Victoria Nyanza; compared with *I. minor* and wing given as 80 mm.) appears to be a synonym.

Top of head dark grey, strongly washed with olive, rest of upper parts having the markings broad and strongly defined; below, chin white with black specks; rest of underparts, except abdomen and under tail-coverts, dark olive.

The male differs from the female in having a well-defined white band at the base of the upper mandible and a black moustachial streak.

Wing: ♂ 80-74 mm. ; ♀ 70-65 mm.

Cassin gives the wing-measurement of his type as $2\frac{1}{2}$ inches = 63 mm.

Range. North Angola to Cameroon, eastwards to Uganda (Ruwenzori and Ankole).

INDICATOR EXILIS WILLCOCKSI.

Indicator willcocksii Alex. Bull. B. O. C. vol. xii. 1901, p. 11 : Prahou, Gold Coast Colony.

Differs from *I. e. exilis* in being much greener on the top of the head and in having the underparts paler olive, and indistinctly streaked. Wing: ♀ (the type) 69 mm.

Range. Gold Coast Colony.

INDICATOR EXILIS POENSIS.

Indicator poensis Alex. Bull. B. O. C. vol. xiii. 1903, p. 33 ; Bakaki, Fernando Po.

Differs from *I. e. exilis* in being considerably smaller ; top of head grey, rest of upper plumage less bright and markings not strongly defined, and the under surface greyer and paler. Wing: ♂ (the type) 66 mm.

INDICATOR EXILIS LEONA.

Indicator exilis leona C. Grant, Bull. B. O. C. xxxv. 1915, p. 100 : Sierra Leone.

Differs from *I. e. exilis* in being smaller and having the mantle more uniform olive, the markings being only faintly indicated, top of head slightly darker, and under surface of a deeper tone especially on the chest ; from *I. e. willcocksii* (which cuts this new race off geographically from *I. e. exilis*) it differs in the more uniform back and considerably darker underparts without any streaking.

Type in British Museum : ♂ ad. Sierra Leone. 7. iii. 11. W. P. Lowe coll. Wing 70, culmen 10, tail 43, tarsus 11.5 mm.

Range. Sierra Leone.

INDICATOR EXILIS ANSORGEI.

Indicator exilis ansorgei C. Grant, Bull. B. O. C. xxxv. 1915, p. 100 : GUNNAL, Portuguese Guinea.

Differs from *I. e. exilis* in having the upper parts less strongly marked, the head paler grey without the olive wash, and the whole under surface greyer and paler. The male shows no black specks on the chin and there are but one or two in the female. Very similar to *I. e. poensis*, from which it differs in its much larger size. Wing : ♂ 80 mm. ; ♀ 71 mm.

Type in British Museum : ♂ ad. GUNNAL, Portuguese Guinea. 4. vi. 09. W. J. Ansorge coll. Wing 80, culmen 10.5, tail 48, tarsus 12.5 mm. Named in honour of the late Dr. W. J. Ansorge.

Range. Portuguese Guinea.

I am quite unable to fix satisfactorily Heuglin's *Melignotheres pachyrhynchus* (Journ. für Orn. 1864, p. 266 : Bongo, Bahr-el-Ghazal). In the Orn. N.O.-Afrika, 1871, p. 773, Heuglin considers it to be a synonym of *I. minor* and mentions that the original type is no longer in the Stuttgart Museum.

Shelley in the Catalogue of Birds in the British Museum, vol. xix. 1891, p. 9, also places this name as a synonym of *I. minor* ; but Reichenow in the Vög. Afrikas, vol. ii. 1902, p. 112, puts it as a doubtful synonym of his *I. pygmæus*. The description certainly fits *I. minor*, and Heuglin's name might well remain a synonym of that species, if it was not for the apparently small size of Heuglin's specimen, the wing being given as 2'' 11''' (German inches) = 76 mm., and that of a male.

190. *Prodotiscus regulus*. Brown Honey-Guide.

Prodotiscus regulus Sund. Cefv. Ak. Förh. 1850, p. 109 : Caffraria inferior et superior ; *ex* Wahlberg.

a. ♂ ad. Southern Guaso Nyiro, 2900 ft. Nov. 23.

Total length in flesh 5½ inches. Wing 80 mm., which exactly equals the wing-measurement given by Sundevall for his type.

[Irides brown ; bill black ; legs and toes dark grey. This specimen was the only one seen.]

A somewhat worn specimen, and moulting on the head; the white outer tail-feathers are broadly tipped.

The series in the British Museum collection shows that some variation occurs in the markings of the tail, some specimens having pure white under tail-feathers, others having broad tips and even having the dark colour running up the edge of the inner webs, these variations being found in the same locality.

It would therefore appear that one of the characters given by Mr. Ogilvie-Grant for his *Prodotiscus peasii* (Bull. B. O. C. vol. xi. 1901, p. 67 : Unji, Abyssinia) is of little or no value, and the central tail-feathers are not lighter than some specimens of *P. regulus*; but as the wing measures in the single type-specimen 83 mm. against 80–75 mm. in *P. regulus*, *P. peasii* may prove to be a somewhat larger race confined to north-east Africa.

Prodotiscus zambesiæ Shelley (Ibis, 1894, p. 8 : Zomba, Nyasaland), the type of which is in the British Museum, has an olive-green back and wings, and has nothing to do with *P. regulus*, and cannot therefore be placed as a synonym (*cf.* Reichw. Vög. Afrikas, vol. ii. 1902, p. 114). It is undoubtedly allied to *Prodotiscus (Heterodes) insignis* Cass. (Proc. Acad. Philad. 1856, p. 157 : Moonda River, Gaboon ; *id.* 1859, pl. i. fig. 2) ; as are also *Indicator emini* Shelley (P. Z. S. 1888, p. 43, pl. iii. : Wadelai), the type of which is in the British Museum, *Prodotiscus ellenbecki* Erl. (Orn. Monatsbr. 1901, p. 182 : Daroli (Arrussi), Abyssinia), and *Prodotiscus reichenowi* Madarasz (Ann. Mus. Hung. vol. ii. 1904, p. 206 : Moschi, German East Africa) ; but the insufficient series before me does not allow me to discuss these forms.

191. *Lybius leucocephalus*. White-headed Barbet.

Laimodon leucocephalus Defil. Rev. et Mag. Zool. 1853, p. 291 : White Nile, between 3° & 4° N. latitude.

a. ♂. N.E. slopes of Nakwai Hills, 3600 ft. Feb. 8.

b. ♂. Pader District, 3100 ft. Feb. 18.

Total length in flesh 8½ & 7¼ inches. Wing 91 & 90 mm.

Both these specimens have the appearance of young birds.

[Irides brown; bill black, one having the base mottled with white; legs and toes greyish black or dark grey. Two or three pairs seen.]

Reichenow in the 'Vög. Afrikas,' vol. ii. 1902, p. 123, has suggested that *Pogonorhynchus albicauda* Shelley (Ibis, 1881, p. 117: Ugogo, German East Africa) and *Melanobucco abbotti* Richm. (Auk, 1897, p. 164: Taveta, British East Africa) are merely stages of plumage of *Pogonorhynchus senex* Reichw. (Journ. für Orn. 1887, p. 59: Ikanga in Ukamba), the last-named being the full adult. I agree that the evidence points to that conclusion being correct, and moreover consider that a much larger series will show that *L. leucocephalus* is *L. senex* in its first dress. Should this prove correct, *L. leucocephalus* as the oldest name would stand for the species. Until this question is finally settled, the status of *Lybius leucocephalus usukumæ* Neum. (Bull. B. O. C. vol. xxi. 1908, p. 46: Kagehi, Usukuma, north-west German East Africa) cannot be defined. *Pogonorhynchus leucogaster* Bocage (Jorn. Acad. Real Lisboa, 1877, p. 63: Quillengues, Benguela) is allied to the above and appears to differ only in having the under wing-coverts pure white; but I have not been able to examine specimens from Angola.

192. *Lybius tridactylus*. Red-headed Barbet.

Loxia tridactyla Gmelin, Syst. Nat. i. pt. 2, 1789, p. 866: Abyssinia.

a, b. ♂ ad. Kamchuru, 3200 & 3250 ft. Feb. 10 & 12.

Total length in flesh: 7 inches. Wing: 85 & 82 mm.

Both these specimens are showing signs of wear.

[Irides brown; bill, legs, and toes black. This conspicuous bird is tolerably common.]

Phytotoma abyssinica Lath. (Ind. Orn. Suppl. i. 1801, p. xlix: Abyssinia) is a synonym, and I also place as a synonym *Lybius tridactylus ugandæ* (Berger, Orn. Monatsb. 1907, p. 201: Nimule, Uganda, wing given as 78 mm.), as the characters given do not appear to be substantiated by the good series in the British Museum collection.

193. *Tricholæma melanocephala stigmatothorax*. Brown-throated Barbet.

Tricholæma stigmatothorax Cab. Journ. für Orn. 1878, p. 205 : Ndi, Taita, cf. p. 240.

a, b. ♂ ♀ ad. Kozibiri River, 2400 ft. Jan. 20.

Total length in flesh : ♂ $5\frac{1}{2}$ inches ; ♀ $5\frac{1}{4}$ inches. Wing : ♂ 68 mm. ; ♀ 65 mm.

These two specimens are rather worn, but agree with others in the British Museum collection from the type locality.

[Irides brown ; bill black ; legs and toes dark plumbeous. Two or three seen in the stunted bushes.]

The following races of this Barbet can be recognised :—

TRICHOËMA MELANOCEPHALA MELANOCEPHALA.

Pogonias melanocephala Cretz. Atlas in Rüpp. Reise nörd. Afr., Zool. 1826, p. 41, pl. 28 : Kordofan.

Of this, *Pogonias bifrenatus* Hempr. & Ehr. (Symb. Phys. 1828, pl. 8. figs. 1 & 2 : Abyssinia) is a synonym.

