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ERRATA.

P. 3, line 26 from above read *aurigenaria* instead of *aurigeneraria*.

P. 135, line 17 from below read *corfidii* instead of *cocydi*.

P. 319, line 6 from above read *Gymnoris* instead of *Gymnornis*.

P. 345, line 14 from above read *flaviventris* instead of *fluviventris*. 
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THE working out of the Geometrid part of the valuable collections made by Dr. C. Boden Kloss and Mr. N. Smedley in 1924 on the Mentawi Islands has been entrusted to me, and the following article embodies the result. The general account of the islands, and of their zoogeographical relations with the rest of the Andaman-Engano chain, as well as with the Malay Peninsula, Sumatra, Java and Borneo, which has been given by Chasen and Kloss (Proc. Zool. Soc. Lond. 1927, pp. 797–807), should be consulted, and may give clues to a further differentiation of races than I have yet ventured upon. Unfortunately, it is not yet possible to say of the Geometridae, as the authors have said of the mammalian faunas of the islands, that "we know them fairly well" (loc. cit., p. 799); on the contrary, I have been constantly handicapped by the scantiness of the material yet accessible, even in the case of large countries like Sumatra. It has, to be sure, accumulated more rapidly of recent years, thanks largely to the energy of a few workers attached to the local museums, but the time is not yet ripe for any tabulations, or even broad generalisations, such as have been made in the case of the mammalia, etc. I have, however, given in all cases a note as to the hitherto ascertained range of the species, and where it seemed safe have named new races.

The collection, consisting of 69 species, represents in any case a very noteworthy advance in our knowledge. Previously, so far as I am aware, not a single Geometrid had been recorded from the Mentawi Islands, nor had any come under my observation. A few in the Tring Museum from the Batu Islands have long been known to me, but as nothing has been published regarding them I have noticed them in the present report. Unfortunately many of the Mentawi specimens are in more or less damaged condition and either single or in very small numbers. These limitations are, of course, almost inseparable from preliminary surveys over a wide field of zoology (in the present instance also of botany and ethnography), but they militate against secure conclusions in critical cases. It is much to be hoped that at some not very distant date much larger collections will be made of the Lepidoptera in particular, adding numbers of other species to the fauna and rendering possible more exact comparisons with those of the adjacent islands.

All the types of the new forms here described are in the Tring Museum.
**Surfam. OENOCHROMINAE.**

1. **Heteralex rectilineata** (Guen.).

*Cassyma rectilineata* Guen., *Spec. Gén. Lép.* x. 18 (1858) (Borneo).

Siberut I., September 1924, 1 ♀. Padang, W. Sumatra, November 1924, 1 ♀.

Known previously from Nias, Sumatra, the Malay Peninsula, Borneo, Banguey and Pakawan. Not variable.

2. **Eumelea ludovicata** Guen.


This *Eumelea*, besides being the most widely distributed, extending from Ceylon and India to Formosa, the Philippines and the Solomons, shows all kinds of variation—geographical, sexual and individual—and the details of its variation are only very gradually being elucidated. Some fifteen years ago the Rev. C. R. N. Burrows and myself made a preliminary investigation which established its general structural unity throughout its range, but it is not unlikely that a few extraneous elements may still be found amongst its supposed aberrations. A ♀ structural character to which I think attention has not yet been called, and which is serviceable in the determination of doubtful specimens without dissection for the genitalia, is in the remarkable proportions of the terminal spurs of the hind-tibia; the inner spur is extremely short, apparently on the way to becoming atrophied, whereas the outer is unusually lengthened, somewhat surpassing in length the average proximal spurs. Only *rubrifusa* Warr. (1896), which is clearly an offshoot from *ludovicata*, at all approaches it, among the known males, in these proportions. In Seitz (*Macrolep.* xii. 31) the forms inhabiting Celebes and eastward were roughly arranged and named, but the somewhat heterogeneous remainder from India, Malaysia, etc., were left united under Guenée’s name. Observations and notes on these have since been accumulating, and it is hoped may ultimately be utilised in a more detailed analysis; but the material from many localities is still inadequate in view of the considerable element of individual inconstancy. As, however, the form from the Batu and Mentawi Islands seems fairly constant and demands some notice in the present memoir, this has been found a suitable opportunity to differentiate it from the two Indian races, and them from one another.

*a. E. l. ludovicata* Guen.

This form, of which the ♀ is well figured by Oberthür (*Et. Lép. Comp.* xii. f. 3302) and the ♀ by Guenée (*Spec. Gén. Lép.*., Atlas, Phal. pl. 22, f. 6), is duller than most, especially in the ♀, which is almost entirely without the rosy or vinaceous shadings and has the yellow patches small and indefinite, the 1st extracellular and often the basal and tornal obsolete (sometimes also the apical), the hindwing generally with very little yellow. Subterminal band narrow, cut by dark dashes on the veins, on the hindwing posteriorly scarcely shown except by vein-spots. ♀ a little more orange-yellow than most of the forms, the purplish markings more grey-mixed. Ceylon and Travancore.
b. **E. l. biclaria** subsp.n.

On an average smaller (♂, 51–54 mm.; ♀, 55–60 mm.). ♂ much brighter, more rosy, with all the yellow patches more or less developed, the 2nd extracellular and 2nd submedian (between M₁ and SM₂ outside the 2nd line) commonly extra large and clear, in a measure reminiscent of *biclaria* Warr. ; subterminal band less narrow than in *l. tudoricata*, similarly cut by dark dashes. ♀ rather more variegated than that of *l. tudoricata*, a clearer yellow generally indicating the position of the patches of the ♂; spots on an average more purple than in the name-type. India (excepting the south) and Burma, the type a ♂ from Sikkim in Mus. Tring.

b. **E. l. referata** subsp.n.

♂, 53–58 mm. Similar in coloration to *E. l. biclaria*, all the yellow patches more or less well developed, variably in their relative proportions but with the apical and tornal nearly always conspicuous, the latter as a rule extended forward to R₃: 2nd line and subterminal band of forewing generally broadened, often also the darkened costal shading as far as the 2nd blackish spot. Underside also with the purple markings heavy.


3. **Eumelea rosalia cacuminis** subsp.n.

♂, 49–54 mm. In its size and general coloration comparable to *E. r. aurigenaria* Warr. (Nov. Zool. vi. 15, Lombok. Java, etc.), the ground-colour, even in the distal area, having a good deal of the yellow admixture and allowing the purple lines and band to attain to a fairly definite expression; lines broader than in *r. aurigenaria*, the 2nd less curved, more proximally placed than in most *aurigenaria*; further distinguished by the much clearer yellow apical spot of the forewing.

♀. Larger (the allotype 58 mm.), probably variable, but typically of a rather bright orange appearance, the purple markings on the yellow areas large rather than copious; lines or bands about as in the ♂.

Mentawi: Siberut I., September 1924, 6 ♂♂, 2 ♀♀, including holotype and allotype, the second ♀ a giant (about 68 mm.), much torn, but apparently quite typical; Sipora I., October 1924, 1 ♀.

The race from Nias, included by Warren (*loc. cit.*) under *aurigenaria*, resembles *r. cacuminis* in its yellow apex, but will, I think, prove separable on other details.

4. **Eumelea smedleyi** sp.n.

♂, 52–56 mm. Very similar to the preceding. Hindtibia smooth (in all forms of *rosalia* fringed with hair), hindtarsus only about 1½ tibia (in *rosalia* 1½ to 1¼). Further recognizable by the appreciably broader and more rounded wings, particularly noticeable in respect of the apex of forewing and termen of hindwing; ground-colour showing rather more of the yellow (intermediate towards *rosalia cacuminis* ♀), cell-spots, lines and subterminal band more distinct, the 2nd line rather more distal and more curved, the band rather less broad; apical yellow mark on both wings less differentiated.

♀, 56 mm. Closely similar to ♂.

Mentawi: Sipora I., October 1924 (C. Boden Kloss and N. Smedley), 3 ♂♂,
1 ♀. A rather large ♀ taken at Padang, W. Sumatra, November 1924, seems to agree exactly, but examples from the Bovenland and as far as Korintji apparently differ at least racially.

_E. semirosea_ Warr. (Nov. Zool. iv. 29) differs from _rosulia_ (Stoll) in almost exactly the same structural respects as does _smedleyi_, and it is not improbable that the last-named, as well as _marginata_ Prout (1920) and a number of unnamed forms which are being gradually extricated from _rosulia_, may belong subspecifically to _semirosea_; cfr. _Treuibia_, vii. 429. On account of the relatively somewhat shorter hindtarsus of the ♀ I have given to _smedleyi_ the provisional status of a species, but the distinction, even if constant, is perhaps too slight to confirm it; in any case the name will be required as racial.

5. _Derambila lumenaria_ (Hb.-Geyer).

_Arrhostia lumenaria_ Hb.-Geyer, Zitr. Exot. Schmett., iv. 35, f. 757-8 (1832) (" N. America " [Java]).


Widely distributed and very constant—Ceylon, India, Malay Peninsula, Hainan, W. China, Philippines, Borneo, Banka, Sumatra, Nias, Java; not hitherto known from the Batu Islands.

6. _Noreia ajaia_ (Walk.).


Siberut I., 3 ♀♂, 9 ♀♀.

The nomenclature adopted in "Seitz" (xii. 37) is inaccurate. Walker's type ♀ of _perdensata_ is, I am now convinced, conspecific with _ajaia_, the only ♀ form yet known to me from Ceylon. The comparatively rare N. Indian species with simple structure (" _perdensata_ Walk.," Prout, loc. cit., err. det.) is thus left without a name. _N. ajaia_ is widely distributed from Ceylon to Hainan, the Malay Peninsula, Borneo, Java to Timor, etc. I have seen one specimen from Nias but have no record for Sumatra, where it must surely occur. It has not yet been separated into races, although I believe this may prove possible.

7. _Noreia unilineata_ (Walk.).

_Decetia unilineata_ Walk., List Lep. Ins. xxxv, 1557 (Sumatra).

Siberut I., 1 ♀.

Only definitely known from Sumatra, Singapore and Borneo.

8. _Noreia achloraria_ (Warr.).

_Panulia achloraria_ Warr., Nov. Zool. i. 373 (1894) (Celebes).

Siberut I., 1 ♀.

Apart from a good series from S. Celebes (the type locality), I know only a few odd specimens from Sarawak, Singapore and Sumatra. As with _ajaia_, it is awaiting adequate material for an elucidation of the geographical variation.

9. _Alex palparia niasica_ Swinh.


Siberut I., 1 ♀, 2 ♀♀.

So far as can be judged from a single Nias ♀ and these three specimens, there
is no occasion to erect a new race. The species has a moderately extensive range—N. India, Hainan, Malaya, Palawan, Borneo, Java, Bali.

Subfam. HEMITHEINAE.

10. Dysphania subrepleta irrepleta subsp.n.

♀, 68 mm.; ♂, 65 mm. Closely similar to D. s. niass Prout (Nov. Zool. xxiii. 195, Nias I.). Smaller, of a very slightly deeper yellow (yet not quite reverting to that of s. subrepleta Walk., etc.); forewing with the white spot just outside the cell not definitely continued behind R³; hindwing with some of the black spots less heavy, at least in the apical region, where a yellow spot remains in front of SC between the postmedian and terminal spots.

Siberut I., 1 ♂, 1 ♀. A still smaller ♀ from Sipora I. is curiously short- and broad-winged—almost a malformation.

11. Dysphania transducta transducta (Walk.).


Sipora I., 7 ♀♀.

This is perhaps a separable race. All the seven lack the central part of the yellow subterminal band of the hindwing, not only on the upperside (where it appears in the frequent ♀-ab. affluens Bastelb. 1905—cfr. Seitz Macrolep. xii. 66) but even, except for occasional very slight traces, on the underside; the yellow apical spot of that wing, on the other hand, is present on all the seven. The only Batu I. ♀ known to me belongs—like most Nias and a good many Sumatra ♀♀—to the form affluens. But as forms analogous to the Sipora ♀♀ occur sporadically on Sumatra and even on Borneo, I have not thought it safe to erect a race until the ♂ is to hand. D. transducta is generally common from Nias to Borneo and is moderately variable everywhere.

12. Agathia klossi sp.n.

♂, 35 mm. Close to aequisecta Swinh. (1906, Java) and rubrilineata Warr. (1896, N. Borneo), the three presumably forming a collective species which, again, may represent visendra Buttl. (1880, N. India) in the Malayan subregion. Considerably smaller than aequisecta. Abdomen dorsally, after the narrow basal brown band, more extensively green. Wings with the dark markings narrower, less conspicuously edged with white; forewing with oblique central band very slender, almost threadlike, the outer band anteriorly (where it borders the large green subapical patch) scarcely consisting of more than a pale line edged proximally by a very dark and distally by a less dark (more reddish) brown one, at R²–R³ moderately and at M³–SM³ rather shallowly outcurved; hindwing also with the outer band narrowed, a small inlet of green at its hinder end. Underside with the markings narrower and more dusky than in aequisecta.

Mentawi Is.: Siberut, September 1924 (C. Boden Kloss and N. Smedley), 1 ♀.

13. Dooahia puncticostata quantula subsp.n.

♂, 35 mm. Smaller than name-typical puncticostata Prout (Ann. Mag. Nat. Hist. (9) xi. 305, 1923, Selangor). Forewing scarcely so deeply emarginate between the apex and R³, the dark tornal spot rather smaller, at the termen not reaching M¹. Hindwing with the tail slightly shortened.

D. p. puncticostata is now known, practically without variation, from N. Borneo (Kinabalu) as well as the type locality; thus it can hardly be doubted that we have here to do with a new race.


Ornithospila succineta Prout, Nor. Zool. xxiv. 295 (1917) (Penang).

Sipora I., 1 ♂ (C.B.K. and N.S.) ; N. Pagi I., 3 ♀♀ (Dr. H. H. Karny).

Must be widely distributed but much overlooked; besides specimens from Malaya and Borneo, I have seen one from Mindanao.

15. Thalassodes veraria Guen.


Siberut I., 1 ♂.

The species which is assumed to be Guenee's veraria (closely like the following but with the face green, not reddish) is known from Java, Sumatra, Banka I., Borneo, the Moluccas, etc., and probably represented in N. India by aqua Prout (1912) and in Papua by flavifimbria Warr. (1912).

16. Thalassodes quadraria Guen.

Thalassodes quadraria Guen., Spec. Gén. Lép. ix. 360 (1858) (Central India ? Australia ?).

Sipora I., 1 ♂ ; ? Siberut I., 1 ♂ (rather large, worn).

This is another conventional determination which remains unverifiable, Guenee's type ♂ being lost. The species before us (hindtibia of ♂ not dilated, face red, abdomen without white dorsal line, hindwing more angled than in semihyalina Walk. 1861) is fairly common in Ceylon, India, Malaya and Sumatra and straggles into Borneo, the Philippines and even Celebes.

17. Prasinocyma floresaria (Walk.).

Geometra floresaria Walk., List Lep. Ins. xxxv. 1694 (1866) (Flores).

Sipora I., 1 ♂.

This species seems to be distributed throughout the greater part of the Indo-Australian Region from Assam at least as far as the D'Entrecasteaux and Louisiade Archipelagos, presumably in a number of races; but whereas oxycentra Meyr. (1888, Queensland, assumed to include also the forms from New Guinea and its islands) is well known, the more western ones are singularly scarce, generally obtained singly and in bad condition, so that nothing further is possible than to employ Walker's name for them collectively. The Tring Museum has four from the Khasis, one from Borneo, one from Luzon and one from Celebes.


Sipora I., 1 ♀, in rather poor condition.

More or less typical insularia are known from Nias, Java, Borneo and the Philippines; races (or close allies) from Assam, New Guinea and Fergusson Island. The Mentawi ♀ seems to have the terminal line and blotches very weak and may well represent a subspecies or species.
19. Pamphlebia rubrolimbraria (Guen.).

Siberut I., 2 ♀.

Very widely distributed and scarcely variable except in size. Assam, the Shan States, Hainan, Formosa, the Philippines, Borneo, Sumatra, Java, Timor, Queensland, Salawati, New Guinea, etc. The form from the Bismarck Archipelago, *interrupta* Bastelb. (*Ent. Zeitschr. Stuttg.* xxi. 217, 1908), with the terminal line slighter and interrupted, is the only one which I can yet discriminate as racial; *zebrinata* Th.-Mieg (*Miscell. Ent.* xxi. 39, 1915), founded on a single ♀ from "New Guinea" in poor condition, and said to differ in showing about five darker green lines, may be a separate species, as its author assumed, or may through its condition have acquired a deceptive aspect.

**Subfam. STERRHINAE.**

20. Anisodes (?) alienaria Walk.


Siberut I., 1 ♀.

I see no obstacle to this determination except the geographical and should not have inserted a query but that undoubted *alienaria* is only as yet recorded from a few localities in the Malay Peninsula, and that the ♀♀ in this genus are notoriously difficult to place with certainty, even those of ♀♀ which have quite notable differences in structure being sometimes almost indistinguishable.

21. Anisodes flavispila flavispila (Warr.).

*Perixera flavispila* Warr., *Nov. Zool.* iii. 312 (1896) (Khasia Hills).

Siberut I., 1 ♀.

Only two races of this widely distributed species are yet recognized, though others will probably have to be added. The name-typical series (or approximately typical) with relatively large cell-spot of the hindwing, is found from Sikkim and Assam through Burma and Tonkin to Hainan and Hong Kong, also in the Malay Peninsula and (a slight modification) in N. Borneo. A slightly more grey-powdered form, with the cell-spot of the hindwing very small, inhabits the coastal regions of New Guinea, Fergusson Island and Queensland, and has been named *lophoseles* Turn. (1908). An odd specimen from Sambawa and another from Sumba are nearer to *f. flavispila* in tone, to *f. lophoseles* in the reduced cell-spot. The Mentawi ♀ seems to agree perfectly with *f. flavispila* except that it is rather small; but it is not very fresh.

22. Anisodes nesidica sp.n.

♀♀, 24–28 mm. Face rosy, edged laterally (except upper part) with whitish. Palpus slightly darker, beneath and at extremities of joints whitish; terminal joint in ♀ half or slightly over, in ♀ nearly one. Hindfemur of ♀ with slightly curled red tuft at end (section *Perixera* Meyr.), tibia with a pair of unequal spurs.

*Forewing* not broad, termen almost smooth; arcole wanting; light pinkish cinnamon or light vinaceous cinnamon, with pink irroration; costal margin more tinged with olive or greyish; a small black-mixed cell-dot; lines rosy, indistinct, the postmedian marked with distinct darker dots or minute dashes
on the veins; antemedian curved, rather strongly oblique posteriorly; median shade fairly broad, mostly almost parallel with termen, but incurved in posterior half; postmedian forming a gentle curve between costa and R', about 3–5 mm. from termen, then sharply interrupted outward, so that the dot on R' is twice as near the termen, thence rather more oblique than termen, with a faint inward curve; a suggestion of a paler area between median and postmedian, especially in its broader posterior half; a weak pale subterminal defined by pinkish shades; small vein-dots at termen and rather less small ones between them (slightly more proximal); fringe almost unmarked.—\textit{Hindwing} not broad, termen waved and curved in anterior half, less curved in posterior; concolorous with forewing; markings similar; cell-dot larger, sometimes forming a minute ring; postmedian with the dash on R' considerably more proximal than the rest of the series.

Underside paler, especially the hindwing; markings reproduced in pink; cell-dot of forewing usually a little larger or longer, that of hindwing reduced.

\textit{Mentawi Is.}: Siberut (C. Boden Kloss, N. Smedley and H. H. Karny), 14 \(\varphi\), 20 \(\varphi\), type in coll. Tring Mus. Also 1 \(\delta\), 2 \(\varphi\) from Sipora 1. from the same collectors, 1 \(\delta\) from N. Pagi I. (Dr. H. H. Karny) and 2 \(\varphi\) from Langkawi I., 15 April, 1928 (H. M. Pendlebury).

Nearest to \textit{obliviaria} Walk. (\textit{List Lep. Ins.}, xxii. 643), but smaller, narrower-winged, different in colour—including the face, which in that species is whitish in an extended lower part—and in the very much smaller cell-mark of the hindwing.

23. \textit{Scopula eulomata} (Snell.).
\textit{Acridalia eulomata} Snell., \textit{Tijd. Ent.} xx. 42, t. 3, f. 21 (1877) (Java).
\textit{Craspedia compressaria} Warr., \textit{Nov. Zool.} vii. 103 (1900) (Bali) (syn. nov.).

\textit{Batu Is.}: Pullu Tello, November 1924 (H. H. Karny), 1 \(\varphi\).

Previously known from Sumatra and Nias in addition to the type localities cited above.

24. \textit{Scopula nesciaria} (Walk.).
\textit{Acridalia nesciaria} Walk., \textit{List Lep. Ins.} xxii. 750 (1861) (Ceylon).

\textit{Mentawi Is.}: Siberut, 1 \(\delta\), 2 \(\varphi\). \textit{Batu Is.}: Pullu Tello, 1 \(\varphi\) (worn).

In this exceedingly difficult and little-worked group the determination, even of the good specimens, must be received with some reservation. Besides the indubitable Indian material I have placed here provisionally specimens from the Malay Peninsula, Luzon, Borneo, Java, Bali and even Sambawa and Sumba, which seem to agree perfectly in structure though they will probably constitute at least a number of races. The Siberut form, to judge from the \(\delta\), which is in beautiful condition, is very closely like some from N. Borneo and Pulo Laut.

25. \textit{Scopula actaria} (Walk.).
\textit{Acridalia actaria} Walk., \textit{List Lep. Ins.} xxii. 752 (1861) (Ceylon).
\textit{Psychopoda nigranalis} Warr., \textit{Nov. Zool.} iii. 378 (1896) (Timor) (subsp. ?).
\textit{Craspedia permunda} Warr., \textit{Nov. Zool.} v. 19 (1898) (Java) (subsp. ?).

\textit{Siberut} I., 13 \(\delta\), 12 \(\varphi\); \textit{Sipora} I., 3 \(\varphi\).

Found almost everywhere from India to Formosa, the Philippines and the Moluccas and, in a form which I have endeavoured to keep separate, from Java to Wetter and Timor (vide \textit{Nov. Zool.} xxvii. 296). Several of the Mentawi specimens incline somewhat to the \textit{nigranalis} form.
26. **Sterrhia marginata** (Swinh.).


Siberut I., 1 ♂.

Small and with the termen of the hindwing scarcely so noticeably bent as usual. On the other hand most of the material yet known to me (Tonkin, Penang, Selangor, Andamans, Sumatra, Java, Borneo) agrees very accurately with the name-typical race. Possibly we have to do with a separate, though very closely allied species.

**SUBFAM. LARENTIINAE.**

27. **Eois versata** (Walk.).


Siberut I., 2 ♂♂, 1 ♀.

A scarce or much overlooked species, hitherto only known from a few Borneo specimens.

28. **Eois plumbacea** (Warr.).

*Pseudasthena (? plumbacea* Warr., *Nov. Zool.* i. 396 (1894) ("New Guinea" [? Borneo]).

Siberut I., 1 ♂, 2 ♀♀.

Very likely a race, with the buff postmedian spot between the radials very poorly developed. But as this can also become obsolete in the Borneo forms which I take to be topotypical (the labelling of the single specimen from which Warren described must almost certainly have been erroneous), confirmatory material, and in better condition, is to be desired. Occurs also in the Malay Peninsula.

29. **Pomasia vernacularia** Guen.


Sipora I., 1 ♀.

Hitherto best known from Borneo and the Malay Peninsula. I have named a mountain form from S.W. Sumatra *P. v. salutaris* (*Bull. Hill Mus.* iii. 99, 1929), but the less bright name-typical form may be expected from the coastal districts of Sumatra.

30. **Pomasia conferta** Swinh.


Siberut I., 1 ♂.

Previously known from Borneo and Singapore.

31. **Pomasia pulchrilinea pulchrilinea** (Walk.).


Sipora I., 1 ♀.

Extremely widely distributed, but apparently much overlooked (or rare) in the western part of its range. The Ceylon form *axis* Hmps. (1893) is well known, as also the Khasi *moniliata* Warr. (1898); then come scattered records from Cochin China, Pahang, the Andamans and Borneo, to which are now added the Mentawi Islands; from New Guinea and especially its satellite islands a good deal of material has been brought, while Meek and Eichhorn even found two
specimens in the Bismarck Archipelago—New Hanover and Feni Island off New Ireland.

32. **Colix ghosha** Walk.


Siberut I., 1 ♂.

Distributed, especially on the islands, from Ceylon to the Riu-kiu Islands and to the Solomons. As it is nowhere particularly common, it must certainly be very frequently missed by collectors; my list of recorded localities is steadily growing and comprises, up to date, the following: Ceylon, India, Penang, Langkawi I., Tonkin, Riu-kiu Is., Formosa, Talaut, Borneo, Sula Is., Key Is., Timor, Arfak Mtns., Florida I., S. Christoval. Only the extremes have yet received names, the form from the Solomons being *sticticata* Warr. (1902); it is not improbable that even *subligata* Warr. (1896, Loyalty Is.) is conspecific.

33. **Chloroclystis admixtaria** (Walk.).


N. Pagi Is. (Dr. H. H. Karny).

Forms which have not been separated from typical *admixtaria* range through India, the Malay Peninsula, Tonkin, Borneo, Celebes, Sambawa, Burn, etc. A smaller and paler form (or very closely related species), *fragilis* Warr. (Nov. Zool. vi, 38, St. Aignan) in the Philippines, Sambawa, Key Is., Dammer, New Guinea, the Louisiades and (perhaps a different race) St. Matthias I. In Queensland the species (or superspecies) is represented by *bryodes* Turn. (*Proc. Linn. Soc. N. Sth. Wales*, xxxi. 694). Evidently many additional records are to be expected and a much more thorough-going analysis will be required.

34. **Sauris interrupta** (Moore).


Sipora I., 1 ♂, very much worn.

Excepting from India and Ceylon, very little good material is yet accessible to me and I can make nothing of the races, which I suspect may prove numerous. The Andamans, Malaya, Tonkin, Riu-kiu Islands, Borneo, Sumatra, Nias, Java and Buru are known localities, even if one or another of the closely allied forms which have been found in New Guinea be not a further subspecies. The Sipora example, so far as it can be made out, rather recalls *subfulva* (Warr. 1905), from the Solomons.

**Sufam. GEOMETRINAE.**

35. **Ourapteryx podaliiriata** Guen.


Sipora I., 1 ♀ (Dr. H. H. Karny).

Distributed in N. India, Malay Peninsula, Natuna Is., Borneo, Sumatra, Java, Bali and Celebes, but rarely common, except perhaps in Borneo. Variation slight.

36. **Xeropteryx columbicola media** subsp.n.

♂. Forewing with apex on an average somewhat less produced than in *X. c. columbicola* (Walk., *List Lep. Ins.* xx. 11, N. India), the pale yellow spots
smaller, the central pair better separated by vein M₁, the anterior one, when at all enlarged, much more extended longitudinally than transversely (in c. colombica with the two diameters about equal).

Batu Is.: Pullu Tello, August 1896 (I. Z. Kannegieter), type ♂ and another; November 1924 (C.B.K. and N.S.), 1 ♂ (worn). The same race—at least in the broad sense, as here understood—also inhabits Nias and Sumatra and probably the Malay Peninsula and even Java and Bali, and has long been awaiting a name. In this inconstant species it is not easy to find definable characters, although geographical variation is undoubtedly considerable; even the extreme Borneo race (X. c. simplicior butl., Journ. Linn. Soc. Zool. xvii. 204) throws a certain percentage of very media-like forms, while the ♀♀ of all the races seem closely similar.

37. Pareumelea hortensiata exstinguens subsp.n.

Forewing with the yellow ground-colour anteriorly (excepting the pale buff costal border) much more uniformly suffused with orange-buff than in h. hortensiata (Guen., Spec. Gén. Lép. ix. 394, Borneo), in which there is constantly a well-differentiated yellow area; the yellow spot between R² and M₁ obsolete in the ♂. Forewing beneath with the subapical buff more suffused, between SC³ and R¹ largely obscured by dark iroration.

Mentawi Is. (C.B.K. and N.S.): Sipora, October 1924, 4 ♂♂, 1 ♀, including the type; Siberut, September 1924, 1 ♂, 1 ♀.

The sole example from Nias in the Tring Museum (a ♂ from Hill Madjedja, N. Nias) agrees with the Mentawi race, except for the presence of a clear spot in cellule 6 of the forewing (yellow above, more buff beneath). The form from the Batu Is. (Tanah Massa), to judge from 2 ♂♂ and 3 ♀♀ (September 1896, I. Z. Kannegieter) is virtually identical with typical exstinguens in the ♀, but the ♂ retains the yellow spot of cellule 3 above and beneath, though much reduced in size. I would include both these races (?) provisionally with exstinguens.

P. hortensiata is further known from the Malay Peninsula, Bali, Pulo Laut, Palawan and Mindoro.

38. Pareumelea flagrata (Feld.).


Sipora I., 1 ♂, 1 ♀; Siberut I., 1 ♀.

Found in most localities with the preceding (except Mindoro), but also, though sparingly, in Assam, Tonkin and the Andamans. An allied species (eugniata Guen., 1858) represents it in Celebes, the Sula Islands and the Moluccas.


Sipora I., 2 ♂♂; Siberut I., 2 ♀♀. Batu Is.: Tanah Massa, September 1896, 1 ♂ (Kannegieter).

Commonest on Borneo, but known also from the Malay Peninsula, Sumatra and Nias.

40. Synegia (Eugnesia) thamiosticta sp.n.

♂♂, 36-38 mm. Close to intensa Warr. (Nov. Zool. iv. 396, S. Celebes), perhaps a race. Rather smaller and with the forewing perhaps relatively somewhat less elongate costally. Abdomen of ♂ rather less slender and elongate, with the anal tuft less long and less white. Wings more normally coloured than
in Warren’s unique type, which, however, is probably a remarkably suffused aberration; further differentiations in consequence difficult to make with certainty. The coarse, in part confluent irroration rather less fiery, more ochraceous-orange, a little dulled by slight greyish suffusion; moderate or rather narrow greyish shades bordering the two lines in the median area and (more macularly) the subterminal proximally; terminal shadings in the $\mathcal{O}$ (which are more clouded than the $\mathcal{O}\mathcal{O}$) somewhat stronger than in intensa type, more as on the underside, which much approaches that of intensa except for having a much heavier postmedian shade. A further distinction may be that the outward tooth of the postmedian is stronger, both above and beneath.

Mentawi Is.: Siberut, September 1924, 2 $\mathcal{O}$, 3 $\mathcal{O}\mathcal{O}$ (C.B.K. and N.S.), including the type, 1 $\mathcal{O}$ (H. H. Karny); Sipora, October 1924 (C.B.K. and N.S.), 2 $\mathcal{O}\mathcal{O}$, 1 $\mathcal{O}$. Batu Is.: Tanah Massa, September 1896, 1 $\mathcal{O}$ (I. Z. Kannegieter). Nias, 1 $\mathcal{O}$ (Raap).

From prospera Prout (Bull. Hill Mus. iii. 29, Baru), which also belongs to the same group by wing-shape, antenna, etc., thamiosticta differs in having pale marks on tegula and base of abdomen, hindwing more regularly convex, with its postmedian more parallel with termen.

41. **Plutodes cyclaria** Guen.


Sipora I., 1 $\mathcal{O}$ (H. H. Karny).

Perhaps a race, the two brown patches on the hindwing well separated. A variable species.

Best known from the Malay Peninsula and Borneo, but reaching Hainan.

42. **Plutodes hilaropa** Meyr.


Sipora I., 2 $\mathcal{O}\mathcal{O}$, 3 $\mathcal{O}\mathcal{O}$.

The specimens are fairly large and strongly marked, perhaps more like the North Borneo specimen in the Tring Museum than the Nias one. Further known from Selangor and represented on Talaut by the smaller, weaker-marked *tristis* (Swinh., *Tr. Ent. Soc. Lond.* 1902, p. 604).

43. **Hypochrosis binxata** (Walk.).


"*Patruissa sternaria* Guen.," Warr., *Nov. Zool.* i. 448 (1894) (err. det.).

*Patruissa sternaria* ab. *ocellata* Warr., *ibid.* (1894) (Padang [Rengas, Malay Peninsula]) (ab.).

Siberut I., 1 $\mathcal{O}$.

A fairly common species in the Malay Peninsula, Sumatra, Natuna Is. and Borneo and not particularly variable. I doubt the authenticity of the two "Assam" examples cited by Warren (loc. cit.).

44. **Sabaria spurca** (Swinh.).


Sipora I., 1 $\mathcal{O}$.

Still very little-known. The Tring Museum possesses a $\mathcal{O}$ from Java of a probable race, or very close relative, with brighter coloration.
45. **Sabaria multidentata** (Warr.).


*Prionia excavata* Warr., *Nov. Zool.* iii. 419 (1896) (Nias) (ab.).

North Pagi I., 1 ♀.

Greyer than either of Warren’s types, which also differ widely in coloration *inter se* and are both ♀♂; border of hindwing rather ampler. Evidently very variable.

46. **Heterolocha pyreniata** (Walk.).


Siberut I., 1 ♂; Sipora I., 1 ♀.

Apparenty common on Nias, occasional on Sumatra and Java.

47. **Curbia martiata** (Guen.).

*Crocopteryx martyata* Guen., *Spec. Gén. Lép.* ix. t. v. f. 8 (1858) ("India").

Sipora I., 2 ♂♂, 1 ♀.

A rather common species in the Malay Peninsula, Nias, Sumatra, Banka Island, Borneo and West Java. Very constant.

48. **Coryania vesicularia** (Walk.).


Sipora I., 3 ♂♂, 1 ♀.

To the list of localities given in *Bull. Hill Mus.* iv. 138, should be added Banka I., and—on the strength of the present specimens—Mentawi Is.

49. **Coryania latimarginata** Swinh.


Sipora I., 1 ♂, 1 ♀.

For several years after it was first described, no further examples of this species came under my notice. Recently, however, a good many have been received, but almost exclusively from Borneo (once from Selangor). Its occurrence in the Mentawi Islands, in an almost indistinguishable form, is very interesting.

50. **Catterinys clatharia** Warr.

*Catterinys clatharia* Warr., *Nov. Zool.* ii. 139 (1895) (Padang [Rengas]).

Sipora I., 1 ♂.

A small and very worn example, possibly representing a separable race. Specimens from Java, however, do not differ appreciably from those from the Malay Peninsula, its headquarters.

51. **Nadagara scitilineata** Walk.


Siberut I., 1 ♀.

The specimen is much wasted, but the determination seems quite safe. A scarce species, with rather scattered distribution, previously known to me only from Perak, Borneo and Hainan, the latter in a browner colour-form which may probably be racial.
52. **Bulonga schistacearia** Walk.


Siberut I., 1 ♀; Sipora I., 1 ♀.

Known from the Malay Peninsula, Nicobars, Nias, Sumatra, Natuna Is. and Borneo, particularly abundant on Nias. Variation slight.

53. **Luxiaria iotaria** (Feld.).


Siberut I., 1 ♀; Sipora I., 1 ♀.

The ♀ is worn, but seems to have belonged to the form—not uncommon in that sex—in which the characteristic blackish mark of DC of the forewing is almost entirely obsolete; even the dark costal spots can never have been strong. The ♀ is not much irrorated, the cinnamon-buff shade outside the postmedian clear, the costal spots brown, not much mixed with black.

Not common, best known from Java, Selangor and several localities in Borneo; the Tring Museum has one each from Nias and Banka Is.

54. **Luxiaria exclusa** (Walk.).


Siberut I., 1 ♀.

The specimen is torn and with the forewing much rubbed anteriorly, but seems to have the costal maculation very weak and in other respects certainly belongs to the brown-banded form, with rather blunt tail to the hindwing, which is generally associated with the ♀. The species is very variable and may prove to contain, as at present constituted, some extraneous elements. Very widely distributed (cf. *Bull. Hill Mus.* iv. 139); only the forms (or closely allied species) *L. e. peric hilaria* Prout (*Tren bia* vii. 452, t. ix. f. 8, Buru), covering the Moluccan, Papuan and Queensland series and even provisionally those from the Bismarcks and Solomons, and *L. sesquilinea* Prout (*Ann. Mag. Nat. Hist.* (10) vi. 695, Fiji) have yet been definitely differentiated.

55. **Luxiaria (Entoea) heter neurata** (Guen.).


Sipora I. (H. H. Karny), 1 ♀.

Distributed, with but little variation, in N. India, Burma, Malaya, Hainan, Nias, Sumatra, Java, Bali, Lombok, Sambawa, Borneo, Mindanao, Celebes, Buri, Amboina, New Guinea and the D'Entrecasteaux. Only in the Bismarcks is it materially modified (*E. h. bismarckensis* Prout, 1926).

56. **Luxiaria schistacea** (Swinh.).


Siberut I., 1 ♀.

The two or three specimens hitherto known of this rarity were all from Borneo or Selangor. Its occurrence in the Mentawi Islands therefore rivals in interest that of *Corymica latimarginata* Swinh. (*supra*). The specimen is not fresh enough to show whether there is any racial difference.
57. **Calletera subexpressa** (Walk.).

_Acidalia subexpressa_ Walk., _List Lep. Ins._ xxiii, 773 (1861) (Sarawak).


Very variable, no doubt in part geographically, but very little material is yet available—Borneo, Malay Peninsula, Nias, Engano. The only specimen yet known from Engano was named _C. sabulosa_ Warr. (Nov. Zool. ii, 132) and seems separable by the broader median line and diffuse cell-mark (not black cell-dot) of the forewing. In the Khasis the representative is sufficiently different in shape to justify Warren’s having erected it as a species (_C. angulata_ Warr., Nov. Zool. iii, 139). The larger, duskier Formosan _basipuncta_ Wileman (_Ent. xlix_, 36), with straighter postmedian line, may also well be a distinct species.

Swinhoe (_Cat. Lep. Het. Oxf. Mus._ ii, 265) is egregiously wrong in citing as a synonym of the present species _Scotopterix paganata_ Feld., which is really a synonym of _Luxiaria submonstrata_ (Walk., 1861).

58. **Semiothisa emersaria** (Walk.).

_Macaria emersaria_ Walk., _List Lep. Ins._ xxiii, 925 (1861) (Hindostan).

Siberut I., 1 ♀.

Like most of the widely distributed and variable _Geometrinae_, this _Semiothisa_ merits much closer attention than it has yet received. A few aberrations or sub-species have casually received names, under the impression that they were new species: _translineata_ Walk., _List Lep. Ins._ xxxv, 1658, for the Celebes race: _albidulata_ Warr., Nov. Zool. v, 252, for a heavily marked form from Sumba, probably _albibrunnnea_ Warr., Nov. Zool., ix, 371 founded on a dwarf ♀ from Tenimmer, and possibly _isospila_ Meyr., _Tr. Ent. Soc. Lond._ 1889, p. 501, from New Guinea and the Bismarcks (in any case “ _isospila_ Meyr. Sambawa” of Meyrick, _Tr. Ent. Soc. Lond._ 1897, p. 74 = _albidulata_ Warr. 1898); but nothing systematic has been attempted, unless Warren’s brief note in Nov. Zool. iv, 399 can be so regarded. The Tring Museum has material from Ceylon, India, Burma, Andamans, Malay Peninsula, Hindia, S.E. China, Formosa, Luzon, Mindanao, Nias, Sambawa, Sumba, Flores, Timor, Celebes, Amboina and Tenimmer, to which can certainly be added Borneo (F.M.S. Mus.), Sumatra and Java (Snellen) and W. China (Mus. Brit.).

The Siberut ♀ is a good deal like the one described by Warren (_loc. cit._) but with the white subterminal better developed on both wings.

59. **Semiothisa atmala smedleyi** subsp.n.

♂, 26 mm. A good deal smaller than _S. a. atmala_ (Swinh., _Tr. Ent. Soc. Lond._ 1894, p. 210, as _Tephrina_), darker, the termen of the hindwing less crenulate, of the forewing not waved. As, however, the structure appears to agree accurately with name-typical Khasi _atmala_ and that varies a little in shape, I regard it provisionally as merely a subspecies. A small ♂ from Manipur is somewhat transitional.

Mentawi Is.: Siberut, September 1924 (C. Boden Kloss and N. Smedley), 1 ♂.

Hampson’s reference of this species to “ _Macaria_” [Semiothisa Hb.] (_Pavn. Ind._, _Moths_, iii. 205) is not more accurate than Swinhoe’s to _Tephrina_; it not only contradicts Hampson’s own generic diagnosis, having SC^1 and SC^2 of the forewing
both present and free, but the 8th sternite shows no trace of the octavals of the Semiothisa group. By Meyrick's system it falls into Ectropis (♂ with fovea developed, antenna dentate, with two pairs of fascicles), but until that too comprehensive group has been revised it seems superfluous to make a transference which will have no stability. I suspect it is rather nearly related to "Aleis (?)" paucisignata Warr. (Nov. Zool. vi. 348, Perak) = "Cynatophora" paraphia Warr. (Nov. Zool. vii. 106, "British Guiana" [err. loc. !]), each founded on a single ♀, but of which the ♂ has the "Ectropis" antenna.

60. Petelia medardaria H.-Sch.
Petelia medardaria H.-Sch., Samml. Ausseereur. Schmett. i, f. 534 (1856) ; p. 64 (1858) (East India).

Siberut I., 1 ♂ (H. H. Karny).

Found throughout the greater part of the Indo-Australian Region—Ceylon, India, Malaya, Engano, Sumatra, Borneo, Philippines, Celebes, Java, Sambawa, Sumba, Timor, Dammer, Tenimber, Key, Buru, Ambona, Batjan, New Guinea and its islands, Bismarecks, Solomons, Queensland, etc. Everywhere variable.

61. Hyposidra talaca (Walk.).

Siberut I., 1 ♀.

Found almost everywhere from India and Ceylon to N. Queensland and the Solomons. Except for some colour variation a rather constant species. The Mentawi ♀ is of the typical dark form, as are also the series from Nias and Sumatra in the Tring Museum.

62. Fascelлина sp.n.(?)

Siberut I., 1 ♀ (damaged).

Unfortunately not in a fit condition for describing. Evidently in the vicinity of chromataria Walk. (1860), but with the shape slightly less accentuated—apparently more as in albidiscata Warr. (1894) ♀—with only the anterior part of the forewing coloured similarly to that of chromataria ♀, the posterior part, with the whole hindwing, clouded with a dark shade which more recalls the ♂ of chromataria. Perhaps the ♀ of a race of a rare species from Penang and Borneo which has not yet been worked out (3 ♂♂ in Mus. Tring).

63. Ophthalmodes exemptaria Walk. (?).
Ophthalmodes suppressaria Walk., List Lep. Ins. xxxv. 1695 (1866) (Singapore).

Siberut I., 1 ♂.

Rather large and apparently with rather heavy band-like shadings accompanying the postmedian, but worn and torn. The variation of this species, which I believe occurs also on Penang and Sumatra, has not yet been satisfactorily worked out, the material received hitherto having been always very scanty. I cannot think that clararia Walk. (1866), from Java, cited by Swinhoe (Cat. Lep. Het. Oxf. Mus. ii. 284) as a further synonym, is really conspecific.
64. Cleora repetita (Butl.).


Sipora I., 1 ♂

On the synonymy, variation and geographical range of this extremely widely distributed species see Bull. Hill Mus. iii. 186-7. Mindanao should be added to the localities, a fine series having been obtained by the late Mr. A.E. Wileman from Kolambogan, Lanao plains.

65. Cleora injectaria fuliginosa (Warr.).

Cleora fuliginosa War. N. Zool. i. 436 (1894) (Engano).

Siberut I., 1 ♂, 1 ♀ (C.B.K. and N.S.); Sipora I., 1 ♂, 1 ♀ (H.H. Karny).

I have provisionally (Bull. Hill Mus. iii. 212) referred these to the very dark Engano race of injectaria, but pointed out that the hindtarsus of the ♂ appeared relatively somewhat longer. It is not improbable that further material and closer investigation may show them to be a separate race or even—judging from the richness of this group in species—a separate species. C. injectaria is, however, the most widely distributed of all the alienaria "group" (Ceylon and India to Fiji, with an endemic development on the Samoan and Friendly Islands), and on the whole one of the best differentiated; see my revision already cited.

66. Serraca spissata Warr. (?).

Serraca spissata Warr., N. Zool. vi. 56 (1899) (Nias).

Siberut I., 1 ♀ (very worn).

May equally well represent costaria (Guen., Spec. Gén. Lép. ix. 242, Sarawak), which is distinguishable chiefly by ♂ characters, or even some other Serraca. Both the species cited are best known from the Malay Peninsula and Borneo, costaria also from Mindanao, Sumatra and Java; but the occurrence of spissata on Nias renders it a probable determination.

67. Arycanda simulans (Butl.).


Siberut I., 1 ♀.

Common on Nias, rarer on Sumatra, the only other hitherto-known locality.

68. Arycanda maculosa Walk.


Batu Is.: Tanah Massa (I. Z. Kannegieter), 2 ♀♀. Mentawi Is.: Siberut, 1 ♂, 2 ♀♀; Sipora, 3 ♀♀.

Previously known from Nias, Sumatra, the Malay Peninsula and Borneo.

69. Genusa bigutta Walk.

Genusa bigutta Walk., List Lep. Ins. iv. 818 (1855) ("North India" [? Burma]).

Sipora I., 1 ♂ (C.B.K. and N.S.); Siberut I., 2 ♂♂, 1 ♀ (C.B.K., N.S. and H.H.K.).

All the specimens are heavily spotted, but they are too variable in detail to present any concrete characters for the erection of a race. Burma, Malay Peninsula, Sumatra and Borneo; with races (?) on Hainan and the Philippines (with Sulu Archipelago).
NEW GEOMETRIDAE FROM THE INDO-AUSTRALIAN REGION.

BY LOUIS B. PROUT.

SUBFAM. OENOCHROMINAE.

1. Derambila livens sp.n.

♂. 30 mm. Belongs to sect. ii of the genus (Prout in Wytsman, Gen. Ins. 104, p. 74). Head and body concolorous with wings, the face edged with white, the body beneath with some whitish admixture. Antennal ciliation scarcely as strong as in zincaria (Guen., 1858). Hindtibia not so broad and flattened as in zincaria; hair-pencil well developed; spurs wanting; tarsus a little shorter than tibia.

Forewing with cell \( \frac{1}{2} \), thus slightly less long than in zincaria; between light mouse-grey and quaker-drab, in some light with strong plumbeous reflections; cell-dot rather small; lines extremely faint, suggested in brownish, antemedian not extremely outbent subcostally, moderately oblique; postmedian from about \( R' \) onward very oblique inwards, slightly incurved; subterminal scarcely discernible.—Hindwing with \( SC' \) well separate from \( R' \), slightly sinuous, reaching termen rather near apex; concolorous with forewing; cell-dot rather larger but weaker, brown rather than blackish; a sinuous postmedian discernible in some lights.

Underside similar or still more feebly marked.

Borneo: S. Matang, 31 January, 1921 (Dr. H. Winkler), type in Zool. Mus. Hamburg.

The first known grey Derambila.

SUBFAM. STERRHINAE.

2. Calothysanis responsaria aganopis subs.p.n.

♂♀. Less warmly coloured than typical responsaria (Moore, Lep. Coll. Atk. 255 = strigulata Warr., Nov. Zool., iii. 116), from the Khasis, pinkish buff rather than cinnamon; the oblique line pink, thickened but little darkened; the outer dark line on the forewing tending to break into vein-dots, at least anteriorly; forewing beneath in the type heavily suffused, but this is rather inconstant.

Malabar (Frau Peitzner), type in Zool. Mus. Hamburg. Also from Wynád (S.-India), Indore, etc.

3. Scopula seductilis sp.n.

♂♀. 21–22 mm. Close to consimilata Warr. (1896), probably hardly more than a race. Antennal ciliation of ♂ a little longer. Forewing, at least in ♂, a little broader. Colour paler; median shade on forewing less thick, less brown, rather less strongly curved, on hindwing closer to cell-dot; curved proximad in cell so as to avoid it; cell-dot of hindwing on an average less large.

W. Sumatra: Sungei Kumbang, Korintji, 4,500 feet, April 1914 (Robinson & Kloss), 1 ♂ (type), 3 ♂♀; Loeboe Rajah, June–July 1897 (Ericsson), 1 ♀ very worn. All in coll. Tring Mus.
4. Scopula corrupta sp.n.

♂. 24 mm. Narrower-winged than the preceding and than *consimilata*, the forewing shaped more as in *nigristellata* Warr. (1896) and *perfilata* Pront (1929) but with the tornus slightly less prominent; angle at R₃ of hindwing extremely slight. Face and palpus black, narrowly pale below. Antenna subserrate, ciliation fairly long. Hindtibia somewhat dilated, fringed above and with moderate pencil; tarsus fully \( \frac{2}{3} \).

Wings much more suffused than in *consimilata* and *seductilis*, inclining to drab, though with paler parts (about in the positions noted under No. 7 *infra*) well noticeable; markings about as in *consimilata* but—excepting the sharp black cell-dots and terminal dots—much less distinct; median shade and on the hindwing the postmedian tinged with avellaneous or wood-brown, the latter a little thicker than that of *consimilata*. Forewing beneath suffused almost throughout, hindwing more nearly as in *consimilata* but a little less whitish.

W. Sumatra: Sungai Kumbang, Korintji, 4,500 ft., April 1914 (Robinson & Kloss), type ♂ in coll. Tring Mus.

5. Scopula benguetensis sp.n.

♀♀, 22–27 mm. Face and upperside of palpus black. Vertex whitish. Antennal shaft pale at base, then spotted with fuscous; joints in ♂ slightly projecting, ciliation a little over 1. Forefemur and tibia darkened on upper and inner sides; hindtibia in ♂ rather strongly dilated, with the pencils white; tarsus somewhat over \( \frac{1}{2} \) tibia.

Wings shaped, coloured and marked much as in *S. aspilataria* (Walk., 1861, Ceylon), the lines running nearly parallel with termen; the black cell-dots always distinct, though minute; median line of forewing rarely thickened, generally appreciably more oblique than postmedian, at least posteriorly, where it is often very noticeably nearer to the ante- than to the postmedian; postmedian of forewing not or scarcely incurved at costa.

Luzon: Benguet, the type series from Baguio, 5,000 ft., April 1912, others from Sapianacao, 5,600 ft., and Haight’s Place, Pauai, 7,000 ft. All collected by A. E. Wileman, the type in Mus. Tring.

Generally larger than *S. pallidilinea* (Warr., 1896), which is perhaps the Malayan representative of *aspilataria* and is represented on Luzon; hindtarsus of ♂ apparently longer, antennal ciliation rather less long, cell-dot sharper, postmedian of forewing not curved at costa, etc.

6. Scopula inficita philippina subsp.n.

Differs from *S. i. inficita* (Walk., 1866), from the Lesser Sunda Islands, in its brighter (brownish or more fleshy) ground-colour and more sharply expressed lines.

Luzon: Montalban, Rizal (loc. typ.). Klondyke, Benguet, 800 ft., and Palahi. Benguet, 2,000 ft., a good series collected by A. E. Wileman. Type in coll. Tring Mus. Virtually the same form occurs on Cagayan Sulu and in X. Borneo and will doubtless be found general in the Philippine Islands.

7. Scopula clarivialis sp.n.

♂♀, 28–30 mm. Face black. Palpus above and on outerside black. Antennal joints of ♂ slightly projecting, fascicles well over 1. Vertex cartridge-
buff. Collar more cinnamon. Thorax and abdomen concolorous with wings, the abdomen generally somewhat grey-clouded dorsally but with no definite spots. Hindtibia of $\sigma$ with pencils strong; tarsus very slightly over $\frac{1}{2}$, second joint $\frac{3}{2}$ first joint.

Forewing creamy cartridge-buff, proximally and anteriorly suffused with brownish, so that a short posterior patch between antemedian and median and a long one between median and postmedian remain rather conspicuously paler; moderately strong dark iroration, weaker on the pale parts; cell-dot sharp, black; lines dull cinnamon mixed with grey; antemedian indistinct, strongly excurred in cell, then strongly oblique inward; median rather thick, oblique outward to a rather acute angle at $R_1$ about $\frac{2}{3}$ of the distance beyond cell-dot (reckoned to apex), then strongly oblique inward, slightly excurred between $M_1$ and $SM_1$; postmedian humulate-dentate, outbent to $R_3$, slightly excurred between this and $R_2$, approximately parallel with termen; subterminal sinuous, between rather broad but not intense shades; terminal line fine and faint, greyish, with small but sharply black interneural dots; fringe faintly or scarcely dotted.—*Hindwing* with termen very feebly bent at $R_3^\prime$; cell-dot at least as large as on forewing; proximal area (to postmedian) clear, traversed by a straightforward continuation of the median shade, proximal to cell-dot; distal markings as on forewing.

Forewing beneath rather strongly suffused as far as the median shade, more feebly (and chiefly or only anteriorly) beyond; cell-dot or dash present; postmedian strong; terminal dots less sharp than above, connected by a stronger line. Hindwing pale, with small cell-dot and seldom strong postmedian; terminal line weaker and slenderer than on forewing, dots developed.

W. Sumatra: Sungei Kumbang, Korintji, 4,500 ft., April 1914 (Robinson & Kloss), 7 $\sigma$, 1 $\varphi$ in Mus. Tring.

Larger than *nesiaria* (Walk., 1861), $\sigma$ hindtibia without a definite process, tarsus relatively a trifle longer, median shade of forewing more sharply angled and more oblique, hindwing termen slightly less angled, yet not quite so round as in *subpartita* Prout (1919), which it recalls in markings, especially on underside, but which has a considerably shorter hindtarsus.

8. *Sterha phaeocrossa* sp.n.

$\sigma$, 14–16 mm. Face and palpus fuscos, the latter pale beneath. Antenna in $\sigma$ sub serrate, the ciliation long (over 2). Vertex, thorax and abdomen cartridge-buff. Hindleg of $\sigma$ quite short; tibia rather shorter than femur, long-scaled; tarsus abbreviated.

Forewing with costa slightly arched in posterior part, termen slightly curved, rather strongly oblique; areole moderate or rather small, $SC^3$ typically stalked well beyond it; cartridge-buff, more or less suffused with a darker shade (approaching pinkish buff); markings dark grey (slightly darker and browner or more purplish than "deep quaker-drab" of Ridgway); a terminal border always strong, about 1 mm. broad, tapering a little at costa and swelling very slightly and gradually about the radials, proximally sometimes with a fine and interrupted line from $R_1$ to a subterminal costal dot; a slightly broader, but more irregular median band more or less well developed, with a distal projection about the base of $R_2$–$M_2$ and a slight proximal one about the fold; antemedian line weak, postmedian variable, strong at costa, then tapering, slightly excurred just behind
middle, sometimes becoming obsolescent; fringe narrowly pale at base, then dark or dark-mixed.—*Hindwing* with termen strongly rounded, but not quite regularly; SC-R stalked for about half their length; similarly marked to forewing.

Underside similar.

Penang, January 1897 and May 1896 (Curtis), type and paratype in Mus. Tring. Also known to me from Kuala Lumpur, Singapore and Dinding I. (3 ♀ in Mus. Brit.) and from Doerian, Riouw Archipelago (2 ♂♂ in Mus. Leiden).

Variable, but easily recognizable. Smaller and paler than *ocnera* Prout (1926), the dark borders standing out more sharply, a defined median band developed, underside almost as sharply marked as upper. Some well-banded aberrations of *S. halmacea* (Meyr., 1888, Australia) are perhaps nearest to it.

9. *Serrha diphyes* sp.n.

♂♀, 14-15 mm. Antenna of ♂ dentate-fasciculate, the ciliation well over 1. Hindtibia of ♂ rather short, broad and flattened, partly hollowed, with projecting scale-tuft, tarsus abbreviated. Head and body concolorous with wings; face vinaceous-russet, sometimes dark-suffused.

*Forewing* rather broad in ♂, narrower in ♀; in both sexes with apex acute, minutely produced, termen oblique, nearly straight; areole small or moderate; glossy buff, more or less strongly suffused with vinaceous (much as in *margaria* Walk., 1861, etc.); costal margin redder, at extreme edge darker; markings very indistinct, reddish, the cell-mark and a few lines (or at least the postmedian proximally) discernible, also traces of pale subterminal; termen, or an indistinct terminal line, darkened.—*Hindwing* in ♀ concolorous, in ♂ posteriorly concolorous, anteriorly whitish buff; markings in ♀ continued; ♂ with a fringe of long buff hair from proximal part of costal margin extending obliquely across the broadened pale hind area of underside of forewing (on the middle of which stands a rough patch of bright buff specialized scaling), abdominal area folded and fringed.

Underside mostly coloured nearly as upper.

Luzon: Klondyke, Benguet, 800 ft., March-May 1912 (A. E. Wileman), 2 ♂♂, 4 ♀♀, type in Mus. Tring; Manila (Banks), 1 ♂ and Mt. Makiling (Baker), 1 ♂ both in Mus. Brit.

Evidently a specialized development of *rufula* Swinh. (1903).

**Subfam. LARENTINAE.**


My previous attempts to straighten out the interesting but troublesome group to which this species belongs were rendered abortive by Moore’s having mixed three species as *curcumata* and treated the one in his own collection as a “type.” Up to 1925, the date of the erection of my *X. hampsoni* (Nov. *Zool.* xxxii. 39) and *placida* (tom. cit. 40), I had found no adequate grounds for doubting the *boua fides* of Moore’s determination of his ♀, now in the British Museum. On a visit to Berlin in 1927, however, I took the opportunity to make a careful examination of the material in the Atkinson collection, to which must be con-
ceeded the claim to the veritable type. Even here I found two dissonant “types,” the ♂ belonging to *griseiviridis* Hmpsn. (*Tr. Ent. Soc. Lond.* 1895, p. 312), the ♀ to *placida* Prout; as the latter fits the description better and, moreover, conserves the older of the two last-mentioned names, I declare it the holotype (“lectotype”) and sink my *placida*.

The three Sikkim species therefore stand as:

1. *curcumata* Moore, 1888 (Prout resr.) = *placida* Prout, 1925. ♀ antenna pectinate, forewing reddish-mixed in the dark parts, double lobe of postmedian slight, hindwing mixed with white.


When or if the Indian form is definitely differentiated from the Formosan, it will require a subspecific name, as all the three legitimate ones here cited belong to the latter. I have now examined all the types involved.

11. *Xanthorhoe cybele* sp.n.

♂♀, 27–29 mm. Nearly related to *X. griseiviridis* (Hmpsn.), with which it was united by Mr. Wileman in his collection. Antennal pectinations shorter (less than diameter of shaft), with the fascieles which surmount them longer than themselves; the fascieles from the secondary processes as long as those from the (primary) pectinations.

Forewing greenish, with the markings bone-brown, about as in some dark-(but not black-) banded forms of *griseiviridis*, without the admixture of reddish scales which is noticeable in *formosicola* Bastelb. and some others of the group; median band solid, its proximal edge twice indented, as in *formosicola*, its distal almost as strongly produced behind R3 as in *griseiviridis*.—Hindwing rather more uniformly dusky than in *formosicola*.

Underside similar to that of *formosicola*, but with the postmedian of both wings projecting rather more strongly behind middle.


Not difficult to distinguish from the other very similar (but larger) Arizan species, *formosicola* Buttl., not only by its size but also by its more protuberant postmedian, the other points noted above and especially by the subpectinate-fascieulate ♀ antenna.

12. *Apithecia viridata wilemani* subsp.n.

♂♀. Apart from other and less palpable distinctions, differs regularly from *A. v. viridata* (Moore, 1867, India) in its darkened hindwing and underside.

Formosa, especially Arizan, where it seems excessively common in September. Type ♂ in Mus. Tring, selected from among a splendid series obtained by the late A. E. Wileman.

1 The title and aim of the work—“Descriptions of New Lepidopterous Insects from the Collection of the late Mr. W. S. Atkinson”—make this manifest and can only be overridden in indisputable cases of internal evidence.
13. **Gonanticlea oculata laetifica** subsp.n.

*Forewing* with brighter tints outside the median area than in *G. o. oculata* (Feldr., 1875, Ceylon), in the ♀ with the median area itself bright or light and with the postmedian lines generally very weak except costally.—*Hindwing*, excepting the abdominal region and (narrowly) a part of termen, ochraceous orange.

Both wings beneath (especially the forewing) similarly more orange than in *o. oculata*.

N. India: Sikkim and Assam, common in the Khasis, type as ♀ from Cherrapunji, October 1892, in coll. Tring Mus.

14. **Ecliptopera muscicolor allobathra** subsp.n.

*Forewing* with the boundary-line of basal patch oblique outward from costal margin to SC, thence more sinuous than in *E. m. muscicolor* (Moore, 1888, N. India), with its inward curve centred on M; median area broad.—*Hindwing* rather ample, with less sharp contrast between the pale costal patch and the rest than in *m. muscicolor*, median line beneath more strongly and regularly curved, postmedian less oblique outward to hindmargin, subterminal faint.

Formosa (A. E. Wileman): Rantaizan, 2 ♀♂; Arizan, 1 ♀; the type ♀ from Rantaizan in coll. Tring Mus.

15. **Ecliptopera albogilva** sp.n.

♂, 35–39 mm. Face sloping, with loose cone below; palpus fully 2, second joint with rather long, oblique projecting hair-scaling above. Antenna minutely ciliated. Abdomen not very robust. Head and body pale yellow with tawny cloudings, the abdomen above predominantly tawny, a pale central line rather strong on the anterior segments, fading out posteriorly.

*Forewing* very pale yellow, almost ivory-yellow, but looking more cream-buff on account of some faint buff suffusions, the warm tone of the veins and some vague rippled lines in the distal area; markings strong, tawny, slightly dulled with grey, the subbasal, antemedian, and postmedian the strongest and darkest; basal area with two or three fine lines; subbasal angled outward at M and very slightly at SM, on SC connected by a dark streak with antemedian; antemedian near subbasal, oblique outward from costa, curved to become almost vertical, slightly inangled at SM; postmedian from nearly three-fourths costa, very weakly exanged at R, faintly incurved before and behind; the broad median area with groups of lines proximally and distally, the centre remaining of the ground-colour, cut into segments by the veins; cell-mark elongate, in centre of pale area; an irregularly crenulate tawny subterminal line, oblique from apex to R, somewhat excurved between this and MP, then more nearly parallel with termen and weakening; terminal line not interrupted, not intense.—*Hindwing* with costa only weakly curved, apex and termen rounded; creamy white, with a weak grey cell-dot and faint traces of postmedian line.

Underside *Lygris*-like, both wings pale yellow, the forewing with the principal markings of upperside reproduced, the hindwing with strong cell-dot and curved (in the middle bluntly bent) postmedian line and traces of several weaker lines proximally and distally thereto.

Szechuan : Kunkala-Shan, 3 ♂♂.
A very distinct species, perhaps arising from a common base of Cidaria and Ecliptopera; best referred to the latter on account of the venation of the hindwing—non-extreme anastomosis of C and origin of R\(^3\) before middle of the curved DC; the abdominal streak and the form of the subterminal of the forewing also show affinity with Ecliptopera and a few Lygris.

16. Collix dichobathra sp.n.

♂♀, 30–36 mm. Scarcely distinguishable from the largest, broadest-winged, brownest and most strongly marked examples of rufidorsata Prout (1929) except in having the ♂ antenna much less strongly lamellate; in the brownish tone generally nearer to r. rufidorsata than to r. promulgata Prout (1929).—Forewing with the costal spots in general more darkened, the postmedian band (group of lines) broadening markedly in front of the slight constriction about SC; subbasal line rather conspicuously darkened between cell and hindmargin, almost as in examplata Warr. (1906), as a dwarf form of which Warren seems to have regarded it.—Underside with the longitudinal streaks on the whole less strongly developed than in rufidorsata; postmedian band of forewing much less indented subcostally than in that species.

British New Guinea: Upper Arca River, end of January and February 1903, 5 ♂♀, 3♀♂ (including the type); Biagi, Mambare River, 5,000 ft., February–March 1906, 4 ♀♂. All in Mus. Tring, collected by A. S. Meek.

Possibly a smaller, rather darker race of praetenta Prout (1929), but the ♂ antenna seems appreciably more compressed laterally; forewing with cell-spot rather less broad; subterminal line beneath running out more obliquely at costa. This latter character, in addition to its much smaller size, different colour, etc., distinguish it sharply from examplata, which inhabits the same area (and Mt. Goliath) but has the subterminal of the forewing much weakened anteriorly.

17. Eupithecia spilocyma sp.n.


Wings as elongate as in costipicta Warr. (1903), with areole simple; brown with dark iroration, much as in rajata Guen. (1858) or on an average rather brighter (variable in tone); markings as far as the postmedian much as in that species, its inward and outward angulation subcostally and at R\(^3\) acute, its dots and dashes at the veins well developed; subterminal characteristic, rather deeply waved, filled-in proximally with dark spots which, except in the darkest specimens, are decidedly conspicuous, the first two (costal and subcostal) rather long, the other five (between R\(^4\) and SM\(^2\)) more macular: terminal line interrupted at the veins; fringe dark-spotted opposite the veins.—Hindwing more whitish costally and in cell, then almost concolorous with forewing and with the markings continued; cell-dot moderate.

Underside approximately as in rajata, but with less white on hindwing, the pale band outside the postmedian less broad.

Luzon: Haight’s Place, Pauati Benguet (A. E. Wileman), 15 ♂♂, 21♀♀. Type in Mus. Tring.

18. Eupithecia wilemani sp.n.

♀, 23 mm. Very similar to infuscata Warr. (1899, as Chloroclystis) = foedatipennis Warr. (1904).—Forewing (as in the type of infuscata) with areole
and SC close to C but not touching it; rather less broad, the costa slightly less arched, the termen more oblique posteriorly; postmedian with the subcostal indentation and the tooth in front of R³ perhaps rather stronger, posterior part rather more incurved; terminal line (also on hindwing) slightly broader but more strongly interrupted.—Underside not quite so strongly Chloroclysiis-like as in infasciata, the colour contrasts being a little less sharp, the postmedian a little less thick.

Luzon: Baguio, Benguet, 5,000 ft., March 22, 1912 (A. E. Wileman), 1 ♀ in Mus. Tring.

The ♂ ♀ of both these species remain unknown and it will not be surprising if they prove to have some sexual specialisation.

19. *Eupithecia (Mnesiloba) cauditornata* sp.n.

♂ ♂, 22–26 mm. Scarcely distinguishable except in the ♂ hindwing from the whitest forms of *eupitheciata* Walk. (1862).—Forewing perhaps slightly broader still; the band between the white subbasal and the broad whitish (rarely grey) median area always mixed (often strongly) with terra-cotta or vinaceous russet; the anterior half-band outside the postmedian also rather brightly tinted with the same, giving place to whitish posteriorly.—Hindwing of ♂ triangular, the apical angle rounded, the termen thence straight to tornus, which is somewhat produced and bears a tuft of specialised cinnamon-buff or clay-coloured hairscaling; the ♂ wing otherwise whitish, almost unmarked, tinged with clay-colour at termen and on fringe, the darker terminal line fine and interrupted.

British New Guinea: Hydrographer Mountains, 2,500 ft., February–April 1918 (Eichhorn Bros.), 5 ♂ ♀, 4 ♀ ♀, including the type; Biagi. Mambare River, 5,000 ft. (A. S. Meek). 2 ♂ ♀, 4 ♀ ♀; all in coll. Tring Mus.

20. *Eupithecia (Mnesiloba) partitecta* sp.n.

♂ ♂, 19–22 mm. Generally smaller than *eupitheciata* and *cauditornata* (supra), but again only as yet positively distinguishable by the ♂ characters.—Forewing generally with termen more strongly oblique, at least posteriorly; postmedian line more oblique inward from costa and with a more noticeable bend inward at R³, the prong at M¹ sharp; median band generally with some dark shading in anterior part, at least in the ♂, pale (excepting the proximal part) posteriorly.—Hindwing in ♂ reduced, the proximal part dirty whitish, the distal occupied by an extended patch of drab (towards cinnamon-drab) specialised scaling which reaches from cell to termen and from costa to M¹; a rather pronounced furrow between this and the folded abdominal margin, ending in a terminal excision; tornal lobe tufted with brownish drab.—Underside suffused, the specialised area of the hindwing vaguely darker grey.


If the whole series from Goodenough Island belongs here, that sex is as variable and often as large as in *eupitheciata*, but I suspect that both species occur together there.

A more detailed working-out of the races must await better material.
21. **Micromia (Prosthetopteryx) scotochlaena** sp.n.

♂, 21–22 mm. Head light cinnamon; face-cone strong; palpus just over 2, second joint rough-scaled above, third shortish-moderate. Antennal shaft proximally with suberect dark scales; ciliation even, nearly 1. Thorax and abdomen above with Verona-brown and blackish admixture; crests strong, dark.

**Forewing** glossy; a large dark basal patch, proximally somewhat olive (at costa reddened), distally black-brown or olivaceous black, its boundary-line finely pale, from \( \frac{1}{3} \) costa to \( \frac{2}{3} \) hindmargin, somewhat oblique inward to behind M, then very briefly and slightly outbent, then direct to hindmargin; median area tinged, especially in the proximal part, with testaceous, shading into the indefinite (buffy brown or more fawn) colouring of the distal area; cell-mark weak; postmedian line marked by a blackish costal spot, otherwise very fine and incomplete, chiefly indicated about the radials, where it is minutely lunulate-dentate and has curved far outward from the costal spot; a large dark (but not black) costal patch proximal to the subterminal, broad anteriorly but ending in a point behind Sc\(^{a}\); subterminal pale, not very sharp, slightly simious, dentate outward about M\(^{1}\), slightly thickened behind M\(^{2}\), running to tornus; some very weak dark shading at radials bordering the subterminal; terminal line weak, interrupted; the pale line at base of fringe, as also the apex, tinged with testaceous. — **Hindwing** almost only between the medians (Warren's sect. I of *Prosthetopteryx*), not quite so deeply as in *caesiata* Warr. (1906), the anterior part slightly sinuate between the radials; dirty whitish, tinged in part with buff, distally shading off to pale neutral grey; terminal line weak, interrupted.

Forewing beneath with basal patch neutral grey, the rest anteriorly (in front of cell and R\(^{3}\), with no sharp definition) somewhat drab-tinged, with darker lines, posteriorly light neutral grey; cell-mark faint. Hindwing beneath more nearly as above, but with indications of cell-dot, a costal dot beyond and a faint line bounding the grey-tinged terminal area proximally.

Central Dutch New Guinea: Mt. Goliath, 5,000–7,000 ft., February 1911 (A. S. Meek), 2 ♂ ♂ in coll. Tring Mus.

Perhaps nearest to *vinosa* Warr. (1907, conjecturally, but quite correctly, referred here) but very distinct. On account of the palpus, the broad, glossy forewing, etc., I regard *Prosthetopteryx* as a subgenus of *Micromia* rather than of *Eupithecia*.

22. **Calluga lophoceras** sp.n.

♂, 17–19 mm. Considerably darker than *costalis* Moore (1887), the pale green ground-colour clouded with a deeper and less reddish brown. Antenna of ♂ less swollen at base, on the other hand proximally to the middle with a slight swelling, from which springs a conspicuous tuft of projecting scales. Hindtibia with the inner proximal spur well removed from the terminals, the outer wanting or absolutely vestigial; terminals extremely unequal; neither of the long spurs club-shaped in the ♂.

**Forewing** with the antemedian indefinite, obscured by dark cloudings, apparently much more angled outward in cell than in *costalis*; median area much more darkened in anterior than in posterior half; postmedian and outer markings much as in *costalis*. — **Hindwing** with the terminal excision (between the radials) deeper than in *costalis*; markings much as in that species, the terminal line relatively strong.
S. India: Madura district (H. Campbell), March–June 1896, 2 ♂♂, 2 ♀♀ in coll. Tring Mus., including the type, others in coll. Prout. Also from Oota-camund, Nilgiris.

23. Carige bicuspis sp.n.

♂ ♂, 32 mm. Pectinations long, even in the ♀. Head and body cream-buff. Forewing broad, excavation behind apex rather strong, projection at R₃ strong, its tip almost as far from base as is the apex, termen posteriorly not so extremely oblique as in lamellacincta Moore (1888); DC in both sexes biangulate; areole moderate (♂) or small (♀), SC₁ + ₁ + ₁ stalked beyond it; cream-buff, with fine and not very dense grey irroration; cell-dot small, blackish, shortly linear; lines chamois, farther apart than in cruciplaga Walk. (1861), the postmedian a little straighter still, the black marks on the antemedian almost obsolete, those on the postmedian small, especially the proximal ones; subterminal dots also slighter than in cruciplaga; fringe much as in that species.—Hindwing with both projections of termen strong, specially that at R₂; DC in both sexes biangulate; concolorous with forewing; cell-dot similar; postmedian line continued, curved posteriorly, its black posterior maculation probably variable (strong in type ♂, obsolescent in allotype); outer area as on forewing.

Underside with some orange-cinnamon suffusion, especially at the veins and along the postmedian line; cell-marks and postmedian line strong, blackish; outer area as above.

W. Sumatra: Sungei Kumbang, Korintji district, 4,500 ft., April 1914 (Robinson & Kloss), a pair in coll. Tring Mus.

Superficially similar to the typical (cruciplaga) group, except in its more extreme shape; unique, so far as is yet known, is its structural characters, though combinata Warr. (1899, Flores) shares with it the subcostal venation of the forewing and may possibly prove, when the ♀ is discovered, to be near it in structure, though smaller and very different is shape and maculation.

24. Goniopteroloba carigodes sp.n.

♂, 30 mm. Palpus fully 2; warm buff, with a few blackish scales on outsides. Head and body concolorous with wings. Hindleg slender, without hair-pencil.

Forewing with termen very slightly waved (almost straight) from apex to the very faint bend at R₂, but without concavity, posteriorly more oblique; SC� stalked to much beyond SC₂, R₂ slightly before middle of DC, M₁ from very near R₂; almost uniformly irrated cream-buff and olive-brown, with some blackish fuscous admixture; costal edge best showing the buff ground-colour, with dark spots and strigulae; cell-mark rather long, blackish; lines ochraceous buff, edged on both sides (somewhat irregularly and macularly) with blackish fuscous; antemedian obsolete anteriorly, oblique inward in cell, slightly sinuous from base of M₂ to hindmargin; postmedian 4 or 5 mm. from termen, slightly sinuous, from SC₄ to M₄ slightly less oblique than termen, between M₃ and SM₃ a little incurved; subterminal indistinct, irregular, with blackish fuscous spots proximally, those at costa, between the radials and at hindmargin the strongest.—Hindwing rather less narrow than in the genotype (zalska Swinh., 1894), more as in Carige rachiaria Swinh. (1891), noticeably dentate, but with the tooth at R₂ hardly stronger than the others; venation as in the ♂ of zalska, M₄ running to abdominal margin, not—as in Carige—to tornus; concolorous with forewing or scarcely
paler; cell-mark much smaller and weaker; postmedian and subterminal well developed in their posterior part, accompanied as on forewing.

Underside rather more clouded, with markings more blurred, no ochraceous colour on the lines; postmedian of hindwing (or rather, its dark distal edging) stronger anteriorly than posteriorly.

W. Sumatra: Sungei Kumbang, 4,500 ft., April 1914 (Robinson & Kloss), type ♂ in Mus. Tring.

More suggests in pattern a Carige (notably rachiaria) than a Goniopteroloba, while in coloration and shape it reverts more towards Cryptoloba (aerata Moore, 1867).

25. Steirophora altitudinum sp.n.

♂♀, 37–39 mm. Close to acrolophites Prout (1926, Java). Abdomen of ♂ a little longer still.—Forewing with the areas rather less sharply defined, the bands which bound the median area being scarcely paler than the median and basal areas, the whole wing rather uniformly suffused and with the dots on the veins strong; median band more distally placed, posteriorly somewhat less narrowed. In some specimens remaining rather exceptionally broad for a Steirophora.—Hindwing with the postmedian line rather more distally placed than in acrolophites.

W. Sumatra: Korintji, May 1914 (Robinson & Kloss), the ♂ type collected at 7,300 feet altitude, 4 ♀♀. All in coll. Tring Mus.

Distinguishable from fasciata Moore (1888) and (subsp. ?) auratisquama Warr. (1897) by its larger size, more uniform and less greenish coloration, shape of the median band, etc.

26. Sauris coalita sp.n.

♂, 31 mm. Face dark olive-buff (no doubt greener when bred). Palpus fully 3; greenish mixed with black, hair beneath 3rd joint very pale green, becoming white at base. Antenna simple, laterally compressed. Thorax and abdomen concolorous with wings. Hindtibia with the fringe not quite so long and tuft-like as in the allies.

Forewing with termen entire (sect. Holorista Warr., 1894), the comb of curved hair-scales at tornus about as in proboscidaria Walk. (1862), accompanying a fovea-like patch which is perhaps somewhat more concentrated than in that species; pale green (slightly more olive-tinged than primrose yellow), with deep brownish drab or fuscous markings; these are much heavier and more extended than in proboscidaria, intermediate towards those of nigrifusalis (Warr. 1896, sect. Pseudoschista indescr.); the two subbasal lines blacker than in proboscidaria, but not broader; median area broader (at costa about 6 mm.) its lines in distal half almost completely coalescing into a band, which throws out a stronger distal projection between SC and the middle of cellule 4 than in proboscidaria, and from which there runs out to termen a narrower projection between the radials; the lines outside the postmedian strong anteriorly and moderately so near tornus; rather conspicuously light subterminal spaces—green shading off to whitish distally—between SC and R and between R and M, the latter much the longer; subterminal fovea-spot white.

Hindwing above much as in proboscidaria, rather duskier; the black pencil from its base slight; beneath with the specialised hair of distal part much less developed, not light-brown.
Perak, 2000–3500 ft. (W. Doherty), type in coll. Joicey. A pair from Kedah Peak, Malay Peninsula, 3,300 ft., March 1928, at light (H. M. Pendlebury), with the markings less heavy (excepting the outer subbasal) but otherwise similar; ♀ with 3rd joint of palpus a little longer, median markings of forewing interrupted between R\textsuperscript{3} and M\textsuperscript{1}.

**SUBFAM. GEOMETRINAЕ.**

27. *Arctoscelia celator* sp.n.

♂♀, 48–52 mm. Very similar to *onusta* Warr. (Nov. Zool. iv. 103), except as noted.

Larger. Hindtibia of ♀ without the remarkable hair-tufts, yet heavily dilated and ensheathing an extremely strong pencil.

**Forewing** with termen posteriorly a little more oblique: SC\textsuperscript{3} in the ♀ and sometimes in the ♀ from the cell (in the ♀ sometimes short-stalked with SC\textsuperscript{3}, as in the genotype); in some lights with decided purplish reflections; cell-spot strongly ocellated (as in the otherwise quite dissimilar *mutata* Warr., loc. cit.); postmedian line rather better developed, the pale line which distally bounds it less white, less punctiform, less deeply incurved at fold.—**Hindwing** of ♀ beneath without the specialised clothing.

Luzon: Haight’s Place, Pauai, Benguet, 7,000 ft., June, July, November, and December 1912 (A. E. Wileman), 5 ♀♂, 3 ♀♀; type in coll. Tring Mus.

All the three known *Arctoscelia* were collected by Mr. Wileman at the same locality, the eight *mutata* before me all in very poor condition; the last-named is clearly a species, with nearly the leg-structure of *onusta* but with little or no special clothing on the ♀ hindwing beneath; it is generally smaller and with the termen of the forewing slightly less oblique.

28. *Sabaria anagoga* sp.n.

♂, 30 mm. Head and body predominantly cinnamon-drab to fawn, the face, collar and part of palpus rather more reddish, the vertex somewhat infusceated, the abdomen beneath paler than above. Antenna almost \(\frac{2}{3}\) as long as forewing, pectinate to very near apex.

**Forewing** slightly less narrow than in most *Sabaria*, costa gently curved, apex not produced, termen only very feebly bent in middle, posteriorly moderately strongly oblique, straightish; cinnamon-drab with a tinge of fawn, closely and uniformly irrorated or strigulared; markings indistinct; cell-mark greyer, slightly elongate; lines more definitely fawn; antemedian from beyond \(\frac{3}{4}\) costa, weakly exangled subcostally, then rather oblique inward and wavy, proximally pale-edged at costa; postmedian at both ends about 3 mm. from termen, slightly interrupted, sinuous, incurred between R\textsuperscript{3} and hindmargin.—**Hindwing** moderate, with apex moderately squared, termen feebly bent at R\textsuperscript{3}; almost colorous with forewing but looking very slightly yellower, chiefly through the less extreme density of the more fawn irroration; a weak greyish cell-dot and slender, somewhat sinuous postmedian, the latter almost twice as near to cell-dot as to termen.

Forewing beneath more fawn than above, the irroration olive-grey, densest costally; cell-mark larger and stronger than above; no markings. Hindwing antimony yellow, fading off towards warm buff, with a narrow, ill-defined distal border of grey irroration; cell-dot weak.
Borneo: Sintang, February 18, 1925 (Dr. H. Winkler), type in Zool. Mus., Hamburg.

In some measure intermediate between the groups of *rondelaria* (Fab., 1775) and *inctata* (Walk., 1862). In colour the upperside strongly recalls some forms of *Anagoga pulversaria* (Linn.).

29. Fascellina arciapotens sp.n.

♂, 39 mm. Face dark reddish brown above, paler beneath. Palpus predominantly ochraceous orange. Body above dark vinaceous grey, beneath cartridge-buff to cream-buff, breast and an anterior patch or stripe on abdomen laterally suffused with orange.

Forewing broad, costa rather strongly arched distally, apex blunt, termen smooth, not more oblique than in *rectimarginata* Warr. (1894) and still more regular, hindmargm extremely faintly subconcave near tornus; apparently somewhat faded; rather light purple-drab, becoming paler in distal area; a broad, ill-defined buff, olive-tinged subcostal streak (probably more olive when fresh), traceable from near base into the angle of the postmedian, but with a blunted reddish suffusion beyond the cell: antemedian distinct, almost as sharply angled close to costa as in *aurifera* Warr. (1897): median almost obsolete; postmedian produced to near termen anteriorly, but with its angle blunter (more rounded) than in *aurifera*, subsequently forming a very gentle inward curve, almost straight; a thicker subterminal from R₁ to hindmargm, slightly bowed outward, except for an extremely faint anterior concavity.—**Hindwing** shaped much as in *aurifera* (i.e. with a very shallow concavity between apex and R₁), but rather ampler: proximal half with more of the buff (or olive-buff) colour, a purple-drab suffusion behind cell not quite reaching abdominal margin; postmedian even more highly sinuous than in *aurifera* and *cydra* Prout (1925), the warm shade on its proximal side narrower than in them; subterminal indistinct, fairly direct from costa to near middle, then bent and becoming still weaker and apparently more dentate; no dark terminal shade.

Underside with the lines nearly as above. Forewing with the buff proximal part much brighter, more orange-buff, and reaching costa; a reddish ferruginous band occupying a good half of the median area, ill-defined proximally, sharply defined by the postmedian distally; some ferruginous terminal shading posteriorly. Hindwing less bright orange than in *aurifera* and *cydra*, in distal half somewhat suffused with violaceous and ferruginous.

Mindanao: Kolambungan, Lanao plains, June 12, 1914 (A. E. Wileman), type in coll. Tring Mus.

30. Fascellina hypochausta sp.n.

♂, 39–42 mm. In most respects comparable to *hypochaustis* Swinh. (1894), yet very distinct.—**Forewing** with the same excavations, but that in hindmargm longer and shallower; colouring paler: lines rather darker, the antemedian less inbent at M; the white cell-spot larger (more as in *albidiscata* Warr., 1894), irregular in form but rather variable; a more distinct dark zigzag subterminal from R₂ hindward.—**Hindwing** with abdominal margin less long in proportion than in *hypochaustis*, more as in *albidiscata* female; the punctiform white postmedian marked with a conspicuous black spot in front of R₁.—**Forewing** beneath as in *hypochaustis* or scarcely duller; hindwing very different, the yellow
proximal part being much more dulled with copious dark strigulation, the distal part predominantly clouded with Hay’s russet or liver-brown (varying according to the individual), only showing some orange at apex and generally near tornus.


31. Hyposidra lactiflua sp.n.

♂, 45 mm. Head and body dark grey, the abdomen mouse-grey, the head, and thorax mostly darker shaded.

Forewing with costa straight to nearly ½, then rather strongly curved, apex blunt, termen nearly straight, even less sinuous than in ♂ leucomela Walk. (1866); grey, a little darker than mouse-grey (presumably somewhere in the enormous gap between 1i and 15i on pl. LI of Ridgway); a very large creamy white distal area (6–7 mm. wide), its proximal edge somewhat sinuous (faintly incurved proximally and distally of a blunt projection at R3–M near their base), containing a large costal and a small hindmarginal patch of the ground-colour; the costal patch subquadrate, 4–6 mm. in diameter, on costa touching basal dark area but not reaching apex, posteriorly reaching R2 proximally but with its boundary running slightly more costad than that vein, distally almost connected with termen by some irroration about R3; the hindmarginal patch narrow posteriorly (touching tornus), projecting distad behind M, somewhat rounded anteriorly, where it ends midway between M and M; fringe white, feebly spotted.—Hindwing with termen only faintly waved, extremely bluntly bent at R3; predominantly white, the basal area being much mixed with white in cell, the subtornal spot wanting, the subapical narrowed posteriorly, not crossing R3, on the other hand reaching apex and connected with termen by much heavy irroration in front of R3; fainter terminal irroration behind, and indications of an interrupted grey terminal line; fringe white, grey-spotted.

British North Borneo: Kinabalu (J. Waterstradt), type in coll. Tring Mus.

Probably variable, but by shape, as well as position of white area, certainly not a form of apiolena Prout (1916), which also occurs on Kinabalu; less far from leucomela Walk., especially in its form albifurcata Warr. (1897, Bongao, Sulu Is.), of which it might possibly be regarded as a race.

32. Seleniopsis francki sp.n.

♀, 34 mm. Head buff, with some dark admixture, the palpus dark-spotted on outside. Body grey buff, suffused (especially the thorax) with vinaceous drab.

Forewing vinaceous drab, dulled (especially in outer part of terminal area) by deep greyish olive strigulation; an extended tornal patch (reaching postmedian and touching M) blue-whitish, in places (especially proximally) with greyish olive irroration, which at hindmarginal rather nearer to postmedian than to tornus condenses into a darker mark; cell-mark black, narrow, slightly elongate; lines deep greyish olive (or intermediate towards Andover green), arising from oblique white costal marks, of which the antemedian is the longer and narrower; the lines themselves diffused and not very conspicuous, the antemedian forming a sharp angle with its costal mark, somewhat incurved, then about vertical to hindmarginal, the postmedian running almost straight outward from its costal spot on Sc, forming a strong outward curve, then oblique inward,
about parallel with termen; minute white vein-dots at proximal edge of post-
median. — Hindwing greyer, though with some suffusion of vinaceous drab,
especially at abdominal margin; no definite markings except at hind part of
abdominal margin, where a slightly ineurred blackish line runs from close to
tornus, fading away towards Mt. an indefinite pale band bounds it proximally
and the beginning of a slender greyish line separates this latter band from the
more vinaceous-tinged part.

Underside with forewing duller, hindwing brighter; both with faint traces
of a median line and less faint traces of a greyish olive postmedian, the latter on
the forewing with some dark spots anteriorly, on the hindwing terminating in a
design similar to that of upperside; forewing with the outer white costal spot;
hindwing with a slender angular black cell-mark.

Szechuan: Kwanhsien, August 13, 1930 (G. M. Franck), type in coll.
L. B. Prout.

33. *Ectropis simplaria* tranostigma subsp.n.

♂♀, 32-36 mm. Larger than *s. simplaria* (Swinh., 1894), more strongly
marked, in particular with the cell-dot of hindwing much enlarged, not infre-
quently throwing a sharp streak outward across the double postmedian.

Luzon: Haight’s Place, Benguet, 7,000 ft. (A. E. Wileman), a long series;
type in Mus. Tring.

If the figure (Schmett. Philipp. ii, t. lxiv, f. 3) is very bad—too broad-winged,
antemedian line shown single, median of forewing straight, subterminal of hind-
wing without the characteristic angulation at R 3—it is possible that this race
will have to be called *E. s. plumosa* (Swinh. Ms.) Semper; *E. plumosa* was
founded on a single ♀ from Mt. Apó (2,060 m.). S.E. Mindanao and the descrip-
tion, unlike most of Semper’s, is worthless; the name and the figure would
suggest strongly pectinate antenna, but the reference to *Ectropis* renders this
an improbable structure and I suspect Swinhoe based his proposed name on the
extremely long and dense faseicles of cilia (*Myrioblephara* Warr.).

34. *Milionia conducta* nom.n.

Britain).

In employing the name *reducta* for this insect, Lord Rothschild overlooked
its prior use by Gaede (*Int. Ent. Zeit. Guben* vii. 353, 1914); although this author
erroneously accorded to his *reducta* the status of “ab,” it is the first and only
available name for the Kinahalu form of the Javan *fulgidata* Vollenh. (1863) and—
as the locality was given—takes rank as a subspecies.

The less narrow wings and different ♀ abdomen lead me to regard *conducta*
as specifically distinct from *elegans* (Jord. & Roths., 1895, D’Entrecasteaux);
the abdomen above has only four (not five) well-developed orange belts, the 3rd
and 4th, however, confluent into a band beneath, whereas in *elegans* the sternum
is wholly black.

35. *Milionia pericallis* keysseri subsp.n.

♀♂, 62 mm. Considerably larger than *p. pericallis* Rothsch. & Jord. (1905),
all the blue parts much duller, in most lights appearing hardly brighter than
Ridgway’s ‘‘green-blue grey’’ series (pl. xlviii); forewing with median band
broader, at least anteriorly, more cinnamon-drab, its green edgings slight and
not vivid, outer blue area broad, almost reaching termen; hindwing with the
red spot wanting, even on the underside (as in only one aberrant specimen from
Angabungu), the subterminal blue area fairly well developed.

N. E. New Guinea: Rawlinson Mountains, inland from Huon Gulf (Keysser),
1 ♂ in coll. Tring Mus.

36. Visitara charitopis sp.n.

♂♀. 41–42 mm. Smaller and paler than brunneiplaga Swinh. (1902), the
wings relatively a little shorter, altogether more approaching in coloration, and
even in shape, the pale forms of Hypephyra terrosa Butl. (1889), but with the
characteristic tail of hindwing well developed, though not quite so long as in
brunneiplaga.—Forewing marked much as in brunneiplaga; angles of ante-
median less extreme; sinuous median fairly well developed; postmedian more
sinuous than in brunneiplaga, considerably less oblique, very little nearer termen
at hindmargin than at costa, its inward curve at fold deep.—Hindwing with the
subterminal shade less broad than in brunneiplaga, a pale subterminal line trace-
able at its distal edge.—Underside less ochreous than in brunneiplaga, the sub-
terminal bands less broad, less intense, slightly different in pose.

Luzon: Klondyke, Benguet, 800 ft., 3 ♂♂ (including the type) in Mus. Brit.;
1 ♂, 1 ♀ in Mus. Tring.

37. Corynica pardalota sp.n.

♂. 21–22 mm. In structure, shape and coloration nearest to latimarginata
the vesicle at base on upperside relatively somewhat larger, its distal end less
rounded (more flattened); distal border narrower and reduced to a half-band,
only reaching to R3 except for mere remnants at termen posteriorly; other
markings slight, macular.—Hindwing at base merely produced forward (as
in the arnearia group, only rather more proximally), whereas in latimarginata
there is a large rounded swelling, hollowed above; border reduced to dark spots
at the vein-ends; numerous irregular dots and spots, the largest ones representing
a central and a subterminal series, those of the former largest at costa and hind-
margin, those of the latter between the radials and hindmargin.

North Borneo: Bettotan, near Sandakan, 28 July–17 August, 1927 (C. Boden

Unfortunately the abdomens of all three have been partly destroyed by
Psocids.

38. Lomographa (Heterostegane) minax sp.n.

♂♀. 21–24 mm. Best comparable with cararia Hb.; colours the same.
Antenna of ♂ with the joints not projecting, the ciliation shorter (1). Abdomen
above infuscated.

Forewing heavily, but rather irregularly and variably, dark-clouded, a more
or less extended apical part (at termen reaching about to the medians) remaining
free or nearly so, very much as in rather extreme examples of trimaculata Vill. ab.
cognataria Led.; outer band broader than in cararia, the line between it and
termen along R4 obsolete or nearly so, an angle formed between the medians,
behind which the band is curved inward, more as in the subtessellata (Walk.)
group than in cararia.—Hindwing also heavily clouded, the line more proxim-
ally placed than in cararia and less sharply angled.
Underside with the outer band somewhat broader than in *cararia*.


**Subfam. HEMITHEINAe.**

39. *Terpna loncheres* sp.n.

♂, 44 mm. Very near to *erionoma* (Swinh.), especially—in its pale colouring—to *e. albicomitata* Prout (1927). Terminal joint of palpus a little less short. ——*Forewing* with subbasal line less oblique; antemedian at first slightly oblique inward, curving in middle to become oblique outward; postmedian thick at costa, forming between the medians and between M₂ and tornus rather conspicuous large spots, the posterior one transversely elongate; presubterminal shade from costa to R₂ rather strong and straight; between the radials scarcely connected with termen by dark shading.——*Hindwing* with cell-mark strong, recalling *T. pratti* Prout (1927), postmedian between R₁ and R₂ as straight and oblique as cell-mark; long blackish wedges outside the postmedian between R₂ and M₂, the posterior one the longer.——Underside with the borders broader than in *erionoma*, the white ground-colour of the forewing with some slight pinkish suffusion posteriorly.


The unique type is unfortunately somewhat worn, but unmistakable.
TYPES OF BIRDS IN THE TRING MUSEUM.
BY ERNST HARTERT, PH.D.

D. Gregory M. Mathews's Types of Australian Birds.
III.
(For No. I see Nov. Zool. xxxv, pp. 42–58.)

ANSERES.


Chenopis atrata roberti Mathews, Nov. Zool. xviii, p. 446 (1912—"West Australia"). In the B. Australia, iv, p. 13, the author says the type was from Augusta, S.W. Australia, and this locality is also quoted in the Syst. Av. Australas., i, p. 207.


The author said this subspecies was "made darker and smaller, wing 466 mm." It is, however, not darker, nor smaller, as it is a female! In the B. Austr. iv, he says that "I have not upheld this subspecies, though I still think that the examination of longer series of specimens would compel its rein-statement." In the Syst. Av. Australas., p. 207 the subspecies is upheld. This type is figured on pl. 200 of the B. Australia.


Anseranas semipalmata hamiltoni Mathews, Austral Avian Record, i, p. 85 (1912—"North West Australia (type), Northern Territory").


In the Birds of Australia, iv, p. 31 Mathews "withdrew" this subspecies but in his Syst. Av. Australas. he recognized it without explanation.


Cheniscus coramandelianus (sic) mackayi Mathews, Austral Avian Record, iii, p. 56 (April 1916—Mackay, Queensland).

Type: Mackay, Queensland.

There has been no description of the supposed differences, only it was said "Figured and described in my Birds of Australia, i, pl. 202, p. 36," and in the Syst. Av. Australas. p. 210 the name is added as a synonym.


Cheniscus pulchellus rogersi Mathews, Austral Avian Record, iii, p. 56 (April 1916—Parry's Creek, North-West Australia).

Type: ♂ Parry's Creek, East Kimberley, 4.ii.1909. J. P. Rogers coll.


*Cereopsis novaehollandiae georgii* Mathews, *Nov. Zool.* xviii, p. 446 (1912—"West Australia, Range Islands south-east of West Australia ").

Type: ♂ North Twin Peak Island, S.E. of West Australia, 6.v.1906. J. T. Tunney coll.

The specimen is figured on pl. 204, *B. Australia*, iv. It appears to be getting rather rare in Australia.


Type: ♂ Fitzroy River, 28.i.1896. No. 12199, Mathews collection.

Mathews said this subspecies differed from *D. arcuata gouldii (= australis!)* in its much darker under-surface. This is perfectly true, and another male from the same locality and date has also a very richly coloured underside, but this is probably due to both being very fine, freshly moulded specimens. In the type the edges to the feathers of the upperside are also very dark and narrow, but in the other example they are wider and as light as in many others. It could hardly be that in a so widely spread species a local form developed on the Fitzroy River, and I therefore quite agree with Mr. Mathews that the name *peroni* should be looked upon as a synonym of the Australian form. (The differences of *D. a. australis* from *D. arcuata* require a good explanation and are probably of no subspecific value.)


Type: ♀ Dawson River, Queensland, 4.ii.1909. Rogers coll. (Admitted as synonym by the author 1927). (Ex coll. Mathews.)


Type: Ad. Cooktown, 28.xi.1899. (Ex coll. Mathews.)

Already quoted as synonym of *rufitergum* by Mathews in 1927.


*Tadorna tadornoides westralis* Mathews, *Austral Avian Record*, i, p. 118 (December 1912—"South-west Australia ").

Type: ♂ Augusta, S.W. Australia. J. T. Tunney coll.

In his *Syst. Av. Australas.*, i, p. 213 Mathews upheld this supposed subspecies. There is no difference in the markings and colour, only it is smaller, and one specimen is not sufficient to admit such a subspecies. It is true that the wing measures only 349 mm., but there is much variation in size. The wings of other males in the Tring Museum measure 356, 361, 364, 365, 372, 383, and 388 mm. There is therefore no reason to separate one male with a wing 349 mm. long!

*Spatula clypeata indica* Mathews. *Austral Avian Record*, i. Part viii, p. 194 (March 1913—"India").

Type: ♂ ad. Runyangora, Upper Assam, 2.iv.1905. Dr. H. W. Coltart coll.


*Malacorhynchus membranaceus assimilis* Mathews. *Austral Avian Record*, i. 4, p. 86 (September 1912—Fitzroy River, North-West Australia).

Type: ♀ Fitzroy River, 8.xi.1902. J. R. Rogers coll.

Said to differ in its smaller wing-measurement and lighter coloration generally. This is not the case, it is not lighter in coloration, nor are Fitzroy River examples smaller. The wing of the type, which is a *female*, is 187 mm., but Mathews quotes only 181 as the length of the wing for the male, and our largest males, with wings 203 mm. are from the Fitzroy River! It is evidently the type of "*assimilis*" which is figured on plate 214 of the *B. of Australiá*, but its date is 18. i., not 10. i. In the *B. of Australiá* Mathews evidently did not recognize his subspecies, but in the *Syst. Av. Australias*, p. 220, he admitted it again.


*Nyroca nyroca dampieri* Mathews. *Austral Avian Record*, i. 4, p. 87 ("Fitzroy River, North-West Australia").

Type: "♂" Fitzroy River, N.W. Australia, 20.i.1896.

Supposed to be smaller and lighter in coloration. There is no difference in the coloration. The wing measures 207 mm., which would be small for a male, but the specimen may be a female, in which case it is by no means small. Unfortunately admitted as a separate subspecies in *Syst. Av. Australias*, p. 221.


*Oxyura australis victoriae* Mathews, *Austral Avian Record*, i. p. 87 (1912—"Victoria").

Type: "Victoria."

Said to be larger and "the markings on the back not so pronounced." Absolutely typical *australis*, but not fully plumaged. No bigger than others in similar plumage.

† 100. *Biziura lobata westralis* Math. = *Biziura lobata*!

*Biziura lobata westralis* Mathews, *Austral Avian Record*, i. p. 87 (September 1912—"West Australiá").

Type: ♂ Herdsman's Lake (Ostle), 7.ix.1901.

Said to be darker in coloration "and in general having the lobe on the under mandible larger." The specimen, however, is not darker and the lobe on the under mandible is spread out by the collector!
† 101. Biziura lobata menziesi Math. = *Biziura lobata* !

*Biziura lobata menziesi* Mathews, *Austral Avian Record*, ii, 5, p. 90 (September 1914—"New South Wales").

Type: No original label, but in the author’s handwriting "N.S. Wales ♀ December, 1888." *B. Australia*, iv, p. 147.

It is said to be "lighter," and the "bands on the back being white, instead of buff. Lobe smaller." It is difficult to imagine why this specimen was said to be lighter, as in fact it is one of the darkest of all, nor are the pale bars on the back white, since they are just as buff as in any other examples. It is a pity that this supposed "subspecies" was separated in the *Birds of Australia* and in the *Syst. Av. Australasian*, p. 222.


*Anas superciliosa rogersi* Mathews, *Austral Avian Record*, i, 2, p. 33, (April 1912—"West Australia Northern Territory").

Type: Augusta, S.W. Australia, 1897. J. T. Tunney coll.

Though Mr. Mathews is anxious to uphold this subspecies, it is doubtful if it can be maintained. He now lets *A. superciliosa superciliosa* inhabit New Zealand and East Australia, but *A. s. rogersi* "Western and Northern Australia, and New Guinea." This seems to me erroneous, as specimens from West Australia are not larger nor smaller than Eastern Australian. If another Australian race can be separated from the New Zealand one, then it would be one inhabiting East and West Australia, not only West Australia. In the original diagnosis Mathews said that the West Australian form was larger, but in his *B. Australia* iv, p. 92 he says they were smaller. He also declares the Australian birds were lighter in coloration, but if there is any difference in colour, the New Zealand birds would be lighter, on the underside, not the Australian ones! There is by no means a good series from West Australia in the Mathews collection. The remarks in the *B. Australia*, iv, pp. 91 to 94, are by no means nicely written and were better not printed in a work on the Australian Birds.


*Nettion castaneum rogersi* Mathews, *Austral Avian Record*, i, 4, p. 86 (September 1912—"North-West Australia, Northern Territory").