Top of head, ear-coverts, and throat glossy black.

Range. Egyptian Sudan, Abyssinia, and western Somaliland.

TRICHOËMA MELANOCEPHALA STIGMATOTHORAX.

Tricholæma stigmatothorax Cab. op. cit.

Top of head, ear-coverts, and throat brown.

Range. Northern German East Africa, through British East Africa to Uganda.

TRICHOËMA MELANOCEPHALA BLANDI.

Tricholæma blandi Lort Phillipps, Bull. B. O. C. vol. vi. 1897, p. xlvii : Goolis Mts., Somaliland.

Top of head, ear-coverts, and throat brown ; feathers of forehead and throat distinctly tipped with whitish.

Range. Central and eastern Somaliland.

I am by no means sure that the following species should not also be considered as a subspecies of *T. melanocephala*.

TRICHOLÆMA AFFINIS.

Pogonorhynchus affinis Shelley, Proc. Zool. Soc. 1879, p. 680 : Weenen, Natal.

Size much larger, streak over eye yellow, the hinder part being white; in *T. m. melanocephala* the eye-streak is white for the whole of its length.

Range. Griqualand East and Natal.

I am unable through lack of material to place a form of *T. affinis*, described by Reichenow in the Orn. Monatsb. 1893, p. 30, from the Wembere Steppe, East Africa, under the name *Tricholæma flavibuccale*; it appears to differ in its smaller size, wing 70 against 79 mm., and in having the anterior part of the white cheek-stripe, as well as the anterior part of the eye-streak, yellow.

194. *Tricholæma lacrymosa*. Spotted-flanked Barbet.

Tricholæma lacrymosa Cab. Journ. für Orn. 1878, p. 205 : Adi River, British East Africa – German East Africa boundary.

a. b. ♂ ♀ ad. Amala River, 5300 & 5500 ft. Oct. 11 & 21.

c. ♀ ad. Mt. Maroto, Maroto Stream, 3700 ft. Jan. 25.

d. ♀ ad. Nakwai Hills, 3800 ft. Feb. 6.

Total length in flesh : ♂ 6 inches ; ♀ 6, $5\frac{3}{4}$, $5\frac{1}{4}$ inches.
Wing : ♂ 72 mm. ; ♀ 69–66 mm.

These four specimens are showing signs of wear, the male perhaps having the head and throat brighter than the females.

[♂. Irides bright yellow; bill black; legs and toes dark plumbeous. ♀. Irides red, reddish brown, or brown; bill black; legs and toes black, greyish black, or very dark brown. Common. On October 21 a pair were seen at a nest containing young, which was situated in a dead branch overhanging our tents.]

The pair from Amala River can be taken as typical specimens of this species, and have the underparts washed with yellow and the spots rounded. These are the characters given by Mr. Ogilvie-Grant for *Tricholæma radcliffei* (Bull.

B. O. C. vol. xv. 1904, p. 29 : Mulema, Uganda), which must therefore become a synonym.

Some more northern specimens show the pear-shaped spot on the under surface; but as specimens with both rounded and pear-shaped spots are found in the same locality, I do not think that this character is of any subspecific value.

In the Bull. B. O. C. vol. xxi. 1908, p. 47, Neumann has described a race of this bird under the name *Tricholæma lacrymosum ruahæ*; the characters on which it is founded are the rounded spots of the underside, which, as I have shown above, appear to be of little subspecific value, and the ground-colour is nearly pure white; but specimens from the southern parts of German East Africa are not available for comparison, so I am unable to give an authoritative opinion on the validity of this form.

195. *Tricholæma diademata diademata*. Red-fronted Barbet.

Pogonorhynchus diadematus Heugl. Ibis, 1861, p. 126, pl. v. fig. 3: Steppes of Kitch-Negroes, Bahr-el-Abiad, i. e., Upper White Nile, *cf.* p. 124.

a. ♂ ad. Turkwel River, 2100 ft. Jan. 11.

Total length in flesh: $6\frac{1}{2}$ inches. Wing: 82 mm.

This specimen is entirely unspotted below, except for a few on the lower flanks, thus agreeing with Heuglin's plate. It is in somewhat worn dress.

[Irides brown; bill black, bluish at base; legs and toes greyish brown.]

196. *Tricholæma diademata massaica*. Masailand Red-fronted Barbet.

Pogonorhynchus massaicus Reichw. Journ. für Orn. 1887, p. 59: Loeru, Masailand, German East Africa.

a. ♀ ad. Mt. Suswa. Sept. 26.

b. ♂ ad. Loita, 6300 ft. Oct. 4.

c, d. ♂ ♀ ad. Amala River, 5300 & 5500 ft. Oct. 14 & 21.

Total length in flesh: ♂ $6\frac{1}{2}$ inches; ♀ 6 inches. Wing: ♂ 85 & 81 mm.; ♀ 80 & 78 mm.

These four specimens are all somewhat worn; they are all spotted on the underparts, but not so thickly as four specimens from Lake Naivasha in the British Museum collection.

[Irides brown; bill black, dark brown, or dark plumbeous; legs and toes black, blackish grey, or dark grey.]

Specimens in the British Museum collection from near the type locality of *T. d. diademata* have only a few spots on the lower flanks; these increase and spread to the abdomen and breast in specimens from further to the south, where they become *T. d. massaica*, which appears to be quite a good subspecies, though no decided geographical limit can be assigned to them.

Further to the southwards, in Nyasaland, a much more spotted form exists, having also a strong wash of bright yellow across the chest. This has been named *Tricholæma alexandri* by Shelley (Bull. B. O. C. vol. xiii. 1903, p. 61: Namwewe, Nyasaland); it would appear, however, to be a synonym of *Pogonorhynchus frontatus* Cab. (Journ. für Orn. 1880, p. 351, pl. ii. fig. 1: Angola), as the specimens before me agree perfectly with the plate, and on the back of the label of one of them I find in Prof. Neumann's handwriting, "compared with typical specimen from north Angola."

197. *Pogoniulus** *pusillus affinis*. Reichenow's Little Barbet.

Barbatula affinis Reichw. Orn. Centr. 1879, p. 114: Kipini, mouth of Tana River, British East Africa.

a, b. ♂ ad. Amala River, 5500 ft. Oct. 13.

c. ♀ ad. 12 miles east of Amala River, 5700 ft. Oct. 26.

* Mr. Tom Iredale informs me that Richmond (Proc. U.S. Nat. Mus. vol. xxxv. 1908, p. 634) has pointed out that *Pogoniulus* Lafresnaye (Dict. Univers. d'Hist. Nat. vol. ii. 1843, p. 463: type *Bucco parvus* Gmel.) should take the place of *Xylobucco* Bonaparte, as used by Oberholser (Proc. U.S. Nat. Mus. vol. xxviii. 1905, p. 867), in place of *Barbatula* Lesson also preoccupied.

d. ♂ ad. West of Mt. Leganisho, 5850 ft. Oct. 29.

e. ♂ ad. Narossura River, 5000 ft. Nov. 13.

f. ♀ ad. Southern Guaso Nyiro, 2900 ft. Nov. 22.

g. ♀? ad. Turkwel River, 1900 ft. Jan. 14.

Total length in flesh: ♂ $4\frac{3}{4}$ – $4\frac{1}{8}$ inches; ♀ $4\frac{1}{2}$ – $4\frac{1}{8}$ inches.
Wing: ♂ 57 mm.; ♀ 58–51 mm.

All these specimens are in good dress and show little signs of wear.

[Irides brown; bill black; legs and toes black, greenish black, or dark plumbeous. Quite common.]

The races and nomenclature of these Barbets appear to be as follows:—

POGONIULUS PUSILLUS PUSILLUS.

Bucco pusillus Dumont, Dict. Sc. Nat. vol. iv. 1806, p. 50: Sandag = Sunday River, Cape Colony; founded on Levaillant, Hist. Nat. Ois. Parad. et Barbus, vol. ii. 1806, p. 73, pl. 32; as are also *Bucco rubrifrons* Vieill. Nouv. Dict. d'Hist. Nat. vol. iv. 1816, p. 497, and *Bucco barbatula* Temm. Pl. Col. vol. iii. 1831, sp. 18 & 19.

Bucco nanus Vig. (Proc. Zool. Soc. 1831, p. 93: Algoa Bay) and *Bucco chrysoptera* Swains. (Anim. in Menag. 1838, p. 322: South Africa, ex Burchell) are also synonyms.

A large race. Wing 60 mm. and over. Streaks on back of head yellow; below pale olive-green; throat clearer green.

Range. Eastern Cape Colony, Natal, and Zululand.

POGONIULUS PUSILLUS UROPYGIALIS.

Barbatula uropygialis Heugl. Journ. für Orn. 1862, p. 37: Ain Saba, Eritrea.

A smaller race. Wing under 60 and more than 55 mm. Streaks on back of head whitish; below similar to *P. p. pusillus*, but paler.

Range. Somaliland, Abyssinia, and Eritrea.

Shelley in the Catalogue of Birds in the British Museum, vol. xix. 1891, p. 41, says that this bird has "patch on rump fiery red," which is also quoted by Reichw. Vög. Afr. vol. ii. 1902, p. 152; whereas Heuglin in his original

description gives it as follows: "uropygio late aurantiaco"
= rump broadly orange.

Although I have not been enabled to examine specimens from Heuglin's type locality, Abyssinian and Somaliland birds agree with his description, and I have therefore placed them under his name.

POGONIULUS PUSILLUS AFFINIS.

Barbatula affinis Reichw. op. cit.

A smaller race. Wing 60 mm. Streaks on back of head whitish; below, throat as in *P. p. uropygialis*; breast and flanks isabelline, fading to pale olive-green in centre of abdomen and under tail-coverts.

Range. German East Africa, British East Africa, and Manda Island.

The name *Barbatula minuta* must go to the Senegal bird, and until specimens are available from that locality for comparison with north-eastern birds, it must stand for a bird which apparently up to the present is unknown.