Type: ♀ ad., Parry’s Creek, East Kimberley, North West Australia 13.ii. 1909. J. P. Rogers coll. (This specimen is figured in *B. Australia*, iv, pl. 103.) "Rogersi" is not a subspecies of *castaneum*, but of *gibberifrons*. The females of these two forms are, however, as is well known now, practically indistinguishable. There is no doubt that specimens of *gibberifrons* from Timor, Saleyer, Celebes, and Sumba (and doubtless from other islands) are smaller, bill smaller, wing shorter, than the birds from Australia! But the Australian form occurs also on New Zealand—at least I do not know any differences—and therefore they should be called by Buller’s name "gracilis," which is forty-three years older than Mathews’ "rogersi."

The original locality of the name *gibberifrons* is not Celebes, as quoted by Salvadori and Mathews, but Timor, though Müller added that he had also received a specimen from Celebes.
ACcipITRES.

† 104. Circus approximans inexpectatus Math. = Circus assimilis !


Type: ♀ juv., Parry's Creek, East Kimberley, N.W. Australia, 22.1.1909. Stomach two young Mirafra.

In this case Mr. Mathews got wrong in the species! It must be admitted that young *C. assimilis* and old *C. approximans* resemble each other, but the young *assimilis* are all obviously juvenile in appearance; the crown is rufous with blackish brown shaft-stripes, the feathers of the back, etc., brown with light rufous borders, the underside is brownish buff with narrow dark brown shaft-stripes, the middle rectrices blackish brown with not very sharply pronounced paler cross-bars. Also in old and young *assimilis* the 5th primary is longer, being longer than the second, while in *assimilis* it is considerably shorter than the 4th and usually much shorter than the second, though exceptionally as long. The note on *C. a. inexpectatus* in *B. Austr.*, v. p. 25 must be deleted.


*Circus approximans drummondi* Mathews and Iredale, *Ibis* 1913, p. 419 (New Zealand, breeding).

Type: Adult, without original label, but on label in Mathews' handwriting: "Circus gouldi, North Island, New Zealand." Wings so badly worn, that the measure is doubtful.

Great sin has been committed with the suggested subspecies of *Circus approximans*, in fact I believe there are no subspecies of it, at least not those recently admitted by Mr. Mathews and by Kirke Swann, who copied his classification of these birds from Mathews. We have in the Tring Museum now eighteen skins from New Zealand and the Chatham Islands, sixteen from Australia and Tasmania. The wings of the females from New Zealand measure from 405 to 435, but the latter only once, otherwise the largest being 420 to 430 mm. The Australian females have wings of 411 to 439 mm. Most curiously we have only one male from each island, which seems to be reliable, and they measure in Australia 390, New Zealand 391 mm. To me it is not sensible, to say that either are larger, and there is no difference in colour, all statements to this effect being erroneous. Mathews and Iredale (*Ibis* 1913, p. 419) say that the wing in New Zealand is less than 398 mm. I Kirke Swann copied this (vol. i, p. 122). Swann also says of the subspecies from N.W. Australia (which he calls *inexpectatus!*) that its wing is in the male only 376 mm., absolutely disregarding the larger examples!

We have in Tring no Fiji Islands specimens, but specimens in the British Museum, kindly measured for me by Mr. N. B. Kinnear, have wings of 376 to 416 mm. A series from Australia (12) kindly measured by Mr. Kinnear, in the
British Museum, have wings of 382 to 428, fourteen from New Zealand measure 383 to 440 mm.!

We have, unfortunately, no specimens from the Fiji Islands, but it is apparently doubtful if it nests there, or is only a visitor. Both the names approximans and juxta were given to the same specimen from Fiji.

We also have seven examples from Norfolk Island, collected 1913 by Mr. Roy Bell. But on Norfolk and Lord Howe Islands it is said to be a visitor only (Hull, Proc. Linn. Soc. N.S. Wales, xxxiv, p. 674, 1910). If it only visits Norfolk and Lord Howe Islands, it may do the same on Fiji. We have in Tring also four from the Kermadec Islands, one from New Caledonia (Circus wolffi Gurn.!), and one Boboli, China Straits, easternmost New Guinea, shot by Eichhorn, 15, v. 1921. The distribution on p. 237 in Syst. Av. Australasian should therefore be: Australia and New Zealand, Tasmania, Norfolk and Lord Howe Islands, New-Caledonia, Kermadec Islands, Fiji, also S.E. New Guinea. Half of these localities are left out in Kirke Swann's book, who relied on Mathews.


Type: ♂ ad., Fitzroy River, 50 miles up, August, 1898. (Wings moulting.)

[Circus assimilis quirindus Math. = *Circus assimilis quirindus*.

*Circus assimilis quirindus* Mathews, B. Australia, v, p. 23 (1915—Celebes).

*Circus assimilis celebensis* Stresemann, Ora, Monatser, 1924, p. 48 (Celebes).

(Type of *C. a. quirindus* not in Tring Museum, but apparently in the British Museum.)

I feel uneasy about this subspecies. The colour differences suggested in Mathews’ description do not exist, but there seem to be small differences in size as described by Stresemann. The latter gives the length of the wing in the ♂ 368 in Celebes, 380 in Australia, ♀ 425 and 455 mm. In the Tring Museum fully feathered adults in Celebes are ♂ 377, 388, 393, ♀ 411, 442, 433, in Australia ♂ 388, 392, 396, 394, ♀ 455, 456, 457. Dr. Meise kindly gives me from the Dresden Museum from Celebes ♂ 377, 388, ♀ 422, 433, Australia ♂ 388, ♀ 435 mm. There are in such large birds somewhat small differences, but there is in Australia generally a longer wing than in Celebes; only a few millimetres in these hawks is not much of a difference. while in Humming-Birds or small tits and warblers it would be a lot! As it is the subspecies must be recognized, unless larger series show the differences in size to be uncertain. Mathews’s name must be adopted, being nine years older, though his diagnosis is worthless and his name seems to be not classical, it being apparently a mistake for quaerendus.]


Type ♂ (erroneously marked ♀ by collector) Cooktown, 13. v. 1900. Olive coll.

This form is said to be smaller than *A. mii* from New South Wales, Victoria, and South Queensland, but the wing of the type on which 1 or 2 mm. are worn off, measures 263, and in a male from N.S. Wales (Schrader coll.) the fresh wing
is 265 or 266 mm. Nevertheless I find that generally specimens from Northern Queensland and northern Northern Territory are slightly smaller, therefore it is advisable to accept this subspecies, although Mathews thought the type was a female, but it was quite obviously wrongly sexed, all females being of course much larger. The name cinerea has indeed, as pointed out by Mathews, been used twice by Vieillot, on 333 for this Australian form, and on p. 327 for a South American hawk, but \textit{raii} Vigors and Horsfield 1827 is a perfect name; as however, we consider the white birds only white forms of the grey ones, the species must now be called \textit{novachollandiae}!

† 108. \textit{Astur novaehollandiae aboloides} Math. = \textit{Accipiter novaehollandiae cooktowni}.

\textit{Astur novaehollandiae aboloides} Mathews, Nov. Zool. xvi, p. 246 (January 1912—Parry's Creek, N.W. Australia).

Type: \textit{\textit{\textit{\textit{\textit{\textit{i}d.}, Parry's Creek, East Kimberley, N.W. Australia, 8.x.1908. J. P. Rogers' coll. }}}}, "Iris orange red. Feet and tarsus yellow. Bill black, base, cere, and corner of mouth yellow. Stomach remains of a small freshwater-crab."

The white specimens of the north are of course also smaller than those of the south, but in our series quite a number of individuals are quite indistinguishable.

[A most interesting form is the Papuan "\textit{Astur leucosomus}."] Its snow-white form agrees absolutely with the white Australian \textit{novaehollandiae}, except that it is very much smaller—in fact the females are about as large as the Australian males! This Papuan white Hawk, however, has no coloured form like \textit{novaehollandiae} (grey above, white below), but according to Stresemann, \textit{Orn. Monatsber.} 1913, pp. 127—131, its common coloured form is the well-known \textit{Accipiter etorques}! Stresemann has explained this remarkable fact carefully, and it is apparently quite correct, and of the greatest interest. Therefore the so far called \textit{A. etorques} becomes a synonym, and must be called \textit{Accipiter novaehollandiae leucosomus} (Sharpe 1874)!

† 109. \textit{Astur cirrocephalus broomei} Math. = \textit{Accipiter cirrocephalus cirrocephalus}.

\textit{Astur cirrocephalus broomei} Mathews, Nov. Zool. xvi, p. 247 (1912—Broome Hill, S.W. Australia. Tom Carter coll.).

Type: \textit{\textit{\textit{\textit{\textit{i}d.}, Broome Hill, 8.vi.1906. Tom Carter coll.}}}, This name has already been put among the synonyms by Mathews. \textit{Syst. Av. Australasian}, p. 248. Why Kirke Swan allowed it to stand as a separate subspecies in his Monograph \textit{B. of Prey}, i, p. 308, is difficult to understand, since he says that after careful examination of the material at Tring he cannot detect any characters by which to distinguish \textit{A. c. quaesitandus}, which Mathews allowed to stand. It is true that some of these birds are much darker on the upperside and have paler rufous bars underneath, but these two colorations occur in the same countries and are not geographically separated!

† 110. \textit{Accipiter cirrocephalus quaesitandus} Math. = \textit{Accipiter cirrocephalus cirrocephalus}.

\textit{Accipiter cirrocephalus quaesitandus} Mathews, \textit{B. Australas.}, v, p. 81 (1915—Cape York, N. Queensland).

Type: \textit{\textit{\textit{\textit{\textit{i}d.}, Utinga, Cape York, 4.vii.1912. Robin Kemp coll., No. 1196. ("Iris and feet yellow, bill blue-black")}.}}
† 111. Astur fasciatus mackayi Math. = Accipiter fasciatus fasciatus.


Type: ♀ Mackay, Southern Queensland, no date or collector.

Already recognized by Mathews as synonym. The development of a rufous nuchal colour is an individual character in this species.


*Astur fasciatus didimus* Mathews, Austral Avian Record, i. 2, p. 33 (1912—Melville Island).

Type: ♂ ad., Apsley Straits, Melville Island, 12.x.1911. J. P. Rogers coll.

This is a smaller recognizable subspecies, inhabiting Melville Island and Arnhem Land, but the exact distribution is not known. It is near to *A. f. poly-cryptus* from New Guinea, but the latter is still a little smaller and the upper chest of the males is more uniformly rufous.

† 113. Aquila audax carteri Math. = Aquila (Uroaetus) audax.


Type: ♂ ad., Gracefield, 4.v.1908. Tunney coll.

This supposed subspecies is described as darker, and it is said that “in the young the darker coloration is still more apparent in all stages.” It is, however, an error to think all Western birds are darker than Eastern ones. There are among the 17 skins in Tring two from East Australia (N.S. Wales) which are equally dark as some Western ones, and among the West Australian birds are two or light as any before me. The note about the dark Western young was probably based on a young female shot by W. Stalker in the Northern Territory, in which the rufous feathers are not yellowish brown, but a sort of ferruginous, but juveniles often vary and we have not seen all stages from Australia of this eagle. It is a perfect *Aquila*, but the very long and wedge-shaped tail will induce many ornithologists to separate this species generically as *Uroaetus*.


*Erythrotriorchis radiatus katherinae* Mathews, Austral Avian Record, iii. 3, p. 57 (1916—“Katherine River, Northern Territory,” “figured and described in my Birds of Australia, vol. v, pl. 240, p. 88.” No reason given, why this name was given, no differences stated!).

Type: ♂ Katherine River. 25.vii.1895. Dahl coll.


*Erythrotriorchis radiatus queenslandicus* Mathews, Austral Avian Record, iii, 5, p. 128 (1927—Cedar Bay, Queensland).

Type: ♂ Cedar Bay, received from Meek.

Described because it “lacked the white abdomen,” which, however, is no difference, as males mostly have no white on the abdomen! In the *B. Australia*, v, it seemed that Mathews acknowledged his two *Erythrotriorchis* to be synonyms, in the *Syst. Av. Austral.*, p. 249, he admitted the two subspecies, though using for *katherinae* Campbell’s older name “rufotibia,” but that is just as synonymous as *queenslandicus*. 
Type: "♀" errore, is a male (!) Coongan River, W. Australia, 7.vii.1908. (Collector's name not clear).
The coloration is not different from most specimens, size not less, because a male! The only known subspecies of N. morphnoides is at present N. morphnoides weiskei Rechw. which is a rare bird in New Guinea and is smaller and apparently more heavily marked on the underside.

Haliastur sphenurus territori Mathews, Austral Avian Record, i, p. 88 (1912—"Northern Territory").
Type: Daly River (not Mary River), 24.ix.1894. Dahl coll.

† 118. Milvus korschun napieri Math. = Milvus migrans affinis.
Type: "♀" Napier Broome Bay, N.W.A., G. Hill coll. No. 503.
Though this supposed subspecies is absolutely non-existing, there are a number more than the five which were only known to Mathews in 1916!

Though Mathews considers that the correct name of the Australian form should be leucosternus Gould, he should have quoted the name girrenera under which this form has so frequently been mentioned in literature!

† 120. Milvus isurus westraliensis Math. = Milvus isurus.
Type: near Perth, 7.xi.1910 (Dr. Kelsall).
Said to be smaller and darker, but neither is correct.

Specimens without black head and breast occur not only in the interior of West Australia. In 1916 Mathews stated that he could not consider any subspecies of this species valid. Ten years later he reverted from his former view, but, as far as I can make out, without reason.

† 122. Elanus axillaris parryi Math. = Elanus notatus.
Type: ad., Parry's Creek, N.W. Australia, 27.i.1909. J. P. Rogers coll.
† 123. Elanus scriptus victorianus Math. = Elanus scriptus.

*Elanus scriptus victorianus* Mathews, *Austral Avian Record*, iii, p. 70 (1917—Name given to figure and description in *B. Austr.*, v, pl. 250, p. 298. Why?! About the name *scriptus* see *Syst. A. Australes.*, p. 259.)

Type: Victoria, no original label, in Mathews handwriting "December 1902!"


Type: ♀ ad., with no original label, but one written by Mathews gives Mackay, N. Queensland.


Type: ♀ Skull Creek, Cape York, 22.xii.1912. Robin Kemp coll. No. 2164.

The individual variation of these birds is much greater, than Mathews was aware of. *L. s. kempi* was already quoted as a synonym in 1927.

† 126. Falco lunulatus murchisonianus Math. = Falco longipennis longipennis.


Type: "♀ ?" E. Murdison, 22.ix.1909.

† 127. Falco lunulatus apsleyi Math. = Falco longipennis longipennis.


Type: ♀ 22.x.1911. J. P. Rogers coll.

In his book *B. Australia* Mathews said that he did not consider his subspecies valid, as the differences he had seen were individualistic. In his *Syst. A. Australas.*, p. 262 he unfortunately separated both his once supposed forms again without any explanation. How little importance he attached to a name is shown in *B. Austr.*, v, p. 232, where he proposed a new name (*F. l. samueli*) to a not recognized form which had already a name. The only valid subspecies I know of is Hellmayr’s *F. longipennis haveli* from Timor and Lesser Sunda Islands.

† 128. Falco hypoleucus ashbyi Math. = Falco hypoleucus.

*Falco hypoleucus ashbyi* Mathews, *Austral Avian Record*, ii, 4, p. 73 (1913—"South Australia").

Type: Adult, South Australia 1902.

A dirty specimen with almost entirely bare crown. Admitted to be synonym in *Syst. A. Australis.*, p. 263.

† 129. Falco peregrinus submelanogenys Math. = Falco peregrinus macropus.

*Falco peregrinus submelanogenys* Mathews, *Austral Avian Record*, i, 2, p. 33 (1912—"South-west Australia").

Type: ♀ ad. (?) Bokerup, Plantagenet, S.W. Australia, 14.iv.1900.

This is the specimen figured on plate 254 of the *B. Australia*, v. In that book the author wrote a long story about my criticizing his "*submelanogenys*"
with some quite unnecessary remarks (for example that I failed to recognize that Australia is more extensive than Great Britain!), and said that he still admitted his "melanogenys," but in 1927, *Syst. Av. Australas.*, p. 263, he took a more acceptable view and placed it as a synonym, which it undoubtedly is!

† 130. *Ieracidea berigora centralia* Math. = *Ieracidea berigora berigora*?


Type: ♂ Finke River, 22.viii.1913. S. A. White coll.

The genus *Ieracidea* is a very difficult one and various authors have as a rule various ideas about them. Mathews wrote twenty pages on it in his great book and proposed four new names for four new subspecies, but on p. 279, vol. v, he seems to consider the possibility of having two forms only. This seems to me a not only possible but most probable thing. Sharpe has already, in 1874, shown that Gould's *occidentalis* is the same as the true *berigora* of Vigors & Horsfield 1827, and the other would then be *orientalis*. At first glance the series in the Tring Museum (mostly from the Mathews collection) seems to show that the reddish form (i.e. *berigora berigora*) occurs only in Tasmania, southern and western Australia, north as far as Point Cloates, but there is also a male, collected by W. Stalker at "Alexandra, Northern Territory," though on the original label the locality is not given, and I cannot find it on the maps. Moreover, there are in the British Museum specimens of the other dark form, from Tasmania, and we have the red form from Swan Hill in Victoria, and from the Fitzroy River in N.W. Australia. There are also specimens intermediate in coloration between typical *berigora* and the dark *orientalis*, but from Cape York we have a series only of very dark examples. There is no difference in size, we have of the reddish form one quite as big as the biggest black one!

What does all this mean? I think that there are either two species, or only one very variable form—and it seems to me that the latter is what we may accept. The other subspecies suggested by Mathews are then synonyms, and I will treat them as such and hope that this view will be generally accepted.

*I. berigora centralia* is a rufous typical *berigora = occidentalis*.

† 131. *Ieracidea berigora kemipi* Math. = *Ieracidea berigora berigora*.


This specimen is above and below blackish brown, the middle rectrices with pale rufous irregular incomplete cross-bars, feathers of the body whitish at base.

† 132. *Ieracidea berigora melvillensis* Math. = *Ieracidea berigora berigora*.


Dark brown, throat and breast more rufous.

† 133. *Ieracidea berigora tasmanica* Math. = *Ieracidea berigora berigora*.


Type: No collector's label, Tasmania stated on label by the author.
Notofalco subniger minnie Mathews, Austral Avian Record, ii, 7, p. 127 (1915—Minnie Downs, Queensland).

Type: “♀” Minnie Downs, 6.i.1882.
“... I now consider to be identical with the type of subniger” (Mathews).


Type: ♀ Point Torment, West Kimberley, 7.i.1911. J. P. Rogers coll. No. 1101.

New name for Brehm’s *immaculata*, Isis 1845, p. 357, nomen nudum (!), and Bonaparte, Conspr. Av., p. 27, where it is placed as synonym of *cenchroides*.

“With a good and fairly representative series now available I cannot recognize any subspecies” (Mathews 1916). And in spite of this in Syst. Av. Austr., pp. 263, 264 he recognized two subspecies!

Pandion haliaetus melvillensis Mathews, Austral Avian Record, i, p. 34 (1912—Melville Island).

Type: ♀ Melville Island, 4.x.1911. J. P. Rogers coll. No. 1219.


PITTIDAE.

† 137. Pitta macklotii yorki Math. = Pitta macklotii macklotii.

Type: “♀ ad.” Cape York, December, 1868.

(Synonym in Syst. Av. Australas. p. 428.)

(Mr. Mathews gave a new name *Melanopitta sanghirana bonapartena* Math. for the bird called *forsteni*, because this name was only published with description on p. 256 of the Conspr. Gen. Av., but on p. 255 Bonaparte had added in brackets to the name *celebensis* “*forsteni* Temm.,” which obviously means that the latter was a manuscript name of Temminck. So, I am afraid, the name “*bonapartena*” must be accepted for it, although “*forsteni* Temm.” was not a published name, until, most unnecessarily, it was mentioned by Bonaparte.)


Type: ♀ Bellenden Ker Range, 20.xi.1899.

This is an interesting form much smaller than *Pitta versicolor versicolor* from New South Wales and South Queensland, and nearly as small as *P. v. simillima* from Cape York. Unfortunately the ranges of these forms are not worked out in the B. Austral., viii, not even the differences of the very small *simillima* are indicated! The specimens from Cooktown and Cairns seem to belong to *intermedia*, but there is nothing in the colour of the under tail—coverts or of the cap to distinguish these forms by, and sometimes the size is equal to—in a series, however, the size is less (wing shorter than in *P. v. versicolor*, longer than in *simillima*), and often the underside is paler.
† 139. *Pulchripitta iris keatsi* Math. = *Pitta iris*!


Type: Adult, Port Keats, Northern Territory, January 1906.

† 140. *Pulchripitta iris melvillensis* Math. = *Pitta iris*!


Both these “*Pulchripitta*” are now rightly placed as synonyms by the author.

**PASSERES.**

*Muscicapidae.*


Type: ♂ Richmond River, October 1910. Schrader coll.

Said to have “the red on the rump less pronounced,” but this I cannot see! There are no other differences.

(Mathews generically separated the New Guinea *Orthonyx novaeguineae* and *victoriana* as *Papuorthonyx* because they have the metatarsus in front “booted,” instead of “scutellate,” also the shafts of the rectrices are as a rule stronger. Otherwise these birds are so much alike that I, for example, treated the Papuan forms as subspecies of *temminckii* (Nov. Zool. xxxvi, p. 88). It will be most interesting to see which example will be followed!)


Type: ♀ ad., Atherton, North Queensland, September, 1908. Schrader coll.

Said to be “whiter on the abdomen,” but this is not the case.

† 143. *Cinclosoma punctatum neglectum* Math. = *Cinclosoma punctatum*.


Type: ♀ ad., Frankston, 13.iii.1909.

† 144. *Cinclosoma punctatum dovei* Math. = *Cinclosoma punctatum*.


Type: Tasmania, no original label.

The author says it is darker and smaller, but a second specimen in his collection is not darker, and several examples from Australia are not larger, but as small and even smaller than the type of the supposed “dovei.”

Type: ♂ Lake Dundas, West Australia, 850 feet, 16. vii. 1905. F. L. W. coll.

There seem to be differences between the West Australian birds which Mathews calls "dundasi" and the typical *castanotum*. The chestnut on the back in the males is more widely extended and of a lighter tinge, the inner secondaries are more closely bordered with chestnut-rufous, and the bill is in most specimens distinctly shorter. The length of the wings is rather variable, but only four adult males of *dundasi*, and three of *C. c. castanotum* are in the Tring collection. A specimen from the Everard Range in the interior of Australia seems also to belong to *dundasi*.

(The differences of *Cinclosoma castanotum clarum* Morgan, 1926 from Lake Gairdner from *C. c. dundasi* require confirmation!)


Type: ♂ ad., Day Dawn, 1,400 feet, 11. vii. 1903. F. L. coll.

The pair from Day Dawn seems to differ from its allies by having blackish shaft lines to the feathers and being about as dark as *C. c. castaneothorax*, not pale as *C. c. cinnamomeum*.

(The name nea is not a Latin word and can therefore not be altered!)

*Samuela cinnamomea todmordeni* Mathews, *Austral Avian Record*, v, p. 35 (1923—"Todmorden, Central Australia").

Type: ♂ ad., Todmorden, N.W. of Lake Eyre N., July 1914. S. A. White coll.

This is undoubtedly the pale *cinnamomeum* and not *nea*! In the *Syst. Av. Australas.*, p. 558, it is placed as a synonym of the dark *nea*, which is quite wrong. Specimens from Macumba are of course exactly the same as the one from Todmorden.


Type: ♂ ad., Waddilinia, Nullarbor Plains, September, 1922. C. G. Gibson coll.

This bird is figured on plate 427, vol. ix, *B. Australasia*. There are in the Mathews collection three specimens from the same locality, which are the same. The Nullarbor Plains, however, are near the south coast of Australia, long. 128 to 130 about, not in West Australia; unless there is another Nullarbor Plain in West Australia of which I cannot find any indication.

This *Cinclosoma alisteri* Math. is a very distinct form, but it may possibly one day be looked upon as a subspecies of *C. cinnamomeum*. 
? † 149. *Samuela cinnamomea samueli* Math. = *Cinclosoma cinnamomeum castaneothorax*

*Samuela cinnamomea samueli* Mathews, *Austral Avian Record*, iii. p. 60 (1916—"Gawler Ranges South Australia").

Type: ♂ Sandford's Paddock, Gawler Ranges, N. of the Eyre Peninsula, 3.i.x.1912.

This specimen is quite different from *neae* and it is quite an error to put it down as a synonym of the latter! There are, it is true, indications of central dark lines on the feathers of the back, and the skin is in very worn and poor condition; if it is not *castaneothorax* it may be another subspecies.


Type: ♂ Kow Plains, Victoria, 6.x.1909.

(Admitted synonym.)


*Drymodes superciliaris colcloughi* Mathews, *Austral Avian Record*, ii. p. 97 (1914—"Roper River, Northern Territory").

Type: ♂ ad., Roper River, Northern Territory, September 1910, M. J. Colclough coll.

This specimen looks very distinct, but the "reddish buff" underside is obviously dirty, the rufous colour being stained! The specimen is, however, also more reddish on the upperside, and therefore may be a distinct subspecies—though it is peculiar that only one skin was obtained; at least it appears so, but Mathews does not inform one how many specimens he examined. A most inconvenient, and sometimes misleading omission.


Type: ♂ Sassafras, Victoria, 28.xii.1908.

We have, besides the type, one ♂ from Fern Tree Gully, Victoria, and a female and young male from Selby. These specimens are certainly, though slightly, darker than our New South Wales examples, from the Blue Mountains and Port Hacking. Mr. Edwin Ashby mentions it from Mount Dandenong, Victoria. This slightly different form is described and figured in vol. ix of the *B. Australia* by Mathews. The original diagnosis in *Nov. Zool.* (1912) is quite wrong; this subspecies is not "much" darker, nor is the head and back "bluish brown," "instead of fawn." Nevertheless it is slightly darker, especially on the sides, and that is all that can be said. Perhaps it is very slightly smaller, but to make sure of this more properly sexed specimens of *P. floccosus floccosus* must be available. This is a rare species, "living in dense growth of dogwood and bracken, under which many clumps of bayonet or sword grass are found." It is very local and stationary. (From labels of the discoverer.)
† 153. **Hylacola pyrrhopygia belcheri** Math. = *Hylacola pyrrhopygia pyrrhopygia.*
*Hylacola pyrrhopygia belcheri* Mathews, *Austral Avian Record*, i, p. 191 (1913—"Anglesea, near Geelong, Victoria, No. 15745").

**Type:** Juv. No original label, but a Mathews' collection label, on which is written by Mathews "Landslip Anglesea, Victoria, 16.x.1912. 25 miles S.W. of Geelong."

This and another bird from same locality, said to be a pair, but seem to be both young females, still with the rufous throat and chest. These birds are both young *pyrrhopygia pyrrhopygia* and therefore must be from N.S. Wales, and not from near Geelong (Anglesea) in Victoria! How the error about the locality was made I cannot explain.

† 154. **Hylacola pyrrhopygia brevicauda** Math. = *Hylacola pyrrhopygia cauta.*


**Type:** ♀ ad., Victoria, 4.viii.1910.

This specimen is not paler above than others, and its short wing and tail is due to its being a female!

† 155. **Hylacola pyrrhopygia halmaturina** Math. = *Hylacola pyrrhopygia cauta.*


**Type:** ♂ ad., no original label, but label written by Mathews says Kangaroo Island, 28.iii.1905, ♂!

This specimen is a fine adult male with a wing of 60 mm., but other specimens from Kangaroo Island measure generally only 59 mm. on the wing, females of course less. The darker coloration of the upperside is not seen in other examples! Kangaroo Island specimens do not differ from *cauta*.

156. **Hylacola pyrrhopygia whitlocki** Math. = *Hylacola pyrrhopygia whitlocki.*


**Type:** (♀) ad., Stirling Ranges, S.W. Australia, 22.ix.1910. J. F. W. coll.

There are four adults and several young from the Stirling Ranges and other localities in S.W. Australia (Gnowangerup, Tom Carter coll.) which have very distinct white edges to the greater upper wing-coverts, and they may be separated by this peculiarity; in other races these white edges are only indicated by greyish white markings, often almost invisible. Perhaps the subspecies is slightly smaller, but more specimens should be available to be sure about this. They are not "lighter above," the author did not grasp its difference.

(The unfortunate little *Hylacola* have been hard treated of late. Mr. Mathews described four supposed new subspecies. In his great book *Birds of Australia* he, in the end, came to the conclusion, that there were seven subspecies of *H. pyrrhopygia* and no other species, and suggested that "many others" would be named if the supposed subspecies prove valid—he also said that "the sexual, and maybe seasonal, plumages" did not appear to be well known yet. The latter can hardly be said nowadays, and that "many others" will be named is not likely the case! In his *Systema Avium Australasian* ii, p. 562, however, he admitted two species, *H. pyrrhopygia* and *cauta*, each with three subspecies.
This is quite wrong. Most of his suggested names are synonyms, and there is no reason to enumerate two species.

The *Hylacola pyrrhopygia* Vig. & Horsf. 1827, differs at a glance by a somewhat indistinct greyish-white superciliary line, a small, hardly visible and not quite white spot on the primaries, and by greyish or brownish, not pure white tips to the outer rectrices. This form is apparently only found in New South Wales, and a northern subspecies.

"*H. p. belcheri*" Math. is a synonym, but there must be an error about its supposed locality!

"*H. p. brevicauda*" is a synonym of *cauta*, and so is "*H. p. halmaturina*", as specimens from Kangaroo Island are indistinguishable from *cauta*.

*H. p. whitlocki* from S.W. Australia might be kept separate by the white edges to the greater upper wing-coverts, as explained above. The distribution in South West Australia is also remarkable, as it is widely separated from the known habitats of the allied forms—unless it has not been found in the interlying stretches of land.

We have therefore the following subspecies of the genus:

*Hylacola pyrrhopygia pyrrhopygia* (Vig. & Horsf.).

New South Wales.

*Hylacola pyrrhopygia cauta* Gould.

Victoria and South Australia, Kangaroo Island.

*Hylacola pyrrhopygia whitlocki* Math.

S. W. Australia: Stirling Ranges, Wongan Hills, Gnowangerup (Tom Carter), east of Broome Hill (Tom Carter).

There is also a bird called *Hylacola pyrrhopygia magna* Howe, *Emu*, xviii, p. 59 (1918—"Cobbara, New South Wales") which is said to be paler than *H. p. pyrrhopygia*, to have a whiter eyebrow, and more linear black stripes on the throat and breast, also to be larger—but measurements are not given.

This would thus seem to be quite different, but from an article by the same author, Howe, in *Emu*, xvi, I fear that this author compared single specimens, not series, of these birds, and that his statements about their differences are therefore partly erroneous.)


Type: (♀) ad., Gippsland, Victoria, no date.


Type: "♂" but surely ♀, Tweed River, N.S.W., June 1894.

In the description it was only said that this bird was smaller. In 1930 the author quoted the name "*sublateralis*" as a synonym of *olivaceus*, but omitted to say that the small birds are females, with wings of about 91–95, while males have wings of 96 to 105 mm.

Type: ♂ ad., Rockhampton, Southern Queensland, April 1882.

Rockhampton is situated in southern, or you may say middle Queensland, and this is still the southern *P. olivaceus olivaceus*, though its bill is rather large. But there is, in North Queensland, tablelands of Upper Barron River, "about 32 miles from Cairns," at Tolga, Cairns, Johnstone River, Atherton, and doubtless many other places, the "*P. crepitans lateralis,*" rectius *P. olivaceus lateralis* of North, 1897, which has, as clearly said in the original description, brownish tips to the lateral rectrices, and much more greenish flanks.


Type: ♂ Cape Mentelle, West Australia, 26.xii.1904. C. P. Conigrave coll.

(This is the only specimen in the Mathews collection. Evidently a rare species in collections.)
THE BIRDS OF THE BALEARIC ISLANDS.

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THE Balearic Islands—composing a province of Spain—lie off the east coast of Spain, between latitudes 1° and 5° E. and longitudes 38° and 41° N. They consist of three large islands—Majorca, Minorca, and Iviza—and a number of smaller ones—Formentera, Cabrera, Conejera, Dragonera, etc.

The nearest to the mainland is Iviza, some 50–60 miles east of Cabo de Nao, in Valencia; then Majorca, about the same distance north-east of Iviza; and Minorca, 20–30 miles north-east of Majorca.

The area of Majorca is 1,350 square miles, with 265,000 inhabitants; Minorca is 293 square miles, with 40,000 inhabitants; Iviza is 230 square miles, with 26,000 inhabitants. The chief towns of each are: Palma, in Majorca; Mahon, in Minorca; and Iviza, in Iviza.

Of the general history of the islands, a good deal has been written:

The Story of Majorca and Minorca, by Sir Clements Markham (1908).

Majorca, by H. C. Shelley (1925).


The Balearics and their Peoples, by F. Chamberlin (1927). Etc., etc.

In Majorca the whole north-west coast is guarded by a range of mountains—seated with their backs to the chilly north, and their feet in the sunny plain—averaging some 5 miles in width, and running from near Andraitx to Pollensa, with the narrow mountainous ridge of the Pollensa peninsula extending to Cabo Formentor.

The highest peaks in this range are the Puig Mayor (4,579 ft.), Massanella (4,383 ft.), Tomir (3,598 ft.), all between Soller and Pollensa; Galatzo (3,352 ft.), and Esclop (3,032 ft.), between Andraitx and Esporlas.

Other groups of mountains are on the Aleudia peninsula, the highest point here being the Atalaya de Aleudia (1,475 ft.); round Arta, with Ferruch (1,635 ft.); Randa (1,792 ft.), near Lluchmayor; and several smaller isolated groups of lower elevation, scattered over the southern plain.

Most of these mountains were, except the extreme summits, formerly clothed with woods of Pine (Pinus halepensis) and Evergreen Oak (Quercus ilex), but most of the trees having been cut down for timber, firewood, or charcoal, they are now greatly demuded of forest, only the undergrowth of heather (Erica multiflora), cistus (Cistus albidus, etc.), lentisk (Pistacia lentiscus), myrtle (Myrtus communis), rosemary (Rosmarinus officinalis), wild olive, etc., etc., being left. The palmeto (Chamaerops humilis) also occurs, but is very local. In remote parts, however, some fine pine-woods, the resort of the Crossbill, still exist, but outside them the hillsides are wild, rocky, and scrub-covered, and, as a rule, singularly bare of bird life.

On the sea-ward side the coastal mountains descend abruptly to the sea, the magnificent cliffs forming an incomparable coast-line.

Sheltered by the northern wall of mountains, with its foot-hills covered with olives, algarobas (locust-beans), etc., lies the fertile cultivated plain, where are grown corn, beans, peas, and all sorts of vegetables, and almonds, vines, figs,
apricots, and fruits too numerous to mention; and, though cultivation is continually extending, there are still great expanses, particularly near the coast, of rock-strewn, scrub-covered country, the especial haunt of Marmora’s Warbler.

In certain low-lying parts near the coast are extensive marshes and lagoons, chief among them being the Albufera, near Alcudia; the Albuferete, near Pollensa; the Porassa, near Santa Ponsa; and in the extreme south of the island, near Estañy and Campos. Formerly a large marsh, called El Prat, existed between Palma and Arenal, but this has now been drained.

Of the existing marshes, the Albufera of Alcudia, and its neighbourhood, is undoubtedly the part of the island richest in bird-life. It lies just inshore, west of Alcudia Bay; the Bay itself is fringed, most of the way round, next its sandy shore, with a belt of sand-dunes, overgrown with beautiful pine-woods, with a thick undergrowth of scrub lentisk, myrtle, heather, cistus, etc., in places densely bound together with tangles of Smilax aspera. Nearest to Puerto Alcudia is an extent of marsh-land, covered with Crithmum maritimum, Fauila crithmoides, spear-grass and coarse herbage and occasional tamarisks, among which lie several shallow lagoons, most of which dry up in summer. Unfortunately the pine-woods are now being cut down, and the marsh-land given over to cultivation.

The Albufera proper is a large tract of swamp, entirely under water, fed by a strong spring north-east of Muro, called the Fuente de San Juan, and receiving the streams draining the south-east side of the northern range of mountains from as far west as Alaro; and is covered with a dense growth of reeds, intersected by numerous ditches and canals, all of which drain into the sea nearly in the centre of the Bay, through a large main canal.

An attempt was made between 1860 and 1870, by an English company, to drain this marsh in order to grow rice, cotton, etc., and a most elaborate system of roads, dykes, and pumping-stations still remains in a ruinous and dilapidated condition, the works having been abandoned. Rice is, however, still grown on the fringes of the swamp, and there is a paper-mill in the centre, lately shut down, where paper was made from the reeds.

But the great disadvantage in the island generally is the lack of water in the summer, and the scarcity of permanent streams; practically the water-supply is dependent on the winter rainfall, and very little effort is made on any large scale to store the immense quantity of water that runs to waste; the beautiful gorges in the hills are only running streams after heavy rains or melting snows, and most of the streams that are permanent have their water used up for irrigation before it reaches the sea.

Generally, however, all the islands are somewhat disappointing to an Ornithologist, and visitors often say there are no birds—certainly they require seeking, and from constant persecution are unusually wild and shy; but lately, owing to the stricter enforcement of the laws of close-times and licences, under the Directory of Primo de Rivera, an increase in certain species was already perceptible.

The strenuous work of climbing the rocky hills takes a lot of time with but meagre results. The sandy sea-shores and sand-banks are ideal for nesting shore- and sea-birds, but on the former only Kentish and Little Ringed Plovers abound, and on the latter Gulls are few, and of Terns there are none. Comparatively few species of birds of prey frequent the hills, and the cliffs of the coast, which should teem with bird-life, are barren.
The marshes therefore remain the only spots really prolific in bird-life, and are so on account of their impenetrability.

There is also the difficulty of exploring off the beaten track, on account of the absence of food and accommodation, while in the mountains there is hardly a habitation to be found at a greater elevation than 2,000 ft.

Minorca is, on the whole, a somewhat desolate and low-lying island, and is now little visited, chiefly because of the poor accommodation in the inns of the island. It is surrounded by a wild, irregular, cliff-bound coast of no great height, with numerous rocky inlets and gorges, and but few sandy bays or beaches; there are no permanent streams, and few marshes, which are all near the coast.

The centre of the island is hilly and well-wooded—the highest hill is Monte Toro (1,145 ft.), but the next highest are considerably lower—this wooded country and its lanes are quite attractive.

Generally it is very wind-swept, and in the exposed parts such trees that exist grow in sheltered ravines and hollows.

Cultivation is carried on with difficulty, on account of the rocky nature of the country, and its exposed position; but many of the knolls, which are general throughout the country, are cultivated nearly to their summits, the remainder being covered with stunted scrub growing among the rocks; in the hollows and valleys crops are also grown and grassy pastures are not infrequent.

There is a considerable extent of desolate moorland, chiefly near the coast, thickly covered with scrub of heather, myrtle, cistus, lentisk, etc., and given over to rabbits, Stone-Curlews, and Marmora's Warbler.

Numerous deep, rocky gorges run down to the sea, those in the south coast being particularly imposing; and the few sandy bays have a backing of sand-dunes, usually shutting in a reed-grown marsh or lagoon, through which a sluggish stream trickles, at different seasons making its way into the sea, or being absorbed in the bank of sand on the shore.

It is less populous and not so highly cultivated as Majorca, and birds there do not lead so precarious an existence, for having been longer afforded a certain measure of protection, they are not so wild and shy; but the species are less numerous than in Majorca, and there is little difference in the Ornithology of the two islands.

Iviza, Formentera, Cabrera, Conejera, Dragonera, etc.

On account of the absence of competent observers in the smaller islands, information of the occurrence of rare birds there is scanty, and personal visits to them are the only means of obtaining any knowledge of their birds.

Iviza is generally hilly and pine-clad—the Ivizan Pine (Pinus pinea) being the common tree—with a considerable area of cultivation. The highest hills lie near the coast, the highest peak being the Atalaya de San José (1,553 ft.), due west of the town of Iviza. The greater part of the island is surrounded by a very irregular, rock-bound coast, with innumerable rocky inlets, and a number of gorges running down to them, and many islets of various sizes lie off the main island.

Except at Santa Eulalia there is no permanent supply of fresh water in the streams, and no marshes of any consequence, but extensive Salinas lie in the south of the island.
Formentera, to the south of Ibiza, is somewhat flat with a good deal of cultivation, and there are a few low hills, and some large lagoons, but it is sparsely inhabited.

Cabrera and Conejera are rather high, rocky islands off the south coast of Majorca, the former having a few inhabitants, besides its small garrison.

The remaining islands are generally uncultivated and uninhabited except by the lighthouse-keepers, and perhaps a small farm visited only occasionally by its cultivators, and by fishermen who live in their boats in sheltered creeks.

Of Sport in the islands, with the exception of wild-fowl, there is practically none; everybody shoots, but as the native is not a sportsman, his only reason for shooting is for the "pot."

A good many much-harried rabbits abound, and are especially abundant in Minorca; there is a fair sprinkling of persecuted hares (in Majorca); a number of partridges of a particularly wary disposition; some quail and woodcock; and in winter the marshes teem with wild-fowl. These marshes are generally privately-owned, and, if only they were in the hands of people who knew anything of shoots, would afford splendid sport. Also it would appear that the ever-running streams in the Albufera of Alcudia have possibilities for stocking with fish.

The inhabitants of the islands are very friendly and courteous, but do not take much interest in the doings of the foreigner among them. They are not, as a rule, interested in natural objects, and have little knowledge of the natural history of their district. Regarding bird-life their ignorance is astonishing; even the shepherd-boys who spend the whole day in the country with their flocks take little notice of the birds around them, and no reliance can be placed on any information they may give; therefore there is a difficulty in obtaining reliable records of the occurrence of rare species; for to any of the inhabitants a bird is a bird, and as such to be killed and eaten—only a sufficiently large bird exciting any remark.

Finding that no Englishman has attempted to make a complete list of the birds of the Balearic Islands, I have devoted most of my eleven years residence in Majorca to this object; the position of Alcudia being especially favourable, only the narrow ranges of hills on the Pollensà and Alcudia peninsulas lying between it and the open sea on the north and east, enabling one to notice migrants passing direct to, or from, the open sea; and the proximity of the Albufera and attractive surrounding country make it a spot where further discoveries may yet be made.

But the main stream of migration does not pass through the islands, few species only regularly following this route; apparently it keeps nearer the mainland of Spain, as is shown by the number of species that occur as stragglers. The direction of migration is north-east and south-west, possibly to and from the mouth of the Rhone, so that the stragglers that occur here are only the outer edge of the stream, and are thus cutting off a corner.

Remarkable in the islands is the absence of many species that are common on the Spanish mainland, such as the White Stork, Crows, Magpies, Jays, Lesser Kestrels, Woodpeckers, Tree-Creepers, Nuthatches, etc., nor is there anything to show that they have ever inhabited the islands.

In the following pages, devoted to the different species of birds, I have
relied chiefly on my own observations, assisted by those of the few modern observers who have visited the islands, and I have not paid much attention to the writings of earlier authors, which are, in many cases, so out of date as to be unreliable.

Few native names are given, and only of those species that are commonly known, for many native names given in some works are unknown to most of the inhabitants.

In this work I have elaborated, corrected, and added to, up to date, my "Notes on the Birds of Alcudia, Majorca" (Ibis, Oct. 1921, pp. 672–719); "Notes on the Birds of Minorca" (Ibis, July 1924, pp. 446–467); "Additional Notes on the Birds of Alcudia, Majorca" (Ibis, Jan. 1925, pp. 39–47); "Additional Notes on the Birds of the Balearic Islands" (Ibis, July 1926, pp. 467–477); "Further Notes on the Birds of the Balearic Islands" (Ibis, Jan. 1928, pp. 17–22).

In addition, the following writers on the Ornithology of the Balearic Isles have been consulted, and quoted from:

1. A. von Homeyer. In Journal für Ornithologie, 1862 and 1864. He visited the islands in the middle of April until the middle of May, 1861, but many of his statements could only have been from hearsay.

2. Barceló y Combis. "Catalogo metodico de las aves observadas en las Islas Baleares" (Madrid, 1866). Some of his notes were not from his own observations, and are questionable.

3. The Arch-Duke Ludwig Salvator. 7 vols., 1869–1891. On the Balearic Isles, but is not reliable as far as the Ornithology of the islands is concerned.


5. Mauricio Hernandez Ponsset. "Catalogo de las aves observadas en la Isla de Menorca" (Mahon, 1911). This is a list of the collection of Birds in the Literary and Scientific Institute, in Mahon. Unfortunately the birds in this museum, all of which have been obtained in the island, are without data, and Señor Ponsset's remarks on the different species are only general, and do not usually apply to Minorca in particular.

6. A. von Jordans. "Die Vogelfauna Mallorcas" (Falco, August 1914). A most complete and detailed work on the avifauna of the islands. He spent March, April, and May 1913 in Majorca, and species that he did not himself observe he has added on the authority of earlier writers. He has later supplemented this work by others (see No. 8 below).


8. A. von Jordans. "Die Ergebnisse meiner zweiten Reise nach Mallorca" (Journal für Ornithologie, July and October 1924, and April, 1925.) This is a supplement to No. 6 (above), and a very valuable addition to his earlier work. He was in Majorca from March to July, 1921, and besides including no less than twenty subspecies, since increased to 25,— the validity of some of them, however, having yet to be proved—he noted the Great Reed Warbler, Little Bittern, and Red-crested Pochard, which no modern observer had before recorded. He paid another visit to the island in 1927, from April to June, the results of which were published in Noc. Zool., vol. xxxiv, July, 1928, pp. 262–336. ("Die Ergebnisse meiner dritten Reise nach den Balearen.")
9. P. Henrici. "Ornithologische Ergebnisse zweier kurzer Reisen nach den Balearen und Pityusen" (Beiträge zur FortpflanzungsbioLOGie der Vögel, Jan., Sept., Nov. 1926 and Jan., March, May, 1927). He visited some of the islands in 1924 and 1926, and found the Citril Finch breeding, also noting the Collared Pratincole, as well as suspecting the nesting of Culandrella minor.

In the same periodical for Jan. 1926 he published an interesting account, with illustrations, of the breeding of Sylvia sarda balearica.

10. Rev. F. C. R. Jourdain. "Die Eier der Vögel von Mallorca (Balearen)" (Beitr. zur Fortpflanzungsb. der Vögel, March, May 1927). On the eggs of Majorcan birds, based on those collected by Ratcliff in 1909, and by myself, and on the lists of v. Jordans and Henrici. No information had hitherto been published on Ratcliff's collection, which is of great interest, comprising many species of which he was the first to obtain eggs from Majorca.

11. Dr. Claud B. Ticehurst and H. Whistler. "A spring tour in Eastern Spain and the Pityusae Islands" (Ibis, Oct. 1930, pp. 638–677). Their most interesting discoveries were: Rufous Warbler, nesting of the Storm-Petrel, and of the Western Mediterranean Shearwater, and the obtaining of the young in down of the latter.

A few other works have been published containing matter referring to the Ornithology of the Balearic Isles, but they are of little importance; among them are:

Armstrong and Cleghorn. "Description of the Island of Minorca (1754)."
Ventura de los Reyes y Prosper. "Catalogo de los Aves de España, Portugal y Islas Baleares (Madrid, 1866)."

But it would only be misleading to quote from them.

Mr. H. F. Witherby visited the islands in June and July 1919, and has supplied me with several useful notes; he has also kindly identified many of my bird-skins, for which I am much indebted to him.

The Rev. F. C. R. Jourdain has furnished me with notes on many of the eggs I have collected, which have been of great value to me. He also visited Majorca, Iviza, and Formentera in April and May 1930, and made many interesting observations which he kindly communicated to me—among them the finding of nests of the Great Reed Warbler, and noting Bonelli's Warbler and the Collared Flycatcher. Some notes on his visit were published in Beitr. zur Fortpflanzungsb. der Vögel, Nov. 1930, pp. 202–204.

My acknowledgments are also due to Señor Don Joaquin Gual de Torella, and to his sons, for facilities enabling me to range the Albufera of Alcudia; and to:

Señor Mauricio Hernandez Ponsseti of Mahon, who has kept me informed, from time to time, of any rare occurrences in Minorca, from which this work has greatly benefited.

Also I must not forget my collector—Antonio Ginart—who is unrivalled by any Mallorquin in his knowledge of birds and plants and whose keenness of sight and hearing are invaluable to me.

1. SPANISH RAVEN. Corvus corax hispanus.—Corp.

A common resident in all the islands.

They nest invariably in the crags among the hills, or in the cliffs of the seacoast, and never in trees. In the hills several pairs may sometimes be found
nesting in the same neighbourhood, if a particular range of cliffs, or a gorge, contains sufficient caves or ledges, and the same nesting-sites are resorted to annually. Though a nest often appears to be in an easily-accessible position, it generally turns out to be extremely difficult to reach.

The eggs are generally laid in April, but I have seen young in a nest as early as March 22.

It is rather a sociable bird, and sometimes assembles in considerable flocks, if attracted by some common food-supply, and when playing in the air in the spring.

They do a good deal of damage to the melon crops in Majorca, by pecking holes in the fruits, and eating parts.

It is a somewhat smaller bird than the Common Raven (*Corvus corax corax*), with a rather differently shaped bill, and slightly different shades of colouring.

It is also resident in Spain, as well as Corsica and Sardinia. Wardlaw Ramsay (*Birds of Europe and North Africa*) gives it also as resident in Portugal, but Tait (*Birds of Portugal*) describes the Portuguese Raven as *Corvus corax corax*.

2. **HOODED CROW.** *Corvus cornix cornix.*

I saw one in the Albufera of Alcudia, Majorca, on June 18, 1926, which appears to be the only record of this species in these islands.

It is very doubtful if the Carrion Crow (*Corvus corone corone*) has ever occurred, certainly not in recent years, as pointed out by the Rev. F. C. R. Jourdain (*Bull. of the British Ornithologist's Club*, No. clxxxviii, p. 98), who showed that the statements in Dresser's *Birds of Europe*, iv, p. 545, and in Howard Saunders’s *Catalogue des Oiseaux du Midi de l'Espagne*, that *Corvus cornix cornix* was found breeding by v. Homeyer in the Balearic Isles, was based on error, as v. Homeyer in the passage referred to (*Journal für Ornithologie*, 1862, p. 252) did not mention the Hooded Crow; he merely stated that he had found a nest, which was not examined, and from which no birds were shot, but which he believed to be that of *Corvus corone*.

3. **ROOK.** *Corvus frugilegus frugilegus.*

Has been recorded only from Minorca (Ponseti), very rarely in winter; but its occurrence in the other islands is doubtful.

4. **CHOUGH.** *Pyrrhocorax pyrrhocorax.*

Has occurred rarely, usually in winter or spring in Majorca and Minorca; but I saw a pair in Majorca on August 10, 1922, so that possibly it may occasionally breed in the remoter parts of these islands.

5. **STARLING.** *Sturnus vulgaris vulgaris.*—Estornel.