The reason for this is that both Bonaparte's names of *B. minuta* in the *Consp. Av.* vol. i. 1850, p. 144; Sennaar, and in the *Consp. Vol. Zyg.* 1854, p. 12, are nomina nuda, and therefore for the first description of *B. minuta* we must go to Hartlaub, *Orn. Westafr.* 1857, p. 173: Senegal.

198. *Pogoniulus chrysoconus centralis.* Uganda Yellow-fronted Barbet.

Barbatula centralis Reichw. *Orn. Monatsb.* 1900, p. 40: Njangubo in Ndussuma, west of Lake Albert.

a. ♀ ad. Kamchuru, 3200 ft. Feb. 11.

Total length in flesh: $4\frac{5}{8}$ inches. Wing: 61 mm.

In good clean dress.

[Irides brown; bill black; legs and toes greyish black. Several seen.]

In naming this single specimen I have had to examine the whole series in the British Museum collection, and through the kindness of Mr. Rothschild and Dr. Hartert I have had the loan of five typical specimens from Senegal.

Eight forms are recognisable as follows:—

POGONIULUS CHRYSOCONUS CHRYSOCONUS.

Bucco chrysoconus Temm. Pl. Col. 1832, pl. 536 : Galam, Senegal.

Of this, *Barbatula chrysocoma guineensis* Reichw. (Vög. Afr. vol. ii. 1902, p. 149 : Togo) must become a synonym.

Forehead-patch pale orange-yellow ; light streaks on mantle white, tinged with lemon-yellow ; wing-coverts broadly edged with deep yellowish buff ; rump lemon-yellow ; throat lemon-yellow ; breast and abdomen lemon-yellow strongly washed with chrome.

Wing-measurements give the following result : Senegal (five) 58-56 ; Portuguese Guinea (one) 55 ; Gold Coast (one) 56 ; Ubanghi River (two) 57 & 56 mm.

Range. Senegal to the Gold Coast and the River Ubanghi.

POGONIULUS CHRYSOCONUS EXTONI.

Barbatula extoni Layard, Ibis, 1871, p. 226 : Kanye, Bechuanaland.

Forehead-patch deep orange, but not quite so deep as in *P. schoanus* ; streaks on mantle white ; rump more greenish yellow ; below, throat pale whitish green, breast and abdomen greyish buff tinged with olive, looking very grey when compared to the northern races.

Wing-measurements are as follows : Bechuanaland (two) 64 & 63 ; Transvaal (nine) 67-61 ; Zambesi (one) 60 ; southern Angola (Caconda) (one) 62 mm.

Range. South Africa generally, north to the Zambesi and southern Angola.

POGONIULUS CHRYSOCONUS XANTHOSTICTUS.

Barbatula xanthosticta Blund. & Lovat, Bull. B. O. C. vol. x. 1899, p. 21 : Chellia, Abyssinia.

Forehead-patch palish orange-yellow : light streaks on occiput narrower, showing more black ; streaks on mantle deeper in colour than in *P. c. chrysoconus*, but paler than in *P. schoanus* ; rump greenish yellow ; below pale whitish green throughout.

Wing-measurement gives the following result : Chellia (two) 61 & 60 mm.

Range. Central Abyssinia.

POGONIULUS CHRYSOCONUS CENTRALIS.

Barbatula centralis Reichw. op. cit.

Forehead-patch more lemon-yellow; streaks on mantle broader and more lemon-yellow; rump more olive-yellow; wing-coverts more yellow, less buff; throat more greenish lemon-yellow; breast and abdomen lemon-yellow, faintly washed with chrome.

Wing-measurement gives the following result: Uganda (twelve) 61-57 mm.

Range. Uganda.

POGONIULUS CHRYSOCONUS ZEDLITZI.

Barbatula chrysocoma zedlitzi Neum. Bull. B. O. C. vol. xxiii. 1909, p. 30: Sennaar, Blue Nile.

Forehead-patch orange; mantle and wing-coverts very broadly edged yellowish buff, showing very little or no dark markings; below, throat and rest of underparts tinged with pale golden-yellow.

Wing-measurements are as follows: Nubia (one) 57 mm. This specimen bears the name of this race in Prof. Neumann's handwriting. In the original description in the Bull. B. O. C. the wing-measurement of the type is given as 27 mm.; this is obviously a misprint and should read 57 mm.

Range. Egyptian Sudan.

POGONIULUS CHRYSOCONUS SCHUBOTZI.

Barbatula chrysocoma schubotzi Reichw. Orn. Monatsb. 1912, p. 28: Fort Archambault, French Sudan.

Forehead-patch pale orange-yellow, streaks on mantle broader and whiter than in the typical form; below, uniform lemon-yellow (pale sulphur-yellow, Reichw.).

Wing-measurement gives the following result: Lake Chad and Shari River (three) 60-58 mm.

Range. French Sudan eastward to Lake Chad and Shari River. Apparently an inland form, running more or less parallel with the typical form.

POGONIULUS CHRYSOCONUS RHODESIÆ.

Pogoniulus chrysoconus rhodesiæ C. Grant, Bull. B. O. C. vol. xxxv. 1915, p. 100: Chambezi valley, N.E. Rhodesia.

Forehead-patch similar in colour to *P. c. extoni*, but perhaps on the average rather larger; rest of upper parts similar; below, throat deeper whitish green, breast and abdomen as in *P. c. extoni*, but distinctly washed with yellow, much warmer and richer in tone on comparison, but not in any way approaching the underparts of *P. c. centralis*.

Type in the British Museum: ♂ ad. Chambezi Valley, north-eastern Rhodesia, 6. v. 08. S. A. Neave coll. Wing 61, culmen 13, tail 33, tarsus 14 mm.

Wing-measurements give the following result: Nyasaland (five) 63-60; N.E. Rhodesia and eastern Belgian Congo (five) 64-59; west of Lake Tanganyika (one) 60; northern Angola (Melange) (one) 63 mm.

Range. Northern British Nyasaland, west to North-east Rhodesia, eastern Belgian Congo, and northern Angola, north to west of Lake Tanganyika.

POGONIULUS SCHOANUS.

Barbatula schoana Neum. Journ. für Orn. 1904, p. 391: Dodgit, Province of Metscha, Abyssinia.

Forehead-patch orange-red; streaks of mantle and wings much more golden yellow; rump and underparts as in *P. c. centralis*.

Wing-measurement gives the following result: Dodgit (two) 61 & 59.5 mm.

Range. Central Abyssinia.

As the type localities of this race and *P. c. xanthostictus* almost coincide and the present evidence points to the probability of their occurring together, they cannot be placed as subspecies of each other. As *P. schoanus* differs in many ways more markedly from the typical forms than does *P. c. xanthostictus*, I have upheld it as a distinct species.

199. *Viridibucco simplex leucomystax*. Little Green Barbet.

Barbatula leucomystax Sharpe, Ibis, 1892, p. 310: Sotik, British East Africa.

a. ♀? ad. Hills south of Narossura, 7200 ft. Nov. 4.
Total length in flesh: 3 $\frac{3}{4}$ inches. Wing: 54 mm.

A rather badly shot specimen, which appears to have been in good clean dress.

[Irides brown; bill, legs and toes black.]

I have placed this bird as a subspecies of *Barbatula simplex* Fisch. & Reichw. (Journ. für Orn. 1884, p. 180: Massailand, German East Africa), as there is at present no evidence to show that they occur together.

I uphold this new genus proposed by Oberholser (Proc. U.S. Nat. Mus. vol. xxviii. 1905, p. 865), as I agree with him that these Barbets differ markedly from the typical *Pogoniulus*.

200. *Trachyphonus erythrocephalus erythrocephalus*. Red-and-Yellow Barbet.

Trachyphonus erythrocephalus Cab. Journ. für Orn. 1878, p. 206, pl. ii. figs. 1 & 2: Zanzibar, Mombasa, and further inland. Zanzibar is probably incorrect.

a, b. ♂ ♀ ad. Narossura, 5000 ft. Nov. 17.

c. ♀ imm. S. Guaso Nyiro, 2950 ft. Nov. 23.

d. ♂ imm. Weiwei River, 3200 ft. Jan. 6.

Total length in flesh: ♂ ad. $9\frac{1}{4}$, imm. $9\frac{1}{2}$ inches; ♀ $8\frac{1}{4}$, imm. $9\frac{1}{2}$ inches. Wing: ♂ ad. 98, imm. 94 mm.; ♀ ad. 97, imm. 100 mm.

The two adults are in good dress and are but slightly worn; the immature male is in the dress of *Trachyphonus versicolor* Hartl. (Orn. Centr. 1882, p. 91: Central Africa, ex Emin Bey), having "red on the head much less extensive and the under tail-coverts yellow," which character, in my opinion, is that of the young bird, seeing that some specimens before me, of both sexes, have pure yellow under and upper tail-coverts whilst others have a slight admixture of red feathers, pointing to these ultimately assuming the dress of *T. e. erythrocephalus*.

The immature female is similar to the adult, but has more yellow than red on the upper and under tail-coverts.

[Irides brown; bill reddish horn; legs and toes plumbeous, bluish, or dirty plumbeous. Several seen frequenting dry stony hillsides, wherever there are scattered bushes.]



MENPES PRESS, WATFORD.

TACHYPHONUS EMINI. ♂ and ♀

Assuming that *Trachyphonus versicolor* is the young, and therefore synonymous with *T. e. erythrocephalus*, there will be but two races of this Barbet as follows :—

TRACHYPHONUS ERYTHROCEPHALUS ERYTHROCEPHALUS.

Trachyphonus erythrocephalus Cab. op. cit.

Size larger, wing in males 100–94, in females 100–94 mm.

Range. Northern German East Africa, British East Africa, and Uganda.

TRACHYPHONUS ERYTHROCEPHALUS SHELLEYI.

Trachyphonus shelleyi Hartl. Ibis, 1886, p. 105, pl. v. : Somaliland, *ex* Shelley, Ibis, 1885, p. 394.

Size smaller, wing in males 84–78, in females 81–76 mm.

Range. Somaliland.

201. *Trachyphonus emini*. Emin Pasha's Barbet. (Pl. V.)

Trachyphonus emini Reichw. Journ. für Orn. 1891, p. 209 : Tabora, central German East Africa.

a. ♀ ad. Southern Guaso Nyiro, 6000 ft. Oct. 4.

b. ♀ ad. Loita, 6300 ft. Oct. 5.

Total length in flesh : 8 inches. Wing : 85 mm.

Both are in good clean dress.

[Irides brown or reddish brown ; bill black ; legs and toes bluish or dark plumbeous. The specimen from Loita was shot from a flock of six.]

The female of this species, which appears to be unknown, may be described as follows :—

Differs from the male in having the black feathers of the top of the head subterminally tipped with yellow ; rest of upper parts as in male ; below, chin white, upper throat yellow tipped with black, black patch confined to centre of lower throat, yellow feathers below patch edged with carmine ; pectoral band perhaps not quite so broad, rest of underparts as in the male.

There are two males in the British Museum collection, one from north of Lake Nyasa and the other from Amja, German East Africa ; these are alike and agree with Reichenow's description ; they measure respectively in the wing 84 and 83 mm.

202. *Trachyphonus darnaudii darnaudii*. Darnaud's Barbet.
Micropogon darnaudii Des Murs, Lefebv. Abyss. 1850,
p. 133 : Kordofan.

a. ♂ ad. Baringo. Dec. 27.

b. ♂ ad. Kito, 60 miles N.W. of Baringo, 4100 ft.
Jan. 2.

c. ♂ ad. Hills 10 miles N. of Maroto, 4000 ft. Jan. 23.

d. ♀ ad. Bakora Plains, 3500 ft. Feb. 4.

Total length in flesh : ♂ $7\frac{3}{4}$ & $7\frac{1}{2}$ inches ; ♀ 7 inches.
Wing : ♂ 77-74 mm. ; ♀ 72 mm.

These four specimens agree well with others in the British Museum collection from Lado and the Bahr-el-Ghazal, which agree with Des Murs' description in the markings of the head, etc. They are showing signs of wear, especially the February specimen.

[Irides brown ; bill dark or brownish horn, base of lower mandible lighter ; legs and toes plumbeous, blue, or brownish flesh. Plentiful and common in dry bush country.]

Apparently three races of this Barbet are recognisable as follows :—

TRACHYPHONUS DARNAUDII DARNAUDII.

Micropogon darnaudii Des Murs, op. cit.

Above, feathers of top of head with subterminal reddish yellow bars ; below, chest pale sulphur-yellow.

Range. Rift Valley, west and north to Uganda, Lado, Bahr-el-Ghazal, and Kordofan.

TRACHYPHONUS DARNAUDII BÖHMI.

Trachyphonus böhmi Fischer & Reichw. Journ. für Orn. 1884, p. 179 : Pare-Gebirge, north-east German East Africa.

Of this, *Trachyphonus uropygialis* Salvad. (Mem. Accad. Torino, vol. xlv. 1894, p. 551 : Somaliland, wing given as 70 mm.) becomes a synonym.

Above, feathers of top of head wholly blue-black ; below, chest richer yellow, the feathers more or less edged with carmine.

Range. North-east German East Africa, British East Africa east of Rift Valley, Jubaland, south-east Abyssinia, and Somaliland.

TRACHYPHONUS DARNAUDII USAMBIRO.

Trachyphonus darnaudi usambiro Neum. Bull. B. O. C. vol. xxiii. 1908, p. 30: Usambiro, southern Victoria Nyanza, German East Africa.

The characters given of the markings appear to be those of typical *T. d. darnaudii*, but the size is certainly larger, 85–81 mm. in the wing as against 77–71 mm. in *T. d. darnaudii*. No specimens are available from that part of German East Africa for comparison.

Range. Probably confined to north-western German East Africa.

203. *Campethera nubica nubica*. Nubian Woodpecker.

Picus nubicus Bodd. Tabl. Pl. Enlum. 1783, p. 41: Nubia, founded on Pl. Enlum. no. 667.

a. ♂ ad. Mt. Suswa. Sept. 26.

b. ♂ ad. 30 miles N.W. of Baringo, 2800 ft. Dec. 31.

c. ♀ ad. Turkwel River, 1900 ft. Jan. 14.

d. ♂ ad. Kozibiri River, 1800 ft. Jan. 16.

e. ♀ ad. Mt. Maroto, 3700 ft. Jan. 26.

f. ♀ ad. Nakwai Hills, 3500 ft. Feb. 17.

Total length in flesh: ♂ $8\frac{1}{2}$ –8 inches; ♀ 9– $8\frac{1}{8}$ inches.
Wing: ♂ 111–109 mm.; ♀ 112 mm.

All these specimens are in good dress; and all are banded on the mantle, except the male from Mt. Suswa, which has this part distinctly spotted. The male from near Baringo is almost white below as opposed to the strong buff coloration of the other five specimens.

[Irides red; bill, upper mandible black, blackish horn, or greyish horn, lower lighter; legs and toes dirty yellow, dirty green, greenish yellow, or greenish grey. Common.]

A careful examination of the series of over one hundred specimens in the British Museum collection shows that great individual variation exists in this Woodpecker, some being more spotted and others more barred on the upper parts, and some being more yellow and others more white on the underparts; so that great difficulty is found in selecting characters for geographical forms, which must necessarily be separated on general features only.

Dr. Sharpe also comments (*Ibis*, 1902, p. 637) on the variation of this bird, and remarks "that the barring of the flanks is more or less a sign of immaturity." With this I do not altogether agree; though it appears that the majority of young birds are more spotted on the mantle than barred.

Throughout its range this Woodpecker does not vary in size; but a pale form and a white-eyebrowed form can be recognised; thus allowing only three races as follows:—

CAMPETHERA NUBICA NUBICA.

Picus nubicus Bodd. op. cit.

Of this I consider the following must become synonyms:—

Picus nubicus Gmelin, *Syst. Nat.* vol. i. pt. 1, p. 439, 1788: Nubia, founded on Pl. Enlum. no. 667.

Dendromus æthiopicus Rüpp. *Vög. N.O.-Afr.* 1845, p. 90: Nubia, cf. p. 95.

Dendromus scriptoricauda Reichw. (*Orn. Monatsb.* 1896, p. 131: Lamu), the type of which is in the British Museum, agrees well with individual specimens of *C. n. nubica* in general characters; the throat is certainly very clearly spotted, though indications of this can be seen in one or two specimens of the Abyssinian and Somaliland forms; the dark tip to the tail is certainly very clear in this specimen, but indications of this are to be found in many specimens of the Abyssinian form and is therefore not perhaps of any subspecific value. In the spotted throat and dark tail-tip this bird agrees with the Nyasaland form, though it lacks the very distinct white eyebrow. It is not smaller than many Abyssinian females. I consider that it is merely an aberration of *C. n. nubica* and must for the present become synonymous with that race. Hargitt in '*Ibis*,' 1883, p. 456, says that Kirk's specimen came from "Lamo, south of Zanzibar," and this has been quoted since that date; this is, however, quite wrong, as Lamu is north of Mombasa and was so given in the original record of this specimen by Shelley, *Proc. Zool. Soc.* 1881, p. 561, where he says "A collection

from Lamo in 2° S. lat." With regard to *Dendromus neumanni* Reichw. (Orn. Monatsb. 1896, p. 132; Naivasha), the diagnostic characters given are: upper parts darker with very small and sparse white spots, underparts spotted up to chin, excepting that part lying between the rami of the lower mandibles. *Dendromus niger* Neum. (Orn. Monatsb. 1902, p. 9: Buka Bergen, southern Kaffa, Abyssinia) has diagnostic characters very similar to those of the last-named, and I consider them synonyms. These characters are found in some examples of this form throughout East Africa, Abyssinia, and Somaliland, and must therefore be due to individual variation; the pure black forepart of the head is undoubtedly due to immaturity.

Upper parts vary from spotted to barred, underparts usually yellow, sometimes more white; young in first dress usually have the forepart of the head black and without white specks, though this is not constant.

Range. Abyssinia, Sudan, Uganda, British East Africa, and northern German East Africa.

CAMPETHERA NUBICA PALLIDA.

Dendromus pallidus Sharpe, Ibis, 1902, p. 638: Lamu.

A much paler form; in the female the spots on the forepart of the head are bigger than in *C. n. nubica* and pure white.

Range. British Somaliland to the Tana River and Lamu, where it meets with the typical form.

CAMPETHERA NUBICA ALBIFACIES.

Dendromus albifacies Gunn. & Rob. Ann. Transv. Mus. vol. iii. 1911, p. 112: Villa Pereira, Boror, Port. East Africa.

Very similar to *C. n. nubica*, but differs from that race in having a well-developed superciliary stripe extending backwards to the nape. In the four specimens before me the throat is spotted, this character being given in the original description.

Range. Southern British Nyasaland and Boror district of Portuguese East Africa.

204. *Campethera cailliautii nyansæ*. Cailliaut's Woodpecker.

Dendromus malherbei nyansæ Neum. Journ. für Orn. 1900, p. 204: Muansa, south Victoria Nyanza. Wing given as 101 mm.

a, b. ♂ ♀ ad. Amala River, 5300 & 5500 ft. Oct. 15 & 22.

Total length in flesh: ♂ 7 inches; ♀ $7\frac{1}{4}$ inches. Wing: ♂ 101 mm.; ♀ 103 mm.

This pair is in good dress, the male showing signs of wear and having the spots on the mantle less distinct.

[Irides brown; bill black, lower mandible bluish horn; legs and toes green. Stomach of female contained small ants. Common.]

Three races of this Woodpecker are easily recognisable as follows:—

CAMPETHERA CAILLIAUTII CAILLIAUTII.