A common winter visitor, usually arriving in September and October, and remaining until the beginning of March; in some winters occurring in vast numbers, and, after their usual manner, assembling in clouds before going to roost in reed-beds or pine-woods.

They are considered great delicacies by the inhabitants, and are sold in the markets for food.
v. Jordans records a specimen (*Journal für Ornith.*, July 1924, p. 403) ringed at Liebach in North Bohemia, that was shot in Puerto de Campos in Majorca.

6. SARDINIAN STARLING. *Sturnus unicolor.*

A rare straggler in Majorca, whence it has been recorded by Barceló, Howard Saunders, and the Arch-Duke Ludwig Salvator, but not in recent years.

It is resident in Spain, Portugal, North-West Africa, Sicily, Sardinia, and Corsica.

7. GOLDEN ORIOLE. *Oriolus oriolus oriolus.*—*Oriol.

A somewhat rare visitor on migration through the islands in spring, generally in April and May. Fewer return in September, when they frequent the fig-trees, and feed on the fruit. It is possible that a few may remain to breed.

8. HAWFINCH. *Coccothraustes c. coccothraustes.*

An uncommon winter visitor. In Majorca v. Jordans records a specimen obtained near Arta in the spring of 1912; a female was caught at Alcudia in November 1920, and kept in a cage until it died in August 1921; v. Jordans obtained a female near Lluch on April 11, 1921; I shot an adult male in Puerto Alcudia on December 1, 1930.

In Minorca, it has occurred rarely, generally in severe winters.

In Iviza, Gosse watched a male singing at Santa Eulalia on April 12, 1914.


A very common resident in the lowlands, orchards, woods, and lower hills throughout all the islands.

They commence laying about the middle of April, making their nests usually in pine-trees, or wild olives, but neither the nests nor eggs differ from those of the Common Greenfinch (*Chloris c. chloris*). Birds in my aviary nested, and hatched young, annually, but never reared them; a seed-box was the favourite nesting place.

In plumage it is a brighter-coloured bird than the typical species, with yellower underparts, and is found in south of France, Spain, Portugal, and North-West Africa.


10. GOLDFINCH. *Carduelis carduelis africana* (=*Carduelis c. propeparva* v. Jordans).—*Cardanera.

One of the commonest birds all the year round, in all the islands, and the favourite cage bird.

They find abundance of food in the thistles and weeds that abound, and also, in the autumn, feed on the seeds of the tomatoes that have not been gathered in the fields.

They nest plentifully in the pine-woods and orchards, and in the wild olives on the hill-sides, and the curtains of *Smilax aspera* in the woods are favourite sites.

The earliest eggs are laid about the middle of April, and neither nests nor
eggs differ from the Common Goldfinch (*Carduelis c. carduelis*). Both nests and young are often infested, and the young killed, by insect parasites; probably the wool used in the nest favours their growth, for I have noticed the same in other birds’ nests that have a lot of wool in their construction.

Being the commonest cage-bird, it is generally used in trap-cages, at the end of the summer, as a decoy for young Woodchats, which attack it in the cage and are caught—and eaten. It is also used as a decoy for others of its species, during the drought of summer, when a drinking-pan is arranged, and a net set around the water, and thrown by the watcher pulling a string. Many of these drinking-traps have I rendered useless by putting a little salt in the water, for the birds soon find out that the water is not fresh, and do not visit it, though the watcher is for long ignorant of the cause.


11. **SISKIN.** *Spinus spinus.*

An irregular winter visitor, sometimes occurring in large flocks. I have also seen them in pairs, remaining until the end of March and beginning of April.

12. **CITRIL FINCH.** *Spinus citrinella citrinella.*

Though Barceló has recorded this species as rare in Majorca, no other observer had noted it until Henrici saw the birds, and discovered two nests in Majorca in May 1924 and 1925; also he heard birds in May 1924, in Formenterera (*Beitr. zur Fortpflanzungsbr. der Vögel*, Jan. 1927, p. 9).

13. **SERIN.** *Serinus canarius serinus.*—Gafféro.

A very common resident, assembling in large flocks in winter, and found in all the islands.

They nest chiefly in the pine-woods and orchards, and commence laying early in April; sometimes the young are hatched in this month.

The tiny nest is a most beautiful structure of twigs and moss outside, thickly lined with feathers.


—Gorrió Berberisco.

A somewhat uncommon and local resident in the mountainous parts, and on the sea-cliffs of Majorca and Iviza. v. Jordans obtained specimens on the coast, and noticed it also among the mountains of Majorca, and I have seen it in small numbers on the sea-cliffs of the Alcudia peninsula, where they sometimes frequent the caves inhabited by Rock-pigeons. Gosse obtained specimens in Iviza in April 1914, and Jourdain noted it at Santa Eulalia in May 1930.


A common resident in all the islands, increasing with the spread of cultivation. They nest as frequently in trees, often away from habitation, as in buildings, also in rocks and hollow trees, and in Minorca a large colony had established itself in a row of tall trees at the side of a main road.
16. TREE-SPARROW. Passer montanus montanus.

There is no record of the occurrence of the Italian Sparrow (Passer italicae) in the islands, nor has the Tree-Sparrow (Passer montanus montanus) occurred, except in Minorca, where it has been noted rarely on migration.

17. CHAFFINCH. Fringilla coelebs coelebs (=Fringilla coelebs balearica v. Jordans).—Pinsa.

A plentiful resident, and generally distributed, in Majorca and Minorca, but has not yet been recorded from either Iviza or Formentera.

It nests in orchards and woods, and as high in the hills as trees occur; and is one of the few birds that frequent the oak-woods, which, as a rule, are more than usually destitute of bird-life.

They commence nesting early in April, and the nest, as well as the eggs, are usually larger than British specimens; also the majority of their eggs are of the "Bullfinch type," bluish ground colour with markings at the larger end, and are sometimes quite indistinguishable from those of Bullfinches.

Ticehurst and Whistler (Ibis. Oct. 1930, p. 645) do not as yet consider v. Jordans's "balearica" to be a recognizable race.

18. BRAMBLING. Fringilla montifringilla.

An occasional visitor in severe winters.

Barceló has recorded it from Majorca, and Ponseti from Minorca; but in the latter island it has not been noticed during the last twenty years.

I obtained a specimen at Alcudia, Majorca, on November 3, 1928.

19. LINNET. Acanthis cannabina mediterranea.—Passerel.

A very common resident in all the islands, frequenting chiefly the more open country. They assemble in large flocks in the winter, and often remain thus assembled until the summer.

Nesting commences in April, and extends into the summer; the nest is usually built in bushes and hedges, in pine-trees in the woods, in clumps of Smilax aspera, and in large growth of Inula in the marshes, as well as in scrub, and bushes of Cistus.

The bird is slightly smaller, and more brightly-coloured than the Common Linnet (A. c. cannabina), and is found in the Mediterranean countries eastward to Turkey, and in Spain, Portugal, and North-West Africa.

(The Lesser Redpoll (Acanthis linaria cabaret) may be omitted from a modern list, as it has only been recorded doubtfully by Barceló.)

20. BALEARIC CROSSBILL. Loxia curvirostra balearica.—Trenca-piñon.

This interesting subspecies was first separated by v. Homeyer in 1862 (Journal für Ornithologie, 1862), and has been very fully described by v. Jordans (Falco, Aug. 1914). The chief characteristics are the prevalence of a greyish tinge in the plumage, the females and young being especially grey; a somewhat differently-formed beak and a shorter wing. But, as with all Crossbills, the plumage varies immensely, so that hardly any two birds are alike.

It is a common resident in the larger islands, but much more abundant in
Majorca; and wherever pine-trees (Pinus halepensis) abound, it frequents these woods from sea-level to as high an elevation in the mountains as these trees grow; being somewhat gregarious they may be seen in small parties or considerable flocks most of the year. Near Palma, the woods around Belver Castle are an especial sanctuary for them.

They are comparatively tame birds and not easily disturbed either when feeding, or at their nests, and frequently remain quietly perched overhead in a tree while one passes beneath, but when thoroughly alarmed fly away to a considerable distance. A cock bird may frequently be seen, perched conspicuously on the topmost spray of a pine-tree, chirping loudly to his partner, or to the rest of his party feeding silently amongst the boughs of the trees nearby—the "clicking" of the pine-scales being distinctly heard—or the whole party may be feeding amicably together, chattering pleasantly all the time.

Besides the usual "chirp" and "chatter," the male makes, during the breeding-season, a curious "trill," not at all unlike a Greenfinch.

When pairing they sometimes indulge in unseemly squabbles among the pines, like sparrows, and make nearly as much noise about it.

They are extremely fond of bathing, and I have watched them washing themselves in the pools around the lagoons near Alcudia, and in the water-courses in the hills, while they regularly visit the bird-baths in my garden, near Alcudia, in the hot weather; and they so thoroughly soak themselves that they can hardly fly as far as the nearest tree to dry and preen their feathers.

The nesting-season lasts from December to July, for I have found a nest on December 15, 1928, with young some ten days old, and a nest with three slightly-incubated eggs on July 14, 1929; but March and April appear to be the most general months.

The nest is always built on the fork of a lateral branch of a pine-tree, generally high up, and is a platform of dry pine-twigs on which a fairly compact cup of dry grass, moss, wool or palmeto-fibre, is laid, lined with finer dry grass, feathers, wool, and occasionally horse-hair, and it is sometimes very bulky.

The female generally sits closely—indeed, on one occasion she could have been caught by hand—and when the nest is being climbed to, the pair flit closely round, even perching in the tree, "chirping" loudly, and I have known a hen bird return into the nest before the climber had reached the ground. The hen bird does the entire work of building the nest, the male accompanying her on her journeyings, and cheering her with his constant "chirping" and "trilling," and they are quite undisturbed by anyone near or watching them. After I had removed a nest with eggs, the hen bird returned to the site, and appeared surprised at not finding it there, she then flew away and returned with the male, which had, up to then, not appeared, and they both examined the spot, and seemed puzzled at not finding the nest, pecking about among the few remaining twigs of the base; then the male having consoled himself, and his mate, by feeding her, they both flew away cheerfully, "chirping" happily to each other.

The eggs, never more than four, are white, rather faintly spotted with different shades of brown, with some spots of purplish or pale violet.

On leaving the nest, the young accompany their parents for some time, usually two with the male and two with the female, and one brood that I observed were so tame that I could have touched them, as they fed among the low branches of a pine; the young ones chattered continually, and kept so close to
their parents that they hindered their movements in extracting the seeds from the cones, occasionally they tried to open the cones themselves.

Besides the seeds of the pine-cones, they also feed on the buds of the pine-trees, and I have seen them investigating the buds of almond-trees.

The older cones of Pinus halepensis are so strongly attached to the branches that the birds cannot detach them, so they pick out the seeds while clinging to a cone; but the young cones, in spring, are easily detached, and the seeds extracted while the cone is being held by the feet.

21. CORN-BUNTING. Emberiza calandra.—Sisolerxa.

A common resident in all the islands.

It is never found far from cultivation, and, during the nesting-season, is somewhat solitary, and scattered sparsely throughout the lowlands; but, after breeding, they may be seen in small flocks of old and young, and among the olive-groves of the foot-hills, as well as in the orchards.

The nest is made either on the ground, or close to it, among the crops, or in the marshes in a clump of Inula crithmoides; also in the pine-woods at the foot of a tree, or beneath a thin shrub or small creeper.

It is a largish, loosely constructed nest of dry grass, lined with finer grass and sometimes horse-hair. The nesting-season is from the end of April and throughout May.

The eggs do not differ from British specimens, though perhaps are rather smaller.

Among other sorts of seeds, they feed a good deal on the seeds of Asphodelus microcarpus, and to destroy this noxious weed in any way is to do some good.

22. YELLOW HAMMER. Emberiza citrinella citrinella.

A rare straggler in winter only.

There are, however, only two records of its appearance—Ponseti notes one obtained in Minorca in January 1914, and in April 14, 1926 I saw a specimen in a cage at Lluch in Majorca, that had been caught the preceding January in a clap-net at night, when netting thrushes.

It does not appear to be uncommon in Spain, for many are sold in the bird-market in Barcelona, with other small birds, some being adorned with a small patch of blue or red flannel stuck on the crown of the head and somewhat mystifying the species.

23. CIRL BUNTING. Emberiza cirlus cirlus.

A resident, universally distributed in the wilder parts of the low ground and lower hills of Majorca, but nowhere plentiful. An increase in numbers in the autumn is probably due to passing migrants.

It has been once obtained in Minorca in June 1918; but, as yet, there is no record from other islands.

v. Jordans obtained a nest with four eggs, at Valdemosa, on July 9, 1921, a very late date (Journal für Ornithologie, April 1925, p. 214), and Henrici one with three eggs near Alcudia on May 4, 1924 (Beiträge zur Fortpflanzungsh. der Vögel, Jan. 1927, p. 13).
24. ORTOLAN BUNTING. Emberiza hortulana.

Occurs plentifully throughout the islands on migration in spring, generally about the end of April.

Ponseti has included it as a resident in Minorca, but it does not occur there at all during the summer, nor on the return migration in the autumn, in any of the islands.

25. REED-BUNTING. Emberiza schoeniclus canneti.

A common winter visitor to Majorca, and occurring on migration in Minorca.

It frequents the edges of the marshes, and adjoining fields, in small flocks, but does not visit the high reeds of the swamps.

They usually feed on seeds, but I have seen them catching flies like Fly-catchers.

One I kept in a cage for some months uttered, in the spring, a faint "croak" in addition to its feeble song.

Some confusion has hitherto existed between this species and the next—for Barceló has recorded this as common in the Prat (a marsh now drained, near Palma) and the Albufera of Alcudia, but the next species is the resident one, and "schoeniclus" does not occur in summer.

26. THICK-BILLED REED-BUNTING. Emberiza tschusii witherbyi.

With the able assistance of Messrs. Witherby and v. Jordans, the confusion between this subspecies and E. s. canneti has now been made fairly clear.

On March 25, 1921, I obtained a male Reed-Bunting in the Albufera of Alcudia, Majorca, that I sent to Witherby as differing from any I had hitherto come across, and he decided it was not referable to any known subspecies, but, until more specimens were obtained, the form must remain uncertain.

In May and June 1921 v. Jordans obtained a series of both old and young from the Albufera, which he described under the above name (Journal für Ornith. July 1924, p. 402) ; but he very courteously refrained from describing it earlier, in case I should obtain more specimens for priority of description.

It is described as differing markedly from other forms of thick-billed Reed-Buntins in that its plumage is very dark, the head more conspicuously black, with a much stouter bill, and apparently shorter wing. But Ticehurst and Whistler point out that the breeding-dress of specimens from the Ebro Delta is not distinguishable from E. t. compilator of Italy and Sardinia, but it is smaller, and the bill not so stout (Ibis, Oct. 1930, p. 647).

It is a common resident throughout the Albufera of Alcudia, Majorca, and hitherto had not been noted elsewhere ; but in May 1927, Witherby discovered it in the delta of the Ebro, where it was fairly common (Ball. B.O.C., No. cccxlii, p. 75), and Ticehurst and Whistler also found it breeding there in May 1930 (Ibis, Oct. 1930, p. 647). This is therefore the westernmost point in Europe where it is found.

In the Albufera of Alcudia it frequents only the wet parts of the marsh, equally among the high reeds and the lesser growth, and the males are conspicuous in the spring perched on the swaying reeds, and uttering their somewhat monotonous song.

They nest in May, and Ratcliff found nests with three and five eggs on May
9 and 11, 1909 (Jourdain, *Beitr. für Forstpflanzungsb. der Vögel*, March 1927, p. 36). On May 22, 1925, I found a nest in the Albufera containing four half-grown young and an addled egg. It was a very slight structure, hardly strong enough to support the young, fairly deep, and made entirely of dry grass. It was built on flooded land only just above the water, here 6 to 9 in. deep, among short reeds and rushes in a thick undergrowth of climbing weeds. The old birds, that I had watched for some time carrying food to the young, displayed little of the excitement characteristic of *E. s. schoeniclus*, merely flitting quietly about and perching on the reed-stems near.

The unusually large size of the legs and feet of the young is noticeable; probably at an early age they would be obliged to forsake their frail home, and seek life among the reeds. The palates of the nestlings are bright red.

The nests are usually difficult to find, being placed low down in the reeds, and the thick weedy undergrowth that grows profusely at the edges of the ditches, and close above the water. However, one nest shown to Jourdain and me in the Albufera on May 6, 1930, with four eggs, was built in the side of a clump of spear-grass on quite dry ground—quite an unusual situation.

The egg much resembles that of *E. s. schoeniclus*, but is larger, greenish brown with a purple tint, darker at the larger end, and sparsely scrolled and spotted with dark brown of various shades, and lightly clouded with grey, chiefly towards the larger end.

Their food consists of seeds, insects, grubs and caterpillars, and I have never yet discovered the birds feeding on the pith of reeds, as they have been said to do, nor do they frequent the rice-fields. A tame one that I kept for some time was particularly fond of house-flies and wasp-grubs, which it would take from the hand.

27. **SKY-LARK.** *Alauda arvensis cantarella.*—Terrola.

A common winter visitor to all the islands, usually frequenting the cultivated parts.

They arrive in October, and remain until April.

Though Barceló and Ponseti both mention it as a breeding-species, none remain to nest.

During a very cold spell and bad weather in the south of Europe in January 1926, numerous small parties of Skylarks were seen passing along the shore of Alcudia Bay, Majorca, from east to west, possibly driven from the south of France and north of Italy, where the weather was usually severe.

28. **WOOD-LARK.** *Lullula arborea arborea.*

Occurs sparingly as a winter visitor, and on migration, but has been recorded only from Majorca, though I expect it also visits the other islands, in which no observation of it has hitherto been made.

From the fact of its having been noted here in the middle of April, I had thought that it might remain to breed, but such is not the case. Unusual numbers occurred in January 1926, during the spell of cold weather referred to above, and at the same time there was a great increase in the numbers of Crested Larks and Stone-Curlews.
(Dupont's Lark.  Chersophilus d. duponti.

The record of this species consists of skins labelled "Iles Baléares" in the Tring Collection, and in that of Whitaker of Palermo.  Dr. Hartert, however, explains (Nov. Zool., xxxiv, 1928, p. 360) that "The supposed Balearic specimens were bought in the market by one of the brothers Gal (Gal Frères) in Nice, and labelled 'Isles Baléares.'  They were not 'collected by Schutter' (quoting Bannerman in Ibis, Mar. 1927, Suppl. p. 110), but bought from the German dealer Wilh. Schlüter, who had received them from Gal Frères.  The birds came from North Algeria or Tunisia'.

29. CRESTED LARK. Galerida thekiae polatzeki.—Terrolo puput.

With the innumerable subspecies of Crested Larks, it is somewhat remarkable that only one, Polatzeki's Crested Lark, occurs in the Balearics.  It was first discovered by Polatzek in Iviza in 1910, and named after him.

It is resident and commonly distributed throughout all the islands, but, during unusually severe winters, its numbers are considerably increased by migrants driven in by the weather.

It is to be found from sea-level, in the pine-woods near the shore, and among the rocks on the sea-shore, on bare, rocky, or scrub-covered hillsides, among olive- and almond-orchards, in the open fields, and on bare, open country at higher elevations.

They usually nest from about the end of April throughout May; the latest date on which I have found eggs being June 25, 1927.

A pair often resorts annually to the same vicinity to breed.

The nest is a shallow pad of dry grass and palmeto fibre, placed in a hollow scraped in the ground, beneath the shelter of some small bush or rock, or among weeds and short grass.  Rough scrub-covered hillsides, and the rough ground among olive-trees on the foot-hills, are favourite sites.

The eggs are three or four in number, of whitish ground-colour, with larger and smaller spots of pale brown and ash-grey, usually zoned at the larger end.  They do not vary much, except in the depth of colouring, and not much in size.

For some time after leaving the nest, the young accompany their parents in a small family-party.

30. SHORT-TOED LARK. Calandrella b. brachydactyla.—Terrolot.

A common summer visitor to all the islands, arriving in March, sometimes quite early in the month, and most of them have left by the beginning of September.

They frequent the open low-lands, marshes, and cultivated parts, but are not found at any elevation in the hills, except where there are patches of cultivation.

It has the appearance of a miniature Skylark, running about on the ground, with the feathers of the head raised.  It floats about singing high in the air, and also has a habit of singing while perched on the top of a stone-wall or on a rock.

They nest throughout April, May, and June—the latest nest that I have found with fresh eggs being on July 4, 1922; but, as many nests are destroyed by sheep and goats, and rooted up by pigs, probably such late nests are of birds
whose earlier efforts have been destroyed, as I do not think they are doublebrooded.

The nests are most beautiful little structures, compactly built in a scrape in the ground, amongst short herbage, against a tuft of grass, or Inula—in marshy places—on the sea-shore, and among the crops. They are composed of roots, dry grass, sea-weed, etc., with a tiny cup lined with blossoms of cotton-grass or some soft material. Many of them have an inclined plane of pieces of dry mud from the ground to the rim of the nest, on the side from which the bird approaches it, and these planes, becoming bleached as the mud dries, often makes the nest very conspicuous. A nest I found on June 18, 1926, was a pyramid of dried pieces of mud in the middle of which was the tiny cup lined with thistledown.

Three or four eggs are usually laid, rarely five. The bird generally leaves the nest when one is some way off, but a nest I found on bare ground in a bean-patch, where the beans had been cut, was quite in the open, and the bird was plainly visible on the nest, and sat so closely that she could be watched from three yards off.

After the nesting-season they assemble in flocks, associating with Corn-Buntings, on the stubbles and bare fields.

(Calandrella Minor.

Henrici had two eggs brought to him by a native on May 20, 1924, in Formentera (Beitr. zur Fortpflanzungsb. der Vögel, Nov. 1926, p. 169), which he assumed might belong to a subspecies of Calandrella minor, but I doubt the possibility of identifying it from the eggs alone, and certainly no dependence could be placed on the information of a native.—Dr. Koenig is of opinion that the eggs are abnormally-coloured specimens of the Crested Lark's (v. Jordans, Nov. Zool., vol. xxxiv, p. 285.)

31. WHITE WAGTAIL. Motacilla alba alba.—Tatxera.

A common winter visitor, arriving in October and departing in April, and found in all the islands. I have seen an occasional pair later in the spring, and imagined it might occasionally remain to breed, but it does not do so. They frequent the fields, roads, and marshes, and are often seen following the plough.

v. Jordans (Journal für Ornith., April 1924, p. 170) records one ringed at Hermannsdorf in Lower Austria on June 29, 1920, that was shot at Mahon in Minorca on January 30, 1921.

32. PIED WAGTAIL. Motacilla alba yarrelli.

Has occurred as a rare straggler in Majorca only.

The male of a pair was shot in Puerto Alcudia on March 5, 1923; a male was seen at the same place on April 10, 1925, in the company of a male White Wagtail; and another male was seen, also in Puerto Alcudia, on March 5, 1926.

33. GREY WAGTAIL. Motacilla cinerea cinerea.

A winter visitor, and fairly common, but only occurring singly or in pairs, in all the islands. They arrive in October, and remain until April, frequenting equally the lowlands, and the mountains, but always in the vicinity of water.
A pair used to roost, and feed, in a well in my garden near Alcudia, Majorca, about 25 ft. below the ground.

On May 11, 1920, I saw a brood of young ones in the cloisters of the Cathedral of Barcelona.

34. BLUE-HEADED WAGTAIL. Motacilla flava flava.

This species appears annually in Majorca—and probably in the other islands—on migration in spring, when small parties may be seen feeding near cattle.

I have observed them near Alcudia on April 27, 1925, and April 26, 1926, and annually they appear about the same time.

It occurs more rarely on the autumn migration in September.

35. SPANISH BLUE-HEADED WAGTAIL. Motacilla flava iberiae.—Titina de prat.

One of the commonest, and most conspicuous, of the summer visitors in the marshy parts of all the islands.

They begin to arrive at the beginning of March, and by the middle of the month the majority have arrived; in September there are very few remaining, but in unusually hot and dry summers they depart earlier, as well as Tawny Pipits, Short-toed Larks, and some other summer visitors.

The earliest nests are found early in April, and thence onwards throughout May and into early June.

They are usually well-concealed on the ground deep down in a tuft of grass or Inula, and usually in damp situations; but if the season be wet, and the ground unusually flooded, the nests are often a foot or more above the ground, in the thick herbage. They also nest among the pine-woods in the vicinity of the marshes, making the nest at the bottom of a dense thicket of myrtle, smilax, etc. As so many nests are destroyed by cattle in the open, for greater security they are driven to nest in the woods, and the birds may often be seen flying distractedly round the cattle in their nesting-haunts.

The materials of the nest are coarse, dry grass, or finer grass and fibre outside, lined with horse-hair, wool, fine grass, and a few feathers.

The eggs vary from four to six, rarely seven, and both sexes incubate; the bird, on being disturbed from the nest, generally runs some distance before taking flight.

The male birds, perched on the tops of spear-grass, and swamp herbage, are as brilliant and noticeable as Bee-eaters.

36. GREY-HEADED WAGTAIL. Motacilla flava thunbergi.

v. Jordans records the occurrence of this bird in Majorca on migration in May (Falco, Aug. 1914, p. 71, and Journ. für Ornith., April 1924, p. 169), but I have not met with it.

37. MEADOW-PIPIT. Anthus pratensis.—Titina.

A common winter visitor to the marshes, particularly, and lowlands; arriving in October, and remaining until the beginning of April; it is equally common in all the islands.

Many are caught, with other ground-roosting species, at night by cattle-
boys, who go out with a lantern and cattle-bell; the birds, thinking that a sheep or ox is passing, crouch dazzled by the light, and are caught in the hand. I have seen 200–300 brought in that have been caught in one night.

38. **TREE-PIPIT. Anthus trivialis trivialis.**

The Tree-Pipit occurs only on migration in all the islands, but not very plentifully. Some pass through in April, but the greater number about the middle of September.

39. **TAWNY PIPIT. Anthus campestris campestris.**

A common summer visitor to all the islands.

The earliest arrive in March—the earliest date noted being March 9, 1927—but the majority in April.

They usually all leave in August, but a few linger on into September, and once only—in Majorca on December 3, 1927—have I seen it in winter.

They chiefly frequent the marshes, sea-shore, fields, orchards, and lowlands, and the foot-hills, but not up to any great elevation.

Nesting commences about the beginning of May, and they usually resort each year to the same localities to nest.

I have found a nest three years running in exactly the same spot—beneath a bush in a dry-torrent-bed—and annually I look for a pair that nests in the vicinity of my garden near Alcudia, the male choosing the top of the windmill on the premises for his post of observation. The latest date I have found a nest was on July 11, 1924, with four hard-set eggs.

The nest is built in a deep scrape in the ground, made by the birds; in marshes, beneath a small clump of spear-grass; on the sea-shore, among herbage, sometimes close to high-water mark; in fields, amongst grass close to a rock or beneath a bank, or under a thin clump of bramble, or among the dried leaves of asphodel; at the road-side, at the foot of a wall; in dry water-courses, beneath a small bush; in pine-woods, in open spaces among the herbage; on hillsides, beneath a clump of palmeto or other scrub.

A nest with four eggs was placed on the edge of a clump of palmeto, about a foot from a Stonechat’s in the middle of the same clump, from which the young Stonechats had flown earlier.

Both sexes incubate, and, unless suddenly disturbed, the sitting bird runs off the nest, and generally shams lameness to decoy the intruder from it. When the hen bird is sitting, the male is usually perched on the top of some tree or rock not far off, and directly she takes to flight, he pursues her fiercely, driving her about in all directions.

The nest is a stout, compact structure, composed of dry grass, roots, sea-weed, and even bits of string, outside; thickly lined with finer grass, palmeto-fibre, and horse-hair, and it does not easily fall to pieces when removed.

The eggs are four or five in number, and do not vary much, being usually greyish white or greenish white, marked with grey and purplish spots and blotches of different shades.

The young in the nest are covered with long greyish, sandy-coloured down, and, after leaving the nest, are attended by the old birds for some time.

They are very fond of feeding, with Short-toed Larks, in fields where broad
beans have been cut, where, peering into the short, hollow-stubs, they pull out, and devour any insects or grubs concealed therein.

I occasionally have seen and obtained unusually large and brightly coloured examples of this bird, which measure at least half an inch more than usual, with the upper parts very bright, and with conspicuously dark-edged wing-coverts, and very bright underparts.

40. WATER-PIPIT. Anthus spinoletta spinoletta.

According to Ponseti, this species has occurred on migration in Minorca, but not commonly.

I suspect it also visits Majorca, but have not yet been able to identify it satisfactorily.

41. WALL-CREEPER. Tichodroma muraria.

The only occurrence of this bird in the Balearic Isles is furnished by Ponseti, who records a specimen obtained in Minorca in October 1916.

Barceló has recorded the Tree-Creeper and Nuthatch in his list as having occurred in Majorca, but neither species has been noted by anyone else, and they may well be omitted; though it is certainly remarkable that neither these nor Woodpeckers are found in the islands.

42. GOLDCREST. Regulus regulus regulus.

A common winter visitor in all the islands, frequenting chiefly the pine-woods from shore level up to the limit of tree-growth. The undergrowth of the pine-woods is often heather (Erica multiflora), and among the tall growth of this plant it is particularly fond of feeding, and is as tame and confiding a little bird as in other countries; probably its diminutive size protects it in these islands.

Barceló has stated that it breeds in Majorca, but this is not the case.

In February and March 1922 I noticed many small parties passing through my garden at Alcudia, evidently on migration, and many also occur on migration in autumn.

43. FIRECREST. Regulus ignicapillus ignicapillus (=Regulus ignicapillus balearicus v. Jordans).

The Firecrest is resident in Majorca, and probably in the other islands, though it has, as yet, only once been recorded from Minorca, in October 1916.

It is not uncommon, and much more noticeable in the winter, for, during the nesting-season, it is scattered sparingly throughout the larger pine-woods, feeding among the big trees, and is much shyer and more restless than the Goldcrest, and usually goes about in pairs.

v. Jordans obtained its eggs in Majorca in 1921, according to Dr. Koenig, who mentions the clutch in the Journ. für Ornith., April 1925, p. 211, but neither of them give any particulars of date, locality, etc., nor does v. Jordans mention it in his writings.

44. GREAT TITMOUSE. Parus major mallorcae.—Ferrcrcio.

Resident and universally distributed in Majorca, Minorca, and Iviza, but has not yet been recorded from Formentera. It is not very plentiful. They
frequent chiefly the "finca" (orchards or small farms), especially olive- and fig-orchards, and destroy a good deal of fruit in the latter, and are also found in pine- and oak-woods.

Their favourite nesting-places are holes in olive- and algaroba-trees, as well as holes in walls and buildings. A pair nested beneath the tiles of a house in the Albufera of Alcudia, and, on May 6, 1930, Jourdain and I found there three separate nests, two with one fresh egg in each, and one with six eggs; the bird was sitting on the latter, and allowed herself to be stroked. Later she reared a brood of four young in the same nest.

I have found nests with eggs in April, May, and June, and once found a single fresh egg in a deserted Linnet's nest; and another in a hole in a tree, in which the bird was caught, with hardly any nest at all; normally, the nest is of moss, lined with hair, wool, and feathers, and the eggs are typical.

Ticehurst and Whistler (Ibis, Oct. 1930, p. 650) consider the race of Balearic Great Tit to be very close to "aphrodite" from Cyprus; but in a later letter Whistler informs me the race must be recognized.

45. BLUE TITMOUSE. Parus coeruleus coeruleus (=Parus coeruleus balearicus v. Jordans).

The Blue Tit is uncommon, and only occurs in the mountainous parts of Majorca—the only island from which it has been recorded—where it is resident, but does not appear ever to descend into the low-lands.

In April 1926 a pair were evidently nesting in the Calvario at Lluch, and v. Jordans obtained a young one in July 1921 (Journ. für Ornith., April 1924, p. 165).

The above are the only species of Tits that occur in these islands, and though Barceló has included Parus ater in his list, it may well be omitted.

46. WOODCHAT. Lanius senator senator.

v. Jordans obtained specimens of this bird in Majorca in April 1913 (Falco, Aug. 1914, p. 37), and in April 1921 (Journ. für Ornith., April 1924, p. 151), also Ticehurst and Whistler others in the Pityusæ in May 1930 (Ibis, Oct. 1930, p. 652)—all evidently on migration, as the Common Woodchat of these islands is the following.

47. CORSICAN WOODCHAT. Lanius senator badius.—Capxerigan.

A common and conspicuous summer visitor to all the islands that are sufficiently wooded, generally keeping to the lower lands.

It is particularly abundant in the neighbourhood of Alcudia, Majorca, especially in and about the pine-woods near the sea-shore, and is plentiful in the orchards in all parts of the islands.

They arrive at the end of March, nesting commencing in April, and nests with eggs may be found up to the beginning of July.

Their favourite nesting-trees are pines, where the nest is usually built among the ends of the lower branches, sometimes in a fork. They also nest in thick bramble-brakes and lentisk, sometimes quite low down, as well as in fruit-trees in the orchards.
There is little attempt at concealment, and the bird sits closely, both sexes taking part in incubation. The next is bulky and strongly-made, composed externally of a few dry twigs and pieces of an aromatic plant, with the yellow blossoms attached (Helichrysum stoechas), and lined with dry grass, cotton-grass blossoms, feathers, odds and ends of paper, fibre, string, etc.—the lining of one nest was a mass of coot’s feathers.

I found one nest on July 4, 1923, in a tiny bush in the open, and quite exposed, that was made chiefly of bits of rag; and another, a very small nest, was conspicuously placed low down in a thin lentisk-bush.

Four to six, rarely seven, handsome and evenly-marked eggs are laid, of a pale greyish-white ground, zoned with brown and grey blotches and spots of various shades, at the larger end.

I found a clutch of four eggs near Alcudia, on June 15, 1926, which Jourdain has described (Beitr. zur Fortpflanzungsb. d. Vögel, March 1927, p. 37), with reddish ochre coloured ground, spotted with ash-grey, and thickly marked with reddish brown at the larger end. Rateliff obtained one egg of the reddish type.

Most of the birds leave at the end of August, but I have seen an odd one as late as October 20, 1920; and the broods, after leaving the nest, scatter all over the country, in places where they do not occur earlier.

During the heat of summer, in July and August, many old and young are caught in trap-cages, with a goldfinch as a decoy, and are eaten by the inhabitants, who do not hesitate to devour even the disgusting-looking unfledged young from the nest. Thus are the tables turned on this barbarous bird, which preys on young birds from the nest, and fiercely chases the smaller birds, which, taking refuge in a bush, are waited on by the shrike outside, and pounced on when emerging from their shelter; or, poising itself in the air, with quickly-beating wings and down-dropped legs, it watches some wretched mouse or insect in the grass below, and suddenly dropping on it, secures it for its larder.

After a terrific hailstorm one early summer, I found several nests of this species, also chaffinches’, etc., in which the dead birds were sitting, evidently killed by the storm, and Kentish Plovers’ eggs broken by the hail.

48. SOUTHERN GREY SHRIKE. Lanius excubitor meridionalis.

According to Ponseti, this species has occurred rarely on migration in Minorca, and v. Jordans mentions a stuffed specimen in the Instituto Balear in Palma, which was shot in Majorca in 1889 (Falco, Aug. 1914, p. 37); but the origin of the specimens in this Institute is not dependable.

49. WHITETHROAT. Sylvia communis communis.

A passing migrant only, occasionally in the spring, which does not remain to breed.

On April 18, 1923, there was an unusual migration of this species, with Lesser Whitethroats, Wood-Wrens, and Willow-Wrens, at Alcudia, Majorca; they were swarming everywhere, particularly in the bean-crops and in every small garden; the passage only lasted two or three days. It rarely occurs in autumn; one was seen near Alcudia on September 20, 1929.

Ponseti has also recorded it from Minorca on spring migration, but there are no records from other islands.
50. **LESSER WHITETHROAT.** *Sylvia curruca curruca.*


51. **GARDEN WARBLER.** *Sylvia simplex.*

A rare summer visitor to Majorca, others occurring on passage in spring and autumn. Ponseti also records it on migration in Minorca, in spring and autumn. Ticehurst and Whistler noted one on passage in Iviza on May 14, 1930 (*Ibis*, Oct. 1930, p. 653).

One of a party of five or six was shot in my garden near Alcudia on Sept. 16, 1924, and a pair frequented the same place for some days at the end of January 1927, from which it would appear that they do not all leave the island in the winter.

I have also noted one on March 19, 1920; and on July 4, 1923, I found a nest with four unfledged young, and identified the old birds as well, in a bush in the pine-woods near the shove of Alcudia Bay, Majorca.

On July 11, 1925, I saw a brood of young ones on the wing, accompanied by the old birds, close to the spot where the nest was found in 1923.

52. **BLACKCAP.** *Sylvia atricapilla atricapilla (=Sylvia atricapilla koenigi v. Jordans).—Cap negre.*

The Blackcap is common in Majorca and Minorca, but it is difficult to say whether it should be classed as a resident or summer visitor, for so many remain throughout the winter, and a great many migrants arrive in March and April. It does not appear to be by any means common in the Pityusae, and Gosse only has recorded it from Iviza in April 1914 (*Avicultural Magazine*, 1920). Neither Jourdain, nor Ticehurst and Whistler, met with it at all during their visits there in May 1930.

v. Jordans asserts (Nov. *Zool.*, vol. xxxiv, July 1928, p. 273) that the Blackcaps wintering here are the typical form (*Sylvia a. atricapilla*), whilst the breeding birds are a subspecies described by him as *Sylvia a. koenigi*. Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 653) consider v. Jordans’s *koenigi* as certainly a small-winged race, and probably recognisable.

Particularly attractive to these birds is the undergrowth in the pine-woods, and the dense thickets of brambles, myrtles, etc., in the water-courses, but they also frequent gardens and orchards, hedgerows and copses.

The nest is usually built on the outskirts of thick bushes, or in the midst of thicker cover, sometimes in small trees, and not very low down; it is slight, but neatly built of dry grass outside, thinly lined with horse-hair; but one I found was so thickly lined with black horse-hair that it contrasted strongly in colour with the dry white material of the exterior. Another nest was built entirely, inside and out, of thin, dry strips of palmeto-fibre, with a few odd bits of dry grass, cobwebs, and wool outside.

Three or four eggs are laid at the end of April and in May. It is one of the few good, fearless songsters, and may often be heard singing loudly during the winter.

Both Blackcaps and Sardinian Warblers do considerable damage to fruit—figs and stoned-fruit especially—by picking holes in it.
53. SARDINIAN WARBLER. *Sylvia melanocephala melanocephala.*—Buscaret.

This charming and familiar little bird is one of the commonest in all the islands, and found everywhere all the year round, even in the most remote spots where no other bird is to be seen—amongst the spare scrub on the tops of the hills, or in the scattered clumps of pines growing in inaccessible spots among the crags as well as in orchards, gardens, and woods; the small gardens in the busiest towns often harbouring them.

And there is no prettier sight than a brood of nestlings, just out of the nest, perched close together in a row in a bush, whilst the old birds hop and flit among the bushes near, "purring" their anxiety.

It is one of the earliest breeders, having two or even three broods in the year, and usually commences nesting at the end of March or beginning of April, sometimes as early as February; on March 4, 1925, I found a nest near Alcudia with three young ones a few days old, but a week later two of the young had disappeared, and one was dead in the nest; the spring of 1925 being unusually cold, they had probably succumbed to the weather. Severe weather affects them a good deal, and after a heavy fall of snow in Majorca on Feb. 28, 1924, numbers were found dead, and they were quite scarce that year.

The height of the nesting-season is April and May, and the latest nest I have found was on July 29, 1925, but I have seen a female carrying nesting-material to a partially-built nest on October 9, 1927.

They nest in every conceivable situation, low down in bushes; the favourite sites being in dense woodland undergrowth of butcher's-broom, myrtle and lentisk, palmeto-scrub, brambles, hillside scrub, and roadside bushes.

They do not stray far from their particular haunts, and often nest annually in the same spot, but damp or marshy situations are not particularly favoured.

The nests vary considerably, some being small and compact, others bulky and rather untidy, and are generally made of dry grass externally, with a pad of cotton-grass blossoms or vegetable down—especially the silvery seed-down of *Clematis cirrhosa*—in which the lining of fine, dry grass, horse-hair, or fibre is set. This pad, or layer, of soft materials distinguishes the nest from that of any other species of warbler. Some nests I have found have had the base, and the pad beneath the lining, composed of freshly plucked sprays and leaves of *Convolvulus althaeoides*, or of the soft blossoms and leaves of a sage-like plant. Another nest was made almost entirely of the silvery seed-down of *Clematis cirrhosa*, mixed with a little dry grass, and was a most beautiful, fairy-like structure, as of spun-glass.

The eggs are three or four, rarely five, in number, and vary extraordinarily; the commonest type has a pale greenish ground, with greyish specks of various shades. A very handsome type has a whitish ground, with spots and blotches of dark red, purple, and brown; in fact, without identifying the birds, these handsome eggs might belong to another species. A pink variety has also been found.

Heurici (*Beitr. zur Fortpflanzungsbr. der Vögel*, Sept. 1926, pp. 125–127) has clearly described a number of clutches of various types taken in Majorca.

There is never any difficulty in being able to identify the birds, however,
as they are always in evidence near their nest, and sit so closely that I have
cought one in my hand; the male, also, takes his turn on the nest.

In the spring the male has a habit—like the Greenfinch, Serin, Marmora's
Warbler, Blue Rock-Thrush, and others—of floating about in the air, in a
"languishing" manner, uttering its feeble song. The usual note is a harsh chatter,
and, when the young are hatched, a "purring" note, like the subdued chatter
of a Wren, or the "churring" of a distant Nightjar.

Insects and caterpillars form their chief food, and the red flowers of big
clumps of *Antholyza* in my garden, as well as the flowers of the mimosa-trees,
are constantly searched by them for insects; here also a bird will sometimes
come into the house, and hop about unconcernedly over and beneath the furni-
ture, searching for food.

54. SUBALPINE WARBLER. *Sylvia subalpina subalpina*.

Barceló has mentioned this species as common in Majorca, but it is evidently
now only of the rarest occurrence, and only on migration. v. Jordans obtained
one on April 28, 1913, near Arta (*Falco*, Aug. 1914, p. 45), and Gosse another in
Formentera on April 19, 1914 (*Avicultural Magazine*). I have never come
across it.

55. ORPHEAN WARBLER. *Sylvia hortensis hortensis*.

A somewhat rare summer visitor to Majorca, arriving at the end of March
or beginning of April. The majority pass through on migration, but some
undoubtedly remain to breed; and, though I have not yet found its eggs, I saw
a brood of young on June 16, 1924, which had left the nest, and were accom-
panied by the old birds, in the pine-woods on the shores of Alcudia Bay; and I
have also found old nests in the woods.

It does not appear to have been recorded from any other of the islands.

56. SPECTACLED WARBLER. *Sylvia conspicillata conspicillata*.

A rare occasional visitor.

Ponsetí has recorded one obtained in Minorca, in December 1913; and in
October 1926 a single bird frequented my garden, near Alcudia, Majorca, for
several days, but was found unfortunately drowned in a tank, on October 14.

57. DARTFORD WARBLER. *Sylvia undata undata*.

I am not yet certain of the status of this species, but believe it to be a
resident, but certainly rare; and I have usually come across it in winter and
eyarly summer, in Majorca only.

v. Jordans obtained one near Lluch on March 20, 1913 (*Falco*, Aug. 1914,
p. 45), and Henrici records one near Alcudia, on May 4, 1924 (*Beitr. zur Fort-
pflanzungsb. der Vögel*, Nov. 1926, p. 165).

Formerly, when the sale of any sort of bird was permitted in the markets,
I have seen, in Palma, examples of this species tied up in bunches of Wagtails,
Pipits, Blackcaps, Chiffchaffs, Sardinian, and Marmora's Warblers, and even
Goldcrests, etc.

This interesting bird, first described by v. Jordans as a subspecies peculiar to the Balearic Isles, is a not uncommon resident in all the islands; and quite plentiful in suitable localities.

Homeyer first noticed it in Majorca in 1861; Polatzek obtained specimens from Iviza, and eggs from Formentera in 1910; v. Jordans specimens from Majorca, Dragonera, and Cabrera in 1913, and found a nest with young in 1921; I recorded it first from Minorca in 1923, where perhaps it is more plentiful than in Majorca.

Since then Henrici has obtained nests with eggs in 1924 and 1925 in Majorca and Formentera, and has written a very complete account of it, with illustrations (Beitr. zur Fortpflanzungsb. der Vögel, Jan. 1926, pp. 13–17).

The first nest I found in Majorca was on May 2, 1924, and contained three nearly fully-fledged young, and the first nest with eggs on April 22, 1925—which I fully described in the *Ibis*, July, 1926, p. 469.

Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 654) noted it as common in Iviza and Formentera; Jourdain saw young on the wing on May 17, 1930, at Santa Eulalia in Iviza, and also found it nesting among the juniper-bushes in Formentera in the same month. v. Jordans (*Falco*, Aug. 1914, pp. 45–46) describes the bird as follows: “The upper parts are bright ash-grey, only a few specimens with quite slight traces of brown; the head hardly darker than the back; the chin whitish. Throat and the whole of the underparts also light grey, likewise with a cream-coloured tint; no trace of the deep ash-grey of the typical ‘sarda.’ Beak longer and finer.”

Witherby exhibited a series of specimens at a meeting of the British Ornithologists Club on November 12, 1919, and described it as easily distinguished by its pale whitish throat and small size (*Bull. B.O.C.*, No. ccxlv, p. 29).

The bright-coloured beak and rims round the eyes are very conspicuous in contrast with the general smoky hue of the plumage.

They affect boulder-strewn open country covered with scrub of palmeto, myrtle, cistus, rosemary, lentisk, grass, etc.; and heathland thinly covered with small pine-trees, with invariably heather among the undergrowth; but among the hills—on rocky ground covered with clumps of tall, coarse grass, and scanty bushes; in the pine-woods with thick undergrowth beneath the trees, it is equally at home; though it is never found on ground disturbed by cattle.

They seek their food chiefly among the thin scrub and heather, and in the pine-trees in spring, disturbing clouds of pollen from the blossoms of the pines when feeding. I have also seen them feeding on the insects among the flowers of a species of *Cytisus*.

It is amusing to watch a pair seeking food for their young—diligently working their way through bush after bush of scrub, the female treasuring in her beak the food she finds, the male gobbling up all he finds; when her beak is full of insects and caterpillars, off they both dash straight to the clump where the nest is; the female proceeds to feed the young, the male perching near, and when she is too long about it he goes down to the nest to hurry her up, and then off away again they start to continue their search.
Nesting commences in April, and the young are usually hatched by the end of that month. The commonest situation for the nest is low down among the grass growing up at the bottom of the clumps of scrub, about six inches or a foot from the ground, and on the outskirts of the clump. If there is a growth of heather in the bush it is usually selected; but sometimes completely isolated, and comparatively small and thin plants are chosen. I found a nest in a small isolated plant of *Dorycnium suffruticosum*, and Henrici one in an isolated bush of *Asparagus acutifolius*—both these are favourite plants for nesting in. Besides I have found nests in rosemary (which is usually avoided by birds for nesting in), cistus, and lentisk, and in some instances as high as 3 ft. from the ground.

Nests built among the grass in the scrub are usually slight, and composed entirely of that material, but in other situations they are bulky and compact, of lichen, dry grass, stalks and leaves, mixed with spiders' webs or wool outside, and lined with finer dry grass or horse-hair. A nest placed in a light situation was lined with light-coloured grass; another in a dark place was lined with darker-coloured grass and dark horse-hair.

The rim of the nest is always strongly constructed and strengthened with cobwebs with feathers woven into it, and, as a rule, the nest may be distinguished from a Sardinian Warbler's by the stout rim and the absence of the layer of soft material in which the lining is set.

Three or four eggs are laid, rarely five, which vary considerably, some resembling types of the Sardinian Warbler. They are sometimes white, slightly glossy, speckled and spotted all over with pale yellowish-brown, more thickly at the larger end; others are white, spotted, chiefly at the larger end, with reddish-brown, and some faint spots of pale ash-grey; or, greyish-white ground, stippled all over with pale brown and ash-grey, denser at the larger end; or greyish-white ground, thickly mottled (almost blotched) all over with reddish-brown.

The bird, when disturbed, slips off the nest, and flits from bush to bush like a large insect; and if there are young in it, or a brood about in the bushes near, both old birds are usually very tame and noisy, uttering continually a subdued ventriloquial "churr-churr," perching on the herbage or trees close by, or running wildly about on the ground, like mice, close to one's feet, and attempting to decoy one from the young.

The old birds accompany the young brood, after leaving the nest, for some time, when they are well able to fly, and it is possible that two broods are reared in the year.

The young, a few days old, are blind and absolutely naked, with a shiny black skin; the inside of the mouth being orange with two black spots in the tongue.

The usual alarm or call-note is a harsh "check-check" repeated many times; but the male has a feeble song, which he often utters, during the nesting-season, while flitting about "languidly" in the air, looking somewhat like a small bat.

I have never found them nesting at any great distance from the coast; on apparently suitable ground in the interior of the large islands they are absent; but on ground, some miles inland, that has a decided open slope towards the sea, they will be found, and they nest up to the very verge of the sea-cliffs, in the extreme limit of the wind-shorn scrub.
59. RUFOUS WARBLER. Agrobates galactotes galactotes.

The only occurrences of this species in the islands have been recorded by Tieghurst and Whistler (Ibis, Oct. 1930, p. 654), who saw a pair on Iviza on May 8 and 9, 1930, and a single bird on Formentera on May 19, 1930, all probably on migration.

60. CETTI'S WARBLER. Cettia cetti cetti (=Cettia cetti salvatoris v. Jordans).

This bird is resident, and common, in suitable spots in Majorca and Minorca; in the Albufera of Alcudia, Majorca, it is as plentiful as the Reed-Warbler, and other marshes also harbour it.

In Minorca it likewise frequents the marshes and reedy courses of the streams. But it has not occurred in the Pityusae.

During the nesting-season they frequent the fringes of the marshes, but at other times are found throughout them. Dense bramble-thickets at the edge of ditches, and bushy thickets at the edge of a marsh appear to be the favourite haunts during the summer, and not so much in the high reeds; and at this season they often stray in the woods nearby, among the thick undergrowth.

They nest in April and May, and the nest is a deep, bulky, and untidy structure, not in the least resembling a Reed-Warbler's, though sometimes built in a similar position, with the reed-stems running through it; it is placed either low down, or at some distance above the ground, or water, in reeds or bushes, and loosely constructed of dry grass, bits of reeds, and feathers, lined with the flowers of the reeds, finer dry grass, feathers, and horse-hair; and the interior is very deep.

Three or four eggs are laid of an unmistakable deep brick-red colour.

The song is startlingly loud, and, on being disturbed from its nest, or from the thicket where its nest is, bursts wildly into song. Sometimes, in the vicinity of its nest, it will hop about uttering a plaintive "phin."