Chrysopicus cailliautii Malh. Rev. et Mag. Zool. 1849, p. 540: Africa (I designate Mombasa, British East Africa). Wing given as 99 mm.

Of this, *Chrysopicus malherbei* Cass. (Proc. Acad. Philad. vol. xv. 1863, p. 198: Zanzibar; cf. also Journ. Acad. Philad. 1863, p. 459, pl. li. fig. 3; wing given as $3\frac{3}{4}$ inches = 95 mm.) must for the present become a synonym; *Picus imberbis* Sund. Consp. Av. Pic. 1866, p. 68, is a substitute name for *C. malherbei* Cass.

Size small, mantle darkish olive-green, spots paler olive-green, below washed with yellow.

Wing-measurements give the following result: Dar-es-Salaam, ♀ (one) 95; Mombasa, ♂ (one) 96, ♀ (one) 97; Mazaras, nr. Mombasa, ♂ (one) 99 mm.

Range. Island of Zanzibar and mainland adjacent (Dar-es-Salaam to Mombasa).

I have been unable to examine specimens from Zanzibar, but the three specimens from Dar-es-Salaam and Mombasa agree well with the description and plate of *C. malherbei*, and may therefore for the present be taken as typical.

The Mazeras specimen agrees in coloration very well with the Amala River birds; therefore a larger series may show that *C. c. cailliautii* and *C. c. nyansæ* will have to be united.

Reichenow in the Orn. Monatsb. 1896, p. 131, under the description of *Dendromus scriptoricauda* (type from Lamu in the British Museum), has drawn attention to *Chrysopicos cailliautii* Malh. (Rev. et Mag. Zool. 1849, p. 540: Africa) being equal to *Chrysopicos malherbei* Cass.; but for some unknown reason he has not adopted this view in his Vög. Afrikas, vol. ii. 1902, p. 172.

Malherbe's excellent description undoubtedly refers to this bird and must be adopted for it; and as only Africa is designated as the type locality, I fix it on to the mainland coastal form and designate the particular type locality as Mombasa, thus leaving Cassin's name available for the Zanzibar bird, should it hereafter prove to be separable.

CAMPETHERA CAILLIAUTII NYANSÆ.

Dendromus malherbei nyansæ Neum. op. cit.

Size large; mantle more grass-green, spots white tinged with green; below similar to *C. c. cailliautii*.

Wing-measurements give the following result: Amala River, ♂ 101, ♀ 103; North-east Rhodesia, ♂ (one) 104 mm.

Range. Inland southern British East Africa to North-east Rhodesia.

CAMPETHERA CAILLIAUTII FÜLLEBORNI.

Dendromus malherbei fülleborni Neum. Journ. für Orn. 1900, p. 204: Langenburg, north-east of Lake Nyasa.

Similar in size to *C. c. cailliautii*, but upper surface grass-green, the spots large and almost white, below rather less yellow.

Wing-measurements give the following result: Nyasaland, ♂ (one) 94, ♀ (three) 95-93; south-eastern Rhodesia, ♂ (one) 97; Beira, ♂ (one) 94, ♀ (one) 95 mm.

Range. Nyasaland south to south-eastern Rhodesia and the Beira district of Portuguese East Africa.

The genus *Dendromus* Swains. *Classif. Birds*, vol. ii. 1837, p. 307, which has been used both by Neumann and Reichenow for this group of woodpeckers, is inadmissible, as it is preoccupied in mammals by *Dendromus* Smith, *Zool. Journ.* vol. iv. 1829, p. 438. Oberholser, *Proc. U. S. Nat. Mus.* vol. xxviii. 1905, p. 874, has already drawn attention to this.

205. *Dendropicos fuscescens massaicus*. Masailand Little Woodpecker.

Dendropicos guineensis massaicus Neum. *Journ. für Orn.* 1900, p. 206: Ndulalani, Lake Nguruman, north of Lake Victoria.

a, b. ♂ ad. Turkwel River, 1900 ft. Jan. 14.

c. ♀ ad. Kozibiri River, 2200 ft. Jan. 19.

d. ♀ ad. Bakora Country, 3600 ft. Feb. 3.

Total length in flesh: ♂ $5\frac{1}{2}$ & $5\frac{1}{4}$ inches; ♀ 6 & $5\frac{3}{4}$ inches. Wing: ♂ 81 & 80 mm.; ♀ 85 & 84 mm.

Three are in rather worn dress and one female was nesting.

[Irides red or reddish brown; bill bluish or blackish horn; legs and toes in male greenish blue; in female dirty green. Plentiful.]

In naming these birds I have had to examine all the Woodpeckers belonging to this group.

To begin with, the names *Picus guineensis* Scop. (*Del. Fl. F. Insubr.* ii. 1786, p. 89) and *Picus cardinalis* Gmelin (*Syst. Nat.* vol. i. pt. i. 1788, p. 438), both founded on plate 35 in Sonnerat's *Voy. Nouv. Guinée*, 1776, p. 72, locality given as Island of Luzon, must be cast out of the nomenclature of the African Woodpeckers. The reasons for this are, that the plate agrees only superficially with the small Cape Woodpecker, to which these names have always been attached, and the descriptions given by all three authors does not tally in any single detail, *i. e.*, the size is given as equal to that of the European Green Woodpecker, the feathers of the mantle are stated to be *black, bordered* with white, and the

wing-feathers and tail as *black*. Scopoli, moreover, says that the tail is not acuminate, but this statement was undoubtedly founded on the plate, which certainly shows the tail rounded; though this is not borne out in Sonnerat's description. I suggest that Sonnerat's bird originally came from America and was accidentally mixed up with his New Guinea collection, as both the size and markings agree more with *Colaptes* or *Chrysoptilus*; Sonnerat's bird appears, however, at the moment to be indeterminate.

The elimination of these two names, which should never have found their way into the African list at all, really simplifies the situation, and fixes the Cape bird on to Levaillant's excellent plate.

Prof. Neumann in the Journ. für Orn. 1900, p. 206, has created a race under the name *Dendropicus guineensis cardinalis*, which is of course absurd.

This group is admittedly difficult, inasmuch as the forms resemble each other very closely, and a certain amount of individual variation occurs; so that only comprehensive general characters can be taken as diagnostic features, either of colour, pattern, or size. Hitherto several of the names have been hopelessly misused, as, for instance, *hartlaubii*, *zanzibari*, and *lafresnayi*, especially the first, which has been recorded far to the south of the Zambesi, where it certainly does not exist.

The very large series in the British Museum collection shows that the following species and subspecies are recognisable:—

- I. Barring of mantle and wings on the surface, clear and well defined. Appearance of upper surface more black and white.

DENDROPICOS FUSCESCENS FUSCESCENS.

Picus fuscescens Vieill. Nouv. Dict. d'Hist. Nat. vol. xxvi. 1818, p. 86: *ex* Levaillant, forests of the Cape, *cf.* Ois. d'Afr. vol. vi. 1808, p. 25, pl. 253. figs. 1 & 2.

Of this, *Picus fulviscapus* Licht. (Verz. Doubl. 1823, p. 11: Terra Caffrorum), *Colaptes capensis* Steph. (Gen. Zool. vol. xiv.

1826, p. 171, *ex* Levaillant), *Picus chrysopterus* Less. (Traité d'Orn. 1831, p. 220 : Cap), *Picus flaviscapus* Monteiro (Proc. Zool. Soc. 1865, p. 96 : Mossamedes, nom. nud. and apparently a misprint for *fulviscapus*), are synonyms.

Size large ; back and wings blackish, distinctly barred with green or greenish white ; lesser wing-coverts in male greenish, in female blackish. Upper tail-coverts golden green, more or less tinged with red.

Wing-measurements give the following result :—Cape, ♂ (one) 99 : Griqualand East, ♂ (five) 96–93, ♀ (two) 96 & 92 ; Natal and Zululand, ♂ (eight) 96–90, ♀ (ten) 96–89 ; Orange River Colony, ♂ (four) 99–94 ; Transvaal and Swaziland, ♂ (six) 99–95, ♀ (three) 97–93 ; Inhambane and Beira, Portuguese East Africa, ♂ (five), 92–90, ♀ (three) 95–88 ; Bechuanaland, ♂ (five) 98–92, ♀ (four) 96–93 ; Mashonaland, ♂ (three) 95–94, ♀ (two) 95 & 93 ; south-eastern Rhodesia, ♂ (seven) 99–92, ♀ (two) 92 & 90 ; Zambesi, ♂ (seven) 97–90, ♀ (five) 95–89 ; Damaraland, ♂ (six) 95–88, ♀ (six) 95–89 ; southern Angola, ♂ (two) 95 ; Nyasaland and Angoniland, ♂ (ten) 94–87, ♀ (seven) 95–87 ; North-east Rhodesia, ♂ (one) 94, ♀ (three) 98–91 ; eastern Belgian Congo, ♂ (one) 94 mm.

Taking into consideration the individual variation that occurs, even in a series from one locality, both in the coloration and the measurement, it must be admitted that only one form should be recognised in South Africa.

Range. Cape Colony and Natal northwards to Damaraland and southern Angola (Caconda and Benguella) on the west, and Nyasaland, North-east Rhodesia, and eastern Belgian Congo on the east.

DENDROPICOS FUSCESCENS HEMPRICHII.

Picus hemprichii Hemp. & Ehr. Symb. Phys. 1828, fol. r. 2 : Akiko, Abyssinia.

Size smaller and general appearance much lighter than *D. f. fuscescens*, back and wings more sooty, distinctly barred with white, lesser wing-coverts in male blackish as in the female, upper tail-coverts red.

Wing-measurements give the following result:—Abyssinia, ♂ (seven) 85–78, ♀ (nine) 82–78; British Somaliland, ♂ (eleven) 85–78, ♀ (eight) 83–79 mm.

Range. Abyssinia, Somaliland, and probably Jubaland.