61. REED-WARBLER. Acrocephalus scirpaceus scirpaceus.

A common resident in the marshes and streams of Majorca, Minorca, and Iviza. In the latter island, Tieghurst and Whistler (Ibis, Oct. 1930, p. 655) recorded it in May 1930, and Jourdain found it nesting there in the same month.

It frequents equally the innermost recesses of the marshes, as well as ditches, and swampy cover adjoining, and in any of these situations the nest is made.

They nest rather late, and eggs are not often found before the end of May, or in June, when the reeds have begun to put forth new leaves.

The well-known nests are supported on the stems of the reeds, sometimes on the reed-stems growing up through a bush or thicket, from 1 to 2 feet above the ground, or water; and are deep and tidily constructed of fine, dry grass or reed, lined with the flowers of the reeds. The eggs do not differ from the typical.

In September 1927 I found a nest containing a broken, unhatched Cuckoo's egg, that appeared to have been deserted.

62. GREAT REED-WARBLER. Acrocephalus arundinaceus arundinaceus.

Homeyer and Barceló both mention this species as occurring in the marshes of Majorca, and v. Jordans has definitely recorded it, and obtained specimens from the Albufera of Alcudia, where it is rather local, and not very common, and is a summer visitor.
Ticehurst and Whistler (Ibis, Oct. 1930, p. 635) observed it in Iviza on
May 11, 1930, where Jourdain also noted it on May 18, 1930. It has not yet
been recorded from Minorca.
I obtained nests with eggs in the Albufera of Alcudia in May 1930. Its
loud song may easily be distinguished by its "tinny" notes.

63. **AQUATIC WARBLER.** *Acrocephalus aquaticus.*

A rare resident in the Albufera of Alcudia, Majorca, where I have noticed it
both in summer and winter.
On May 22, 1925, I watched one for some time, which was evidently nesting
in a dense reed-bed, and one was shot there in April 20, 1925.

64. **SEDGE-WARBLER.** *Acrocephalus schoenobaenus.*

I have only noticed this species as occurring somewhat rarely in spring in
the Albufera of Alcudia, Majorca.
Gosse noted one in Iviza in April 1914 (Avicultural Magazine).

65. **MOUSTACHED WARBLER.** *Luscinia melanopogon melanopogon.*

This rare warbler is an abundant resident in the Albufera of Alcudia, and the
Albufereta of Pollensa, but has not been recorded from anywhere else in the
islands. It is there, I think, the most plentiful of the Reed-Warblers, exceeding
in numbers the Reed- and Cetti’s Warblers.
They are not particularly shy, and feed quietly among the thick reeds,
hopping about just above the surface of the water, every now and then running
sideways up the stems of the taller reeds; and they are distinguishable by their
dark plumage.
The loud preliminary notes of their song—not unlike the cry of a Redshank
—suddenly bursts forth from among the reeds, continued by a more subdued
song rather like a Sedge-Warbler’s, but not so harsh, and it may be heard at
most times of the year. The alarm note is a sort of “chucking” note. Their
song can easily be distinguished from the wild notes of Cetti’s Warbler, and
from the more strident warbling of the Reed-Warbler, and even above the loud
chorus of croaking frogs.
The small loud singing Reed-Warblers—Moustached. Reed, Cetti’s, etc.—
are all called by the natives “Rossiñols de kuniet” (“Reed-Nightingales”).
They nest from the middle of May until the last week in June, rather earlier
than Reed-Warblers; the earliest eggs I have found being on May 19, 1927.
The nest is invariably built in the reeds at the side of a ditch, and not in the
middle of the reed-beds, which the Reed-Warbler often chooses, and is suspended
on the reed-stems, one or two feet above the surface of the water; it is a rather
untidy, loosely-built structure, made almost entirely, externally, of long, wide
strips of dry reed, very often curiously knotted and twisted together, with the
rim tied down in a remarkable way; the lining is of the fine flowering tops of the
reeds, with occasionally a few feathers.
Exactly the same position for the nest is often chosen every year, and one
I found was built on the top of the remains of the nest of the year before. They
are totally different from Reed-Warblers’, which are tidy and compact, and always
made of much finer materials, besides being deeper.
The eggs number three or four, and bear some resemblance to Sedge-Warblers', and are usually of a pale, greyish-brown ground-colour, stippled closely all over with darker yellowish brown, forming a zone at the larger end, and sometimes with a few black dots or streaks. The depth of colouring varies in most clutches.

The palates of the nestlings are orange-yellow, without any spots.

66. WILLOW-WARBLER. *Phylloscopus trochilus trochilus.*

67. WOOD-WARBLER. *Phylloscopus sibilatrix sibilatrix.*

68. CHIFF-CHAFF. *Phylloscopus collybita collybita.—* Pajaros de nieve.

All these Warblers are common winter visitors to the islands, and a great many besides pass through on migration in autumn and spring.

In Majorca the earliest arrivals I have seen were at the beginning of September, when they are in very bright plumage, and they sometimes occur as late as the middle of May.

The Chiff-chaff is by far the commonest, and sometimes swarms during the winter in warm, sunny spots, frequenting the orchards, the vegetable crops, the marshes, and especially the pine-woods.

They are tame, familiar little birds, and, in cold weather, come boldly into the houses; one bird used regularly to come to roost every night behind the bottles on a shelf in a café.

They are often heard singing during the winter.

The native name "Pajaros de nieve" ("birds of the snow") is given to them because of their tameness in severe weather.

(Savi's Warbler. *Locustrella luscinioiides luscinioiides.*

Undoubtedly breeds in the Albufera of Alcudia, Majorca, where Jourdain and I heard it "reeling" frequently in May 1930, and it was also there later in the summer, but its identification is not yet sufficiently certain to include it in this list.)

69. BONELLI'S WARBLER. *Phylloscopus bonelli bonelli.*

Homeyer and Barceló have both recorded this species in Majorca; but until 1930—when some numbers were seen, and heard singing, by Jourdain and myself, on passage at the beginning of May, in the neighbourhood of Alcudia, Majorca—it had not been noted there by any modern observer, though probably its passage may have hitherto remained unnoticed.

Ticehurst and Whistler (*Ibis,* Oct. 1930, p. 656) have recorded it from Iviza on May 9, 1930, not uncommonly; from Espardell on May 15, and in Formentera on May 18 and 19—all in passage.

I think that, under the circumstances, there may have been an unusual stream of migration of this species through the islands at this period, similar to that of the Common Whitethroat in 1923 (v. No. 49).
70. FANTAIL WARBLER. *Cisticola juncidis cisticola* (=*Cisticola juncidis intermedia* v. Jordans).—Uiee de bau.

A common resident in all the islands; in the marshes and their neighbourhood, in swampy meadows and adjacent to streams, as well as among the crops. They commence nesting at the end of March and beginning of April, and I have found a nest being built as late as July 14. Two, if not three, broods are reared.

The beautiful purse-like nest is carefully concealed low-down amongst grass, ivula, spear-grass, and in bushes overgrown with herbage, also in corn and bean crops. I have sometimes found them in clumps of grass in pine-woods adjoining the marshes, and also in scrub, but never far from water. But the nest is not difficult to find, as the bird is very tame, and generally leaves the nest only when one is close to it, and does not hesitate to return to it when one is nearby. It is a deep pocket, among the stems, of cobwebs, down, etc., like the web of some insect, with the opening near the top.

Four or five eggs are laid, of two types; one pure white, and the other pale blue; spotted eggs have not yet been found.

It is a restless little bird, attracting attention by its flitting jerkily in the air above the grass uttering its squeaky cry, but on the ground it runs about not unlike a Meadow-Pipit.

The native name " Ox-eye " (" uiee de bau ") is said to be given to it on account of its restless habits.


71. MISSEL-THRUSH. *Turdus viscivorus viscivorus*.—Grivia.

A not uncommon winter visitor, but generally singly, or two or three together. They generally frequent the olive-orchards, or scattered trees on the hillsides, and lowlands.

72. SONG-THRUSH. *Turdus musicus musicus*.—Tort.

Very common during the winter, and universally distributed in all the islands. They arrive in October, and remain until April, a few even until May; but St. Matthias Day is said by the natives to be the day on which the Swallows arrive and the Thrushes depart.

Great numbers are caught and sold for food in the markets, with Redwings, Fieldfares, Blackbirds, a few Ring-Ouzels, and an occasional Blue Rock-Thrush; the current price for these delicacies being quoted in market-lists. From Minorca quantities are exported to Barcelona. They are shot and trapped in every imaginable way; in clap-nets at night, as well as in fine nets set up on tall canes between the trees, into which the birds fly; and the shepherd-boys set up innumerable stone-traps, on the same principle as our brick-traps, and baited with a few berries, in the woods.

They are said to get their esteemed flavour from feeding chiefly on olives, which they pick up on the ground beneath the trees, and they also damage the
fruit on the trees a good deal; but I have found them feeding also on a very objectionable-looking yellowish fungus that grows in the pine-woods. Their principal food, however, consists of snails, worms, etc.

Needless to say, continual persecution makes them very wild and shy. v. Jordans has recorded (Journ. für Ornith., April 1924, pp. 159-160) a Song-Thrush ringed at Kufstein in the Tyrol, on June 26, 1914, which was recovered at Mahon in Minorca on February 15, 1915; and another ringed at Leipzig on May 28, 1916, and recovered near Palma, Majorca, on November 25, 1916.

73. REDWING. Turdus iliacus.

74. FIELDFARE. Turdus pilaris.

Both these species are winter visitors only, and not uncommon, but, of the two, the Redwing is the most plentiful; and the Fieldfare is said to occur in Minorca only in severe winters.

They frequent the same olive-orchards, woods, and trees on the scrub-covered hill-sides, as do the Song-Thrushes.

All the Thrushes are known generally by the natives as "Torts."

75. WHITE'S THRUSH. Turdus aureus.

Has been obtained once only, in Minorca in January 1912; probably the only example ever recorded from Spain.

76. BLACKBIRD. Turdus merula merula.—Merleve.

A common and universally distributed resident in Majorca and Minorca.

Gosse has recorded it from Iviza in April (Agricultural Magazine, 1920), but neither Tieehurst nor Whistler (Ibis, Oct. 1930, p. 657) saw it in the Pityusae, nor did Jourdain, in May 1930, so possibly Gosse may have mistaken the Blue Rock-Thrush for it, as he does not mention that species.

It is always wild and shy, on account of the attention it receives from "gunners."

Nesting commences early in March, and continues throughout April and May, and into June.

The nest is placed sometimes comparatively high up in the fork of a pine-tree, but more usually low down in creepers against the trunk of a tree, in low bushes and brambles, in a heap of cut brushwood, in a bank, or even on the ground in the woods amongst herbage. Very often it is practically unconcealed except for the assimilation of the materials of the nest with its surroundings. As a rule the nests are small, but differ little in construction from those at home.

Three or four eggs, occasionally five, are laid, and are typical. They are not such strong songsters as in England, and, on the whole, sing very little, being in such request for the "pot" makes them fearful.

77. RING-OUZEL. Turdus torquatus torquatus.

A winter visitor, and only as yet recorded from Majorca and Minorca, but is not very common. It generally frequents the gorges in the hills, and scrub-covered hill-sides near the sea-shore,
78. BLUE ROCK-THRUSH. Monticola solitarius solitarius.—Passera.

This handsome bird is fairly plentiful in the wilder parts of all the islands, among the hills and on the sea-coasts, and is particularly numerous in Minorca, where it is found even in the suburbs of the town.

In Iviza, Ticehurst and Whistler (Ibis, Oct. 1930, p. 657) noted a pair, on May 8, 1930, feeding their young in the town walls.

A good many remain throughout the winter, but most appear to arrive in March. During the winter the resident birds forsake the highlands, and visit the plains, and every year I welcome one in my garden near Alcudia, Majorca, that takes up its post on the roof of the house or on the top of the windmill, whence, on sunny days, it pours forth its song. Also a bird perches, and sings, daily during the nesting-season, on the cross on the top of the chapel at Lluch in Majorca, and in other places I have noticed birds taking up their positions regularly on conspicuous buildings.

In the solitude of the hills, or on the splendid cliffs of the coast, its wild song is most pleasing—often it will sail out from a crag in the cliffs, floating in the air on extended wings, uttering its striking song; or from a rocky hillside launches forth into the air, floating hither and thither, singing all the while.

They nest in April and May in caves and crevices of the cliffs of the sea-coast, or among the crags in the hills, and in holes in ruined buildings, making a large, loosely-constructed nest of sticks and dry grass, lined with finer grass and roots; a heap of large sticks beneath a ledge or crevice in the rocks will often disclose the position of a nest, for the birds, in endeavouring to make a foundation for it, spill a quantity of material beneath.

The eggs are very glossy, of a pale blue ground, slightly speckled with pale red, and four or five are usually laid.

79. ROCK-THRUSH. Monticola saxatilis.

A somewhat rare summer visitor to the mountainous parts of Majorca, and occurring also in Minorca on migration in spring. Its nest has not yet been found in Majorca, but v. Jordans assumes that it may breed sparingly; he obtained specimens in April and May there (Nov. Zool., vol. xxxiv, p. 276).

80. REDSTART. Phoenicurus p. phoenicurus.—Cona rotje.

Occurs throughout the winter sparingly, but numbers pass through the islands on migration in autumn and spring.

I notice the first arrivals in Majorca in October, and the latest occur up to the end of April, but none appear to breed.

They frequent chiefly the orchards, gardens, and olive-covered hillsides.

81. BLACK REDSTART. Phoenicurus ochrurus gibraltariensis.

As the last, this species occurs throughout the winter, but more plentifully; also many pass through on spring and autumn migration, at the same time as the Redstarts, but none remain to breed.

Every winter one or two roost in my garden in Alcudia, either in the veranda of the house, or in a crevice between the stones of the windmill.

Besides frequenting orchards, gardens, etc., ruined walls and buildings are favourite haunts, as well as the bare, sunny faces of high crags among the hills.
82. CONTINENTAL REDBREAST. Erithacus rubecula rubecula.—Ropit.

An abundant winter visitor to all the islands, and universally distributed. They arrive in October, at the same time as the Song-Thrushes, and linger until the middle of April.

Formerly, quantities were sold for food in the markets, with other small birds, for on their arrival they are always very fat, and though numbers are still sacrificed to the omnivorous islanders, they are not allowed to be sold publicly.

v. Jordans (Journ. für Ornith., April 1924, p. 164) mentions one ringed on August 5, 1919, in Korodigraben, near Manetin, that was recovered on December 26, 1919, near Mahon in Minorca.

83. NIGHTINGALE. Luscinia megarhyncha megarhyncha (=Luscinia megarhynchos luscinioides v. Jordans).—Rossiñol.

A very common summer visitor to the woods, bramble-brakes, gardens, water-courses, and isolated patches of scrub or bush, alike in the plains and hills, also in the suburbs of the towns, in all the islands.

They arrive at the beginning of April, and most of them have left in September.

The nest is made in April and May, among thick undergrowth of myrtle, lentisk, palmeto, brambles, etc.; thickly wooded water-courses, and gorges in the hills are favourite spots.

It is usually low down in a thick bush, and is rather slightly constructed of dry leaves, moss or palmeto outside, lined with finer day grass and black horse-hair—a dark nest, for dark eggs, in a dark situation.

The eggs number four or five, and are too well-known to need description.

It is practically the only bird that sings fearlessly, and by day and night, and though in finest song before the young are hatched, it also sings a good deal after nesting is over, and the young have flown; I have often seen young on the wing, and heard old birds singing on the same day.

Ticehurst and Whistler (Ibis, Oct. 1930, p. 658) are unable to recognize v. Jordans’s “luscinioides” as a race.

84. THRUSH NIGHTINGALE. Luscinia luscinia.

Ponseti records this species as rare, and occurring on migration in Minorca, but there appears to be a certain amount of doubt as to its occurrence, never having been observed in any other of the islands, nor is there a specimen in the museum at Mahon.

85. WHITE-SPOTTED BLUETHROAT. Cyanosylvia suecica cyanecula.

Occurs rarely on migration, in spring and autumn, in Majorca and Minorca. v. Jordans observed it in Majorca in March and April 1913 (Fulco, Aug. 1914, p. 57), and I obtained specimens, and noted others, near Alcudia, in March 1927, and October 1930.

Witherby made the most interesting discovery, in June 1927, of this species nesting in the Sierra de Gredos in Spain.
86. BLUETHROAT. Cyanosylvia suecica gaetkei.

Ticehurst and Whistler record two seen in Iviza on May 9, 1930, and one seen in the same place on May 10: and obtained a single female (*Ibis*, Oct. 1930, p. 659).

87. CONTINENTAL STONECHAT. Saxicola torquata rubicola.—Vitrac.

A very common resident in all the islands, universally distributed in open country, in the lowlands and on the scrub-covered hillsides.

A very noticeable bird from its habit of perching conspicuously on the top of a tall weed, a bush, or wall.

They nest from early in March until late in May, and have two broods in the year.

The nest is placed on the ground, under a bush, a clump of grass or palmeto, among “Inula” in the marshes, or in the herbage of the pine-woods. It is usually made of dry grass, palmeto-fibre, dry sea-weed, or moss, lined with fibre, roots, horse-hair, fur and feathers. The male bird also assists in incubation.

The eggs number four or five, sometimes six, and are usually smaller than “Hibernans,” but of similar colouring.

The amount of white in the plumage of the male bird is very variable, some having an unusual amount.

88. WHINCHAT. Saxicola rubetra rubetra.

Occurs on migration in small numbers in April and May, and rarely in autumn, in all the islands.

I have thought that a few remain to breed in Majorca, as I have seen some about in the summer, but have been unable to find a nest.

89. WHEATEAR. Oenanthe oenanthe oenanthe.—Cul blanc.

A plentiful bird of passage in spring—March, April, and May—and in autumn—September and October—in all the islands.

90. Oenanthe oenanthe nivea.

v. Jordans (*Nov. Zool.*, vol. xxxiv, July 1928, pp. 277–278), and Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 660), consider the Wheatear that remains to breed in the islands to be the above form.

I found an old nest in a rabbit-burrow, on ground much frequented by Wheatears, near Puerto Alcudia, Majorca, in 1921.

In July 1919, Witherby obtained an adult in full moult, and a young one, in Iviza, and found that they evidently bred in some numbers near some salt-pans on the coast, where he saw a good many young ones of various ages (*Bull. B.O.C.*, No. ccxliv, p. 29).

Henrici obtained a single fresh egg from a nest in a wall in Formentera, on May 22, 1924 (*Beitr. zur Fortpflanzungsb. der Vögel*, Nov. 1926, p. 167); Jourdain found a nest in a stone wall, in Iviza, with large young ones on May 21, 1930; also Ticehurst and Whistler (*l.c.*) obtained specimens in the Pityusae, during the same month, which were breeding.
Throughout the summer some Wheatears may be seen on the bare, rock-strewn ground, near the edge of the cliffs, along the whole south-east coast of Majorca, from near Porto Cristo to the extreme south point of the island, as well as on the bare, rough ground, and salt-pans near Salinas and Puerto Campos; also on the coast, to the westward of Palma, some occur in summer.

91. GREENLAND WHEATEAR. Oenanthe oenanthe leuconota.

Occurs sparingly on migration in spring.

Polatzek obtained specimens in April 1910 in Iviza; and v. Jordans on March 29 and April 5, 1913, in Majorca; also Gosse one at Alcudia, Majorca, in April 1914.

92. BLACK-EARED WHEATEAR. Oenanthe hispanica hispanica.

Occurs regularly in small numbers on migration in April in Majorca and Minorca, but has not yet been recorded from other islands. It is generally solitary.

93. HEDGE-SPARROW. Accentor modularis modularis.

A scarce winter visitor to Majorca and Minorca, where it is found only among scrub, and the undergrowth in the pine-woods, and their vicinity, equally in the lowlands, and among the hills.

94. NORTH-AFRICAN WREN. Troglodytes troglodytes kabylorum

(=Troglodytes troglodytes mülleri v. Jordans).—Petexera.

A not very common resident in Majorca and Minorca; but neither Jourdain, nor Ticehurst and Whistler (Ibis, Oct. 1930, p. 661) noted it in the Pityusae.

It is so extremely shy, however, that it appears rarer than it really is; one does not often catch sight of the tiny bird, and its weak song is oftener heard. Even in my garden near Alcudia, Majorca, where every encouragement is given to birds, and where one or two pairs nest every year—sometimes in a mass of ivy-geranium growing over a rock, or in a curtain of Mesembryanthemum immediately below the house, or among the tresses of "Morning Glory" on a pergola—I hardly ever get a glimpse of the old birds; even when building or when they have young, they invariably approach or leave the nest by some circuitous route.

It is universally distributed, from close to the sea-shore to among the highest mountains; among scrub, in the woods and rocky gorges, and straying out among the rocks and scrub in the most desolate situations.

The nest is usually built low down—in fact, I have found one on the ground—amongst thick undergrowth, against the trunk of a pine in juniper, rosemary, and lentisk bushes, frequently in clumps of palmeto (Chamaerops humilis), and in thickets of Smilax aspera, less often in clefts of rocks and in caves. One I found was in a thick parasite growing on a pine-tree about 20 ft. from the ground. It is composed of moss and dry herbage, sometimes with a lot of dry seaweed, or the dry leaves of a very prickly thistle, outside, lined with feathers, hair and palmeto fibre—one nest was lined entirely with feathers from the carcass of a Barn-owl close by.
Four to six eggs are laid in the beginning of April, or even earlier, and the young are often ready to fly in May. The eggs are white, spotted with faint red, rarely of an intense shade; and are generally somewhat smaller than British eggs.

It is very doubtful if v. Jordans's "mülleri" is a recognizable race.

95. BALEARIC SPOTTED FLY-CATCHER. Muscicapa striata balearica
v. Jordans.—Capamoscas.

This is the form of Spotted Flycatcher that breeds in all the Balearic Islands, and has been separated by v. Jordans from the typical bird (Falco, Aug. 1914), which only passes through the islands on migration.

The differences, as pointed out by Witherby (Bull. B.O.C., No. exx., p. 5), are paler stripes on the forehead, fewer and finer stripes on the breast, and paler upper parts; but its habits are precisely similar to M. s. striata.

It is a common summer visitor, universally distributed in the plains and hills; frequenting woods, orchards, and olive-covered hills, as well as towns and villages, occurring even in the middle of Palma.

It arrives in April, and is one of the last summer visitors to leave, some not infrequently lingering on as late as the end of November, though the majority disappear in September.

They nest in May and June, in fruit-trees in the orchards, in woods, in pines and among vines; or in sheds, outhouses, and in the houses themselves, as well as in ruined walls and buildings.

The nest is rather large and untidy, composed outside of dry twigs, moss, roots, grass, bits of sea-weed, straw, etc., lined with vegetable down, palmeto-fibre, horse-hair, and feathers; one I found was made almost entirely of the dry stems of sorrel, with the seed-vessels attached, mixed with a little dry grass, and lined as usual.

Three or four eggs are laid, resembling those of the typical species, but not usually so brightly coloured.

Witherby has identified a specimen of this subspecies obtained at Bitye, Ja R., Cameroons, on April 23, 1921, and found another in the British Museum from the Ja R., on October 28, 1907 (Ibis, April 1925, p. 525, and Bull. B.O.C., No. cxx., p. 5).

96. SPOTTED FLYCATCHER. Muscicapa striata striata.

Passes through the islands on migration only, in spring, and has been obtained by v. Jordans in Majorca (Falco, Aug. 1914, p. 38).

97. PIED FLYCATCHER. Muscicapa hypoleuca hypoleuca.

In some years Pied Flycatchers occur in quantities on migration northwards in April and the beginning of May. They are found throughout all the islands, both in the plains and among the hills, and as they remain for some weeks, it might be thought that some would stay to breed, but none appear to do so, and only a few are seen on the return migration in September.
98. **WHITE-COLLARED FLYCATCHER. Muscicapa collaris.**

Though Barceló has recorded this species as rare on migration in Majorca, and Ponseti as occurring on migration in spring in Minorca, these records may be considered doubtful, and Ponseti has probably confused it with *M. h. hypoleuca.*

However, Jourdain identified an example near Puerto Alcudia, Majorca, on May 7, 1930, which establishes it as an occasional passing migrant.

99. **SWALLOW.** *Hirundo rustica rustica.*—Oronella.

A summer visitor to all the islands. The earliest arrivals have been noted in Majorca at the end of February, but the majority arrive in March. St. Matthias Day is said by the natives to be the day on which the swallows arrive and the thrushes depart. They leave in September and the beginning of October, but a few stragglers sometimes occur throughout the winter.

During some unusually chilly weather at the beginning of May 1926, hundreds were seen huddled miserably together on telegraph-wires, and blades of spear-grass, near Alcudia, Majorca.

Annually, during the last days of April, a considerable migration of Swifts, Swallows, House- and Sand-Martins passes northward over Majorca at a good height, and with the aid of glasses others can be seen flying high up beyond the range of the naked eye.

100. **MARTIN.** *Delichon urbica urbica.*

Ticehurst and Whistler obtained a specimen in Formentera on May 17, 1930 (*Ibis*, Oct. 1930, p. 663)—proving that the typical race occurs on migration.

101. **Delichon urbica meridionalis.**

A summer visitor to all the islands, but not very plentiful; more so in Minorca than in the other islands.

I have noted the earliest arrivals in Majorca on March 5, 1925, but the majority arrive in April. At the end of March 1925 a great many succumbed to the inclement weather, and were found dead in houses and outhouses, where they had sought refuge from a raging gale.

In Minorca they often nest in the small square holes, built in the walls of the houses, close below the eaves, for ventilation, but nowhere in any of the islands do they nest in such numbers beneath the eaves of the houses, as on the mainland of Spain, where the nests are often built in tiers beneath the broad eaves; in the Balearic Isles two or three nests beneath the eaves of a house is quite rare, and as many nest on the cliffs of the coast, and among the crags of the hills, as on the houses of the towns and villages.

They depart in September and October.

102. **SAND-MARTIN.** *Riparia riparia riparia.*

A summer visitor, but local and not numerous, some arriving in March, but the majority in April; in 1921 a colony to the west of Palma had arrived on March 13.

There are a few small colonies, or odd pairs, breeding at suitable spots in all the islands; and some may be found occasionally among the sand-hills on the
shores of Alcudia Bay in Majorca; but they are always very uncertain and irregular in their appearance at their nesting-places, often forsaking them for years together, or a solitary pair turning up where formerly several have nested. They usually depart in October; but a greater number pass through the islands on migration, in spring and autumn.

103. ROCK-MARTIN. Riparia rupestris.

A common resident in all the islands, where they nest in inaccessible places in the caverns of the sea-coast and among the hills, visiting the plains in search of food, and retiring to their caves to roost at night.

104. WRYNECK. Jynx torquilla torquilla.

105. NORTH-AFRICAN WRYNECK. Jynx torquilla mauretanica.

Both the typical Wryneck and the North-African subspecies occur in the islands.

The former occurs plentifully as a migrant both in spring—in April and May—and in the autumn, usually in September; but some remain throughout the winter.

It would appear, from specimens collected, that the North-African form is a resident, but not at all plentiful, though universally distributed.

106. CUCKOO. Cuculus canorus bangsi.—Cucuy.

A summer visitor to all the islands, and universally distributed, but not very plentiful as a breeding-species. Many more—probably Cuculus c. canorus—pass through the islands on migration than remain to breed.

The majority arrive early in April, but the earliest date I have recorded, in Majorca, is March 6, 1920.

On May 29, 1923, a young one, a few days old, was found in a Sardinian Warbler’s nest, from which it had ejected the young Warblers. Henrici (Beitr. zur Fortpflanzungsb. der Vögel, March 1927, p. 50) found a stale egg in a deserted Sardinian Warbler’s nest on April 30, 1925, and I found a broken egg in a Reed-Warbler’s nest on September 27, 1927, which had evidently been deserted—all these in Majorca.

Young birds are not infrequently seen on the wing in August.

On warm early-summer nights in Majorca, Cuckoos may be heard calling from the hills, Nightingales singing, and Stone-Curlews clamouring, while Bitterns “boom” from a neighbouring marsh.

107. GREAT SPOTTED CUCKOO. Clamator glandarius.

Though this species is a not uncommon summer visitor in Spain, the only record for the Balearic Islands is by Ponseti, of one obtained in Minorca in 1912.

108. SWIFT. Micropus apus apus.—Falseca.

Swifts arrive in most of the islands early in April, but in Minorca at the end of March. They career, during the summer, in hundreds over Palma and Mahon, but are less numerous in the smaller towns.
They nest beneath the Roman tiles of the roofs, beneath the eaves, and in holes and crevices of the buildings, and not uncommonly in the caves and cliffs of the sea-coast, among the hills and in the mountain gorges.

A "dust-devil" invariably attracts any swifts, swallows, or house-martins, in its neighbourhood, which seize the bits of paper, straw, feathers, etc., carried up by the whirlwind, and bear them off to their nests.

The majority depart in August, but a few linger on throughout September into early October.

109. MOUSE-COLOURED SWIFT. *Micropolis murinus illyricus.*

This species occurs as a summer visitor in all the islands, but is not nearly as plentiful as the Common Swift, except in Minorca, where it is nearly as numerous as that bird, and nests there in numbers beneath the tiles of the roofs, and in the ventilator holes under the eaves of the houses.

It also is to be found nesting on the sea-cliffs, but I have not noticed it nesting on inland cliffs, though possibly it may occur in a few places.

They arrive and depart at the same times as the Common Swift.

110. ALPINE SWIFT. *Micropolis melba melba.*

Occurs somewhat rarely in Majorca in summer, where I have observed specimens near Alcudia on April 1, 1920, in the company of Common Swifts, and on March 28, 1925; v. Jordans has also recorded it from the island, also Homeyer.


There are no records of its occurrence in Minorca.

Barceló has recorded it as a rare breeding-species in the mountainous parts of Majorca, and mentions the capture of specimens in the tower of Palma Cathedral.

I have suspected its breeding in the island, for on May 12, 1924, I saw some in a wild gorge among the Arta Mountains, and v. Jordans, in May 1927, obtained an example, near Arta, with nesting-material in its beak; also he observed others on the coast of Formentera that probably had young (Nov. Zool., vol. xxxiv, July 1928, p. 295).

111. NIGHTJAR. *Caprimulgus europaeus europaeus.*

Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 665) obtained a male in Iviza on May 13, 1930, which was on migration, and met with others, also on Formentera. Therefore the typical Nightjar passes through on migration, but the following is the breeding-race:

112. *Caprimulgus europaeus meridionalis.*—Engana-pastors.

A summer visitor, but not very plentiful, to the wooded parts of all the islands, both in the plains and in the hills.

The earliest date I have of their arrival in Majorca is April 2, 1926, when I flushed a pair among the pine-woods of the Cabo del Pinar.

I have obtained young birds of the year at Alcudia on August 5, 1922, and November 14, 1923.
In the summer and autumn evenings they hawk round the lights on the quay of Puerto Alcudia, and I have seen four at one time thus occupied, on October 5, 1923.

One was caught in a fishing-boat in Alcudia Bay, on May 31, 1922, attracted by a light on board; and another, on September 22, 1924, exhausted by flight, fell into the sea near a fishing-boat off the Cabo del Pinar, and was drowned; another was caught in some fishing-nets, hung up to dry, in Puerto Alcudia, in the summer of 1920.

They do not appear to depart until November; the latest dates I have noticed them, in Majorca, being November 26, 1925, and November 19, 1926, and throughout October they are frequently seen.

The Majorean name "Engana-Pastors" means "Cheat the Shepherds" or "Shepherds' Cheat."

113. BEE-EATER. *Merops apiaster.—* Beyarol.

A summer visitor, and a passing migrant in varying numbers in spring, and less frequently in autumn, to all the islands; breeding regularly in Minorca, and possibly in the Pityusae, but now very rarely in Majorca.

When I first came to Majorca in 1919, the absence of the Bee-eater from among the summer visitors was most noticeable to anyone acquainted with the summer birds of Spain. It was then only a straggler on migration, and only one passing flock was seen on April 26, 1920; v. Jordans saw a party migrating on May 14, 1921 (*Journ. für Ornith.*, July 1924, p. 406); and on May 17, 1922, and on April 21, 1923, I saw parties on migration.

In the following years from 1924, they have passed over more frequently; in fact, almost daily in April and May, 1925, and in that year as early as March 26.

Henrici (*Beitr. zur Fortpflanzungsb. der Vögel*, March 1927, p. 50) also observed flights in 1924 and 1925 in Majorca and Formentera.

Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 666) noted some, in May 1930, passing on passage over Iviza and Formentera.

The flocks in spring almost invariably pass over from south-west to north-east, rarely from west to cast. A few only return on passage in August and September.

Formerly, according to Homeyer and Barceló, it was a breeding-species in Majorca, but for many years it has only done so exceptionally; in May 1926, a small party hung about a newly-opened quarry near Puerto Alcudia for some days, and would undoubtedly have bred there, if they had not been disturbed. In 1927, v. Jordans discovered a small colony nesting near Arta (Nov. Zool., vol. xxxiv, July 1928, p. 276). In June 1929, one, if not two, pairs nested in a sand-bank in "El Arenal," a sandy ravine among the pine-roods between the Albufera of Alcudia and Alcudia Bay, and on July 10, 1929, I dug out a nest here with five hard-set eggs, and caught the female in the hole. Small parties of birds having been observed occasionally, in Majorca, in late summer might confirm their nesting there exceptionally.

It is very doubtful, however, if they would ever establish themselves, for the havoc they make among the bees, of which great numbers are kept in Majorca, would certainly lead to their destruction.
In Minorca, it remains annually to breed, probably on account of the less-populous state of that island, but it is not very plentiful even there, usually in small and scattered colonies here and there, in sandy banks, dunes and quarries. In May 1926 I found a fairly large colony in the northern part of the island, where the birds had made their nesting-holes in flat ground in light, sandy soil, among, and on the edges, of thin pine-woods, and beside the cart-tracks through the trees. The holes ran horizontally just below the surface and might have been made by rats, though it was somewhat surprising when a brilliant Bee-eater flew from a hole immediately beneath your feet; high sandy banks and dunes near by were not used at all.

114. **HOOPOE.** *Upupa epops epops.*—Puput.

Common and universally distributed throughout all the islands, where so many remain all the year round that it may be classed as a resident, whose numbers are increased by immigrants that arrive in March and April, but a good number of these migrants only pass through the islands.

They nest in May, chiefly in holes in trees, more rarely in walls, and buildings, and v. Jordans has found it nesting in rocks near the sea (*Falco*, Aug. 1914, p. 102).

A brood of young that I had from the nest were most entertaining pets; though only the size of thrushes, they were in perfect plumage, with crests and tails fully developed, only the white spot on each side of the gape and their size distinguishing them from old birds, also they were able to fly a little. They were fond of clinging to the sides of the interior of the fish-cage in which they were kept, after the manner of young Woodpeckers.

The familiar "hoop-hoop—hoop-hoop" of these birds in the nesting-season is followed by a sort of grating hiss, and after nesting, when the young are still about, their most frequent note heard is a harsh chatter, something like a starling.

115. **KINGFISHER.** *Alcedo ispida ispida.*—Dornissio.

A winter visitor to suitable localities in all the islands. Barceló has classed it as a breeding-species in Majorca, and Ponseti also, in Minorca, but it certainly is not so now.

The earliest arrivals usually appear in August, though I have seen one on July 30, 1929, and generally in pairs. They remain until March.

They often frequent the rocks on the sea-shore, and I have seen them fishing in tanks in which water is stored, for irrigation, from the water-wheels, these tanks often holding small fish and tadpoles.

116. **ROLLER.** *Coracias garrulus garrulus.*

Has been recorded from Minorca by Ponseti, and from Majorca by Barceló, on migration.

One was killed on Cabrera, by the commandant there, in May 1930, and was preserved. This unique record was rescued from oblivion by Lady Sheppard of Fornalutx, who kindly communicated it to me.
117. **BARN-OWL.** *Tyto alba alba* (=*Tyto alba kleinschmidtii* v. Jordans).—

Oliva.

A sparingly distributed resident in Majorca, Minorea, and Iviza.

They inhabit chiefly the towers of the churches, and the natives affirm that they drink the olive-oil from the lamps on the shrines, hence the native name "Oliva" (olive).

A pair frequent and breed in the holes in the rocky sides of the Cueva de San Martin near Alcudia, Majorca, in which there is a ruined subterranean chapel; and beneath their nesting-hole I have found remains of their eggs, as well as skeletons of old and young owls, and pellets of fur and bones of mice, rats and young rabbits, also of feathers and bones of greenfinches, sparrows, and a crossbill.

Another place frequented by a pair was a cleft in a sea-cliff to the west of Palma.

Two dead specimens were found in April, 1920, in the pine-woods on the shores of Alcudia Bay, from which a wren had taken feathers to line its nest.


118. **LONG-EARED OWL.** *Asio otus otus*.

Has been recorded by Barceló from Majorca, and by Ponseti from Minorea, but no late observer has ever met with it; as a rare straggler, perhaps, it might occur.

119. **SHORT-EARED OWL.** *Asio flammeus flammeus*.

Occurs rarely on migration in Majorca in April and May, and again in November. It has also been recorded from Minorea.

One was killed against the electric-wires, near Alcudia, Majorca, on November 3, 1923, and a wounded one was brought to me on November 27, 1925, which I kept alive for some time until it escaped—the eyes of this specimen were black with a narrow yellow rim. Another occurred near Puerto Alcudia on February 20, 1930.

120. **TAWNY OWL.** *Strix aluco aluco*.

Undoubtedly occurs rarely in Majorca, though I have not yet been able to procure a specimen. It is also said to occur in Minorea.

A pair is assumed to have nested, some years ago, in a cave beneath the walls of Alcudia, Majorca; and on January 2, 1922, in the moonlight I saw what appeared to be a bird of this species, around my garden near Alcudia.

During the summer of 1927, I nightly heard its cry near the town of Alcudia, but was unable to see it.

It has also been reported to me from near Palma.

121. **SCOPS OWL.** *Otus scops scops* (=*Otus scops mallorcae* v. Jordans).—

Mussol.

This delightful little Owl is common throughout all the islands, and its monotonous piping note may be heard everywhere during the summer chiefly, at night—though it not infrequently calls during the day.
Though generally a summer visitor, arriving in March and April, many remain throughout the winter.

It is particularly abundant about Alcudia, Majorca; the ancient town-walls being a great stronghold for them; it may often be perceived spending the day in a tree or thick bush, and, on being noticed, compresses its plumage, and draws itself to its utmost height, looking like a thin branch or stick.

Nesting commences in May, the eggs being generally laid in a hollow tree, or in a hole in a wall or building. A nest with three eggs, and one of the year before, was taken in a hollow olive-tree, near Alcudia, on May 3, 1926, and the bird was caught on the eggs; she laid another egg in her cage, and was given her liberty the next day. On May 22, 1926, she had returned to the same tree, and had laid, and was incubating, four eggs.

Another nest in a hollow algaroba (locust-bean) tree had three much-incubated eggs on June 11, 1926, and the female was caught on the nest.

On June 28, 1926, a nest with three big young ones was found in the south gate of Alcudia, and on June 9, 1927, another nest with four tiny young, covered with white down, in a hole in an algaroba-tree.

The young, when they have left the nest, make a piping noise something like the old birds, but fainter, and very hoarse; the call of the female is fainter than the male's.

v. Jordans's "mallorcae" is certainly not a good race (fide Hartert).

122. LITTLE OWL. Carine noctua noctua.

The only actual instance of the occurrence of this bird of late years in the islands was when I was walking up a rocky gorge on the north coast of Minorca, on May 7, 1923. I idly struck with my stick at what appeared to be a dead stump on a rock; it turned out to be a Little Owl which, when knocked over, developed instantly fiery eyes and menacing claws; but before I could secure it, it recovered and flew farther up the gorge. I flushed it again several times, but it wisely never again allowed so near an approach.

In Majorca I have heard it cry during the autumn of 1920, near Puerto Alcudia, and v. Jordans also has heard it near Arta on April 23, 1913, and at Valdemosa on May 17, 1913 (Faleo, Aug. 1914, p. 107).

Homeyer's statement of its frequent occurrence in Majorca must be a mistake.

123. BLACK VULTURE. Aegypius monachus.—Volter.

This noble bird is numerous and resident in all the mountainous parts of Majorca, but the only occurrence in the other islands is of a specimen shot at Mercadal, in Minorca, on November 26, 1929, which is preserved in the museum of the Ateneo at Mahon.

It is a mystery how these great birds find sufficient food; no doubt they do not live entirely on carrion, sickly sheep and young lambs are not allowed to die natural deaths in the hills where these Vultures are numerous, and I know of an instance on the Cabo de Menorca where five Vultures were driven away from a dying lamb by some fishermen, who secured it and took it home.

And an instance of a carabinero "resting" beneath a bush was aroused by one swooping down on him, which he hurriedly loosed forth at, and shot.

Two pairs, and an odd bird, of this species used to inhabit the hills around
the Atalaya of Alcudia, and could be seen almost daily going their regular beats over the country round, or perching on the ruined watch-tower on the summit.  

On January 14, 1920, I saw one of these pairs mating, and at the end of March both pairs had taken up their nesting-quarters, one pair in a cavern on a precipice immediately above the Cabo del Pinar, and the other on a ledge on the sheer rock immediately beneath the Atalaya, about a mile and a half apart; the odd bird, a young one, had disappeared.

One pair only now remains, and that is being constantly harried by the caretaker of "La Victoria" (a shrine among the hills), who tells me he has tried to drive them away, because of the damage they do among the young lambs.

On the Pollensa peninsula they are still numerous, perhaps the number of semi-feral goats there attracts them, and I have seen, at one time, no less than twelve overhead, near Cape Formentor.

Westward, throughout the whole northern range of mountains they are numerous, also in the Arta Mountains.

It is remarkable that this species is exclusively a rock-nesting bird in Majorca—as are all the birds of prey—but they do not confine themselves to nesting entirely in the higher hills; rocky hills of quite low elevation, provided there are sufficient inaccessible caverns in them, are also frequented. One day I climbed into a cavern, on a low and comparatively easily accessible hill, when a Black Vulture swept out, and nearly knocked me down the hillsides. Usually they are very wary and unapproachable birds, and v. Jordans had great difficulty in obtaining a specimen.

A well-known bird was kept for many years in a cage at Miramar, the estate of the late Archduke Ludwig Salvator, and was said to lay an egg annually in its cage.

A young bird was obtained from a nest near Pollensa in 1927, and kept for some time in a cage. It became so tame that it was not possible to drive it into freedom.

Another in captivity was fully grown, though not yet in adult plumage, and became extremely tame within a few weeks of its capture, and delighted in having its head rubbed like any old parrot. When feeding, it completely surrounded the back and sides of its nest by expanding and erecting its ruff feathers, to protect the rest of its plumage from being fouled, and it always thoroughly cleaned its plumage after feeding.

124. GRIFFON VULTURE. Gyps fulvus.

The occurrences of this species are recorded by v. Jordans (Falco, Aug. 1914, p. 116) from Majorca, who relates that the late Archduke Ludwig Salvator told him that he had seen one once near Valdemosa, and records another obtained near Arta, also he thinks he saw one in the same neighbourhood in 1927 (Nov. Zool. vol. xxxiv, July 1928, p. 306), but I consider these records very doubtful.

125. EGYPTIAN VULTURE. Neophron percnopterus percnopterus.

A resident in all the islands, but not very plentiful. It appears to be most numerous in Minorca, where it nests on the sea-cliffs, and in the fine gorges on the south side of that island.
This is probably the "rare species of white crow of large size that the inhabitants call Aguila de Mon Toro"—mentioned by Armstrong in his history of Minorca!

Near Alcudia, in Majorca, when the marshes are drying up, two or three pairs may be seen walking about on the mud seeking dead fish, etc.; and I have seen a pair on the sand-banks of Alcudia Bay, in attendance on a dead pig washed up there.

Their time of nesting appears to be in May.

126. MARSH-HARRIER. *Circus aeruginosus aeruginosus.*—Arpella.

A common resident in the marshy parts of Majorca, and less so in Minorca and Iviza, where there is less extent of suitable country for them. Ticehurst and Whistler noted one in Formentera on May 19, 1930 (*Ibis*, Oct. 1930, p. 667). I saw one in May 1926, in the Albufera of Alcudia, Majorca, dropping its prey over a certain spot in the reeds, where probably the nest was; and in the same marsh I have seen two young birds fly up out of the reeds to meet the parent bird overhead, which dropped its prey, to be caught in the air by one of the young.

They harry the flocks of ducks and coots in the marshes, and I have seen a pair try to cut out a wigeon from a large flock, but unsuccessfully. And another that swooped down, and pursued a wild duck, which easily escaped it.

They make determined attacks on the flocks of coots, and by swooping above them, try to separate one from the flock; the coots scatter wildly over the water, with such a flapping and splashing that can be heard a long way off, and then as quickly as possible assemble together again, while the Harrier retires to rest nearby, until it renews its assault.

On the approach of one of these birds to a nesting-colony of Stilts, some of the Stilts instantly fly up and drive it away.

127. HEN-HARRIER. *Circus cyanus cyanus.*

A scarce straggler on migration to Majorca, but in Minorca it is apparently a resident, but not plentiful; it has not been recorded from other islands.

A pair were seen near Alcudia in Majorca on April 24, 1925, and a female frequented that locality for some days in the middle of August 1925. It is noticeable that though the swallows, etc., mob a strange Harrier, they take no notice of the native Marsh-Harriers.

Another was seen on September 15, 1927, being mobbed by a Kestrel. Other occurrences of this species at Alcudia were on April 21, 1928; July 9, 1928; and November 1, 1929; v. Jordans saw one near Arta in April 1921 (*Journ. fü r Ornith.*, Oct. 1924, p. 524).

Homeyer and Barceló have classed it as a breeding-species, but it is not so now.

128. PALLID HARRIER. *Circus macrourus.*

A rare straggler on migration.

On April 8, 1924, I saw one near Puerto Alcudia, Majorca; and what was probably a very pale-coloured male of this species frequented the Albufera there in May 1927.
Ponseti has recorded it once from Minorea, and Henrici (Beitr. zur Fortpflanzungsbr. der Vögel, March 1927, p. 51) records one shot at Formentera on April 25, 1925, and others seen there about the same time.

129. **MONTAGU'S HARRIER.** *Circus pygargus.*

A rare straggler. One was obtained by v. Jordans on May 2, 1913, near Santanyi in Majorca (*Falco*, Aug. 1914, p. 112), and I saw two near Puerto Alcúdia on May 8, 1930.

130. **BUZZARD.** *Buteo buteo buteo.*

A scarce visitor to Majorca and Minorea in the winter, and on migration in spring.

131. **GOLDEN EAGLE.** *Aquila chrysaetos homeyeri.*— *Aguila.*

In the winter this species is not infrequently seen in Majorca, and possibly there may yet be an eyrie or two to be discovered in the northern range of mountains, though I believe this to be doubtful, for such a rapacious bird would not be allowed to exist as a breeding-species in these days.

Both Homeyer and Barceló considered it common, but probably other species were mistaken for it.

v. Jordans made great efforts to obtain a specimen, but was unsuccessful.

On November 23, 1919, I saw one near Alcúdia, fiercely attacked by a Raven, which even pitched on the Eagle's back, and did not cease its attacks while they remained in sight.

On March 7, 1921, I had a near view of one hunting along a hillside; it eventually perched on a rock, at no great distance from me, where it remained some time.

132. **WHITE-SHOULDERED EAGLE.** *Aquila heliaca adalberti.*

I saw a large, dark, white-shouldered bird of this species, on November 20, 1919, over the Albufera of Alcudia, Majorca, being pursued by a Herring Gull.


133. **WHITE-TAILED EAGLE.** *Haliaeetus albicilla.*

Homeyer has recorded this species from Majorca in 1861, and Howard Saunders has stated ("List of the Birds of Southern Spain," *Ibis*, 1871) that there were at least two nests in the Balearic Isles, one being on Dragonera. It is, however, not present in these days as a breeding-species in the islands, and does not now nest on Dragonera; and there is no modern record of its occurrence, even casually.

134. **BONELLI'S EAGLE.** *Hiaeraetos fasciatus fasciatus.*

An uncommon resident in the mountainous parts of Majorca, rarely straying into the plains.

I used to see it near Alcudia more often in former years than at present, for those that frequented the hills of the Alcudia peninsula have disappeared.

Witherby found a pair nesting near Lluch in 1919, and a pair still frequents
the same place. Also v. Jordans found it nesting near Valdemosa in 1921 (Journ. für Ornith., Oct. 1924, p. 522).

Henrici also saw it in Majorca on May 4, 1924; as well as in Minorca (Beitr. zur Fortpflanzungsbr. der Vögel, March 1927, p. 51), which is the only record for that island.

135. **BOOTED EAGLE.** *Hieraaetus pennatus.*

Not uncommon in Majorca and Minorca, and probably also occurs in Iviza. Some pass through the islands on migration, and a party of six were seen in Majorca, on February 16, 1922, migrating in a north-easterly direction, and another party of five on February 13, 1927.

They occur equally in the plains and among the hills, and do considerable damage to the poultry in the farms, ranking with the Kite in this respect, and indeed the natives do not distinguish it from that bird, calling them both “Milano.”

The Kite, however, swoops upon its prey, and snatches it up, whereas the Booted Eagle plunges straight down upon it, and seizes it on the ground.

They have a habit of hovering stationary in the air, without any beating of the wings, merely swaying in the breeze; and it wheels more sharply in the air than a Kite.

They invariably nest in inaccessible crags in the hills, and on the sea-cliffs, and never in trees; and birds in both dark and light phases of plumage occur.

136. **SPARROW-HAWK.** *Accipiter nisus nisus.*

Occurs occasionally on migration, and during the winter, but is not common, and does not remain to breed, though both Barceló and Ponseti state that it is resident.

137. **KITE.** *Milvus milvus milvus.*—Milano.

A resident in all the islands, and generally distributed; a single pair will range over a great extent of country, having regular beats, so that they are not very numerous.

They are the terror of the poultry-yards, and, being extremely wary, kill a great many fowls, and various devices are rigged up on the farms to scare them away.

They often visit the harbours and sea-shore, and snatch up refuse from the surface of the water, to be devoured on the wing, frequently associating with the gulls for this purpose.

They nest invariably among the crags in the hills, and on the cliffs of the coast, and never now in trees, though Howard Saunders, when he visited Majorca, found them nesting in pines.

138. **BLACK KITE.** *Milvus migrans migrans.*

Uncommon, and usually occurring on migration in spring, in Majorca.

I have noted it on February 9, 1920, near Pollensa, and April 14, 1920, near Alcudia; v. Jordans has recorded it from near Arta on April 4, 1921 (Journ. für Ornith., Oct. 1924, p. 524); v. Homeyer also noticed it near Esporlas.

Ponseti has recorded a single specimen from Minorca.
139. HONEY-BUZZARD. *Pernis apivorus* apivorus.

Of accidental occurrence. The only specimen is recorded by Ponseti as having been obtained in Minorca in September 1902.