Erlanger in the Journ. für Orn. 1902, p. 258, has described a race from Djuba River, Jubaland, under the name *Dendropicus hemprichi albicans*, and gives as characters: size smaller and upperside much whiter, white bands much broader, wing 80–76 mm. A male from the Tana River, in the British Museum collection, agrees perfectly with a large series of *D. f. massaicus*, and has a wing of 76 mm.;^a therefore it would appear that the characters, especially of the wing-measurement, do not substantiate this race.

One adult female collected by E. Lort Phillips in Somaliland (Brit. Mus. Reg. No. 89.3.20.1) has the upper tail-coverts clear mouse-grey, without a trace of red. As it otherwise agrees with normal females of *D. f. hemprichii*, I should put this down to merely individual aberration.

DENDROPICOS FUSCESCENS MASSAICUS.

Dendropicos guineensis massaicus Neum. op. cit.

Wing given as 85–82 mm.

Of this I consider *Dendropicos guineensis centralis* Neum. (op. cit. p. 206: Iringa, German East Africa, wing given as 93–90 mm.) is a synonym.

General appearance very similar to *D. f. fuscescens*, but size always smaller.

Wing-measurements give the following result:—British East Africa, ♂ (ten) 87–81, ♀ (eight) 85–76; Manda Island, ♂ (two) 86 & 82; German East Africa, Ugogo, ♀ 89, Rovuma River, ♀ 85 mm.

Range. German East Africa, British East Africa, and Manda Island.

DENDROPICOS FUSCESCENS COSENSI.

Dendropicos fuscescens cosensi C. Grant, Bull. B. O. C. vol. xxxv. 1915, p. 101: Senegal.

Size similar to *D. f. massaicus* or *D. f. hemprichii*, but differing from both in the general isabelline coloration of

the dark markings, both above and below; white barring of mantle and wings tinged with isabelline, upper tail-coverts golden isabelline, the apical half red.

Type in British Museum: ♂ ad., Senegal. R. B. Sharpe coll. Wing 81, culmen 19, tail 36, tarsus 15 mm.

Named in honour of Capt. G. P. Cosens.

This specimen, though a single one, differs so markedly in general appearance from *D. f. fuscescens* and its two races, and comes from so remote a locality, that I have been compelled to recognise it as a distinct subspecies.

Range. Senegal.

II. Barring of mantle and wings either absent or submerged, not clear and well defined. Appearance of upper surface more green and olive, not black and white.

DENDROPICOS ABYSSINICUS ABYSSINICUS.

Picus abyssinicus Stanley, Salt's Voy. Abyss. 1814, p. lvi: Abyssinia.

Through the kindness of Dr. Clubb of the Liverpool Museum I have been enabled to examine Stanley's type, which is a male and has a wing of 95 mm. It agrees exactly with the five specimens in the British Museum collection.

Size large, mantle without any appearance of barring, rump and upper tail-coverts red.

The wing-measurement gives the following result: ♂ (five) 98-93 mm.

Range. Abyssinia.

DENDROPICOS ABYSSINICUS HARTLAUBII.

Dendropicos hartlaubii Malh. Rev. et Mag. Zool. 1849, p. 532: Zanzibar. Wing given as 91 and 87 mm.

Of this *Dendropicos zanzibari* Malh. (Pic. vol. i. 1861, p. 201: Zanzibar) becomes a synonym.

Size large; above clear green, light bars of mantle and wings narrow and submerged, rump green; below strongly tinged with yellow, streaks rather narrow.

Wing-measurements are as follows:—Zanzibar, ♂ (two)

91 & 88, ♀ (one) 86; Pangani River, ♂ (two) 90 & 87; Dar-es-Salaam, ♂ (one) 90; Rovuma River, ♂ (one) 90; Sena, ♂ (one) 93 mm.

Range. Island of Zanzibar and mainland immediately adjacent (Pangani River and Dar-es-Salaam), ranging south to the Rovuma and Zambesi Rivers (Sena).

This race cannot be confounded with *D. f. fuscescens*, and the records of it occurring in South Africa, except on the lower Zambesi River, are quite erroneous, and have undoubtedly arisen through not comparing specimens from the actual type locality.

DENDROPICOS LAFRESNAYI LAFRESNAYI.

Dendropicos lafresnayi Malh. Rev. et Mag. Zool. 1849, p. 533: Africa = Gaboon, *cf.* Rev. et Mag. Zool. 1855, p. 872. Wing given as 85 mm.

Of this, *Dendropicos sharpii* Oust. (N. Arch. Mus. (2) vol. ii. 1879, p. 62: Doumé, Ogôoué, wing given as 85 mm.); *Dendropicus tropicalis* Reichw. (Journ. für Orn. 1887, p. 302: Leopoldville, wing given as 79 mm.); and *Dendropicus camerunensis* Sharpe (Ibis, 1907, p. 443: River Ja, Cameroon), must for the present become synonyms.

Size small; above olive-green, either with the barring on the mantle absent or only very indistinct and submerged, rump without or only slightly tinged with red; below strongly tinged with yellow, with the streaks clear and dark; black wing-bars below broader.

Wing-measurements are as follows:—Cameroon, ♂ (one) 82 (the ♂ type of *D. camerunensis* is in moult, and therefore cannot be measured), ♀ (three) 80–75; nr. Congo mouth, ♂ (five) 84–79, ♀ (five) 83–75; River Ubanghi, ♀ (one) 81 mm.

Range. Congo mouth to Cameroon, eastward to the Ubanghi River.

The five specimens before me from the River Ja and Efulen in Cameroon, including the type of *D. camerunensis*, are certainly darker than the Congo birds, and should perhaps be kept separate; but until a series is

available actually from the Gaboon River, it is quite impossible to say whether the Cameroon or the Congo bird will prove to be the true *D. lafresnayi*, and I therefore prefer to unite them under the oldest name pending the settlement of this question.

DENDROPICOS LAFRESNAYI LEPIDUS.

Ipoctonus lepidus Cab. & Heine, Mus. Hein. vol. iv. pt. 2, 1863, p. 118: Abyssinia. Wing given as $3'' 1''' = 70$ mm.

Of this, *Dendropicos simoni* O.-Grant (Bull. B. O. C. vol. x. 1900, p. 38: Kounduro, Abyssinia; wing given as $3'' 2''' = 80$ mm.) becomes a synonym.

Size small; above darker olive-green than *D. l. lafresnayi*, either with the barring on the mantle absent or distinctly submerged, rump slightly tinged with red; below darker yellow than in *D. l. lafresnayi*, streaks broader, giving the underside a rather more dirty appearance.

Wing-measurements give the following result:—Abyssinia, ♂ (one, type of *D. simoni*) 80; Sudan, ♂ (one) 86, ♀ (one) 84; Uganda, ♂ (eleven) 87–81, ♀ (six) 86–81; British East Africa, ♂ (three) 92–87, ♀ (seven) 88–82; East Belgian Congo, ♂ (one) 83, ♀ (one) 85; German East Africa (Pangani River), ♂ (one) 85, ♀ (one) 84 mm.

Range. Abyssinia to German East Africa, westward to the Egyptian Sudan and eastern Belgian Congo.

This race can always be separated from *D. f. massaicus* by having the appearance of the upperside green, the bars being submerged and the lesser wing-coverts being green in both sexes.

DENDROPICOS LAFRESNAYI ZECHI.

Dendropicos guineensis zechi Neum. Journ. für Orn. 1904, p. 400: Kete-Kretschi, Togoland.

Size small; differs from *D. l. lafresnayi* in having the green of the mantle clearer and the bars even more submerged and less distinct; rump but slightly tinged with red; below paler yellow, with the streaks much narrower and not so distinct.

The wing-measurements give the following result:—

Nigeria, ♀ (two) 84 & 79; Gold Coast, ♂ (four) 88-82; Sierra Leone, ♂ (two) 81 & 80; Gambia, ♀ (one) 81; Portuguese Guinea, ♂ (one) 79, ♀ (one) 81 mm.

Range. Nigeria to Gambia.

DENDROPICOS LAFRESNAYI LOANDÆ.

Dendropicos lafresnayi loandæ C. Grant, Bull. B. O. C. vol. xxxv. 1915, p. 101: Loanda, Angola.

Differs from *D. l. lafresnayi* by having the green of the back very similar to *D. a. hartlaubii*; the mantle always barred, the barring being rather less submerged than in either *D. l. lafresnayi* or *D. a. hartlaubii*; rump tinged with red; below, streaks narrower and the abdomen clearer (less streaked).

Type in the British Museum: ♂ ad. Loanda, Angola, May 1869. J. J. Monteiro coll. Wing 85, culmen 19, tail 43, tarsus 14 mm.

The wing-measurements give the following result:—Loanda and north Angola, ♂ (six) 89-85, ♀ (six) 89-87 mm.

A female from Malange has a wing of 93 mm., and though having the underparts of this race, in size and the markings of the upper parts agrees more with *D. f. fuscescens*; and it would therefore appear that the two forms grade into each other in that district, and that there is a link between the *D. fuscescens* group and *D. lafresnayi* group, as pointed out further on.

Range. Loanda district, Angola.

This race differs from *D. f. fuscescens* in being greener above, having the barring of the mantle more submerged and the streaks on the breast much less broad. It might almost, with equal truth, be placed as a subspecies of that group, but its semi-submerged barring and greener appearance brings it nearer to the *D. lafresnayi* group.

The division of these *streak-breasted* Woodpeckers under two headings and into three groups appears to simplify the nomenclature and races, causing them to work out in a geographically correct manner.

Dendropicus pæcilolæmus Reichw. (Orn. Monatsb. 1893, p. 30: Sconga, west of Lake Albert; wing given as 86 mm.), which Reichenow compared with *D. l. lafresnayi*, has nothing to do with this *streak*-breasted group, and should be placed under the *spotted*-breasted *Picus minutus* (Temm. Pl. Col. 1823, pl. 197: Senegal).

206. *Dendropicos lafresnayi lepidus*. Abyssinian Little Woodpecker.

Ipoctonus lepidus Cab. & Heine, Mus. Hein. vol. iv. pt. 2, 1863, p. 118: Abyssinia.

a. ♂ ad. Top of Mau Escarpment, 7200 ft. Sept. 29.

b. ♀ ad. Southern Guaso Nyiro, 6000 ft. Oct. 4.

c. ♂ ad. Amala River, 5500 ft. Oct. 15.

Total length in flesh: ♂ 6 inches; ♀ 6 inches. Wing: ♂ 93 mm.; ♀ 90 mm.

These three specimens are in good dress and but slightly worn.

[♂. Irides red; bill, upper mandible black, lower bluish horn; legs and toes dirty green. ♀. Irides brown; bill bluish black; legs and toes dirty green.]

207. *Thripias namaquus schoënsis*. Abyssinian Bearded Woodpecker.

Picus (Dendrobates) schoënsis Rüpp. Mus. Senck. vol. iii. 1842, p. 120: Schoa, Abyssinia.

a. ♂ imm. Amala River, 5500 ft. Oct. 14.

b. ♀ ad. Kito, 60 miles N.W. of Baringo, 4100 ft. Jan. 2.

c. ♀ ad. Annamuget, 3700 ft. Feb. 1.

Total length in flesh: ♂ $8\frac{3}{4}$ inches; ♀ $9\frac{3}{4}$ & $8\frac{3}{4}$ inches. Wing: ♂ 126 mm.; ♀ 131 & 128 mm.

The two females are showing signs of wear, and the male is in new first dress, has the red confined to the back half of the head, the forehead being black, tipped with white, and the bill is short, being only 31 mm. long.

[♂. Irides dark brown; bill, upper mandible dark horn, lower bluish horn; legs and toes plumbeous. ♀. Irides red; bill dark bluish horn; legs and toes dirty green.]

Four, and probably five, races of this Woodpecker are recognisable, as follows:—

THRIPIAS NAMAQUUS NAMAQUUS.

Picus namaquus Licht. Cat. Rer. Nat. Hamb. 1793, p. 17 : Interior of South Africa.

The following three names have been founded on Levaillant (Ois. d'Afr. vol. vi. 1808, p. 22, pls. 251 & 252) and are synonyms: *Picus mystaceus* Vieill. Nouv. Dict. d'Hist. Nat. vol. xxvi. 1818, p. 73; *Picus biarmicus* Val. Dict. Sc. Nat. vol. xl. 1826, p. 176 : Cafferland; and *Picus diophrys* Steph. Gen. Zool. vol. xiv. 1826, p. 161 ; South Africa.

Above, mantle washed with green; below, chest olive-green, barred with whitish; wing-quills stained golden, auricular patch not extending beyond ear-coverts.

Range. South Africa generally, northwards to Nyasaland, and Angola (Rio Chimba and Huilla).

THRIPIAS NAMAQUUS SCHOËNSIS.

Picus (Dendrobaptus) schoënsis Rüpp. op. cit.

Above and below darker, chest brownish black, washed with dark olive; wing-quills not so strongly stained with golden, auricular patch extending beyond ear-coverts and more or less joined to throat-stripe.

Range. British East Africa to Abyssinia and Somaliland.

An adult female in the British Museum collection from Mulema, Uganda, and two males from Ugogo, German East Africa, agree with *T. n. namaquus* in the colour of the chest, but have the auricular patch as in *T. n. schoënsis*; to this intermediate race I propose to give the following name:—

THRIPIAS NAMAQUUS INTERMEDIUS.

Thripias namaquus intermedius C. Grant, Bull. B. O. C. xxxv. 1915, p. 101 : Ugogo, German East Africa.

Characters as stated above.

Type in British Museum: ♂ ad. Ugogo, German East Africa. Kirk coll. Wing 137, culmen 35, tail 69, tarsus 22 mm.

Range. Northern German East Africa and southern Uganda.

THRIPAS NAMAQUUS DECIPIENS.

Mesopicus decipiens Sharpe, Journ. Linn. Soc., Zool. vol. xvii. 1884, p. 430 : Zanzibar.

The only specimen available is the type, and this is a young male. It however differs from young males of *T. n. namaquus* and *T. n. schoensis* in having the mantle and rump grey, without any green ; the chest is darker than in *T. n. namaquus*, but much paler than in *T. n. schoensis* ; the wing-quills entirely lack any golden stain ; the auricular streak is as in *T. n. namaquus*. Until further material comes to hand to disprove these characters, I consider that this race should be upheld.

Range. Island of Zanzibar.

Two specimens in the British Museum collection, a male and a female respectively from Ugogo and Tete, bear in Hargitt's handwriting "Type of *Mesopicus decipiens* Sharpe." This is not correct, as Sharpe gives his locality as Zanzibar, and states that the type-specimen is in the Hargitt collection, which is now in the British Museum.

The characters given by Reichenow for his var. *angolensis* (Vög. Afr. vol. ii. 1902, p. 190 : Malandje, Kuanza River, northern Angola) appear to point to a distinct race, especially the dark brown tail ; but I have no specimens from northern Angola to compare with those from the southern part of the colony.

208. *Yungipicus obsoletus ingens*. Little Plain-backed Woodpecker.

Iyngipicus obsoletus ingens Hart. Nov. Zool. 1900, p. 33 : Nairobi, British East Africa.

a. ♀ ? juv. Kamchuru, 3300 ft. Feb. 12.

Total length in flesh (tail not fully grown) : $4\frac{3}{4}$ inches. Wing (not fully grown) : 71 mm.

This single specimen, though marked as "♀ ? juv.," is a male, as is shown by the red on the occiput. It is quite young, and has not apparently long left the nest, as the wings and tail are barely three-quarters grown. It appears

to differ from the full adult only in having the primary quills tipped with whitish.

[Irides brown ; bill blackish horn, base of lower mandible whitish ; legs and toes plumbeous.]

The small number of examples of this Woodpecker in the British Museum collection from British East Africa and Uganda does not allow me to speak with confidence as to the geographical value and range of this subspecies; but I append the wing-measurements of the series before me, both of this race and the true *Picus obsoletus* Wagl. (Isis, 1829, p. 510 : Senegambia, wing given as $2\frac{3}{4}$ (German inches) = 74 mm.), viz. :—Gambia, ♂ (two) 81–80, ♀ 82 : Portuguese Guinea to Welle River, ♂ (ten) 82–78, ♀ (ten) 82–75 ; Sudan, ♂ (three) 81–77, ♀ (three) 82–77 ; Uganda, ♀ 81 ; British East Africa, Fort Hall, ♂ 86, Nairobi, ♂ 91 mm.

It will thus be seen that the only specimen that actually reaches the wing-measurement given by Hartert (90 mm.) is the one from Nairobi, and I therefore may be wrong in placing the Kamchuru young bird under this race, though the mantle is distinctly darker than west coast birds, and agrees in this respect with the Nairobi specimen.

Two other forms have been described—*Jyngipicus obsoletus nigricans* Neum. (Journ. für Orn. 1904, p. 402 : Uma Fluss, Abyssinia, wing given as 82) and *Jyngipicus obsoletus heuglini* Neum. (op. cit. : Eritrea, wing given as 89–85 mm.) ; but the status of the four supposed races cannot be decided with the material before me.

209. *Mesopicus goertæ centralis*. East African Grey Woodpecker.

Mesopicus goertæ centralis Reichw. Orn. Monatsb. 1900, p. 59 : Ndussuma, west of Lake Albert.

a. ♀ ad. 70 miles N.W. of Baringo, 3400 ft. Jan. 3.

b. ♀ ad. Turkwel River, 2100 ft. Jan. 11.

Total length in flesh : 8 & $7\frac{3}{4}$ inches. Wing : 106 mm.

Both these specimens are rather worn, and the one from the Turkwel River is much darker on the mantle than the

other and has a distinct red and yellow streak on the belly, as opposed to the plain belly of the other specimen.

[Irides brown; bill black, base of lower mandible bluish; legs and toes grey or dirty plumbeous.]

An examination of the large series in the British Museum shows that a certain amount of individual variation occurs among birds from the same locality, so that only general features can be taken as diagnostic characters; this allows of only two forms being recognised, a western and an eastern, as follows:—

MESOPICUS GOERTÆ GOERTÆ.

Picus goertæ S. Müll. Linn. Syst. Nat. Suppl. 1776, p. 91: Senegal; founded on pl. 320, Pl. enlum. & Buffon, Hist. Nat. vol. vii. 1780, p. 25.

Of this, the following must become a synonym: *Dendrobates poicephalus* Swains. Birds W. Afr. vol. ii. 1837, p. 154: Western Africa = Gambia, wing given as $4\frac{3}{10}'' = 109$ mm. The description agrees perfectly with *M. g. goertæ*. In the 'Ibis,' 1902, pp. 425 & 641, Mr. Ogilvie-Grant and Dr. Sharpe remark that the differences given by Reichenow for the subspecies do not hold good. With this I agree in some of the cases, but all of these authors have overlooked the fact that *M. goertæ* and *D. poicephalus* are synonymous.

Below paler, washed with yellowish or olive.

Range. Senegal to the Congo mouth, eastward to the Ubanghi and Welle Rivers.

MESOPICUS GOERTÆ CENTRALIS.

Mesopicus goertæ centralis Reichw. op. cit.

Of this I consider the following must become a synonym: *Mesopicus goertæ königi* Neum. (Orn. Monatsb. 1903, p. 181: Mutmir, River Nile below Khartum); the characters given being apparently only individual; any way, specimens before me from the tributaries of the Nile do not differ from the rest of the series.

Below darker, washed with ashy.

Range. Uganda to the Sudan and River Nile, westwards to Niam Niam and the Bahr el Ghazal.

Mesopicus goertæ abessinicus Reichw. (Orn. Monatsb.