140. PEREGRINE FALCON. *Falco peregrinus brookei.*—Falco.

A not-uncommon resident in all the islands, nesting chiefly on the sea-cliffs, but also in the crags among the hills. The abundant Rock-Pigeons and, in the winter, wild-fowl, provide them with plenty of food. They evidently cross the sea between Majorca and Minorca—a distance of about 25 miles—for hunting purposes, as I have seen examples *en voyage* between these islands.

Mallorquins are great pigeon-fanciers, and the pigeon-flying clubs let out hundreds of carrier-pigeons at places distant from their homes; the instant a flight of pigeons is loosed is the signal for peregrines to appear literally "out of the blue," and strike down and carry away pigeons in sight of the onlookers. The evening flights of pigeons in the towns also attract the falcons.

Ticehurst and Whistler (*Ibis*, Oct. 1930, pp. 667–668, and July 1930, pp. 548–551) expose the wanton and useless destruction of this species by foreign agents in the Pityusae, and I have heard later that their total bag of Peregrines there numbered four adults and twenty-one young!

In all probability the typical race of Peregrine (*Falco peregrinus peregrinus*) also occurs in winter, but so far no specimens are available.

141. HOBBY. *Falco subbuteo subbuteo.*

Occurs rarely on migration in Majorca and Minorca. I saw one near Alcudia, Majorca, on April 19, 1924; and another, on April 27, 1925, was accompanying a great migration of swifts, swallows, and martins; it had seized one of them, and was carrying it about in its claws, mobbed by a crowd of the migrants.

142. MERLIN. *Falco columbarius aesalon.*

Of rare occurrence in winter in Majorca and Minorca. I have seen examples near Alcudia, Majorca, on December 5 and 28, 1919; February 16, 1926; March 15, 1927; February 10, 1928; and February 15, 1930.

143. ELEONORA’S FALCON. *Falco eleonorae.*

Though Majorca is not very rich in birds, it gives opportunities for studying closely several sorts that are rare, or not found elsewhere, such as the Crossbill, Thick-billed Reed-Bunting, Marmora’s Warbler, the present species, and others.

Eleonora’s Falcon is a summer visitor to the islands, and is abundant in Majorca at certain seasons; it assembles annually in extraordinary numbers, before dispersing to its nesting-haunts, in the pine-woods surrounding the Albufera of Alcudia, and at first I mistook this gathering for Peregrines, as a few were among the Eleonoras. Some arrive here at the end of April and beginning of May, and from the latter half of May until the end of June are most plentiful. Their numbers dwindle through the early days of July, when they have mostly dispersed to their breeding-haunts.
In these woods, where the trees are of large size, the Falcons are unusually tame, sitting among the branches, and even peering down at anyone passing beneath, and I have noticed as many as seven perched in one tree.

They hawk for dragon-flies above the pine-woods, and over the Albufera, and over the adjacent fields for a small beetle—*Anomola devota*—that issues in numbers from the sandy soil; between twenty and thirty Falcons may be seen at one time over these fields, and Herring-gulls, Kestrels, and Ravens often associate with them on the same ground.

In the woods, so regardless are they of human beings, that on one occasion there was a covey of young partridges in the scrub beneath the trees, that was occupying my attention, as well as of a couple of Falcons seated in a tree above; when the covey took to flight, I and my manservant dashed after it to catch a young one, and the Falcons also joined in the chase; they were unsuccessful, but I managed to secure a young one, about as big as a thrush.

When hawking for dragon-flies, they sometimes fly at a great height, very little lower than the Swifts, and drift about in circles on motionless outspread wings, the wide-spread tail only working to direct the flight—a sudden twist in the air, a snatch with the feet, and an insect is being devoured as the bird resumes its smooth course. Kites, Herring-gulls, and Kestrels occasionally clumsily imitate the Falcons in their pursuit of this prey.

Their cry, which is often heard among the dark pine-woods, is not so shrill as a Peregrine’s, but altogether deeper and fiercer, and more penetrating and prolonged, and they also make another cry, a querulous, chuckling note, deeper than a Peregrine’s.

It is a mystery where all these Falcons breed—many must leave the island for other quarters—for comparatively few are seen about the island-coasts after their dispersal, and only occasional birds stray into the interior during the nesting-season. Nor do they re-assemble in the pine-woods until the spring of the next year, but must make their southerly migration singly, or by another route. The latest straggler I have noted in the island was on November 9, 1927, and that was certainly migrating, but September appears to be the usual month for their departure.

On the island of Dragonera, however, a fair number still breed, the nesting-season being late in July, and Dr. Cushman Murphy visited the island in July 1926, in the yacht *Wawaloam*, and describes his acquaintance with these Falcons in *Journal of the American Museum of Natural History*, November—December, 1926, p. 561.

I visited Dragonera in July 1927, and found the Falcons fairly numerous there, and on the adjacent coast of Majorca, where they were feeding on dragon-flies above the pine-woods, and also on the Cicadas, which were like swarms of bees among the pines, and the noise of their “shrilling” like a loud chorus of frogs. Two or three falcons at a time were noticed perching on the top of the deserted lighthouse on the summit of the rock, and others flying over the scrub on the landward slope. But, anyhow, they are not now as numerous there as in Howard Saunders’s time, who, on May 19 and 20, 1869, found them in great abundance—“When sitting with my legs dangling over the precipice a little below the highest peak, the birds passed backwards and forwards within a few yards, as thick as Swallows on a summer’s evening” (*Ibis*, 1871, p. 58, “List of the Birds of Southern Spain”). In this account, the early date of
their arrival in Dragonera is remarkable, but v. Homeyer noted a pair there in May 1861.

Ticehurst and Whistler (Ibis, Oct., 1930, p. 668) record a colony on one of the small islands of the Pityusic group, in May 1930, but there are no records as yet from Minorca or Iviza, though doubtless they occur there.

This falcon often feeds very late in the evening, in fact, until it is almost dark, and I have obtained a male in the uniform dark plumage, that had flown against the electric wires, near Alcudia, in the dark, on June 30, 1927. This specimen was very dark slate-colour above, and dark brown beneath. The eyes, black; the skin round the eyes, bluish white, slightly yellow round the rim; cere, whitish, with a small spot of yellow on the ridge between the nostrils; beak, bluish, darker near the tip; legs and feet, bright yellow; claws, black; roof of mouth brilliant sky-blue. The testes were largely developed and the stomach full of the remains of beetles and dragon-flies.

The ovary of the female of a pair shot by v. Jordans in the middle of June 1927 had very small eggs.

"Esparrver" is said to have been the native name in Majorca for this species, but at present it is known by no other name than "Falso."

144. RED-FOOTED FALCON. Falco vespertinus vespertinus.

Barceló has included this species in his list of birds of Majorca, and it has been obtained very rarely on migration in Minorca, where, Ponseti states, the only specimens procured were part of a large flock.

It can only be a rare straggler.

145. KESTREL. Falco tinnunculus tinnunculus.—Chorige.

The Kestrel is common in all the islands, resident, and universally distributed. It nests from the end of April until the beginning of June; in cliffs, both inland and on the sea-coast, as well as in old, and even still-used buildings; it does not, however, nest in trees.

A pair usually nest in the Torre Mayor of Puerto Alcudia, Majorca, and another pair annually visit, in spring, the windmill in my garden, near Alcudia, where probably they formerly nested; at Ciudadella, in Minorca, a pair were inhabiting a windmill in the town; and some nest in the rocks above the harbour of Port Mahon. At Santa Eulalia, in Iviza Gosse noted a pair nesting in the walls of the Fonda.

It is a much bolder and more aggressive bird than in some other countries, and preys largely on small birds; on April 21, 1923, one had caught a Common Whitethroat, which it dropped when disturbed; another was caught in a trap-cage, with a Goldfinch as a decoy, set to catch Woodchats.

I have seen them worrying Kites and Vultures, and stooping repeatedly at Peregrines; one even struck a Peregrine that flew near the Kestrel's nest, but the big Falcon did not retaliate, being nesting—neighbours in the same cliff, perhaps it was not an unusual occurrence.

146. LESSER KESTREL. Falco naumanni naumanni.

It is remarkable that this species, which is so plentiful in parts of Spain, should be so rare in these islands; and I very much doubt any of the record.
Homeyer states that he found a nest in the Arta cave in Majorca (which might have been a Common Kestrel's)—and Barceló has recorded it as nesting rarely near Capdepera (this might have been Homeyer's record). v. Jordans noted specimens in Majorca, in April and May 1913 (Falco, Aug. 1914, p. 111), but it is not an easy species to recognize while at liberty.

147. **OSPREY.** *Pandion haliaetus haliaetus.*—*Aguila pexetera.*

The Osprey is not uncommon in all the islands, and is resident. It appears to have increased in numbers since Homeyer and Barceló wrote, as they considered it infrequent.

In the neighbourhood of the Albufera and lagoons of Alcudia, Majorca, they are most plentiful, and I have seen seven fishing at one time, among a crowd of Common Cormorants, which were much disconcerted by the Ospreys' plunging amongst them.

I saw one attempt five times to catch a fish, twice the fish escaping by jumping out of the water; the fifth time the Osprey was successful, just managing to catch the fish in one foot. Another had caught a big gold-fish in a tank, and appeared much alarmed at the appearance of its prey, for it tried to get rid of it, but its claws seemed to be so firmly fixed in the fish that it could not disengage them, so it flopped down on to the ground near and at last managed to shake it off, and left it behind, while it flew away.

On April 16, 1930, one dropped a fish it had caught in an adjacent lagoon near Alcudia, into a disused stone water-channel, which I retrieved while it was still alive.

It is very rarely that they prey on anything but fish, though I once saw one that was carrying in its claws what appeared to be a Little Grebe; most likely it had caught it in mistake for a fish.

It is noticeable that they invariably carry their prey lengthwise, with the head usually pointing forward, and their talons in either side.

They are comparatively tame and inoffensive birds, and are generally unmolested, but I have seen a pair stooping repeatedly at a Black Vulture, which, however, continued its circling and soaring aloft quite undisturbed.

Occasionally they enter the harbours to fish, and plunge on to their prey without paying any attention to the boats and fishermen around.

They nest in the cliffs around the sea-coast of all the islands, in April and May, and nearly every bold headland has its eyrie, but it appears that a pair has usually two or three nesting-sites, and the same nest is not occupied every year.

A pair nesting on the cliffs near Col Baix, on the Alcudia peninsula, apparently had newly-hatched young on May 10, 1930, when both old birds were seen in the nest.

148. **CORMORANT.** *Phalacrocorax carbo sinensis.*—*Corpetasse.*

I am not satisfied as to the breeding of the Common Cormorant in the Balearic Isles, and think that the next species is confused with it, very few of the natives distinguish the two species, and call them both "Corpmarin"—which is the name for the Shag.

In the *Ibis* for Oct. 1921, p. 703, I stated that it nested on the cliffs of the Cabo de Menorca round to the Cabo del Pinar, in Majorca, associating
with the Common Heron on the latter cape, but no Cormorants nest there now, and I have never seen any examples during the summer; but v. Jordans states (Falco, Aug. 1914, p. 138) that it is a common breeding-species in all the islands.

To the contrary, some other authors deny its occurrence, during the summer, in the extreme Western Mediterranean—Irby in Ornithology of the Straits of Gibraltar (1895 edition) says "is found near Tangier from December to February. The same remarks equally apply to this bird on the Andalusian side. I never saw it in summer."

Tait in Birds of Portugal, p. 172, says: "I have not seen this bird during the summer months."

Ingram in Birds of the Riviera, p. 104, says: "Although it nests freely in some parts of the Mediterranean, I do not think it does so anywhere along the southern shores of France."

Arévalo in Aves de España, p. 403, mentions it as frequent in winter, and during bad weather.

Neither have I been able to discover it breeding anywhere on the coasts of Minorca; and though Ponseti mentions it as common and resident, he omits the Shag altogether. And there is no definite information of its breeding, or occurrence in summer, in any of the other islands.

In winter, it visits all the islands commonly, arriving in October and leaving in March.

A number of Cormorants fish, during the winter, in the Albufera of Alcudia, and adjacent lagoons, retiring at night to roost at a certain spot on the crags, and among the stunted pines on the cliffs, of the southern face of the Cabo del Pinar, sharing their roosting-place with an equal number of Common Herons.

A specimen was caught on the road between Mahon and Fornells, in Minorca, on November 21, 1929, with a ring in its leg marked "Museum Nat. Hist. Leiden, Holland, 65962," which was ringed as young on July 11, 1929, at Lekkerkerk, near Rotterdam.

149. SHAG. Phalacrocorax graculus desmarestii.—Corpmarin.

The Shag is generally distributed in small numbers along the rocky coasts of all the islands, where there are cliffs, and is resident.

In stormy weather they venture into the harbours and sheltered bays to fish, but never into the fresh-water lagoons or marshes, as the Common Cormorant does.

They assume their crests in December and January, but their time of nesting appears irregular. I have seen a crested bird attended by a brood of fully-grown young on the sea in December, and another brood in January; others on their nests in March; and in May, on the same day, I have seen some on their nests, and others at the base of the cliffs with their fully-grown young.

It is remarkable how the white underparts and the green upper plumage of the immature birds, assimilate with the green sea-weedy edge of the base of the cliffs.

The nests are made singly, or a few together, in caverns and holes on the face of the lower parts of the cliffs, the opening of the hole sometimes being decorated with growing clumps of purple stock, through which the bird has to push its way on entering or leaving the nest.
As a rule they roost at their nesting-places, or on the rocks and cliffs near; but I have heard of one being caught, in the early morning, asleep in a buoy in Alcudia Bay.

150. GANNET. Sula bassana bassana.

A rare straggler; one was captured off Minorca, on a fish-hook by a fisherman (Catalogo des las aves observadas en la Isla de Menorca, Ponseti, p. 67); and another was captured there in the winter of 1929–30 (El Día, Feb. 19, 1930).

Ticehurst and Whistler (Ibis, Oct. 1930, p. 669) record an immature bird seen off Iviza on May 12, 1930.

(Pelican. Pelecanus ?)

The occurrence of an example of the White Pelican (Pelecanus onocrotalus onocrotalus) in the Albufera of Alcudia, Majorca, in 1773, is in the catalogue of Don Ventura de los Reyes (1886), and the same is referred to by Barceló.

Howard Saunders says in the Ibis, 1871, “List of the Birds of Southern Spain,” that the Dalmatian Pelican (Pelecanus crispus) has been obtained in the Balearic Isles, and he is quoted by Arévalo (Aves de España, 1887).

I have been told of one that was obtained in the Albufera some twenty or thirty years ago. There seems to be some doubt as to the species.)

151. GREY LAG-GOOSE. Anser anser.—Oca sauvatje.

A rare winter visitor that has only been recorded from Majorca. I saw one on the lagoons near Alcudia on Feb. 19, 1921, and heard a wild goose of some sort passing over the Albufera in the evening of Feb. 28, 1920.

Four large grey geese were about the Albufera and lagoons for some days at the beginning of November, 1926, and a large flock there in January 1928, and on February 10, 1928, I identified a party of six here as belonging to this species.

Barceló has written of it as a frequent visitor on migration.

152. WHITE-FRONTED GOOSE. Anser albifrons. albifrons.

The only record of this species is one I saw in the marshes near Alcudia, Majorca, on September 19, 1921; it was exceedingly wild and shy, and was soon frightened away.

153. BEAN-GOOSE. Anser fabalis. fabalis.

In Majorca Barceló has recorded this species as occurring rarely in autumn, and in Minorca it has been known to visit the lagoons there rarely, but only in the coldest winters.

I saw a specimen in the Albufera of Alcudia, Majorca, on December 5, 1928, which had been disturbed by a “coot-shoot” then in progress.

154. WHOOPER SWAN. Cygnus cygnus.—Signe.

Has occurred rarely in Majorca and Minorca, usually only in severe winters. On February 22, 1926, it was “rumoured” that one had been seen in Alcudia Bay, and that there were three more in the Albufera of Alcudia; there was a dense fog on that day.
155. SHELDRAKE. *Tadorna tadorna.*

A male of this species frequented the inundations near Alcudia, Majorca, for some time in February 1924, and is the only occurrence I can find of this bird in the islands; I first noticed it on February 3, usually accompanying a small flock of Wild Duck, but it had disappeared by the end of the month.

Unusual numbers of wild fowl were in the district at this time, the weather being cold and very stormy, culminating in a heavy fall of snow on the 28th, which covered the whole country to a depth of from three to six inches. Sardinian and other small Warblers suffered considerably from the snow, many being found dead.

156. WILD DUCK. *Anas boschas boschas.*—Col blau.

A common resident in the swamps and marshes of the larger islands. Vast quantities visit such localities in the winter—the Albufera of Alcudia, Majorca, and the Albufera, near Mahon, in Minorca, being particularly favoured spots. They feed in the marshes at night and rest at sea during the day, and miles of duck may be seen on the sea outside the marshes in calm weather.

They commence nesting early in March—the earliest dates I have found nests being March 10, 1922, with two fresh eggs, and March 19, 1922, with eight fresh eggs—and continue throughout April and May.

Their nests are usually made among the dense undergrowth of the woods adjacent to the marshes, as well as among the bushes, grass and other herbage round the edges, but the eggs are much sought after by the natives, who, if possible, kill the duck, and take her eggs. Most of the eggs I have found appear to run rather smaller than British specimens, the number in a clutch varying from seven to eleven eggs.

157. GADWALL. *Anas strepera.*

Barceló has recorded this as frequent in winter in Majorca, but there are no recent records of its occurrence.

158. GARGANEY. *Querquedula querquedula.*

Occurs in small numbers in Majorca in spring.
A male was shot out of a flock of seven on March 25, 1921, near Alcudia.
Gosse has recorded it from Santa Eulalia, Iviza, in April 1914 (*Avicultural Magazine*).

159. COMMON TEAL. *Querquedula crecca.*—Setla.

Plentiful in Majorca and Minorca during the winter.
I have never seen any but injured birds late enough in the spring to suppose they might nest.

160. WIDGEON. *Mareca penelope.*—Siulador.

A plentiful winter visitor to the seas around all the islands, and to the open lagoons near the coast, but rarely found in the reedy swamps, such as the Albufera, etc., in Majorca.

They arrive in October, and depart in early spring.
161. **SHOVELER.** *Spatula clypeata.*

Not very common in winter, and only recorded from Majorca, where I have noted examples in October 21, 1921, and April 4, 1924, near Alcudia.

162. **PINTAIL.** *Anas acuta acuta.*—Couer.

One of the most plentiful of the ducks that visit the islands in the winter generally associating with the Wigeon, and remaining so late in the spring, that I have thought it possible some might nest in Majorca.

On April 16, 1927, I saw a couple of drakes in the Albufera of Alcudia, which were joined by a duck, that was chased about by the drakes, as if she had recently left her nest.

163. **RED-CRESTED POCHARD.** *Netta rufina.*

Occurs very rarely in Majorca. Homeyer in 1861 noted two pairs breeding, and obtained a young one in the Prat—a marsh, now drained, near Palma; and v. Jordans saw an adult male in the Albufera on May 11, 1921 (Journ. für Ornith., Oct. 1924, p. 582).

Barceló has recorded it as plentiful all the year in the marshes of Majorca, but it is now extremely rare.

164. **WHITE-EYED POCHARD.** *Nyroca nyroca nyroca.*

A winter visitor, only recorded from Majorca.

I have noted specimens on October 21, 1921, in the Albufera, and quite a number were shot there in the winter of 1930–31.

165. **POCHARD.** *Nyroca ferina ferina.*—Cap Vermey.

Plentiful in winter in Majorca and Minorca, generally associating with Tufted Ducks.

I saw a pair in the Albufera of Alcudia, Majorca, as late as the end of May 1923, as if they contemplated nesting there.

166. **TUFTED DUCK.** *Nyroca fuligula.*—Moreto.

Occurs in winter in about the same numbers as the Pochard, in Majorca and Minorca.

Some, already paired, were seen on the Albufera, near Mahon, in Minorca, in March 1920, but none remained to nest.

167. **SCAUP.** *Nyroca marila marila.*

A rare winter visitor.

I saw one near Alcudia, in Majorca on November 4, 1924.

168. **GOLDEN-EYE.** *Glaucion clangula clangula.*

There is no record of this species during recent years in the islands; but Barceló has noted it as occurring rarely in winter off Majorca.
169. **COMMON SCOTER.** Oidemia nigra nigra.

Two young birds of the year were shot out of a party of four, in Puerto Alcudia, Majorca, on December 4, 1928.

Hitherto there has been no record of Scoters from any of the islands, and they must therefore be only rare stragglers in winter.

170. **GOOSANDER.** Mergus merganser merganser.

Occurs in small numbers during the winter in Majorca.

I have noted it near Alcudia in the autumn and winter of 1920–21, in December, 1923, and in November and December, 1926, on the lagoons, and in the Bay off the months of the streams running into it.

Though there are no records from the other islands, it is likely to occur there also.

171. **RED-BREASTED MERGANSER.** Mergus serrator.

Occurs in winter in rather greater numbers than the last-named.

I noted a good many in the Bay of Alcudia, Majorca, in November and December 1921, when the drake of one pair was killed, and the duck shot at, but missed; she only flew away a short distance and then returned to her dead mate, remaining near him until a boat put off to pick him up when she reluctantly flew away, but returned later to the same place.

Ponseti records a pair killed in the harbour of Mahon, Minorca, in October 1907.

172. **SMEW.** Mergus albellus.

Barceló has recorded this species as a rare winter visitor to Majorca. I observed a female, or young male, near Puerto Alcudia, Majorca, on December 24, 1929; but I have heard of no other modern record.

173. **FLAMINGO.** Phoenicopterus antiquorum.—Flamence.

There are, unfortunately, very few reliable records of the occurrence of this interesting bird in the Balearic Isles.

Rumour says that they formerly bred in some of the islands, but they certainly have not done so for very many years, and are now only the rarest of visitors. Population and cultivation have so increased, and marshes and lagoons so diminished in size and number, that there are now no localities in any island where they could remain undisturbed.

Homeyer noted a pair in the Albufera of Alcudia, Majorca, on May 26, 1861; and when a system of irrigation and cultivation of this marsh was initiated between 1860 and 1870, small parties of stragglers sometimes occurred, and individuals were occasionally killed.

Examples also occasionally visit the lagoons in the south of Majorca; and v. Jordans heard of some visiting the neighbourhood of Arta occasionally (Falco, April 1914, p. 122).

A single bird appeared in the Bay of Alcudia, in May 1924, and remained for a few days; it was generally wading in the shallows among the sand-banks at the lower end of the Bay, always at some distance from the shore, and was very wary.
A fine adult was shot in the Albufera of Alcudia on January 9, 1928—about the time of the unusually severe weather in most parts of Europe—and on January 24, 1928, I watched three others basking and sleeping in a big lagoon in the same marsh; a day or two later these were joined by five or six more, and consequently the whole countryside was literally “up in arms” seeking their destruction; some were killed, and the rest driven away.

It occurs also but rarely in Minorca, and Ponseti says some arrive every winter, but are either killed, or driven away, so “that they do not remain to breed in Minorca.” There is a specimen from the island in the museum at Mahon.

Howard Saunders (Ibis, 1871) has said that it sometimes nests in Iviza, but now, there as elsewhere, it is only a rare straggler; one was killed at San Antonio in 1926.

174. HERON. Ardea cinerea cinerea.—Garza.

The Common Heron occurs fairly commonly in suitable localities in all the islands, some being winter visitors, and a lesser number residents; while some only pass through in migration, in Majorca, usually in March, when I have severally times noted parties migrating northwards.

In Majorca also a few pairs nest in the Albufera of Alcudia, and others at various places on the sea-cliffs; there used to be a big colony near the Cabo del Pinar, but this has now been nearly exterminated by gunners; many of the herons that feed in the Albufera during the winter retire to roost on this cape, in the company of Common Cormorants.

Jourdain saw old birds, accompanied by young of the year, in Iviza, in May 1930.

175. PURPLE HERON. Ardea purpurea purpurea.

A summer visitor to Majorca, and on migration in the other islands.

It arrives in April, and the latest remain until early October, but it does not occur in any great numbers.

Its chief haunt now in Majorca is the Albufera of Alcudia, where it breeds among the thickest reed-beds, and Ratcliff took its eggs there in May 1909 (Jourdain, Beitr. zur Fortpflanzungsh. d. Vögel, May 1927, p. 84). Four or five eggs are laid.

In the other marshes of this island it occurs very sparingly.

176. GREAT WHITE HERON. Egretta alba alba.

A very rare straggler.

I saw a bird of this species on May 28, 1923, near Alcudia in Majorca, which appears to be the only record, in spite of Barceló’s recording it as a common breeding-species.

177. LITTLE EGRET. Egretta garzetta garzetta.—Garza blanc.

Homeyer recorded this species, in 1861, in the breeding-season, in Majorca—now however it only occurs as an occasional visitor on passage.

v. Jordans saw one, in May 1913, in the Estanque de ses Gambas, near Esaüy (Falco, Aug. 1914, p. 121); I saw one in the Albufera of Alcudia on April 19, 1926, and again several times in June of the same year, in the same place,
but never more than a single bird. Also in the same locality, three birds on April 24, 1928; a pair on April 30, 1928; a single bird on October 25, 1928; a pair on the sandbanks of Alcudia Bay on March 25, 1929, among the seagulls; and two small flocks on September 5, 1929, flying from the north into the marshes of Alcudia.

It is one of those species that, if not molested, would probably remain to breed.

178. BUFF-BACKED HERON. *Ardeola ibis ibis*.—Garzón.

An occasional straggler to Majorca and Minorca.

On January 12, 1920, one of these birds flew into the Albufera of Alcudia, and settled among some cattle, but it did not remain long before continuing its flight southwards.

I saw another in the same marsh on April 24, 1922; and another, on January 10, 1923, had been about the Albufera for a week or two, and was much sought for by gunners.

In Minorca it has only occurred as a rare visitor on migration.

179. SQUACCO HERON. *Ardeola ralloides*.—Martinet ros.

Barceló has recorded this as a common resident in Majorca, but the only occurrences in late years are of one shot by v. Jordans on June 20, 1921, in the Albufera, and another seen there by him on May 25 of the same year. Also one was killed in the Albufera, at the end of April or beginning of May 1930.

It has occurred rarely on migration in Minorca.

180. NIGHT HERON. *Nycticorax nycticorax nycticorax*.—Orval.

Though this species occurs—chiefly in the neighbourhood of the Albufera of Alcudia, Majorca—annually in some numbers, which remain in the district for some time; it does not appear to breed there yet.

Homeyer recorded it as a common breeding species in 1861. During March, April (most numerously in this month), May, and June annually, small parties visit the pine-woods between the Albufera and the sea-shore, and scattered individuals occur in the marsh itself, and in thick plantations inland.

On April 15, 1922, a female, with very small eggs inside, was knocked down with a stick, as she flew about in a dazed manner, among the dim pine-trees of the woods near the shore, and on June 20, 1923. I found an unfinished nest, which was later forsaken, in a thick clump of pine-trees in these woods, that a party of Herons had been frequenting for some time, and on August 19, 1922, there were some frequenting the same place.

On February 6, 1924 parties of these birds were seen migrating north-east. One was caught on the Cabo del Pinar on December 22, 1922, and another at Andraitx in May 1922.

In Minorca it only occurs rarely on migration. The status of this bird now is, therefore, a visitor on migration, some, possibly, remaining throughout the winter; but it is one of those species that, from not being unduly molested, is increasing in numbers, and probably will soon again breed in these islands.
181. LITTLE BITTERN. Ixobrychus minutus minutus.

Of rare occurrence.

v. Jordans found a nest with five eggs in the Albufera of Alcudia, Majorca, on June 17, 1921 (Journ. f. Ornith., Oct. 1924, p. 528) and saw the bird—which is the first record of its occurrence in the island.

I saw a specimen in the same marsh on April 28, 1925.

In Minorca it is an uncommon visitor on migration.

182. BITTERN. Botaurus stellaris stellaris.—Queca.

A common resident in the marshes of Majorca, particularly in the Albufera of Alcudia.

In Minorca it has only been noted as an uncommon visitor in winter and spring; but there are a few localities there where it might possibly be found the whole year.

In Iviza, one was obtained by Mr. Willford at Santa Eulalia on April 15, 1914 (Agricultural Magazine).

Its habits, when undisturbed, somewhat resemble those of a rail, resting hunched-up among the reeds, or pursuing its way slowly along a ditch picking up food here and there as it goes.

Its “booming” may be heard both by day and night, at most times of the year, and when heard close by, the bird appears first to draw in its breath, and then expel it with a “boom,” the call thus sounding as “whō-ūmpf.”

183. WHITE STORK. Ciconia ciconia ciconia.

The almost complete absence of the White Stork from the Balearic Isles is remarkable.

Barceló has recorded it as a rare visitor on migration to Majorca, but it has not been noted at all of late years.

Howard Saunders noticed a great flight off Minorca (Ibis, 1871, “List of the Birds of Southern Spain”); and a specimen was obtained there in May 1919 (Ponseti).

184. SPOONBILL. Platalea leucorodia leucorodia.

Barceló has recorded this species as being of very rare occurrence in autumn in Majorca; but there is no recent record of it from any of the islands.

185. GLOSSY IBIS. Plegadis falcinellus falcinellus.

Now only a rare straggler on migration in the islands.

On June 12, 1926, a single bird was seen in the Albufera of Alcudia, Majorca, feeding with a Little Egret; it was the survivor of a party of three that had been about the district for a month, but the others had been killed.

Homeyer had noticed it in the Prat—a marsh now drained between Palma and Arenal—in May 1861.

In Minorca it has occurred rarely on migration (Ponseti).

The Archduke Ludwig Salvator in his work on the Balearic Isles (vol. 2, 1871), gives the native name of this bird as “Corpetasse,” but this name is used for the Common Cormorant, and I doubt if the Ibis was ever sufficiently well known to have a native name. The same authority gives it as a spring migrant in Iviza.
186. CRANE. Grus grus grus.—Grulla.

Has been recorded by Barceló as occurring rarely on migration in spring in Majorca; and in Minorca it has been noted rarely on passage in winter (Ponseti).

An adult and an immature bird visited the marshes near Puerto Alcudia, in Majorca, on October 17, 1930, and remained there for a few days, until both were shot. The species being entirely unknown in the district, the killers did not venture to eat them, but others who did said the flesh was very bad, "but we ate it."

(Demoiselle Crane. Anthropoides virgo.

The occurrence of this species is doubtful, and only rests on Barceló’s records of a specimen obtained in the Porassa, near Santa Ponsa, in 1718, and of another in October 1782, from the Albufera of Alcudia—both from Majorca—which were sent to Madrid.

It occurs rarely in Southern Spain.)

(Crowned Crane. Balearica pavonina.

Howard Saunders (Ibis, 1871, “List of the Birds of Southern Spain”) has cleared off the reputed records of this species in the Balearic Isles by the remark that it has “never occurred,” which is probably correct.

Possibly it was named “Balearica” when the whereabouts of the islands was as little known as the bird itself.)

187. LITTLE BUSTARD. Otis tetrax tetrax.

Has only been recorded from Minorca, when the few examples that have occurred were in the winter.

A single female specimen from the island is in the museum at Mahon.

188. STONE-CURLEW. Oedicnemus oedicnemus oedicnemus.—Xibelli.

There seems to be a doubt as to which form of Stone-Curlew inhabits these islands; hitherto it has been accepted as the typical bird, but now v. Jordans places it as “saharae” (Nov. Zool., xxxiv, July 1928, p. 318), and Ticehurst and Whistler also, from a specimen from the Pityusae (Ibis, Oct. 1930, p. 670). Until further specimens are obtained it must remain doubtful.

It is an abundant resident in all the islands, and universally distributed from the seashore, up to among the olive-covered foot-hills, and on open spaces among the lower mountains.

In winter they assemble in small flocks, and in March separate into pairs for nesting. The eggs are laid throughout April and May, the latest date I have found them being May 31, 1927. I have never found more than two in a nest, and they are laid in a scrape on bare or stony ground, beside a rock or beneath a plant; on the sand of the seashore among scrubby herbage; in the midst of thin pine-woods where there are open stony patches, or sometimes at the foot of a small pine; on wild, wind-swept, scrub-covered moorland near the sea, where I have found them amongst rocks close to the edge of the cliffs—and I have flushed a pair on a rocky slope right on the face of the cliffs; on cultivated ground (more rarely); and on rock-strewn ground among the olives on the lower hills.
The scrape has sometimes a considerable quantity of pebbles, etc., in and around it, and several scrapes are sometimes made before deciding in which the eggs are to be laid.

The extraordinary wariness of the birds at their nest has caused natives to assert that they hatch their eggs by standing some distance off, and by concentrating on them the glare of their fiery eyes, cause them to hatch from the heat thereof!

But I have once seen a pair—both birds were sitting on or near the nest—leave their eggs; both crept slowly away, covering close to the ground with heads drawn in close to the body, looking rather like a brace of partridges; when some distance off they assumed upright positions, separated, and ran swiftly away before taking flight.

A bird on the watch, and realizing that it is observed, will, by imperceptible movement, simply fade away into better concealment.

A good many are killed in the winter on the cultivated land of the orchards and "Finca" (small farms), and a native has assured me that he sees them, among his olive-trees, by enveloping himself in a sheep-skin and stalking them on all fours, and by this means he is enabled to approach them so closely, that he can catch them by hand!

189. CREAM-COLOURED COURSER. Cursorius cursor cursor.

Has only been recorded from Minorca, where it has occurred rarely in spring and summer on passage.

190. COLLARED PRATINOCLE. Glareola pratincola pratincola.

Now a rare straggler on migration in spring to Majorca and Minorca Homeyer obtained it in May 1861, in Majorca, and Barcèlo wrote of it, in 1866, as frequent there in spring and summer.

Henioci (Beitr. zur Fortpflanzungsbiol. d. Vögel, May 1927, p. 100) saw a pair near Salinas on May 11, 1925, and I saw a single bird, evidently on migration, on May 31, 1927, near Acedia. A small flock was seen on the rice-fields of the Albufera of Acedia on May 6, 1930.

191. WOODCOCK. Scolopax rusticola rusticola.—Cega.

There is a species of Ophry—either Ophry speculum or O. scolopax—found in Majorca called by the inhabitants "Sebetetes del Bon Jesus" (Footprints of Christ) of which it is said that when the Jews sought Christ to kill Him, the Woodcock obliterated His footprints, hence the eggs of the Woodcock should never be destroyed. The centre of the flower exactly resembles the head of a Woodcock and the "mirror" on the petal below, a footprint.

In spite of the above legend the Woodcock does not breed in the islands, but is a common winter visitor, the earliest arriving late in October but the majority in November, and though the greater number leave in March, a few stragglers remain throughout April.

They are universally distributed, especially amongst the thickets of myrtle, heather, rosemary, cistus, etc., in the pine-woods, but may also be flushed among the orchards, in the woods and copses among the hills, and in the scrub of the hillsides; in the cane-brakes of the marshes, and even on the cliffs of the coast.
whence they flight to their feeding-grounds in the evening; generally they occur singly, though once, at the end of November, I flushed five in a small plantation of pine-trees.

Usually every winter a couple take up their quarters in my garden, near Alcudia, and sometimes have remained so late that I have been in hopes they might stop all the year.

On several occasions I have watched Woodcock running about and feeding among the fallen leaves beneath the trees in an orchard, and my garden-visitors even venture through the veranda of the house, and feed in the borders round the edge. Their habits then are rather Rail-like, and are very active and lively, but squat down, and instantly remain motionless, if they are disturbed.

192. GREAT SNIPE. Gallinago media.

Barceló has recorded this species as a rare spring migrant in Majorca.

I flushed one on April 29, 1927, at the edge of the Estanque de ses Gambas, near Santañý, in Majorca; it lay very close and only made short flights, uttering a faint, harsh croak, when flushed.

There is no other modern record of its occurrence in the islands.

193. COMMON SNIPE. Gallinago gallinago gallinago.—Cegay.

An abundant winter visitor to the marshes and swampy places of all the islands.

The bulk arrive in October and November, and remain until the end of April, but I have seen one in Majorca as early as August 28, 1927, and v. Jordans has noted some as late as May 15, 1913, in the Porassa, near Santa Ponsa, in Majorca (Falco, Aug. 1914, p. 127); but there is no sign of their having ever bred in the islands.

In the rich rice-fields on the outskirts of the big marshes in Majorca they are extremely plentiful, taking refuge among the high reeds when disturbed.

A specimen of Sabine's Snipe was shot in the Albufera of Alcudia, on February 27, 1920, but was so mangled by the dog that retrieved it, that it was not possible to preserve it.

194. JACK SNIPE. Limnochromis gallinula.

A not uncommon winter visitor to the same localities as the Common Snipe in all the islands.

As is their habit, they lie very close, and I once trod on one, in the marshes of Alcudia, Majorca, which left some of its feathers beneath my foot.

195. KNOT. Calidris canutus canutus.

Occurs occasionally in small numbers in autumn.

I have only noticed it in the marshes near Alcudia, Majorca, in October and November 1920.

196. LITTLE STINT. Erolia minuta.

In favourable seasons quantities pass through the islands on migration in spring, usually in April and May, and fewer on return migration in autumn.
If their feeding-grounds in the marshes continue in suitable condition, a
good many remain throughout the summer in Majorca, and retire southwards
in the autumn with those birds that are returning from their northern breeding-
haunts, but none remain throughout the winter.

When alone they are extremely tame, but they associate also with Curlew-
Sandpipers, Kentish and Little Ringed Plovers, and when mixed with the former,
are more wary.

197. TEMMINCK’S STINT. Erolia temmincki.

On May 15, 1924, a small party of these birds frequented a pool in the
marshes near Alcudia, Majorca, for a short time; this is the only record I have
of this species in the islands.

198. DUNLIN. Erolia alpina.

A not very common visitor, occasionally occurring on migration in spring,
and more rarely in autumn; but as yet only recorded from Majorca and Minorca.
Homeyer observed it in Majorca in May 1861, and obtained a specimen, and
Barceló has recorded it as plentiful in both islands. v. Jordans saw some in the
Porassa in Majorca in May 1913 (Falco, Aug. 1914, p. 130).

Near Alcudia, Majorca, I have seen small numbers on May 24, 1922, and a
small party—one bird having black underparts—associating with Little Ringed
Plovers on some partially inundated fields, on May 27, 1925, this season being
an exceptionally wet one; also a number in fine breeding-plumage in the mud-
banks of a large lagoon, on August 22, 1927—this season was an unusually dry
one, and these mud-banks are seldom exposed.

In Minorca a specimen was obtained in April 1921 (Ponseti).

199. CURLEW-SANDPIPER. Erolia ferruginea.

Like the Little Stint, with which it is usually associated, quantities of Curlew-
Sandpipers sometimes pass through the islands on migration in spring and
autumn, though not so plentifully in the autumn.

Should the state of the marshes be sufficiently attractive, a few loiter
in them throughout the summer, but none remain in the winter.

200. SANDERLING. Crocethia alba.

An occasional visitor on migration to Majorca.

Witherby observed it near Alcudia in July 1919, and I saw a small flock
there in the beginning of May 1922.

201. RUFF. Machetes pugnax.

Occurs sparingly on migration, and occasionally remains throughout the
winter.

A small party frequented Alcudia Bay, in Majorca, all the winter of 1919–20,
until the beginning of April, 1920; and others were observed there at the end
of August 1925.

Homeyer noted it in spring in Majorca, and Barceló quoted it as frequent in
spring and autumn.
In Minorca it has occurred very rarely on migration; in Iviza, Jourdain noticed it in May 1930, and Tieghurst and Whistler (Ibis, Oct., 1930, p. 671) one in Formentera on May 18, 1930.

202. REDSHANK. *Tringa totanus totanus.*

A common winter visitor and passage migrant to the marshes of all the islands.

Some remain in the larger marshes of Majorca throughout the year, but do not breed, though Homeyer and Barceló have stated that it was a not-uncommon breeding-species in their time.

203. SPOTTED REDSHANK. *Tringa erythropus.*

A very rare straggler on migration to Majorca.

I saw a solitary bird of this species in the marshes near Alcudia on May 24, 1922; and v. Jordans saw some in May 1927, near Salinas (Nov. Zool., vol. xxxiv, July 1928, p. 314).

Homeyer observed it at the end of May 1861, in the Prat, near Palma, and Barceló quoted it as occurring in winter and spring.

204. GREENSHANK. *Tringa nebularia.*

Both Homeyer and Barceló have noted the occurrence of this species on migration, in Majorca, in former years.


205. COMMON SANDPIPER. *Tringa hypoleuca.*

Occurs commonly on migration in spring and autumn, and in smaller numbers through the winter, in all the islands.

In Majorca and Minorca some pairs frequent likely situations for nesting all through the summer, but no nests, eggs, or young have yet been discovered in these islands.

Their favourite haunts are around lagoons and pools in the marshes; the edges of streams, the sea-shore, and the rocks at the base of the cliffs; on the shore beneath the Almudaina, in Palma, they may sometimes be seen.

During the summer they usually frequent the edges of the streams near the sea-shore, which, at this season, have ceased to run into the sea, being rather semi-stagnant lagoons, blocked at the mouth by a bank of sand through which the water soaks into the sea; but, at this season, I have never met with any among the hills at any elevation, the upper courses of the hill-streams being then dry, except for a pool or two.

206. GREEN SANDPIPER. *Tringa ochropus.*

A winter visitor in small numbers, recorded from Majorca, Minorca, and Iviza. It is usually solitary or in pairs, rarely in larger numbers, and often remains until the end of May, re-appearing in late summer or early autumn.
207. WOOD-SANDPIPER. Tringa glareola.

A winter visitor in somewhat larger numbers than the last-named, but only recorded from Majorca.

It usually occurs in small parties, and remains until late in spring—the latest date I have noticed it being April 30, 1926—but v. Jordans obtained one, in the Estanque de ses Gambas, on May 2, 1913, with strongly-developed testes (Falco, Aug. 1914, p. 129).

208. BLACK-TAILED GODWIT. Limosa limosa limosa.

A straggler only on migration in Majorca and Minorca.


In Majorca both Homeyer and Barceló have recorded it—the former noting it as a probable breeding-species, which is not in the least likely.

Ponseti has recorded it from Minorca.

209. BAR-TAILED GODWIT. Limosa lapponica lapponica.

Has occurred rarely on migration in Majorca.

I saw two birds of this species on September 5, 1922, on one of the lagoons near Alcudia, and three more on August 24, 1925, which were feeding at the edge of a ditch, just over a wall, and not five yards from where I was standing; for some time they were quite undisturbed by my presence.

210. COMMON CURLEW. Numenius arquatus arquatus.—Xibelli de Prat.

Occurs in small numbers, generally singly, or in two or threes, in the marshes and on the seashore, throughout the winter, in most of the islands. Only once have I seen a flock, of about twenty birds, in January 1928, on the sandbanks of Alcudia Bay.

In the neighbourhood of Alcudia, Majorca, a few remain throughout the year, but certainly do not breed, as I have thoroughly searched all likely localities; and though there is country near, eminently suited for their nesting, they have never shown any signs of breeding, and their behaviour would be unmistakable if they were.

211. WHIMBREL. Numenius phaeopus phaeopus.

A straggler, only on migration in autumn and during the winter, recorded from Majorca and Minorca only.

I saw a pair in the marshes near Alcudia, Majorca, on September 19, 1922, and a single bird on the seashore, near the same place, in September 17, 1923.

212. SLENDER-BILLED CURLEW. Numenius tenuirostris.

The only reliable evidence of the occurrence of this species in the Balearic Isles is from Minorca, where it has occurred rarely in winter (Ponseti).

Homeyer has stated that he observed it during the summer in the Prat, near Palma, Majorca, where it bred (he visited the islands from the middle of April until the middle of May 1861). Barceló (1866) has also stated that it bred in other marshes in the same island. (But Barceló appears in many cases to have quoted v. Homeyer.)
It is not in the least likely ever to have bred in Majorca; its breeding-grounds now having been established in W. Siberia, and it only visits the Mediterranean in winter.

213. **BLACK-WINGED STILT.** *Himantopus himantopus himantopus.—* Avisador.

A summer visitor to Majorca, where it breeds in increasing numbers; but only occurs in the other islands on migration, sparingly in spring.

They usually arrive in April; but I have seen a single bird near Alcudia, Majorca, on March 28, 1925; and a solitary bird on the south coast of that island on May 13, 1926, flying in from the sea, high overhead towards the north.

In 1913 v. Jordans (*Falco, Aug. 1914, p. 130*) found a colony nesting in the Porassa near Santa Ponsa, and since 1922 it has bred in varying, but generally increasing, numbers in the Albufera of Alcudia, where there were three nesting-colonies in 1925. On May 8 I watched the birds building their nests, some had eggs on May 19, and on June 10 all had eggs considerably incubated.

The nests are fairly large structures, not unlike Moorhens, built up on the mud in shallow water, among short, thin reeds, on a foundation of wet water-weeds, surmounted by dry grass and reeds, with a shallow depression for the eggs; the dry, bleached material in the nest showing conspicuously among the green reeds. In some cases the water penetrated to the eggs, and in one instance a nest was floating on the surface, but on the evaporation of the water later the nests were considerably above the surface. Three or four eggs are laid.

In some colonies the birds are very demonstrative and noisy, flying overhead and crying continually, but in others they are quite quiet, wading about unconcernedly not far off, and I have noticed a bird, when its nest was approached, raising one wing several times above its back, as if to attract attention from the nest.

On April 16, 1926, the birds in the Albufera were mating, but had not yet commenced their nests; and on May 19, 1927, they had forsaken one colony, having been driven away by a foreign collector, and though a few pairs had returned there on June 20, they did not nest.

By the middle of July, old birds may be seen, accompanied by their nearly full-grown young, in the marshes adjoining the Albufera.

The varying quantity of water in the marshes also affects their nesting, and a sudden rain in summer will flood the nests, and drive the birds away.

214. **AVOCET.** Recurvirostra avocetta avocetta.

There is no recent record of this species in the islands. It is a rare visitor on migration to Minorca, and Barceló has recorded it in Majorca in former years, likewise on migration.

215. **GOLDEN PLOVER.** Charadrius apricarius.

Occurs only in winter in small numbers, more commonly in Minorca. In the Albufera of Alcudia, Majorca, small flocks associated with the Peewits during the winter.
216. **GREY PLOVER.** *Squatarola squatarola squatarola.*

Occurs throughout the islands in small numbers in the winter, and more pass through on migration in spring and autumn.

The earliest autumn date on which I have noticed it in Majorca was on September 5, 1926, when one of a pair was shot; and in spring, when they are in full breeding-plumage, the latest date was May 30, 1925.

Three specimens I saw on the south coast of Minorca on May 21, 1924, I believe to have been the same party I had seen a few days earlier on the opposite coast of Majorca.

217. **RINGED PLOVER.** *Charadrius hiaticula hiaticula.*—Turillo.

In some years this species occurs in some numbers on migration in May, in most of the islands, and, in favourable seasons, lingers for some time; it occurs also very rarely in autumn and winter—I saw a small party in Majorca on September 20, 1928. A female I obtained on May 15, 1922, in Majorca, had very small eggs inside.

After the unusually dry and cold winter of 1928–29, and the drought of the following spring, when the marshes in the neighbourhood of Alcudia were as dry as at the end of summer, a pair of these birds remained after the others had left, and I was certain they were nesting; on June 15, 1929, I found their nest, with four half-incubated eggs, among a patch of stones on the dried mud, and identified the hen bird as she ran from the nest and joined the male some little distance away.

They are usually very tame, and when observed, prefer to remain motionless, rather than running away or taking quickly to flight, like the Kentish and Little-Ringed Plovers.

218. **LITTLE RINGED PLOVER.** *Charadrius dubius curonicus.*—Turillo.

A summer visitor; in Majorca, plentiful on the north-east coast, where it is rapidly displacing the Kentish Plover, less common in other parts; it is not very plentiful in Minorca, where it has almost entirely replaced the Kentish Plover, but there are fewer suitable localities there for it; it also occurs in Ibiza and Formentera.

Until March 1921 this species had been recorded from Majorca only by Homeyer in 1861, as “the rarest plover,” but early in that month I noted a few small parties passing through the district of Alcudia, and on March 16 took a nest there with three eggs, and two other nests later in the year.

In Minorca it had not been recorded at all until May 12, 1923, when I observed two pairs of birds, and found a nest with four eggs on a sandbank in a small estuary on the north coast; and later, others in other parts of the island.

Since then it has increased amazingly in Majorca, and, during the years I have been in the island, I have been able to watch the gradual outing of the Kentish Plover by this species. Possibly the same had already happened in Minorca, where the Kentish Plover is now almost entirely absent.

They arrive early in March, and remain until the beginning of September, very rarely into October.

The earliest eggs I have found were on March 16, 1921, and from this month
onwards until the middle of July their eggs may be found. Indeed, in the neighbourhood of Alcudia, and in Alcudia and Pollensa Bays, they now nest more abundantly than the Kentish Plover, and I have often found their eggs in exactly the same spots where formerly Kentish Plovers had laid. And rarely do I find Kentish Plovers nesting near Little Ringed, though on July 21, 1925, I found four Little-Ringed Plovers’ nests with eggs, near each other on a patch of bare, dry mud near the seashore; and one Kentish Plover’s nest four yards from one of the Little Ringed, but the eggs from both these nests were scattered around, probably by the rival birds.

They make their nests in a variety of situations, and often exactly the same spot is chosen every year, and they nest further inland than the Kentish Plovers; the most usual sites are on the loose sand of the seashore, on the dried mud of lagoons and pools in the marshes—frequently without any shelter at all, or at other times beneath a scrubby plant, or against a stone or large shell; they especially favour bare, flat rocks outcropping from the sand or mud, and on one such outcrop, on June 11, 1924, I found three nests with eggs not far from each other; and on another rock four eggs were laid in a shallow, narrow crevice, so narrow that the eggs could not be arranged in the usual way, and when the bird had managed to squeeze herself upon them, only her head appeared above the edges of the crack.

Another pair, in May 1925, nested on an open threshing-floor near the marshes, a position formerly occupied by Kentish Plovers.

The sandy banks of streams, and among scrubby plants in the sand of small estuaries, as well as cultivated fields, and sand-dunes, are also chosen, even sand-dunes, with thick cover of pines and scrub edging them closely.

The nests are often mere scrapes, sometimes made long before the eggs are laid, without any lining; but at other times a considerable heap of small stones, shells, bits of coral, etc., is made; or bits of dry mud or herbage line the depression.

Both sexes incubate, and they are usually somewhat demonstrative at the nest, flying wildly round, twisting and doubling, and uttering a wild whistle, or running frantically about on the ground, whistling plaintively. More rarely the bird will run off the eggs at some distance, and take to flight noiselessly.

It is an aggressive and quarrelsome bird, so different from the peaceful Kentish Plover, and they frequently quarrel and show off, chasing each other with extended side feathers and puffed-out black gorgets, and piping shrilly. Any Kentish Plovers near such a gathering are quickly driven away. In the early spring the male serenades the female in the air with a swallow-like flight and continual twittering.

The eggs—usually four in number—are light greyish stone-colour, covered with small spots of brown and ash-grey, chiefly towards the larger end; after blowing, the ground colour changes to light buff; they vary a good deal both in size and colouring.

219. **KENTISH PLOVER.** Charadrius alexandrinus alexandrinus.—Turillo.

Resident in all the islands, but their numbers are increased in spring by immigrants arriving to breed.

It is plentiful in all the islands, except in Minorca, where it is very scarce,
and in parts of Majorca is decreasing rapidly owing to the invasion of the Little
Ringed Plover.

They are tame and confiding birds, and, when disturbed on the seashore,
prefer to run swiftly along, just above the reach of the waves, for some distance
before taking flight. In the winter they assemble in small flocks, separating
into pairs in February.

They are inveterate scrape-makers before deciding where the eggs shall be
laid, and early in February commence their excavations, but the eggs are not
usually laid before the end of March. Near one nest containing eggs on July 14,
1925, I found seven complete scrapes, two of them being side by side. Nests
with eggs may be found up to the end of July.

Their nests are often made at no great distance from each other, and usually
not far from the seashore, or from the surroundings of lagoons and marshes;
they may be found on the bare sand, and among patches of " sea-eggs " (balls of
sea-weed fibre formed by wave-action) on the shore; on the dried mud of lagoons;
in marshes, on the fields, on sandy cart-tracks leading to the shore, as well as
actually on roads near the shore; and many nests are destroyed by carts loading
up sand and sea-weed to be put on the fields; sometimes a bare slab of rock
outcropping the soil is chosen. On the bare sand the footprints of the birds
show the whereabouts of a nest.

One pair nested on a threshing-floor near the marshes of Alcudia, Majorca,
but this site was occupied later by a pair of Little Ringed Plovers; and another
pair laid their eggs on the top of a low wall bounding the seashore.

If shelter is sought for the nest, it is generally a stalk of Inula crithmoides,
rarely the middle of a clump of this plant; scruffy growth of Crucianella
maritima and Plantago maritima in the sand is a favourite place, and I have
found a nest in a beet-root field, under the shelter of a young plant. Ground
with spear-grass in it is always avoided, the growing grass would have a disturbing
effect on the eggs, and they dislike sea-weed in the nest.

Unless driven away by Little Ringed Plovers, they are more likely to nest
on exactly the same spot every year, than is that bird.

On the seashore the eggs are always difficult to find, being often more than
half-buried in the sand, but nests made on the dried mud, or on dry patches in
the marshes generally have some small stones, shells, or pieces of dry mud
arranged around and beneath the eggs, sometimes a considerable heap. A very
beautiful nest I found on June 9, 1922, was made by scraping a cup among the
dry, white wool-like weed on the bed of a dry lagoon, against which the dark-
coloured eggs made a strong contrast.

The birds are seldom demonstrative at their nest, usually running silently
away from the eggs, and watching quietly from some distance off, or hidden
behind a stone, occasionally uttering a sharp " twit " ; but when the young are
hatched they are most excitable, fluttering round and shamming disablement in
every possible way; their call is then the usual " twit," and a " chirrup," in
addition they make a sort of croaking, somewhat like a frog, uttered by the bird
when lying extended, and seemingly dying, on the ground.

The young, on being disturbed and warned by the parents, rush for the
nearest shelter, and crouch down closely among it, and are extremely difficult
to find; on being caught they utter a feeble chatter.

They swim well and fearlessly shortly after leaving the nest.
The eggs are generally three in number, rarely four, and vary a good deal in coloration, but are commonly dark stone-colour, greenish when fresh, and yellowish after blowing, spotted and scrawled with black or dark brown; others so closely resemble eggs of the Little Ringed Plover that doubt has been cast on the correct identification of this type (Ibis, Jan. 1922, pp. 214–216, and April 1922, pp. 388–390).

220. LAPWING. Vanellus vanellus.

A common winter visitor to the marshes of all the islands, arriving in October, and departing in March or the beginning of April. I have seen Common Curlew, Snipe, Kentish Plover, and Woodcock associating with Lapwings together on the rich mud of the rice-fields around the Albufera of Alcudia, in Majorca.

221. OYSTERCATCHER. Haematopus ostralegus ostralegus.

Visits all the islands in small numbers on migration in spring and autumn.

In the spring they almost invariably occur in April, and only remain a few days, though once some remained near Alcudia, Majorca, until the beginning of May.

In the autumn they may be seen from the beginning of September until the end of November.

They frequent sandbanks and sandy seashores where they extract shell-fish (Tellinacea) from their holes in the sand, open the shells, and eat the animal inside.

222. TURNSTONE. Arenaria interpres interpres.

There is no modern record of the occurrence of this species in the islands, and its inclusion in this list rests on Homeyer's authority as having seen it near Palma; Barceló has also recorded it as occurring in spring in Majorca, and the Arch-Duke Ludwig Salvador in Iviza.

223. COMMON GULL. Larus canus.

If this Gull occurs at all in the islands, it is only as a rare straggler. Barceló and Ponseti have recorded it from Majorca and Minorca in autumn and winter; but I have never yet met with it.

224. YELLOW-LEGGED HERRING-GULL. Larus argentatus cachinnans.—Gaviota.

This is the only resident species of Gull in these islands, but is nowhere very abundant; the larger harbours and marshes at times attract a number of them, but during the breeding-season the long extent of suitable coast-line is only inhabited sparingly by small colonies, and scattered pairs. At this season they are most numerous on the dreary coast and islets of Minorca, but even there do not breed in large colonies. In the Pityusae Ticehurst and Whistler noted one colony of from 50 to 75 pairs (Ibis, Oct. 1930, p. 672).

Judging from the flocks of old and young birds seen after the nesting-season, the percentage of birds of the year is very small, not amounting to 10 per cent.

They are not infrequently caught on a baited hook, in the sea, or on the mud of the marshes, and, needless to say, such captives are killed and eaten.
A young bird I had, reared from the nest, used to absent itself during the
day, and return at night to the house to roost, and be fed; it did this for some
time, but eventually remained away altogether.
I saw one caught in a waterspout on November 7, 1929, in the Bay of
Alcudia, that was whisked about like a piece of paper in the whirl, and then
cast out on to the sea.

225. GREAT BLACK-BACKED GULL. Larus marinus.
Occurs in winter, but very sparingly, and generally immature birds. I
saw an adult near Puerto Alcudia, Majorca, on April 3, 1923.

226. ICELAND GULL. Larus leucopterus.
For several days in March 1922 there was a single bird of this species among
the Herring-gulls in the harbour of Palma, Majorca.

227. LESSER BLACK-BACKED GULL. Larus fuscus.
A lesser black-backed gull occurs sparingly in winter throughout the islands;
it is uncertain to which race it belongs, but probably is Larus fuscus affinis.
I saw an adult in Alcudia Bay as late as May 26 and 27, 1928.

228. MEDITERRANEAN BLACK-HEADED GULL. Larus melanocephalus.
A rare straggler, recorded only from Majorca and Minorca.
I have seen examples at Alcudia, Majorca; on December 16, 1920, a wounded
bird that was associating with Black-headed Gulls; others on April 11, 1921;
and a single bird in the Albufera on April 16, 1927, which was among a colony
of Black-winged Stilts.
Ponseti says it is common in Minorca, but it is there also only a straggler,
as a Majorca.

229. BLACK-HEADED GULL. Larus ridibundus ridibundus.
A winter visitor, and the commonest gull during that season in all the
islands. They arrive during the end of October, and remain until the end of
March or the middle of April, when they have completely assumed their brown
hoods.
On August 9, 1929, a few occurred in the marshes near Alcudia, Majorca,
evidently driven in by a furious gale.
One was shot at Puerto Alcudia, on January 18, 1929, with a ring
No. A1037—on its leg, which was ringed as young on Lake Täkern in
Ostergötland, E. Sweden, on June 26, 1927.

230. LITTLE GULL. Larus minutus.
An occasional straggler on migration, in spring and autumn and recorded
only from Majorca and Minorca.
I have the following records of its occurrence at Puerto Alcudia, Majorca:
1921. End of March and beginning of April, an immature bird.
1921. October 27, one adult.
1923. November 27, one adult.
1924. October 2, one adult.
In Minorca a specimen was obtained in January 1914.
They always occur singly, and are remarkably tame, flying up and down
the quays, or over the adjacent lagoons.

231. AUDOUIN'S GULL. Larus audouini.

There is no recent record of the occurrence of this species in the islands,
but as its known breeding-places in the Mediterranean are not very far off, it is
quite to be expected that it may occur.

v. Jordans (Journ. für Ornith., Oct. 1924, p. 534) quotes: "Bonaparte, Con-

Homeyer noted it on the coast of Majorca in 1861, and Howard Saunders
(1871) affirmed that it might breed on some of the smaller islands.

232. SLENDER-BILLED GULL. Larus gelastes.

A rare straggler only recorded from Majorca and Minorca. I saw a bird of
this species near Puerto Alcudia, Majorca, on May 21, 1921, with some Herring-
Gulls on a lagoon; and two others—an adult and an immature bird—near the
same place on April 14, 1925.

In Minorca its occurrences have been infrequent (Ponseti).
(I omit the Kittiwake (Rissa tridactyla tridactyla) as the early records of this
species are not reliable, and there are no modern ones).

233. GULL-BILLED TERN. Sterna nilotica nilotica.

Has occurred very rarely on migration. Barceló has recorded it from
Majorca, and Ponseti from Minorca.

234. COMMON TERN. Sterna hirundo hirundo.

Occurs sparingly singly, or in small parties, on migration, in Majorca, but
there are no records of it from any other island.

Barceló has recorded it as a common resident; but it certainly does not now
breed in any of the islands.

It usually occurs in April and May, and I have only noted it twice in the
autumn on October 18, 1927, and October 14, 1928.

235. ROSEATE TERN. Sterna dougallii dougallii.

There is only one record of the occurrence of this species in the islands.
In a Catalogue of a Collection of Birds belonging to H. B. Tristam, 1889, p. 9,
an example is recorded—"♂ off Minorca, 24.5.58, H. B. Tristam. Flew into
my breast while steering yacht 'Gondola' at midnight."

This specimen is now in the Liverpool Museum.

236. LITTLE TERN. Sterna minuta minuta.

A rare straggler on migration. Three of these birds frequented the harbour
of Alcudia, Majorca, on April 30, 1926, in wild stormy weather, with a heavy sea
running from the south-east.

A very immature specimen was killed by a cat on the quay of Puerto Alcudia
on August 27, 1930—it was so young that it was possibly bred not far off.
Homeyer in 1861 recorded it as a breeding-species, and Barceló’s note to the same effect is probably copied from Homeyer.

237. **CASPIAN TERN.** Sterna caspia caspia.

An occasional visitor on migration to Majorca.
On April 28, 1920, I saw one flying northwards over the Albufera of Alcudia.
On June 14, 1922, a pair passed over Puerto Alcudia towards the north-north-east.
On June 15 and 20, 1927, I saw a single bird in different parts of the Albufera, but probably the same bird.

238. **SANDWICH TERN.** Sterna sandvicencis sandvicencis.

Barceló has recorded this species as a rare visitor to Majorca.
I obtained an adult in Puerto Alcudia, Majorca, on November 29, 1928, which is the only modern record.

239. **BLACK TERN.** Hydrochelidon nigra nigra.

Now occurs pretty regularly in Majorca on migration, and but rarely in Minorca, and occasionally in the Pityusae.

It appears that the condition of the marshes influences their visits, and their duration, but the close time for birds, which has lately been more strictly enforced, contributes greatly to the more frequent occurrence of the Marsh Terns in particular, in those parts that they may have frequented in former years.

I saw one in the Albufera of Alcudia, Majorca, on September 10, 1923, and another a few days later. At the end of August, 1925, a large flock frequented the partially-dried marshes near Alcudia for some time, and in August 24 I obtained an injured bird that had flown against the electric wires. On August 8 and 9, 1929, a large flock of adults, still in breeding plumage, visited these marshes after a heavy gale, and one in winter plumage was seen in the Albufera on August 12, 1930.

Henrici (*Beitr. zur Fortpflanzungsh. der Vögel*, May 1927, p. 102) records an example from the Albuferete of Pollensa on May 9, 1924.

Jourdain, on nearing Iviza on May 6, 1930, saw two small parties migrating towards Majorca, and Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 673) record a marked migration of this species towards the north-east on May 15, 1930, passing between the islands of Iviza and Formentera.

240. **WHITE-WINGED BLACK TERN.** Hydrochelidon leucoptera.

This species now occurs in Majorca in increasing numbers on migration in spring, but I have not noticed it in autumn.

I saw a flock of eleven in the Albufera of Alcudia on May 7, 1924, and larger numbers were seen there on May 6 and 7, 1926; a pair also occurred on April 15, 1930, and a single bird, associating with small waders, on May 20, 1930.

Ticehurst and Whistler (*Ibis*, Oct. 1930, p. 673) noted one in Formentera on May 17, 1930.

Homeyer and Barceló have both recorded it as a breeding-species in Majorca,
which it may have been formerly; and Howard Saunders obtained a specimen
in the Prat, near Palma, in May (Ibis, 1871).

241. WHISKERED TERN. Hydrochelidon leucopareia leucopareia.

This is also an increasing species on migration in Majorca.

I noticed a small party in the Albufera of Alcudia on September 9, 1924,
and a single bird there on May 19, 1925. Several were frequenting a large lagoon
in the south of the island on May 26, 1925, and many in the Albufera on May 7,
1926.

v. Jordans saw some in the Estanque de sas Gambas on May 27, 1927

A pair were frequenting the Albufera in June 1928, and it looked as if
they might breed there.

A single bird was seen at Cala Ratjada on Oct. 9, 1930. In Minorca it has
been obtained only once, in April 1912.

242. GREAT SKUA. Catharacta skua skua.

A rare straggler.

Homeyer noticed it at sea between Barcelona and the Balearic Isles in
1861. I saw one on March 29, 1920; half-way between Majorca and Minorca,
among some Herring-gulls.

243. RAZORBILL. Alca torda.

Occurs sparingly, generally in the winter, in the seas off the islands.

One that had been injured by a fish-spear was caught in a hand-net in Alcudia
harbour on January 10, 1923, and another killed in the Bay on January 3, 1927;
other specimens have also been obtained.

In July 1921 I saw a party of five several times off the Cabo de Menorca
and the Cabo del Pinar, Majorca, and fishermen also had noticed a pair in the
same place during that summer.

v. Jordans noticed a bird off the Porassa on May 16, 1913, that he thought
was of this species (Falco, Aug. 1914, p. 143).

244. COMMON GUILLEMOT. Uria trolle trolle.

Occurs very rarely in winter off the islands.

245. PUFFIN. Fratercula arctica arctica.

(= Fratercula arctica meridionalis v. Jordans).—Cagafet.

Common throughout the winter in the seas off all the islands, up to the
end of March and beginning of April; but none breed in any of the islands.

v. Jordans considers these Puffins to be a smaller form, which he has named
as above, with the type specimens from Alcudia, Majorca, and he gives a long
article on them in Falco, Aug. 1914, pp. 144–153; his subspecies is not a good
form, and is unrecognizable.

Many of the Puffins here moult their primaries in January and February,
and are unable to fly until the new ones have grown.
246. STORM PETREL. Thalassidroma pelagica.—Bruja.

Not uncommon off all the islands, and breeds in small numbers.

A pair frequented the Bay between the Cabo de Menorca and del Pinar all the summer of 1921, and I noticed them there also on April 11, 1922.

Ticehurst and Whistler (Ibis, Oct. 1930, p. 673) found a breeding-colony of these birds on one of the smaller islands of the Pityusae group, and obtained eggs there in May 1930—the first time that its nesting has been definitely recorded from the Balearic Isles.

I obtained a young bird of the year, on August 3, 1930, that had been caught at night on a fishing-boat in Alcudia Bay, having been attracted by a light.

247. LEACH'S FORK-TAILED PETREL. Oceanodroma leucorhoa leucorhoa. —Bruja.

Not very common, and probably resident.

I saw a single bird on June 11, 1924, and another on August 28, 1925, while crossing the Bay of Alcudia, Majorca.

Dr. Cushman Murphy obtained a specimen on July 16, 1926, when on the yacht Wawaloam, — "fifty-three nautical miles west-north-west of Minorca," which showed by its internal condition that it was close to the height of its breeding-season ("Natural History," Journal of the American Museum of Natural History, vol. xxvi, No. 6, p. 554).

The fishermen tell me that small petrels (Brujas = witches) often perch on the corks of their fishing-nets, when they are set in the sea, and it is considered a sign of bad luck for the net that is patronized by these birds.

248. EASTERN-MEDITERRANEAN SHEARWATER. Puffinus puffinus yelkouan.—Capellán.

This form occurs in winter. I obtained a specimen near Alcudia, Majorca, on February 19, 1928, which has been identified kindly by Dr. Hartert.

249. WESTERN-MEDITERRANEAN SHEARWATER. Puffinus puffinus mauretanicus.—Capellán.

A common resident in all the islands, but not quite so plentiful as the next, with which it commonly associates at sea.

It certainly breeds in the islands, and Barceló states that it does on Dragonera, Cabrera, Conejera, Formentera, and the island of Aire, off Minorca; but in spite of diligent search, I have not yet discovered a breeding-place in Majorca or Minorca, nor have I been able to obtain information of any.

However, Ticehurst and Whistler (Ibis, Oct. 1930, p. 674) discovered breeding-colonies in Formentera, in May 1930, and obtained adults and young. Dr. Ticehurst described a chick in down at a meeting of the B.O.C. (Bull. B.O.C., No. ccxliii, p. 83) as having the upper parts dark sooty grey, underparts paler grey, whitish grey on chin and centre of breast; the down long and plentiful, covering the whole body.

I obtained a female with a large sitting-spot on May 1, 1927, and a fully-grown young bird on July 21, 1927, from Majorca.

As yet, however, the eggs are unknown.

The birds are by no means nocturnal in their habits, as they—as well as the great Shearwaters—one often encountered by the fishing-boats, in the early morning, asleep on the water with the head tucked under the wing, and are frequently run into by a boat, or struck by an oar when rowing.

Great flocks, with Great Shearwaters, assemble when attracted by a quantity of food, the larger birds “shearing” over the sea and picking up their food, the smaller usually swimming when feeding on the water. But they will eat anything, and food thrown overboard will attract them, and both species are caught on baited hooks, and in the nets.

They dive, and swim actively under water, using the wings to aid them, and are generally tame and unruly birds.

Dr. P. R. Lowe, in 1921, first distinguished this form from that inhabiting the Eastern Mediterranean (P. p. yelkouan), and it appears to be P. p. mauretanicus that occurs occasionally in the British Isles. It differs in having the “under tail-coverts, feathers of the crissom, flanks and axillaries entirely and uniformly smoky-brown. In the cervical region the smoky greyish-brown coloration extends well forward from the sides towards the mid-line in front, and also from the flanks across the lower abdomen.” Measurements—bill 38, wing 245, tarsus 48, middle toe with claw 57 mm. (Bull. B.O.C., No. cclxi, p. 141).

There is a more detailed description of this subspecies by H. F. Witherby in British Birds, Dec. 1921, p. 151.

However, in a winter flock of these smaller Shearwaters the extent of brown and white of the underparts varies a good deal, and it appears that the browner ones are P. p. mauretanicus and the whiter yelkouan.

250. MEDITERRANEAN GREAT SHEARWATER. Puffinus kuhli kuhli.—Virotje.

Resident, and quite the most abundant sea-bird of all the islands. They assemble in great flocks, associating with P. p. mauretanicus, though the larger birds remain more on the wing than the smaller, and both species are often caught on the hooks of fishing-lines, and in the nets, for they are usually tame and unruly birds.

A fishing-boat will sometimes bring back half a dozen of these birds, to be given to the children, who make them fight, which they do fiercely, and also bite viciously at anything near, if the beak is not tied up.

They nest in large colonies in burrows and beneath rocks at the base of the cliffs. I found a big nesting-colony on May 19, 1924, on the northern coast of Minorca—at the base of a series of cliffs, on a rough slope of loose boulders and friable rocks, were hundreds of the birds busily constructing their nests by scraping hollows close together in the light soil beneath the rocks or in shallow burrows, and lining them with considerable quantities of dry sea-weed, herbage, and bits of stick. The birds were perfectly tame, and never attempted to get out of the way, so engrossed were they in their occupation. Numbers of the birds were sitting on their nests, and had to be lifted off to see if eggs were beneath them; but on this date only two nests contained a single fresh egg each, which had to
be drawn with a stick from beneath the sitting bird, at the same time the bird endeavoured to draw it back again with its beak. At the beginning of July 1925 the eggs in this colony were just ready to hatch. On May 27, 1926, at the same nesting-place the birds were breeding in deeper burrows among the rocks, and very few in the open; most of the nests had fresh eggs, and many of the nests were garnished around the edges with any objects within reach, such as shells, stones, and flowers of a camomile that grows in abundance about the nesting-sites.

On July 24, 1921, a fully-grown young bird was caught in some fishing-nets off the Cabo del Pinar in Majorca, which croaked loudly, but the old birds make a harsher and shriller note.

251. GREAT CRESTED GREBE. Podiceps cristatus cristatus.

A rather uncommon visitor in winter to the islands, frequenting the sea-coast as well as the lagoons; I think some may possibly breed in the Albufera of Alcudia, Majorca, for I saw an adult on August 8, 1924, in Alcudia harbour that may have strayed thence.

Marsh-Harriers often attack the Grebes, which dive hurriedly, splashing the water high in the air, possibly with the idea of driving off their pursuer.

252. RED-NECKED GREBE. Podiceps griseigena griseigena.

Only recorded from Majorca, where it sometimes occurs in small numbers in winter on the lagoons near Alcudia. One was in Alcudia Bay for several days at the beginning of December 1930.

(HORNED OR SCLAVONIAN GREBE. Podiceps auritus.

I omit this species. Barceló has stated it to be a breeding-species in the Albufera of Alcudia, Majorca, which is not the least likely; perhaps he meant the next species.)

253. BLACK-NECKED OR EARED GREBE. Podiceps nigricollis nigricollis

Not uncommon on migration, and in the winter, in Majorca and Minorca. One was shot in Alcudia Bay on November 8, 1927.

Some remain all the year in the Albufera of Alcudia, and undoubtedly breed there.

254. LITTLE GREBE. Podiceps ruficollis ruficollis.

A resident, not uncommon in Majorca, but somewhat rare in Minorca; and not recorded from the other islands.

Throughout the year there are numbers in the Albufera of Alcudia, which stray on to the adjacent lagoons in the winter, but nest in the recesses of the Albufera.

255. GREAT NORTHERN DIVER. Colymbus immer.

One was obtained off Minorca in January 1917—the only record in the islands.
256. **BLACK-THROATED DIVER.** Colymbus arcticus arcticus.

Henrici has recorded an example of this species, "on May 20, 1924, in the harbour of San Francisco in Formentera" (Beitr. zur Fortpflanzungsb. der Vögel, May 1927, p. 102).

Two were shot in the Bay of Alcudia, Majorca, on December 21, 1928, and some others seen at the same time.

257. **RED-THROATED DIVER.** Colymbus stellatus.

Has occurred rarely in hard winters, off the coast of Minorca (Ponseti).

258. **WATER-RAIL.** Rallus aquaticus aquaticus.

A fairly plentiful resident in suitable localities in Majorca and Minorca. In the larger marshes they are abundant, and nest in May, among the reeds and thick herbage—in the side of a clump of "spear-grass" being a favourite position—usually when growing in water; but Jourdain found a nest, in May 1930, in the Albufera of Alcudia, in a clump of "spear-grass" on absolutely dry land.

259. **SPOTTED CRAKE.** Porzana porzana.

Nearly as common a resident as the last-named, in Majorca and Minorca, and frequenting the same localities.

260. **BAILLON'S CRAKE.** Porzana pusilla intermedia.

261. **LITTLE CRAKE.** Porzana parva.

Neither of these small Crakes has come under my notice in the islands, though recorded by earlier writers as resident in Majorca, and Ponseti has noted the former also in Minorca. It is probable that both occur, but rarely.

262. **CORN-CRAKE.** Crex crex.

Is said by Barceló to have occurred in Majorca in autumn and winter, but there is no modern record of it; and Ponseti says the same of it in Minorca.

263. **MOORHEN.** Gallinula chloropus chloropus.—Polla d'aigo.

A rather uncommon resident in all the islands, but one of the very shyest of birds. Its cry is more often heard, than the bird is seen, and its nests found near the edges of the reed-beds. It is not nearly as plentiful as the Water-Rail and Spotted Crake.

264. **COOT.** Fulica atra atra.—Fotje.

Great quantities visit the marshes and lagoons of all the islands in the winter, when great battues take place.

A fair number remain to breed, and are irregular as to season of nesting, being influenced by the quantity of water, and the growth of the reeds, in the marshes.

In the Albufera of Alcudia, Majorca, I have found, on June 2, 1923, a nest
with four hard-set eggs; on June 15, 1927, a brood of young, four or five days old; and broods of young in April 1929, and in May 1930.

A battle is a most amusing, not so say dangerous, affair, when some 150–200 guns of every make and age assemble to slaughter the birds, with nearly as many "sportsmen" without guns, who manage to pick up as many birds as the gunners do.

Some birds, at other times, are shot over wooden decoys, moored in the lagoons that the Coots frequent.

265. **RED-LOBED COOT.** Fulica cristata.

Homeyer has recorded this species—if it ever was a species?—as breeding in the Prat, near Palma, Majorca; but does not mention the foregoing.

Among the hundreds of *F. atra* that I have handled, I have never come across *F. cristata*, nor is there any record of it from the other islands.

266. **PURPLE GALLINULE.** Porphyrio coeruleus.

It does not appear that this bird is now found at all in any of the islands. In the Albufera of Alcudia, Majorca, which is the most likely place for it, it does not occur; nor does it in any of the marshes of Minorca.

Homeyer and Barceló have recorded it formerly from Majorca; and Ponseti has stated that it is sufficiently common in Minorca, particularly in the Albufera near Mahon—though to my certain knowledge it is not now found there. The Arch-Duke Ludwig Salvador has noted it from Iviza—a most unlikely spot.

267. **STOCK-DOVE.** Columba oenas oenas.

Occurs only as a straggler, on migration in autumn and winter.

I obtained one of a pair near Alcudia, Majorca, on October 18, 1927.

268. **WOOD-PIGEON.** Columba palumbus palumbus.—Tudon.

This species is not common, but appears to be increasing slightly in the larger islands.

It is only found in the quietest and most remote pine-woods, where the trees are of good size, from sea-level to among the highest mountains.

Strictly it is a summer visitor, but some remain throughout the year; and on May 1, 1928, I observed some on migration.

Usually they nest rather late, but a nest with two eggs was found on April 4, 1924, in Majorca. I had a young one from the nest, near Alcudia, at the beginning of July 1925, that lived in my aviary for two years; and on August 7, 1925, another nest was found near the same place with two young ones.

Two nests, each with two half-incubated eggs, were found in a wood of big pine-trees, near the shore of Alcudia Bay, on June 20, 1927.

269. **ROCK-DOVE.** Columba livia livia.—Colom sauvatje.

A common resident in all the islands, chiefly around the coast, but also frequenting inland cliffs.

They nest usually in the caves and caverns of the cliffs, but niches and crevices in the open cliffs are often occupied. They nest in May, and the young are easily reared from the nests.
270. **TURTLE-DOVE.** *Streptopelia turtur turtur.*—Tortora.

(=*Streptopelia turtur loëi* v. Jordans.)

A common summer visitor to all the islands.
The majority arrive late in April, but I have seen one as early as April 4, 1924; and leave again at the end of the hot weather, usually in September.

They more commonly frequent the low country for nesting, in the woods, among bushes and bramble-thickets, and in small pines, and other trees. The eggs are generally laid in May; but on June 16, 1924, I found a nest with two half-grown young, and on the same day another with two fresh eggs.

The young are easily reared, and will stand the winter in captivity.

(FRANCOLIN. *Francolinus francolinus francolinus*.

There is a single unnamed specimen in the Museum at Mahon, Minorca, not included in Ponseti's catalogue, about which no information is obtainable, beyond the fact that it is said to have been obtained in Minorca.)

271. **RED-LEGGED PARTRIDGE.** *Alectoris rufa rufa.*—Perdiu.

(=*Alectoris rufa laubmanni* v. Jordans.)

The Partridge is said to have been introduced into Majorca from Valencia by King Sancho, 1311–1324.

It is the typical *A. rufa rufa*, and is neither of the subspecies—*A. rufa hispanica* nor *A. rufa intercedens*—found on the Spanish mainland.

It is resident, and common in all the islands, and particularly so in Minorca, and in some of the open parts of the country in Majorca; but from constant persecution is generally wild and shy.

They frequent chiefly rocky hillsides, and rock-strewn scrub-covered open ground, from a low elevation up to the highest hills; and are not averse to perching in trees, generally wild olives. The crop of one examined in winter was crammed with seeds of *Asphodelus microcarpus*, and a few lentisk berries and grass seeds.

Tame decoy birds are kept in cages so small that there is hardly room for the bird to turn round, and the "sportsman" taking them out into the country, and placing them in likely spots, waits concealed near by, until the decoys have called up wild birds, which are then shot at, usually on the ground. A good decoy bird fetches a high price.

They lay in May some twelve to sixteen eggs in a scant nest made in a scrape beneath scrub or among thick tufts of grass; the young are about in June, and are able to fly when about as big as thrushes.

272. **QUAIL.** *Coturnix coturnix coturnix.*—Guallera.

A resident in all the islands, but not very plentiful. Very few pass through the islands on migration, and there is no sign of any large autumn or spring influx.

Casually they might appear to be more plentiful in the spring, when their familiar call is heard, as well as at the end of summer when the young broods are about, but there is really very little difference in their numbers.

They frequent chiefly the low-lands, and not always among cultivation, for on the wet ground around the marshes they are equally found, and occasionally among the lower hills.
THREE NEW CUBAN LARENTHINAE (FAMILY GEOMETRIDAEE). 

BY LOUIS B. PROUT.

THE species described in this paper were kindly presented to the Tring Museum by Father H. F. Clement and were collected at Loma del Gato, 2,500 feet, Sierra Maestra, July-August 1929.

1. Xanthorhoe herbicolor sp.n.

♀, 23 mm. Intermediate between perviridis Warr. (1897) and picticolor Warr. (1896), both from Jamaica. The palpus, which in particolor is long-haired beneath, resembling that of a Notoreas, is normal, as in perviridis. Size, shape, and general effect more as in picticolor, but the ground-colour of the forewing grey-green, a little paler than in perviridis; hindwing greyish, with slightly darker borders.—Forewing with nearly the markings of picticolor, but the antemedian only straightish from costa to fold, then somewhat oblique outward, the pair of lines which bound the basal area rather more sharply expressed than the band between these and the antemedian.—Underside with the scheme of markings nearly as in perviridis, but the dark border more strongly developed, the subterminal line almost obsolete.

2. Spargania clementi sp.n.

♂, 32–35 mm.; ♀, 30–32 mm.

♀ scarcely distinguishable from those forms of dulciferata Walk. (1862, as Larentia [Jamaica]) in which the orange tint dominates the rufous or vinaceous, particularly on the forewing beneath; forewing above with the markings on an average less distinct.

♂ with the forewing above as in the ♀, beneath with nearly the same dark olive-buff tinge as the ♂ of dulciferata; hindwing quite different from that of dulciferata, not amygdaloid (vide Warr., Nov. Zool., iv 251), moderately elongate, termen rounded, colour ochraceous buff (not grey), with the sex-scaling of the posterior part rather more orange, much less rough than that of dulciferata, beneath somewhat stronger than above, but again less extreme than in dulciferata.

3. Scordylia lynnaeoides sp.n.

♀, 28 mm. Face black, with a fine white line down the middle, a cream-white line surrounding the eye. Palpus with 2nd joint more appressed-scaled than in most of the allies, 3rd joint more elongate; black, the first and second joints mixed with white, especially beneath. Body black, pale-mixed beneath; tympanal orifice very ample. Legs black, ringed with white (hind pair lost).

Forewing with costa shouldered at base, then straight, apex not very acute, termen rounded, shape nearly as in ochrozoa (Feld., 1875); black, costally with a few white dots; an irregular Brazil-red band near base between hindmargin and SC, slightly oblique, sending out a red line from its proximal side almost to costa; a cream-white band from midcosta obliquely in the direction of hinder end of termen, its proximal edge almost straight, almost reaching SM, its distal
slightly more irregular, so that the band measures 2 mm. but widens to nearly 3 in middle, then tapering to a blunt point near termen.—Hindwing black.

Forewing beneath with the same markings; also with blue-white terminal dots, connected anteriorly by a very fine blue-white line, which becomes obsolete posteriorly. Hindwing beneath with blue-white terminal dots and subterminal spots and with irregular irroration of the same colour on a great part of the wing.

Very distinct from all known species, suggesting some mimetic association with a yet unknown Riodinid of the genus Lymanas; in general scheme (though smaller and shorter-winged) nearest L. aegates leucophlegma Stich., which occurs in Venezuela, but the group (like Scordylia) has not hitherto been found in the West Indies proper, i.e. excluding Trinidad.
FURTHER RECORDS AND DESCRIPTIONS OF FLEAS FROM ECUADOR.

By DR. KARL JORDAN.

(With 12 text-figures.)

We are very much indebted to Dr. F. Spillmann for a further consignment of Siphonaptera, collected by him in the highlands of Ecuador during April 1931. The collection extends our knowledge of the range of several genera and renders it also possible to clear up some points in taxonomy which had to be left in abeyance for lack of adequate material. It is especially worthy of note that the collection contains no less than 5 species of Helmed Fleas, allied to the Australian genus *Stephanocircus* Skuse 1893.

1. *Pulex irritans* L. 1758.

Iliniza, off *Coenolestes* spec., 1 ♂; an accidental occurrence, the flea probably having been derived from the native who handled the mammal.

*Tetraptsyllus* gen. nov.


♂♀. The receipt of a further species convinces me that section E of our Revision, *l.c.*, should be regarded as constituting a genus separate from *Parapsyllus* Enderl. 1903. Labial palpus with four instead of five segments. Gena with a ventral marginal row of bristles from below the eye to the posterior angle. Hindcoxa only about one-fifth longer than broad, being broader than in *Parapsyllus*. Abdominal sternite VI (not VII) of ♀ with a small lateral sinus; spermatheca with the orifice on a more or less prominent cone.—Genotype: *Parapsyllus coecili* Roths. 1904.

2. *Tetraptsyllus comis* spec. nov. (text-fig. 1).

♀. Near to *T. tantillus* J. & R., *l.c.*, p. 367 no. 16 text-fig. 382 (1923) (Argentina); distinguished by the much shorter bristles of the antennal segment II, the shorter and stouter bristles of the legs, the smaller sinus of sternite VI, etc.

Genal margin with a row of about 9 bristles; 3 large eye-bristles, with small hairs in between. Bristles of segment II of antenna reaching about to middle of club, not beyond club as in *T. tantillus*. First and second row of occiput represented by one bristle each; subapical row with 7 bristles each side and one or two additional bristles at lower angle of occiput.

Anterior row of pronotum with 10 bristles on the two sides together, of mesonotum 7. Bristles on abdominal tergites: III 21, 29, IV 22, 18; and on sternite VII 9, 7, on sternite III about 31, on the two sides together.

On outside of hindfemur 4 bristles in posterior half, on inside a row of 5 posteriorly and a single lateral bristle forward. On outside of hindtibia 6 or 7 dorsolateral and 4 or 5 ventrolateral bristles; six dorsal notches inclusive of apical one, in fourth notch 3 heavy bristles, in fifth 2, stouter than in *T. tantillus*,

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longest dorsal apical bristle of hindtibia reaching to subapical notch of hindtarsal segment 1, longest of this segment close to apex of II, and longest of II to near apex of IV, these bristles shorter than in *T. tantillus*.

Modified Segments.—Sternite VI with a very small rounded lateral sinus (text-fig. 1); VII obliquely truncate, the margin slightly wavy. On each side of tergite VIII 6 or 7 bristles above stigma, 15 or 16 from stigma downwards, and a row of 11 or 12 along ventral and apical margins, the upper marginal ones shorter and straighter than the lower ones and more numerous than in *T. tantillus*; on inside at and near apical margin about 20 bristles, most of them short and spiniform. Some of the bristles of VIII. t. double in this specimen. Sternite VIII with 5 apical bristles, which are larger than in *T. tantillus*. Spermatheca much larger, especially its head, than in *T. tantillus*.

Length 2 mm., hindfemur 0.4 mm.

Chimborazo, on *Sigmadon* spec., 1♀.

3. *Ceratophyllus dolens quitanus* subsp. nov. (text-figs. 2, 3, 4).

About two years ago Dr. Carroll Fox submitted to me a male of a species of *Ceratophyllus* from Ecuador, which I identified as belonging to *C. dolens* J. & R. 1914, known only from Costa Rica. I pointed out (in litt.) a small difference between this unique Ecuadorian male and the likewise unique Costa
Kicaii one, a difference which I considered at the time as being perhaps purely individual. Dr. F. Spillmann has sent a male and several females, and these specimens prove that there are geographical differences between the Ecuadorian and Costa Rican examples, especially in the female.

♂♀. As a rule, the frons bears three rows of bristles, but in one ♀ the middle row is missing, the numbers being: ♂ 4, 4, 3, or 6, 3, 3; ♀ 4 to 6, 0 to 3, 3. As

in C. dolens dolens and C. apollinaris J. & R. 1921, the ridges on the lower two-thirds of the basal abdominal sternite are very close together and, in the middle of the segment, arc strongly curved backwards.

♂. Median lobe of ventral arm of IX. st. with 4 or 5 long bristles instead of 3 (text-fig. 2), on right side the second distal bristle much thinner and shorter than the four others.

♀. Upper and lower antepygidal bristles more than one-third the length of the middle one. Lateral lobe of st. VII more rounded than in C. d. dolens; on this sternite the posterior row contains on the two sides together 10 to 12 bristles, there being in front of the row 8 to 11. The spermatheca of C.d. dolens was in a bad position for drawing; the outline of the organ is most probably the same as in the new subspecies, in which the head of the spermatheca is somewhat longer than broad and slightly widened towards the tail, which latter bears a small hooked appendage (text-fig. 4). The duct of the organ is rather wide, and the blind duct branches off from it at about one-fifth, not emanating directly from the bursa copulatrix.

Cerro de Puntas, off Oryzomys spec., 1 ♂ (type), 1 ♀, and off Thomasomys spec. 2 ♀♀; Chimbaborazo, off Thomasomys spec., 1 ♀. Also a ♂ in coll. Carroll Fox, with 4 bristles on st. IX, from near Quito (text-fig. 3, more enlarged than fig. 2).

Iliniza, off Thomasomys spec., 1♂; Chimborazo, off the same host and Sigmodon spec., 2♀. In a former consignment Professor Spillmann sent a ♂ and several ♀ taken off Didelphys azarae at Quito and on Mt. Pichincha.


Iliniza, off Thomasomys spec., 1♂; Chimborazo, off Sigmodon spec., 1♂, 1♀.—This interesting flea, which forms a transition towards the Helmed Fleas following hereafter, was only known from a pair obtained by Townsend in the Andes of Peru. On re-examining this original pair and comparing with it the specimens sent by Dr. Spillmann, I find that there are a few slight inaccuracies in the description of the species. The lower antepygial bristle is drawn a little too long, being in all 5 specimens more decidedly shorter than the bristle above it; the third bristle, which we thought was absent, is represented by a minute bristle. The tail of the spermatheca is almost concealed by an air-bubble in the original female and is much too narrow in the figure. The present two males show that the sternite IX has a sort of joint near the base of the horizontal arm, this sclerite being flexible at the point where the upper large bristle of st. VIII is placed in our figure (cf. Nov. Zool. xxi, p. 247 fig. 10).

On p. 314 of Nov. Zool. xxxvi, I said under Craneopsylla tolmera that one might be in doubt as to whether the various forms of Craneopsylla represented three genera, each with several species, or three species, each with several subspecies. The present collection decidedly favours the first alternative, and I therefore propose two new genera for the species which come into Sections A and B.d. of our key on p. 250 of Nov. Zool. xxi (1914).

Plocopsylla gen. nov.

♂♀. The two long bristles of the gena placed near the suture which separates the helmet from the gena. Segment I of maxillary palpus about one-fourth (or less) longer than II. Sixth spine of frontal comb (counted from above) longer than the others and widened towards apex. Upper spine of genal comb very much smaller than the others and well separated from them, or absent; genal process longer than the spines, rounded at apex. Spines of pronotal comb not sharply pointed. Some of the long bristles of abdominal sternite VII and tergite VIII of ♀ arched downwards. Incassation of basal abdominal sternite very distinct, resembling a squat Y with broad ♂ foot. Clasper ending as a sole-shaped flap, rounded at apex and bearing a close-set marginal row of long bristles. ♂ Head of spermatheca almost evenly convex dorsally and concave ventrally, or its dorsal surface slightly concave in middle, no such hump dorsally towards tail as in Craneopsylla Roths. 1911.—Genotype; Craneopsylla aechlles Roths. 1911.

The Helmed Fleas were originally parasites of Marsupials and have gone over to Rodents. Their range in America embraces the Andesian countries from Southern Argentina to Ecuador (probably extending farther north) and includes Paraguay. They are evidently absent from Brazil. Their distribution agrees with that of Parapsyllus and Tetrapsyllus, and they have, like these genera, a close affinity with the Australian fauna.
6. Plocopsylla achilles Roths. 1911.

Iliniza, Cerro de Puntas and Chimborazo, off Thomasomys spec., 3 ♂♂, 4♀♀; Cerro de Puntas, off Oryzomys spec., 1 ♀; Iliniza, off Coenolestes spec., 1♀.—The species was described from a single male obtained at Chota, Ecuador, on Oryzomys albicularis, and no further specimens had come to hand until Professor Spillmann sent the series here recorded. The males agree very well with the type, which is in the British Museum and the female agrees in chaetotaxy closely with the male. The two antepygial bristles are, in the female, twice the length of hindtarsal segment IV: the helmet is as narrow as in the male. The first three notches of the hindtibia bear as in ♂ a pair of stout bristles, the other four notches three bristles, the outer dorsal bristles not forming a comb. On the outer surface of hindtibia a dozen bristles or more. Spermatheca as in P. wolffsohnii Roths. 1909, but its head widened towards tail. In one female the small genal spine is missing on the left side.

7. Plocopsylla phobos spec. nov. (text-figs. 5, 6).

♂♀. Similar to P. achilles, but the spines of the genal comb shorter and the short upper spine absent. The pronotal comb contains only 14 spines. The antepygial bristles shorter than hindtarsal segment IV in ♂, about one-third longer than that segment in ♀. Bristles on abdominal tergite VI in ♂ 2, 14, in 8, 12, on VII in ♂ 2, 13, in ♀ 8, 9.

♂. The dorsal apical bristle of IX. t., thinner than in P. achilles; the second stout spiniform of IX. st. closer to the first (rod-like) one, the latter shorter than in P. achilles, and the sole-like end-portion of the clasper narrower. Apical margin of exopodite F excised, the angle below the sinus appearing double and the upper angle very sharp: the large spiniform of F broader than in P. achilles and its wide apical portion longer.

♀. Abdominal sternite with fewer bristles than in P. achilles; on the two sides together of III 6, IV 6, V 4, VI 4, VII 13; on each side of IX. t. 19. Stylet somewhat broader and head of spermatheca narrower than in P. achilles. The genal spines shorter than in ♂.

Chimborazo, off Thomasomys spec., 1 ♂ (type); Cerro de Puntas, off the same host, 1 ♀.

8. Plocopsylla hector spec. nov. (text-figs. 7, 8, 9).

♂♀. Likewise similar to P. achilles, but at recognised by the outer dorsal bristles of the tibiae forming a regular comb. Helmet slightly wider than in the previous two species. Upper spine of genal comb absent, the other four as in
P. achilles, but the genal process broader than in that species. Apart from the legs, the chaetotaxy almost the same as in P. achilles: on mesonotum some additional bristles representing an anterior third row, in female such additional bristles also on pronotum; antepygidal bristles somewhat longer than in

P. achilles, being in ♀ nearly twice as long as segment IV of hindtarsus and in ♂ more than twice. Apical spines on abdominal tergites (the two sides together), in ♀ I 9, II 8, III 5, IV 1, in ♂ I 10–12, II 9–10, III 6, IV 0–4. The outer dorsal bristles of the tibiae form a comb; they are the same in length and thickness (practically) as the dorsal bristles adjoining the long inner ones and these dorsal marginal bristles are moved distad to a position in between the notches (text-fig. 7).

♂. IX. st. with three spiniforms, which are close together, the first small, touching second, this the longest, pointed, the third about half the length of second, somewhat curved, obtusely pointed; beyond this group of spiniforms the sclerite moderately rounded-dilated ventrally, and then gradually narrowed, the apical section being triangular and bearing two short slender bristles at the posterior margin. Manubrium of clasper narrower than in P. achilles and strongly curved upwards. Sole-like apical portion of clasper
somewhat broader and apically less evenly rounded than in the preceding two species, with only 9 long marginal bristles. Exopodite F claw-like, its apical half dorsally concave, curved upwards, pointed; the spiniform of F with asymmetrically globular apex, from which projects a small sharp curved claw (text-fig. 8).

♀. The two straight apical bristles of VIII. t. (text-fig. 9) rather farther apart, and the lower one longer, than in P. achilles. Stylet slenderer, very little broader at base than near apex, four times as long as broad. Spermatheca not distinctly widened towards tail.

Hiniza, off Thomasomys spec., 1 ♂, 2 ♀♀.

**Sphinctopsylla** gen. nov.

♂♀. The lower genal bristle much farther back than the upper one. Upper spine of genal comb nearly as long as the others and contiguous with its neighbour, but triangular; genal process short, obliquely truncate. Sixth spine of frontal comb (counted from above) in shape like those near it, not distinctly widened apicad, the spines of this comb shorter than in Plocopsylla. Segment I of maxillary palpus nearly twice the length of II. Pronotál comb with more than 20 spines, the dorsal ones drawn out into a long thin point. Thoracic tergites with three rows of bristles, meso- and metanotum often with additional bristles. Longest antepygidal bristle of male nearly twice as long as hindtarsal IV, in female thrice. Downward projection (median) of meso- and metasternum longer than in Plocopsylla. Hindcoxa nearly as broad as long. Incrassation of the basal abdominal sternite restricted to the area of the anterior ventral angle, longer than broad, convex above, semilunar. Outer apical bristles of tibiae nearly like the outer dorsal ones, close-set, forming a comb.

♂. Clasper distally truncate, without the marginal row of long bristles of Plocopsylla, exopodite F and IX. st. without heavy spiniforms.

♀. Head of spermatheca divided by a deep constriction into a posterior globular portion bearing the duct and a longer and narrower anterior one bearing the tail.—Genotype: *Craneopsylla tolmera* Jord. 1931.

Here also belong *C. mars* Roths. 1898, *C. ares* Roths. 1911, and *C. inca* J. & R. 1914.

9. **Sphinctopsylla tolmera** Jord. 1931 (text-fig. 10).

Cerro de Puntas, off Thomasomys and Orzyomys spec., 1 ♂, 3 ♀♀.—I described this species in Nov. Zool. xxxvi, p. 314 text-fig. 5 (1931), from a single male discovered by Dr. Spillmann on Mt. Pinchincha. The male now received agrees well with the type. The female, as was to be expected, is very close to *S. inca*, but is not difficult to recognise by the smaller number of bristles on the abdominal tergites and on the outer side of the hindfemur. Number of apical spines on abdominal tergites, on the two sides together: I 6 to 8, II 7 to 9, III 4 or 6, IV 2 or 6, V 1 or 2; number of bristles: I 12 or 14, 10 or 11, II 15 to 18, 19 to 22, III 13 or 16, 21 to 25, IV 8 to 12, 21 or 25, V 4 to 8, 19, to 21 VI 3 to 5, 16 to 19, VII 3 to 5, 11 to 13. On VII. t. 23 to 26 bristles, besides 5 or 6 short spiniform ones on inside at margin. On VI. st. 8 or 9 on the two
sides together, on VII. st. 12 to 15, with a small bristle in front of the row, at least on one side, the row not interrupted. Two antepygidial bristles of equal lengths. Posteriorly on outside of hindfemur a subventral row of 3 or 4 bristles, above which there are 2 or 3 lateral ones, farther forward no lateral bristles or only one far forward. Globular portion of spermatheca larger than in S. inca, the second partition a little longer than in that species and less elliptical, tail not much longer than this partition, conspicuously shorter than in S. inca.

10. Sphinctopsylla inca
J. & R, 1914 (text-fig. 11).

Cerro de Puntas, off Oryzomys spec., 3♂♀. Chimbórazo, off Thomasomys spec., 1♀.—Only one female was known of this species, as is still the case with S. ares and S. mars. The male differs from that sex of S. tolmera conspicuously in the genital armature (text-fig. 11). Clasper (Cl) truncate, very broadly rounded ventrally, the upper angle somewhat projecting, but this lobe rounded, at upper angle a row of 4 bristles, of which the lowest is the longest; between this row and the ventral end of the anterior margin of exopodite F 3 or 4 long marginal bristles, on the side 5 or 6, which are shorter than the marginal ones, at and near dorsal margin proximally of the row 3 to 6 bristles. The tubercle on clasper proximally of apex of F conical, somewhat variable, like all detail. Exopodite F much narrower than in S. tolmera, sickle-shaped, its posterior margin more than eight times as long as F is broad in middle. IX. st. at apex with a long bristle and a very minute one.

I append here the description of another flea from Ecuador, which has been in the collection for some time.
11. Ceratophyllum campaniger spec. nov. (text-fig. 12).

♀. Close to C. graphis Roths. 1909. As in that species the frons and occiput with three rows of bristles; the proboscis reaching to the end of the forecoxa; the bristles of antennal segment II short; on mesonotum numerous small bristles from the posterior row to the base; bristles above stigma of VIII. t. numerous; those of anal sternite long and slender. Differs in the apical margin of VII. st.

being much less slanting (text-fig. 12), in VIII. t. bearing 4 large bristles below the stigma and in the sexual organs; while the spermatheca is practically the same as in C. graphis, its duct begins with a large, bell-shaped, thick-walled swelling, which is longer than broad, being longer than the head of the spermatheca.

Ecuador (no more precise locality given), 1 ♀ found by the late Oldfield Thomas on a spirit specimen of Hesperomys (coll. Frazer) in the British Museum.
THREE NEW OLD WORLD FLEAS.

By DR. KARL JORDAN.

(With 6 text-figures.)

1. *Ceratophyllus infestus duratus* subsp. nov. (text-figs. 1, 2).

♂♀: Larger than *C. infestus infestus* Roths. 1908 from Kenia, and differing in the tail ends.

♂: Clasper shorter, ventrally more strongly convex and bearing two long acetabular bristles instead of one long and one short one (text-fig. 1). Manubrium a little less curved and the bay above it larger. Apex of exopodite F less curved.

Vertical arm of IX. st. less excised on the posterior side above the elbow. Paramere (Par) more strongly convex dorsally, broader, and its apical hook more curved.