1900, p. 58: Abyssinia), judging by the description, has nothing to do with *M. g. goertæ* and its ally, but is obviously applicable to *M. s. spodocephalus* and its ally. Reichenow says that *M. spodocephalus* and *M. rhodeogaster* are synonymous, but with this I do not agree, and consider, despite the fact that he has examined the type of *M. spodocephalus*, that the, presumably, western Abyssinian bird will not prove separable from the central Abyssinian typical form, seeing that slight individual variation has to be taken into account.

As for *Dendrobates immaculatus* Swains. (Birds West Africa, vol. ii. 1837, p. 152: type locality unknown), which has been placed by Hargitt (Cat. Birds Brit. Mus. vol. xviii. 1890, p. 368) as a synonym of *M. goertæ*, and by Reichenow (Vög. Afr. vol. ii. 1902, p. 184) as a doubtful synonym of *M. griseocephalus*, (*Picus griseocephalus* Bodd. Tabl. Pl. Enl. 1783, no. 49, ex Buffon: Cap de Bonne Espérance), the description fits in every detail the latter species, and should in future without question be placed as a synonym of it.

210. *Mesopicus spodocephalus rhodeogaster*. Eastern Green-backed Woodpecker.

Picus (Mesopicus) rhodeogaster Fischer & Reichw. Journ. für Orn. 1884, p. 180: Massailand, northern German East Africa. Wing given as 105 mm.

a. ♂ ad. Loita, 6300 ft. Nov. 28.

Total length in flesh: 8 inches. Wing: 106 mm.

This specimen is in good dress, but rather faded, especially on the flight-feathers.

[Irides brown; bill, upper mandible black, lower greyish horn; legs and toes dark plumbeous. Rare in Loita plains, but tolerably common elsewhere.—W. P. L. This field-note probably also refers to *M. g. centralis*.—C. H. B. G.]

Two races of this Woodpecker are recognisable, as follows:—

MESOPICUS SPODOCEPHALUS SPODOCEPHALUS.

Dendrobates spodocephalus spodocephalus Bonap. Consp. Av. vol. i. 1850, p. 125: Afr. occ. = Afr. or. This name was founded on plate 34 in Rüppell, Vög. Nord-Ost-Afr. 1845,

p. 86, the locality for which is given as Shoa, *cf.* p. 95 ; therefore that locality must stand for the type, and there is no doubt that Afr. occ. of Bonaparte is a printer's error for Africa orientalis.

Chest and flanks washed with olive-green.

Range. Abyssinia.

MESOPICUS SPODOCEPHALUS RHODEOGASTER.

Picus (Mesopicus) rhodeogaster Fischer & Reichw. op. cit.

Chest and flanks distinctly greyer.

Range. British East Africa and northern German East Africa.

In the original description the authors say that the "red belly-streak extends to the breast"; this character is, however, equally noticeable in Abyssinian birds; also that "the grey of the head and underside is somewhat darker." The underside is certainly greyer than Abyssinian birds, but whether this would be considered darker as compared to the olive-green wash of the other bird, is an arguable point; the mantle is not appreciably "intensiver goldgelb," and the mixed red on the mantle is an individual character.

This race, though but slightly differentiated from the typical form, can stand because of the somewhat greyer underparts.

211. *Jynx torquilla torquilla.* European Wryneck.

Jynx torquilla Linn. Syst. Nat. 10th ed. 1758, p. 112 : Sweden. See also pl. i. fig. 78 of the Faun. Svec.

a. ♀ ad. Falabek, 2600 ft. Feb. 24.

Total length in flesh : $7\frac{1}{2}$ inches. Wing : 86 mm.

This specimen is moulting into new dress.

[Irides brown; bill greyish horn; legs and toes greyish flesh. Scarce.]

Dr. Hartert, in his Vög. paläarkt. Fauna, vol. ii. 1912, pp. 937-941, has discussed the following forms of the Common Wryneck :—*Jynx torquilla tschusii* Kleins. Falco, 1907, part 6, p. 103 : Sardinia (Kleinschmidt has given no measurements, nor has he designated a type in his original description, he gives the wing as 85-82 mm.) ; *Jynx*

torquilla mauretanic Roths. Bull. B. O. C. vol. xxiii. 1909, p. 103 : Algeria, wing given as 82·5–76 mm. ; and *Jynx torquilla japonica* Bonap. Consp. Av. vol. i. 1850, p. 112 : Japan ; all these appear to be well substantiated. Since Hartert's work was published, another form has been described—*Jynx torquilla sarudnyi* Loud. Orn. Monatsb. 1912, p. 44 : Transcaspia, wing given as 85 mm. I have not gone into these races very thoroughly, but I am satisfied that the specimen enumerated above belongs to the typical form.

212. *Jynx ruficollis cosensi*. Capt. Cosen's Red-breasted Wryneck.

Jynx ruficollis cosensi C. Grant, Bull. B. O. C. xxxv. 1915, p. 102 : Amala River, British East Africa.

Similar in coloration to the typical form, but always larger, wing 101–94 mm. as against 95–90 mm. in *J. r. ruficollis* ; differs from *J. r. pulchricollis* in having the throat red-brown, uniform with the neck.

Type in the British Museum : ♂ ad. Amala River, British East Africa, 18. x. 12. G. P. Cosens coll. Wing 97, culmen 19, tail 73, tarsus 21 mm.

Named in honour of Capt. G. P. Cosens.

a. ♂ ad. Amala River, 5400 ft. Oct. 18 (the type).

Total length in flesh : 8½ inches. Wing : 97 mm.

[Irides reddish brown ; bill brownish horn ; legs and toes brownish flesh. This, the only specimen seen, was shot in some tall trees.]

The resident African Wrynecks do not appear to overlap in their geographical range, and can therefore be arranged subspecifically as follows :—

JYNX RUFICOLLIS RUFICOLLIS.

Jynx ruficollis Wagl. Nat. Syst. Amph. 1830, p. 118 : Kaffirland.

As shown by Richmond, Auk, vol. xvii. 1900, p. 179, and subsequently drawn attention to by Hellmayr, Journ. für Orn. 1904, p. 307, Wagler's name preoccupies *Yunx pectoralis* Vigors, Proc. Zool. Soc. 1831, p. 93 : Algoa Bay.

Of this, *Yunx indica* Gould (Proc. Zool. Soc. 1849, p. 112 :

type locality incorrectly given as Afghanistan, seeing that the description fits the South African bird exactly) also becomes a synonym.

Size smaller, wing 95–90 mm.

Range. South Africa generally as far north as the north-eastern Transvaal and west to the Congo mouth, which probably constitutes its most northern range.

The dated specimens in the British Museum collection give the following months: April, May, June, August, November, and December, which does not altogether point to this race only wintering in South Africa (*cf.* Ibis, 1911, p. 727, where my notes refer to one district only, viz. the north-eastern Transvaal).

JYNX RUFICOLLIS ÆQUATORIALIS.

Iynx æquatorialis Rüpp. Mus. Senck. vol. iii. 1842, p. 121: southern province of Abyssinia.

Size smaller; red-brown extends down the flanks and joins up with the under tail-coverts. Wing 94–90 mm.

Range. Abyssinia.

JYNX RUFICOLLIS PULCHRICOLLIS.

Iynx pulchricollis Hartl. Ibis, 1884, p. 28, pl. iii.: Barbira: Upper White Nile.

Size smaller; throat barred and not red-brown. Wing given as 94 mm. This race is not represented in the British Museum collection.

Range. Upper Nile and Bahr-el-Ghazal.

JYNX RUFICOLLIS THORBECKI.

Iynx thorbecki Reichw. Orn. Monatsb. 1912, p. 126: Kamerun.

No measurements given, but is said to differ from *J. r. pulchricollis* by its larger bill, ground-colour of upperside more red-brown; below, broader stripes, and there is also some difference in the red-brown of the neck. This race is not represented in the British Museum collection.

Range. Cameroon.

JYNX RUFICOLLIS COSENSI C. Grant, op. cit.

Size larger; wing 101–94 mm. Characters as given above in the description.

Range. British East Africa and Uganda.

One or two apparently young birds of this race show banded feathers on the throat intermixed with red-brown feathers. As, however, Hartlaub's description and plate give a distinctly clear throat and upper neck, without a trace of red-brown, I am compelled, with the evidence before me, to give the British East-African bird a new name.

[To be continued.]

XXIV.—*Report on the Birds collected by the late Mr. Boyd Alexander (Rifle Brigade) during his last Expedition to Africa.*—Part IV. *The Birds of Cameroon Mountain.* By DAVID A. BANNERMAN, B.A., M.B.O.U., F.R.G.S.

(Plates VI. & VII.*)

THE fourth report on the Alexander Collection, which is here issued, deals with the birds obtained on Cameroon Mountain only, where, as will be seen by the following pages, an exceptionally fine series of skins was obtained †.

General Features of Cameroon Mountain.

By glancing at the map (Plate VI.) it will be seen that the western slopes of the mountain rise almost from the sea-shore.

The following brief description appears in the 'Africa Pilot':—“The base of Cameroon Mountain is nearly twenty miles in diameter, and the highest Peak, named Mongo-ma-loba, is 12,992 feet ‡ above high water; the mountain is covered with trees of luxuriant growth nearly to the summit, but one bare brown ridge extending from the eastern side towards the sea, when seen from a distance, appears to be composed of lava. The Peak of Cameroon

* *Lagonosticta dybowskii* the second species figured on plate vii. will be dealt with in Part. V. of this Report.

† I am much indebted to Mr. Ogilvie-Grant for allowing me to work out this valuable collection and for looking over the proof-sheets of my paper.

‡ The height of Cameroon Mt. has recently been ascertained to be 13,353 feet.



Grant, C. H. B. and Lowe, Willoughby P. 1915. "On a Collection of Birds from British East Africa and Uganda, presented to the British Museum by Capt. G. P. Cosens.—Part III. Colii—Pici." *Ibis* 3(3), 400–473.

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