♀: Upper lobe of VII. st. shorter and narrower (text-fig. 2), the lower lobe more or less sharply pointed, the segment more strongly incrassate around the
sinus. The two long distal bristles of VIII. t. close together. Stylet longer than in C. i. infestus, three times as long as broad, or even longer.

Length of hindfemur:  $\delta$ 0.67 — 0.69 mm. (in C. i. infestus 0.45 — 0.61).
$\varphi$ 0.71 — 0.83 mm. (in C. i. infestus 0.61 — 0.71).

2. **Neopsylla kopsteini**

spec. nov. (text-figs. 3, 4, 5).

$\delta\varphi$. Though closely related to the species described in Nov. Zool. xxxvi, p. 220 and ff., the new species presents some striking differences: the chitin is much thicker, especially dorsally, the dorsal area of the abdominal tergites being so strongly chitinised that the segments appear to bear, in a lateral aspect, a heavy incrassation extending from the base to the row of long bristles (text-fig. 3, IV. t. and base of V. t., $\varphi$). Moreover, the metanotum and tergites 1 to VI are dorsally excised, the apical spines not standing in a vertical row, but the dorsal spine
being more proximal than the others (or other); the two rows of bristles are likewise curved forward above. On the anterior abdominal tergites there are from 4 to 6 apical spines on the two sides together, on tergite V 2 to 4 and on VI 1 or 2. The sternites bear a posterior row of 5 to 7 long and strong bristles on each side and about 6 smaller ones, most of the latter being ventral and many of them stout, on VII of ♀ the bristles are slightly more numerous than on the preceding sternites; the row is not vertical as in other species, but strongly oblique (text-figs. 4, 5). Behind the bristles, between the fourth long one and the ventral margin, sternites III to VIII (in ♀ also VIII) are less chitinised than elsewhere, there being in cleared specimens a transparent space behind the row, as indicated in the figures.

Modified Segments.—♀ (text-fig. 4): on each side of VIII, st. an oblique row of large bristles and a number of smaller ones, about 15 altogether, farther upwards a row of 3 large marginal ones, proximally of which there is a single bristle, above the 3 the segment obtusely angulate, the marginal apical area from the 3 downward very feebly chitinised. Manubrium M. of clasper long and narrow, not much curved. Process P' of clasper with two long bristles and a few small ones; the thin marginal areas along the bay between P' and P" both of P' and P" broad; P" broader than in N. avida and N. tricata Jord., 1931, with about a dozen thin marginal bristles. Exopodite F angulate on frontal side about middle. Ventral area of IX, st. long and narrow, slightly widened in middle and at apex, the upper apical angle acute, projecting upwards, ventrally
at apex a row of 4, somewhat spiniform, bristles, continued by 3 smaller bristles, farther proximal 2 ventral and 3 lateral thin hairs.

♀. Sternite VII, laterally long and almost evenly rounded, the deep sinuses of *N. sondaica* and allies (cf. I.e., p. 220) absent or at most slightly indicated. At and near apex of tergite VIII there are 7 to 9 bristles on outside and 16 to 20 on inside. Spermatheca as in *N. sondaica* (text-fig. 2, I.e., p. 221), its head dorsally a little straighter.

Length of hindfemur:
0.34 to 0.42 mm.

2 ♀♂, 4 ♀♀ from Java: Rantjabahi, 1650 m., off Rattus lepturus. February 1931 (Dr. F. Kopstein).

A most interesting discovery.

3. *Ischnopsyllus indicus*

spec. nov. (text-fig. 6).

♀. We have had in the collection for a long time a female specimen close to, but not identical with, *Ischnopsyllus octactenus* Kolen. 1856, which we did not venture to describe as representing a new species. We have now received for determination another specimen, unfortunately also a female, which shows the same differences and renders it certain that the specimens belong to a new species.

In several species of *Ischnopsyllus* the females exhibit no, or quantitatively very small, differences from the nearest allies; therefore the taxonomic value of the distinctions found in the two Indian examples must be estimated from that point of view. In *I. indicus* the internal incrassation behind the oral spines (text-fig. 6) is longer and the horizontal portion of it narrower than in *I. octactenus*. The pronotal comb contains only 25 (type) or 27 spines, and that of the metanotum 23 or 26. The spines on the abdominal tergites are in type 26, 22, 20, 15, 10, 9, and in paratype 15, 22, 18, 15, 10, 8. There are no small bristles in front of the postmedian row on tergites II to VII. Sternite VII, which is not quite so strongly rounded in upper half as in *I. octactenus*, bears 7 bristles and 2 minute ones in type and 11 in paratype, on the two sides together. The rest as in *I. octactenus*.

North India: “Dimja Gali,” off *Synotus darjelingensis*, 1 ♀, received from Oldfield Thomas, type; Kasauli, off “small black bat,” 27 vi. 30, 1 ♀ submitted by Dr. M. Sharif and returned to him.
DESCRIPTION OF THE UNKNOWN ♂ OF PARAPHRYGIA RECTANGULATA KENRICK AND A NEW SPECIES OF PHYRGANOPTERYX (LEPID., ARCTIIDAE).

By Lord Rothschild, Ph.D., F.R.S.


♀ differs from ♂ in having both fore- and hindwing shaped normally as in ♂ of Phryganopteryx; petus and forepart of thorax below grey, hind part of thorax with 4 yellow spots, legs dark grey, abdomen below with 2 lateral rows of black spots; antennae filiform, black; palpi black, head pale grey with black dot on vertex and a red spot each side of black dot; patagia greyish white with black dash on inner side; meta- and mesothorax whitish grey, with 4 paired black spots; abdomen above crimson, with median row of black spots, last segment with anterior yellow margin.

Forewing greyish white, not yellowish grey as in ♂, spots, streaks, and bands similar but larger and more pronounced; hindwing brown-grey, not buffy yellow, greyish yellow near basal \(\frac{1}{4}\) of costal area and abdominal margin, a black central stigma, vein 4 absent as in ♂.

Length of forewing, 25 mm. Expanse 56 mm.

♀ 23 mm. Expanse 52 mm.

Hab.—Station Perinet, 140 km. = 87\(\frac{1}{2}\) miles east of Tananarivo, Madagascar, October–November 1930 (Mme. N. d’Olsoufieff coll.).

Phryganopteryx inexpectata sp. nov.

♀ (Type): Similar to strigillata Saalm. below, but abdomen unbanded and entirely yellow, with two submedian bands of black spots. Above, body similar to strigillata, but thorax and basal segments of abdomen browner, less sooty; forewing paler, with more distinct buffy grey and wood-brown ground colour, black streaks deeper, purer in colour, and larger, more pronounced. Hindwing brownish wood-grey, not black as in strigillata.

♂ similar, but has apex of hindwing strongly produced, making wing narrower and more triangular, forewing narrower and longer in proportion.

Length of forewing ♂ 26 mm. Expanse 57 mm.

♀ 24 mm. Expanse 52 mm.

Hab.—1 ♂, 1 ♀ Station Perinet, 149 km. = 87\(\frac{1}{2}\) miles east of Tananarivo, Madagascar, October–November 1930 (Mme. N. d’Olsoufieff coll.).
NOTES ON SYNTOMIDAE (AMATIDAE) WITH DESCRIPTIONS OF NEW SPECIES.

By LORD ROTHSCHILD, F.R.S., Ph.D.

When I first arranged the Syntomidae in the Tring Museum I confined myself to the description of the large number of new species in the collection and did not publish any critical observations. In this paper, written while incorporating the large accessions received since 1912, I propose to draw attention to a few errors in nomenclature, etc., as well as describe some new forms. I will begin with the American groups.

1. Orcynia calcarata (Walk.).

The Rev. A. Miles Moss has captured and brought home several specimens of a large burrowing wasp which is evidently the model for this fine mimetic insect.

The resemblance is most apparent when both the moth and the wasp have the wing two-thirds folded.

2. Pseudosphex ichneumonea Herr.-Sch.

In volume I of the Catalogue of Lepidoptera Phalaenae Sir George Hampson has put as synonyms of P. ichneumonea, P. crabronis Druce and P. polybioiides Burm., and the series in the British Museum when I was working on this group from 1909 to 1912 consisted of a number of examples of an insect agreeing with Druce’s type of crabronis, also in the collection. When working on Pseudosphex lately I was puzzled by finding another species with yellow legs among my Tring series and also a third species near to noverca Schaus. I then looked up Herrich-Schäffer’s drawing and I found a figure agreeing in appearance with noverca Schaus and novercida Kaye and not in the remotest resembling crabronis Druce. I then looked up the British Museum series once more and found that Sir George Hampson had separated in the collection polybioiides Burm. from the series placed under ichneumonea. Through the courtesy of Professor Kuntzen of the Berlin Museum I obtained excellent photographs of the type (or rather what was left of it) of Herrich-Schäffer’s P. ichneumonea. Fortunately the wings are perfectly preserved. It was evident that this species was identical with either noverca or novercida. Mr. Kaye, when describing novercida, points out that vein 2 of the forewing arises just before the angle of the cell while in noverca this vein arises much before the angle of the cell. This is clearly visible on the photograph and proves that ichneumonea is the same as novercida Kaye. On examining crabronis Druce it is at once apparent that, besides its much larger size and different coloration, vein 2 of the forewing arises further from the angle of the cell than in ichneumonea = novercida and therefore is not only a different species from ichneumonea, but is the connecting link between the two sections. The correct nomenclature of the 4 species of Pseudosphex which come in question as regards Herrich-Schäffer’s ichneumonea therefore is as follows: novercida Kaye = ichneumonea Herr.-Sh.; polybioiides Burm. and noverca Schaus are two
quite distinct species both from true ichneumonea H.-S. and crabronis Druce and ichneumonea Hampsn. must stand as crabronis Druce.

Dr. Draudt, in Seitz, Grossschmetterlinge der Erde, has followed Hampson in calling crabronis Druce and polybioides Burm. ichneumonea, and he figures what he calls the typical form, but if the figure is exact he has figured a fifth quite distinct species. In his text he says that "ichneumonea (= polybioides Burm.)," whereas Burmeister distinctly states his polybioides has yellow legs, whereas ichneumonea, crabronis, and noverca have black legs. The model of noverca, polybioides, and ichneumonea is the wasp Polybia nigra Sauss.

3. Pseudosphex parallela sp. nov.

♂. Similar in colour and markings to ichneumonea and noverca, but vein 2 of forewing arises about halfway between the origin of this vein in the first and second of these species; forecoxae white; male valve edged with white; underside of first segment whitish; legs black, tarsi greyish rufous; antennae, thorax, and abdomen above black; forewing yellowish vitreous, in basal two-thirds whitish; costal two-fifths densely clothed with smoky grey-brown scales; hindwing yellowish vitreous.

Expans 29 mm.

Hub.—Santa Catherina, 2 ♂♂.

4. Pseudosphex polistes uniformis subsp. nov.

♂. Differs from μ. polistes in being much darker on the body, less white beneath and the abdomen above being uniform dark brown without the light edges to the segments.

Hub.—1 ♂ Cuyaba, Matto-Grosso, received from Paul Zobrys.

5. Pseudosphex caurensis paraensis subsp. nov.

♂. Differs from C. caurensis below in the coxae being less white and the white band beyond the white border of the ♂ valve being absent; the legs are paler yellow; above the wings are paler, more uniform and yellowish; abdomen more uniform, basal half darker chestnut, outer half more extended black.

Hub.—1 ♂ Para, ex coll. Miles Moss.

6. Pseudosphex crabronis venezuelensis subsp. nov.

Differs from C. crabronis in the strong rosy wash of the wings and in having a white dot on the ♂ valve below.

Hub.—La Vuelta, Caura River, May 1903 (S. Klages coll.).

7. Sphecosoma trinitatis Rothschr.

The wasp model of this species is a species of Polybia near P. fuscata Sauss. collected by S. Klages with the mimic.

8. Sphecosoma curta sp. nov.

♀. Whole insect short and rounded.

Pectus and head yellow; legs orange-red, hind tibia black behind; patagia yellow; thorax black, with 4 yellow spots; antennae crimson, tipped with black;
abdomen, basal segment yellow, rest crimson, second and third segments edged with black, rest edged with dull blue; wings hyaline, bases yellow, narrow costal, terminal, and inner margins black, a subcostal band of crimson occupying central five-sixths of length of wing.

Expanse 28 mm.; forewing 12.5 mm.

Hab.—Yahuarango, S.E. Peru, 1,200 feet, February–March 1912 (H. and C. Watkins coll.).

9. Sphecosoma deceptrix Hamp. The wasp model of this species is Polybia fasciata Sauss. (M. G. Palmer coll.).

10. Sphecosoma flaveolum sp. nov.

♂. Palpi, forehead, legs below, and underside of abdomen bright yellow; legs above pale orange; antennae brown-black, apical one-third chocolate brown; basal half of patagia yellow, apical half black; tegulae and thorax yellow streaked with black; abdomen, first 2 segments dusky yellow, rest black edged with yellow; wings hyaline yellowish, dusky yellow at base and along inner margin of forewing, also between costa and subcosta of forewing.

Expanse 30 mm.; length of forewing 13 mm.

Hab.—San Esteban, Venezuela, June 1909, Corosita, Caura River, June 1904, 3 ♂♂ (S. M. Klages coll.).

The ♂ from Corosita has the half of forewing above the median nervure much infusedate.

11. Homoeocera multipuncta sp. nov.

♂. Pectus white; legs black, tibiae with indistinct white dots; abdomen and ♂ valve black, valve underneath filled with a white flocky substance, abdomen with 6 white dots below; antennae black; head and thorax velvety black with some metallic blue dots; white spots on the patagia, abdomen black with blue dots and three rows of white patches, one row has four white spots, other two three.

Wings hyaline with black bases, and black margins expanded at tornus of forewing and from tornus to vein 2 in hindwing.

Length of forewing 20 mm. Expanse 46 mm.

Hab.—Cuyaba, Matto Grosso (bought from Paul Zobrys), type; 2 ♂♂ Valencia, Venezuela; 1 ♂ Buenavista, East Bolivia, 750 m., August 1906–April 1907; 1 ♂ Santiago del Estero, East Bolivia, 1905–6 (J. Steinbach coll.).

12. Homoeocera affinis sp. nov.

♀. Very similar to crassa Feld., but differs in the edges of the abdominal segments being narrower and white, not yellow, also the forewing has a triangular black apex which is entirely absent in crassa.

Length of forewing 17 mm. Expanse 39 mm.

Hab.—Merida, Venezuela (Briceno coll.).


Sir George Hampson has placed this as a synonym of bijuncta Walk, but it is quite distinct, having no signs of the lateral white spots on the first abdominal
segment and having the last three segments of the abdomen yellow (♀) or red (♂), while bijuncta has only the last two so coloured.

14. *Autochloris flavosignata* sp. nov.

♀. Nearest allied to *cunia* Cram., but differs in having white spots on the patagia and a large patch of dark buff with a sooty spot in it each side of the first abdominal segment.

Length of forewing 22 mm. Expanse 50 mm.

*Hab.*—British Guiana.

15. *Autochloris nigridior* sp. nov.

♂. Allied to *bijuncta*, but smaller and the black borders to the wings wider; differs also in having white shoulder-spots and a yellow frons; abdomen black with lateral white spots on first segment and blue ones on the second and third segments; the rest of abdomen black except the outer edges of abdominal tuft which are red.

Length of forewing 18 mm. Expanse 40.5 mm.

*Hab.*—Arouary (17.6.1887).


Sir George Hampson, Dr. Draudt, and others have united with *cuma* a fairly common and widespread insect which has nothing to do with it. The latter when seen side by side with true *cuma* is strikingly larger, the black margins of the wings are much wider and the red patches of the abdomen in two of the three subspecies are much more conspicuous. This species has no name:

17. *Autochloris magnifica* sp. nov.

♂. Allied closely to *A. cuma*, but much larger; differs from *cuma* in the very much wider black margins to the wings and in the other black markings being larger, in the underside of abdomen being entirely black except the anal valves, in the hindlegs being brown outside and golden yellow inside, in the two subdorsal patches on the first and second abdominal segments being buff not white, and in there being on the third to the seventh abdominal segments a row of dorso-lateral large wedge-shaped crimson patches, while in *cuma* the underside of the abdomen is crimson from the fourth to the seventh segments, the red colour running half up the side; in both species the anal segment is red in the male.

♀ differs in the hindlegs being black and the centre of the anal segment being black.

Length of forewing, ♀ *cuma*, 22 mm.; ♂ *magnifica*, 27 mm. Expanse ♀ *cuma*, 50 mm.; *magnifica* ♂ 62 mm., ♀ 66 mm.

*Hab.*—Santa Cruz de la Sierra, East Bolivia, 1905–6 (J. Steinbach coll.).

18. *Autochloris magnifica reducta* subsp. nov.

♀. Differs from *m. magnifica* in the dorso-lateral buff patches on the first two abdominal segments being reduced to two buff dots and the red dorso-lateral patches on the third to seventh segments being reduced to lunulate spots. The anal valves are black with lateral red patches.

*Hab.*—Bolivia (Garlepp coll.).
19. Autochloris magnifica ruipes subsp. nov.

♂. Differs from m. magnifica in the hindleg having the whole tibia above scarlet, the tarsus pale brown and the femur black; it has the red dorso-lateral patches much larger and they run down on to the underside of the abdomen.

_Hab._—Chanchamayo, Peru (A. Miles Moss coll.).

20. Autochloris ectomelaena Hamps.

♂. Similar to enagraus Cram., but wings have narrower black borders; the undersides have broad white margin to the ♀ valve and three bright orange bands to the last last three segments and laterally some indications of crimson intersegmental lines.

Length of forewing 20 mm. _Expanse_ 46 mm.

_Hab._—1 ♀ Itamaritye, Narrows, Amazon (A. Miles Moss coll.), 2 ♀ ♀ Amazon (Felder coll.).

21. Autochloris flavicosta sp. nov.

♀. Pectus black; antennae black; head and thorax black with metallic blue spots; first segment of abdomen above whitish buff, rest black, outer half of seventh and anal segments and the margin of the preceding one deep orange, abdomen below black, edge of first segment white, anal segment orange; legs black; wings hyaline yellow, hyaline white below median vein of hindwing; costal area, and half inner area of forewing orange, apex broadly black, a narrow black terminal border from vein 4 to tornus, hindwing with narrow black border expanded in tornal area.

Length of forewing 18 mm. _Expanse_ 41 mm.

_Hab._—1 ♀ Paramba, Ecuador, January–May 1897 (W. Rosenberg coll.)

22. Autochloris buchwaldi sp. nov.

♂. Pectus white; legs black with white spots on coxae; ♀ valve edged with a blue followed by a white line, abdomen black, anus yellow; head metallic blue; thorax black; first abdominal segment orange buff, rest of abdomen black with blue intersegmental lines; anal segment and tuft orange buff with basal blue line; forewing hyaline yellow, with black borders widely expanded at apex and tornus; subcostal area dirty yellow, two streaks at base of inner margin orange; hindwing hyaline white, with black borders widely expanded at tornus.

Length of forewing 18 mm. _Expanse_ 41 mm.

_Hab._—Quevedo, Ecuador (v. Buchwald coll.).

23. Sarosa pseudohelotes sp. nov.

♂. Differs from helotes in having the ♀ valve on underside of base of abdomen black with white patch on each side of it, while this valve in helotes is entirely glistening white, in the tarsi being uniformly deep brown, not orange, and the patagia wholly black.

Length of forewing, ♀ 22 mm., ♀ 26 mm. _Expanse_, ♀ 50 mm., ♀ 58 mm.

_Hab._—1 ♀ type, 2 ♀ ♀, Sto. Domingo, Carabaya, 6,000 feet, July and December 1902 (dry and wet season); 2 ♀ ♀ La Oroya, Rio Inambari, S.E. Peru, 3,100 feet, March 1905 (wet season) (G. Ockenden coll.); 1 ♀ Paramba, Ecuador, 3,500 feet, May 1897 (dry season) (W. Rosenberg coll.).
24. Sarosa pseudohelotes intensior subsp. nov.

♂♀. Differ from p. helotes in the colour of the thorax and body being orange scarlet, not dark yellow, and in the dark borders of the wings being much wider, and the legs uniformly dark amber-brown.

*Hab.*—1 ♂, 1 ♀ Las Quiñas, near San Esteban, Venezuela (S. M. Klages coll.).

25. Gymnelia flavicapilla sp. nov.

♂. Antennae black; pectus white; palpi yellow; frons yellow with blue spot; coxae inside buff, outside blue, tibiae inside creamy white, outside black, tarsi brown, inside golden; ♀ valve buff edged with white, rest of underside of abdomen buff; patagia black ringed with yellow and blue in centre; tegulae black, inner one-third orange; thorax black with four blue spots; abdomen black with blue spots and segments narrowly edged with dull orange, a wider buff edging on second segment; wings hyaline, apex on forewing and tornus on hindwing black, basal half of subcostal area vitreous; a blue dot at base of forewing.

Length of forewing 14 mm. Expanse 32 mm.

*Hab.*—1 ♂ San Esteban, Venezuela, June 1909 (S. M. Klages coll.); 1 ♀ Venezuela (Mocquerys coll.).

26. Gymnelia felderi sp. nov.

♂. Frons, palpi and antennae black; pectus white, legs black with blue patches; ♀ valve basal half black, apical half white; underside of abdomen black; vertex and patagia metallic greenish blue; thorax and tegulae black, with elongated greenish blue metallic spots; abdomen black with metallic greenish blue lateral spots, first three segments with yellow interspaces; wings hyaline yellow, apex and tornus black, basal half of costi-subcostal area orange yellow, apical half black.

Length of forewing 18 mm. Expanse 42 mm.

*Hab.*—Amazon (Felder coll.).

27. Gymnelia peculiaris sp. nov.

♀. This species is unlike any other of the genus, but in coloration is nearest ethodaea Druce. Pectus, legs and underside of legs yellow; frons buff, palpi yellow with black tips; hindlegs with outer side of tibia and most of tarsus black; head black; patagia black with blue spots; thorax black with blue spot and some orange marks; abdomen brick red, with black bands and subdorsal rows of metallic silvery blue spots; apical half of anal segment black; wings long and narrow, hyaline yellow, base orange, a black border all round, apex of forewing broadly black, an oval discoecellular black patch; antennae black.

Length of forewing 15 mm. Breadth of forewing 6 mm. Expanse 33 mm.

*Hab.*—Mapiri, Bolivia.

28. Gymnelia abdominalis sp. nov.

♀. Pectus, legs, head, antennae, thorax, and first four segments of abdomen black; tibiae marked with metallic blue; patagia, base of tegulae, base of forewing and lateral spots in basal half of abdomen metallic blue, outer half of abdomen bright orange-yellow; wings hyaline white, broadly bordered with
black; apex of forewing (about outer fourth of wing) black; tornal area of hindwing largely black, with a vitreous spot.

Length of forewing 20 mm. Expanse 45 mm.

Hab.—Pelas, Amazon (M. de Mathan coll.).

There is in the Tring Museum a ♂ out of the Felder collection labelled "Cuba, Gundlach" ! ! ! which only differs in the legs and underside being sooty brown and the ♂ valve having a whitish border.

29. Mallodeta simplex sp. nov.

♂. Pectus white; legs, antennae, head, thorax, and abdomen black; wings hyaline white; forewing with narrow black margins expanded at apex and apex of vein 2, subcostal area yellowish between costa and subcosta from base of wing to origin of vein 7, base of both pairs of wings and narrow margin of hindwings black.

Length of forewing 17 mm. Expanse 39 mm.

Hab.—Villarica, Paraguay, April 1923 (F. Shade coll.).

30. Pheia pseudolegans sp. nov.

♂. Nearest to elegans Druce, but patagia and tegulae entirely orange and the abdominal central spots are much smaller, basal fifth of subcostal area entirely orange, tarsi of fore and middle pairs of legs black, hind pair with tibiae black and tarsi white.

♀. Similar but larger.

Length of forewing ♂ (type) 14 mm. Expanse 31 mm.

" " ♂ 16 mm. " 35 mm.

Hab.—3 ♂♂, 2 ♀♂ (♂ type) Alto de Serra, Sao Paulo, February 1923–April 1926 (R. Spitz coll.); 1 ♀ Ypiranga, Sao Paulo, April 1924 (R. Spitz coll.).

31. Pheia insignis sp. nov.

♂. This is a very distinct species. Head and palpi black; pectus white, legs black, with a considerable quantity of white on inside of tarsi and tibiae; ♂ valve pure white; abdomen below black, frons and vertex with paired bluish white dots; antennae black, apical two-fifths white, with black tip; thorax, patagia, and tegulae brilliant orange; abdomen brilliant orange, with median row of black dots, last two segments blackish steel blue; wings hyaline, forewing base bright orange, rest of wing edged with black, expanding largely at apex and slightly at tornus, nervures black; hindwing with black margins and nervures.

Length of forewing 14 mm. Expanse 31 mm.

Hab.—1 ♂ Alto de Serra, Sao Paulo, March 1928 (R. Spitz coll.).

32. Pheia fuscicollis sp. nov.

♀. Closely allied to daphaena Hmpsn. and haemapleura Hmpsn. but differs at first sight by the entire lack of red colour. The body is entirely black; the patagia and a streak on the tegulae orange and some orange hairs at anus.

Size same as haemapleura.

Hab.—Minas Geraês, November 1929 (R. Spitz coll.).
33. **Pheia simillima** sp. nov.

♀. Differs from *flavipicta* Schaus in lacking the yellow streak in centre of inner margin of the forewing and in the absence of the central black and blue patch on the abdomen.

Size as in *flavipicta*.

*Hab.*—Cananche, Cundinamarca, July 1903 (M. de Mathan coll.), 3 ♀♂.

34. **Loxophlebia semiaurantia** sp. nov.

♀. Below head black; pectus, coxae, two spots on lower thorax, and ♀ valve white; legs black; abdomen black. Above frons white, vertex black; patagia and shoulders orange; rest of thorax black; abdomen brown-black, first three segments orange, with brown-black patch on second and third; antennae brown-black. Wings hyaline, margins of forewing brown-black, widely expanded at apex and tornus; a discocellular brown-black patch joined to costa; hindwing with very narrow black border expanded at apex.

Length of forewing 10 mm. Expanse 23 mm.

*Hab.*—Para (Rev. A. Miles Moss coll.).

35. **Loxophlebia asmodeoides** sp. nov.

♀. Differs from *asmodeus* Druce in the whole undersurface being yellow; the antennae, thorax, and abdomen being deep olive-brown; an orange belt narrowly interrupted in the centre on third segment of abdomen; anal segment of abdomen orange; the dark margin of forewings not enlarged between veins 5 and 6 but from apex to vein 5.

Length of forewing 11 mm. Expanse 26 mm.

*Hab.*—Bogota (Felder coll.).

36. **Loxophlebia roseipectus** sp. nov.

♀. Pectus and forecoxae rose-coloured; legs pale brown; ♀ valve white; abdomen sooty brown; head and antennae black.

Above: patagia and tegulae golden yellow; thorax black; abdomen black, two orange dorso-lateral spots on first segment of abdomen, and broad lateral yellow bands on rest of abdomen; anal tuft of abdomen yellow. Wings hyaline, basal three-fifths of subcosta and basal two-thirds of inner margin of forewing yellow; margins of forewing black, widely expanded at apex and less so at tornus; hindwing with black border expanded at apex and reaching to tornus abdominal margin very narrowly yellow.

Length of forewing 12 mm. Expanse 30 mm.

*Hab.*—Lower Amazons, junction with Rio Madeira, February–March 1926 (Rev. A. Miles Moss coll.).

37. **Mesothen tigrina** sp. nov.

♀. Underside of thorax, abdomen, and legs bright orange; head black, frons white; antennae black; large black spot on thorax above; abdomen orange, regularly ringed with black. Wing hyaline, base of forewing orange, margins and veins black, the margins expanded at apex widely and tornus less
widely; hindwing with margins very slightly expanded at apex, and at abdominal margin fringed with yellow hairs.

Length of forewing 14 mm. Expanse 31 mm.

**Hub.**—Caracas, Venezuela.

38. **Mesothera ockendeni restricta** subsp. nov.

♂. Differ from *O. ockendeni* Druce in having the body paler, more yellowish, and the black of the last two segments of the abdomen much reduced, being restricted to the anal segment alone dorsally and laterally.

**Hub.**—Merida, Venezuela (Briceno coll.).

**Chrostosoma.** In this genus considerable confusion exists owing to a number of authors having wrongly identified species figured by Cramer, Herrich-Schäffer, and Perty.

In the *Catalogue*, vol. i, p. 215, Sir George Hampson figures a female of *fenestrina* Butler as the male of *decisa* Walker and he unites under the name of *haematica* Perty *zantes* Herr.-Sch., *fenestrina* Butl., and *chaconitis* Druce; and under the name of *echmus* Stoll, *dolens* Walk., and *stulta* Herr.-Sch.

As regards these names, *haematica* Perty and *zantes* Herr.-Sch. are certainly synonymous, but not with *fenestrina* Butl., for they are identical with *decisa* Walk., which species must henceforth be known under the name of *haematica* Perty. Now with regard to the names *echmus* Stoll., *dolens* Walk., and *stulta* Herr.-Sch., the figures given by these three authors represent three widely different insects; *echmus* Stoll I consider unrecognisable, but it is certainly not *dolens* Walk.: and *stulta* Herr.-Sch., of which there are 9 specimens at Tring agreeing absolutely with the figure, is an entirely different insect. When I pointed out some of these facts to Sir George Hampson he saw at once that some of the names had been wrongly applied; but in the collection of the British Museum he applied the name of *haematica* Perty to an insect standing under the name of *Saurita mediohbra* Kaye, but here again I cannot agree, as the latter is a much duskier insect with a narrow dark border, whereas the figure of *haematica* Perty shows an insect with much paler and more translucent wings and a wider dark border exactly as in *Chrostosoma decisa* Walk. Beyond transferring *haematica* Perty to *Saurita mediohbra* Kaye in the drawers of the Museum, Sir George Hampson has not published anything correcting the nomenclature of these *Chrostosoma*, and Dr. Draudt, in Seitz *Macrolepidoptera of the World*, has followed Hampson's catalogue. The correct nomenclature is as follows:

**Chrostosoma haematica** Perty.  
= *zantes* Herr.-Sch.  
= *decisa* Walk.

**Chrostosoma fenestrina** Butl.

**Chrostosoma dolens** Walk.

**Chrostosoma stulta** Herr.-Sch.  
**Chrostosoma chaconitis** Druce}

are distinct species.

and *echmus* Stoll I consider at least for the present unrecognisable.

39. **Chrostosoma infuscatum** sp. nov.

♂. Nearest to *haematica* Perty (*decisa* Walk.), differs in the entire absence of the blue metallic spots and the red basal spot on the abdomen. The wings
are more vitreous, but the margins are much wider and more irregular and diffuse, giving the insect a smokier, dustier appearance; apical half of tegulae crimson.

Length of forewing 12 mm. Expanse 27 mm.

_Hab._—5 ♂♂ Muzo, Rio Cantinero, Columbia, 400 m. = 1,300 feet (A. H. Fassl coll.) (type); 1 ♂ Cawanche, Cundinamarca, July 1903 (M. de Malha:1 coll.); 1 ♂ Lita, Ecuador, 3,000 feet (Flemming coll.).

40. **Hyda (Chrysostola) excelsa** sp. nov.

♀. Nearest to _pelopia_ Druce, but unlike any other species of the genus. Below: pectus, thorax, and basal three-fifths of abdomen orange; apical two-fifths of abdomen black; coxae and tibiae of foreleg orange, basal half of tarsus whitish, outer half deep brown; middle leg, coxae, and tibiae orange, latter washed with brown, tarsi deep brown; hindleg, coxae, and femora orange, tibiae black, tarsi and end of tibiae white; head and antennae black. Above: thorax orange; abdomen, basal half orange, anal half black, both sections powdered slightly with iridescent silvery scales. Wings hyaline, with slight yellowish gloss, nervures on basal half of forewing orange, on outer half black; a white dot at base of wing; base of wing, basal half of costal area, discocellular patch, and basal three-fifths of inner area deep orange; outer half of costal area, a very large apical patch, and a large tornal patch sooty black; hindwing has an apical black tip, a fringe of black hair round wing; all veins except outer three-quarters of 3, 4, 5, and 6 orange.

Length of forewing 15-5 mm. Expanse 34 mm.

_Hab._—Alto da Serra, Sao Paulo, March 1929 (R. Spitz coll.), 2 ♀♀.
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NEW AFRICAN AND INDO-AUSTRALIAN LYMANTRIDAE.

By C. L. COLLENETTE, F.E.S.

(With Plate I.)

In the following paper Ridgway’s Color Standards and Color Nomenclature, 1912, has been employed in the colour descriptions, and the Comstock-Needham system for the wing-neuration.

All types, unless otherwise stated, are in the Tring Museum collection.

1. Cropera sericoptera sp. nov. (Plate I, fig. 34).

♀. Palpus ochraceous buff, tipped with fuscous. Antenna fuscous, mixed on the shaft with pale yellow orange. Head, thorax, and pectus ochraceous buff, mixed on the tegula with fuscous. Abdomen above and beneath ochraceous buff to ochraceous orange. Fore- and midlegs with femora ochraceous buff, tibiae and tarsi fuscous; hindleg with femur and tibia ochraceous buff, tarsus and the two pairs of spurs fuscous. Forewing cinnamon buff, slightly shaded with grey towards the termen; veins and terminal line fuscous; fringe ochraceous buff. Hindwing cinnamon buff, slightly shaded with grey towards the apex; veins on the distal half of the wing, and terminal line, fuscous; fringe ochraceous buff. Underside of both wings, and fringes, as on underside, with fuscous shading in the apical area of the forewing.

Expanse: 41 mm.

1 ♀ (holotype), Muene Jndala, Angola, 25.ix.1903 (Ansorge).

Allied to Cropera venata Swinh. (1906), from which it may be easily distinguished by the different ground colour of the wings and the slightly larger size.

2. Redoa kibwezi sp. nov. (Plate I, fig. 37).

♀. Palpus whitish, on the outer side orange buff mixed with fuscous. There is a short aborted proboscis. Antennal shaft fuscous mixed with white, pectinations sayal brown. Head whitish, with a tuft of orange buff below the base of the antenna. Thorax and abdomen whitish, with a small patch of orange buff dorsally on the thorax. Legs, pectus, and venter whitish, foreleg with orange buff on coxa, femur, and tibia, and fuscous on femur and tibia. Wings translucent. Forewing white; costa narrowly edged with fuscous; a faint medial shade, formed of a few dark scattered scales, running oblique inwardly from the origin.
of vein Cu2 to the inner margin; a faint postmedial shade, formed similarly, from the costa at three-quarters to the inner margin at three-quarters; fringe white. Hindwing and fringe white. Underside of both wings, and fringes, white, the apex and vein-ends of the forewing faintly shaded with fuscous.

Expanse: \( \sigma \sigma \); 41–49 mm.

1 \( \sigma \) (holotype) and 12 \( \sigma \sigma \) (paratypes). Kibwezi, near Uganda Railway, Kenya Colony, March and December 1917, and January 1918; also, in the British Museum ex Joicy collection. 1 \( \sigma \), Kibwezi, 3,000 ft., 14. xii. 1921 (R. A. Dummer).

Nearest to Redoa kenyensis Collnt. (1931), but with a considerably shorter and broader areole.

In some specimens of \( R. kibwezi \), vein R5 rises from the same point on the areole as the stalk of R3 and R4, and in others from considerably below that point, the origin of R5 being as far below that of R3 and R4 as R2 is above R3 and R4.

3. **Porthesia protea** sp. nov. (Plate I, fig. 22).

\( \sigma \). Palpus pale orange yellow, the third segment lighter. Antennal shaft cartridge buff, pectinations cinnamon buff. Head and thorax light orange yellow. Abdomen light orange yellow at base, the remainder cartridge buff mixed with hair brown, anal tuft cartridge buff. Legs, pectus, and venter cartridge buff, mixed on the foreleg with pale orange yellow. Forewing pale pinkish buff to pinkish buff, irroration with fuscous, the irroration tending to be heavier medially in the lower half of the wing; fringe pale pinkish buff. Hindwing and fringe pale pinkish buff, the proximal three-fourths of the wing shaded with hair brown. Underside of forewing, and fringes, pale pinkish buff, the proximal three-fourths of the wing shaded with hair brown. Underside of hindwing, and fringe, whitish, lightly shaded in the inner marginal area with hair brown.

\( \varphi \). Resembles the \( \sigma \), but abdomen light orange yellow at base, the remainder fuscous; anal tuft light orange yellow. Hindwing and fringe, above and beneath, entirely hair brown.

Expanse: \( \sigma \sigma \); 21–25 mm., \( \varphi \varphi \); 31–34 mm.

1 \( \sigma \) (holotype), 1 \( \varphi \) (allotype), 11 \( \sigma \sigma \) and 2 \( \varphi \varphi \) (paratypes). August–September 1924, Nissan Island, Solomon Islands (A. F. Eichhorn).

The \( \sigma \sigma \) of this series show considerable variation, the dark irroration on the forewing of some specimens being almost absent, and the dark shading on the hindwing, above and beneath, entirely absent.

4. **Porthesia stenoptera** sp. nov. (Plate I, fig. 21).

\( \sigma \). Palpus and head orange buff. Antennal shaft light ochraceous buff streaked with bone brown, pectinations wood brown. Thorax ochraceous orange. Abdomen fuscous black, anal tuft capucine yellow. Legs orange buff, the fore- and middlelegs fringed with capucine yellow. Pectus orange buff. Venter orange buff mixed with capucine yellow. Forewing and fringe velvety bone brown mixed with fuscous black; from the apex to vein M2 there is an admixture of capucine yellow in the fringe, and from vein Cu1 to the tornus the fringe is entirely capucine yellow, the same colour slightly invading the wing between these two points. Hindwing velvety bone brown mixed with fuscous black; fringe capucine yellow, darker at the anal angle. Underside of fore- and
hindwing, and fringes, as on *upperside*, but the colour of the wings is slightly duller and less velvety, and at the apex of the forewing the capucine yellow of the fringe slightly invades the wing.

**Expandse:** 23–27 mm.

1 ♂ (holotype) and 3 ♀ ♂ (paratypes), Bougainville, Solomon Islands, April and May 1904 (A. S. Meek).

The forewing of this species is rather long and narrow, and the coloration of the four specimens is very uniform.

5. *Porthesia potamia* sp. nov. (Plate 1, fig. 25).

♀. Palpus cinnamon buff. Antennal shaft cinnamon buff, the pectinations slightly darker. Head cream colour, vertex cartridge buff. Thorax cartridge buff, posteriorly ochraceous buff. Abdomen ochraceous buff to orange buff, anal tuftfuscous black, fringed at the base with cartridge buff. Legs, pectus, and venter ochraceous buff to cartridge buff. Forewing cartridge buff, irrorated interneurally over the whole wing, but less strongly at the base and in the costal area, with ochraceous tawny; a faint antemedial fascia, indicated by a decrease in the irroration, running oblique inwardly from the origin of vein *Cu2* to the inner margin; a rather broad postmedial fascia, indicated by a decrease in the irroration, roughly parallel with the termen from costa to anal vein, thence at right angles to the inner margin; fringe cartridge buff, mixed interneurally with ochraceous tawny. Hindwing cartridge buff faintly suffused with cream colour, the area from cell to inner margin orange buff; fringe cartridge buff. **Underside** of both wings cartridge buff faintly suffused with cream colour, and mixed over the basal third of each wing with orange buff; fringes cartridge buff.

**Expandse:** ♀♀ 47–49 mm.

1 ♀ (holotype) and 3 ♀ ♀ (paratypes), Angabunga River, affluent of St. Joseph River, British New Guinea, 6,000 ft. upwards, November 1904–February 1905 (A. S. Meek).

6. *Porthesia anomoeoptera* sp. nov. (Plate I, fig. 30).

♂. Palpus cream buff. Antennal shaft cartridge buff, pectinations sayal brown. Head and thorax cartridge buff, tinged on frons and patagium with cream buff. Abdomen light orange yellow. Legs and pectus cartridge buff to cream buff. Venter orange yellow. Forewing cartridge buff, basal half of costa narrowly edged with cream buff; fringe cartridge buff. Hindwing light orange yellow, in some specimens becoming lighter in the terminal area; fringe cartridge buff. **Underside** of both wings light orange yellow, grading to cartridge buff in the terminal areas and in the inner marginal area of the forewing; fringe cartridge buff.

♀. Resembles the ♂, but the light orange yellow on the hindwing, and on the **underside** of both wings, of a rather paler tint.

**Expandse:** ♂♂ 20–26 mm., ♀♀ 34–35 mm.

1 ♂ (holotype), 1 ♀ (allotype), 3 ♂♂ and 2 ♀♀ (paratypes), November and December 1898, Dammer Island, Moluccas (H. Kühl).

A very distinct species, in which the colour of the forewing contrasts strongly with that of the hindwing. It may be placed near to *Porthesia biagi* B.-Bak. (1908).
7. *Euproctis frigidior* sp. nov. (Plate I, fig. 7).

♂. Palpus deep chrome, slightly darker on the upper side. Antennal shaft deep chrome, pectinations cinnamon. Head and thorax deep chrome. Abdomen antimony yellow. Foreleg deep chrome, mid- and hindleg rather lighter. Pectus and venter antimony yellow. Forewing light orange yellow; an antemedial fascia of deep chrome, bowed (concavity basad) from costa to inner margin; a conspicuous orange rufous discocellular spot, about one millimetre in diameter, only faintly indicated in some of the paratypes, but never completely absent; a postmedial fascia of deep chrome, followed by a broader subterminal fascia of the same colour, the space between them filled in with pale orange yellow, both fasciae running roughly parallel with the termen to vein *Cu1*, thence slightly bowed (concavity terminated) to the inner margin; a rather indistinct deep chrome preterminal fascia, parallel with the termen, on a ground of pale orange yellow; fringe pale orange yellow mixed with light orange yellow. Hindwing pale orange yellow, slightly darker in the inner marginal area; fringe pale orange yellow. *Underside* of both wings pale orange yellow, the costa in both cases shaded with light orange yellow; fringes pale orange yellow.

♀. Resembles the ♂, but with anal tuft cinnamon brown, and the fasciae on the forewing only faintly visible.

Expanse: ♂♂ 28–37 mm., average about 35 mm.; ♀♀ 39–51 mm., average about 48 mm.

1 ♂ (holotype), 1 ♀ (allotype), 294 ♂♂ and 58 ♀♀ (paratypes), Diego Suarez, Madagascar, taken in each of the months December 1916–September 1917 (G. Melou); 8 ♂♂, Kulau, N.E. Madagascar (G. Melou); 1 ♂ and 1 ♀, Sakarany, N.E. Madagascar, February 1917 (G. Melou); 1 ♀, Ambinanindrano, W. of Mohonoro, Madagascar, September 1916 (Kestell-Cornish); also, in the British Museum collection, 4 ♂♂ and 1 ♀ (paratypes), Diego Suarez (ex Joicey collection), and 1 ♀, Brickaville, Central Madagascar, 1916 (Lamberton, ex Oberthür collection).

This species has been confused previously with *Artaxa fervida* Wlk. (1863). An examination of the type ♂ of *A. fervida* shows that the insect is a *Porthesia*, with vein *M3* of the hindwing absent. The abdomen is dark, and contrasts with the anal tuft, which is Mars yellow. The ground colour of fore- and hindwings is darker than in *Euproctis frigidior*, and there is no trace of the discocellular spot. The type (British Museum collection) was taken near Antananarivo, and is unique.

8. *Euproctis florensis* sp. nov. (Plate I, fig. 8).

♂. Palpus pale orange yellow, on the outer side fuscous. Antennal shaft cartridge buff, pectinations ochraceous buff. Head pale orange yellow, lighter on the vertex. Thorax cartridge buff. Abdomen pale orange yellow with a broad band of fuscous posteriorly; anal tuft ochraceous buff. Pectus and legs cartridge buff, venter pale orange yellow. Forewing and fringe cartridge buff; a broad conspicuous tawny streak on the discocellulars, enclosed with a broken ring of fuscous black; a few scattered tawny and fuscous black scales in the inner marginal area. Hindwing and fringe whitish. *Underside* of both wings, and fringes, whitish.

♀. Palpus, head, thorax, and legs cartridge buff. Abdomen pale yellow
orange, anal extremity olive brown. Wings as in the ♂, excepting that the only mark on the forewing is a heavy line of fuscous black surrounding the disco-

umerals.

Expanse: ♂ 43 mm., ♀♀ 54–55 mm.

1 ♂ (holotype) November 1896, 1 ♀ (allotype) and 1 ♀ (paratype) October 1896, dry season, S. Flores (Everett).

9. *Euproctis fulvobrunnea* sp. nov. (Plate 1, fig. 20).

♂. Palpus, head, and thorax capucine yellow to orange, the tegula with some long bushy hair-seales which reach beyond the end of the thorax. Antennal shaft ochraceous buff, the pectinations somewhat darker. Abdomen Brussels brown, mixed towards the base with capucine yellow; anal tuft drab. Legs, pectus, and abdomen pale yellow orange to capucine yellow, the latter colour predominating on the foreleg. Forewing Brussels brown; costa narrowly edged with orange buff, this colour continuing round the apex on the fringe as far as vein R5; remainder of fringe Brussels brown mixed with tawny olive. Hindwing Brussels brown, basal half of costal area pale yellow orange; fringe Brussels brown mixed with tawny olive. Underside of forewing snuff brown, basal half of inner marginal area somewhat lighter; costa edged with orange buff more broadly than on upperside; fringe snuff brown mixed with tawny olive. Underside of hindwing snuff brown; basal half of costal area broadly edged with orange buff; fringe snuff brown mixed with tawny olive.

Expanse: ♂♂ 24–26 mm.

1 ♂ (holotype), north side of Choiseul Island, Solomon Islands, December 1903 (A. S. Meek); 3 ♂♂ (paratypes), south side of Choiseul Island, 1904 (A. S. Meek).

In facies somewhat resembles the darker forms of *Porthisia fulvonigra* Swinh. (1903), but is distinguishable at once by the presence of vein M2 in the hindwing.

10. *Euproctis petasma* sp. nov. (Plate 1, fig. 29).

♂. Palpus Mars yellow. Antennal shaft buckthorn brown, the pectinations lighter. Head antimony yellow. Thorax warm buff. Abdomen warm buff mixed with antimony yellow. Legs warm buff, mixed on coxa, tibia, and tarsus of foreleg, and tibia and tarsus of middleleg, with Mars yellow. Pectus and venter warm buff. Forewing warm buff; a rather broad antemedial fascia, lighter than the ground colour, strongly bowed (concavity basad) from costa to anal vein, thence at right angles to inner margin: a sinuous postmedial fascia, lighter than the ground colour, from the costa at three-fourths to inner margin at three-fourths; a thin border of Brussels brown on the proximal side of the antemedial fascia and also on the distal side of the postmedial fascia, in each case ending in a patch of Brussels brown on the inner margin; a tongue of Brussels brown between veins M3 and Cu1, from postmedial to termen, and a patch of the same colour below the origin of vein R5; some Sudan brown shading at the base of the wing, medially, and along the costa and termen; fringe Sudan brown. Hindwing light buff, darkening to warm buff along the inner margin; fringe light buff. Underside of both wings light buff; costa and fringe of forewing Sudan brown; fringe of hindwing light buff.
Expanse: $\varphi \varphi$ 23–25 mm.
1 $\varphi$ (holotype) and 9 $\varphi$ (paratypes), Biagi, Mambaré River, British New Guinea, 5,000 ft., February–April 1906 (A. S. Meek).

11. Euproctis hemigenes sp. nov. (Plate I, fig. 24).

$\varphi$. Palpus clay colour, on the outer side of second segment fuscous. Antenna tawny olive, mixed on the shaft with fuscous. Head clay colour to buffy brown. Thorax antimony yellow. Abdomen clove brown above and beneath, anal tuft cream colour. Pectus and legs drab to buffy brown. Forewing antimony yellow; the whole of the medial area, excepting above the cell and vein R5, irroration internurally with bistre, the iroration extending in the same degree to the termen between veins R5, M1, and M2, and very lightly over the remainder of the terminal area; fringe antimony yellow mixed sparsely with bistre. Hindwing bistre; a band of antimony yellow along the costa, broad at the base and narrowing towards the apex; fringe bistre, somewhat lighter at the base. Underside of forewing antimony yellow, very lightly shaded with bistre between veins R5, M1, and M2; fringe antimony yellow. Underside of hindwing, and fringe, as on upperside.

Expanse: $\varphi \varphi$ 30–41 mm.
1 $\varphi$ (holotype) and 1 $\varphi$ (paratype), Ninay Valley, Central Arfak Mountains, Dutch New Guinea, 3,500 ft., November 1908–January 1909; also, in the British Museum ex Kenrick collection, 1 $\varphi$ (paratype), Arfak Mountains, 6,000 ft., March 1910 (C. B. and F. B. Pratt).

Nearest to Euproctis swinhoei B.-Bak. (1904). The light-coloured band along the costa of the hindwing, on both upper- and undersides, is a distinguishing feature.

12. Euproctis ochroleura sp. nov. (Plate I, fig. 13).

$\varphi$. Palpus orange buff. Antennal shaft pale yellow orange to orange buff, pectinations light ochraceous buff. Head pale yellow orange mixed with orange buff. Thorax orange buff. Abdomen pale yellow orange, dorsally at the base orange buff. Legs orange buff. Pectus and venter pale yellow orange. Forewing orange buff to capucine yellow; veins over the whole wing pale yellow orange; a rather broad pale yellow orange antemedial fascia, bowed (concavity basad) from costa to inner margin; a faint streak of pale yellow orange on the discocellulars; a postmedial fascia of pale yellow orange, commencing at the origin of vein R5, bowed (concavity terminad) to vein M3, and inwardly oblique slightly bowed (concavity terminad) to the inner margin; on the distal side of the postmedial a broad band of Mars yellow, broken at the veins; some Mars yellow shading internurally in the terminal area; fringe pale yellow orange mixed with capucine yellow. Hindwing cream colour, shaded in the inner marginal and terminal areas with orange buff; fringe orange buff. Underside of forewing pale yellow orange, costal area and fringe orange buff. Underside of hindwing and fringe pale yellow orange.

Expanse: $\varphi \varphi$ 30–31 mm.
1 $\varphi$ (holotype) and 1 $\varphi$ (paratype), Mt. Goliath, Central Dutch New Guinea, about long. 139°, 5,000–7,000 ft., February 1911 (A. S. Meek).
13. Euproctis geometroides sp. nov. (Plate 1, fig. 31).

♂. Palpus warm buff. Antenna Prout's brown. Head Prout's brown, mixed on the frons with warm buff. Thorax Prout's brown mixed dorsally with orange. Abdomen fuscose, the base of each segment broadly edged with orange. Legs and pectus light buff to warm buff, the tibiae of mid- and hindlegs irrorated with Prout's brown. Venter warm buff to orange. Forewing warm sepia; a patch of orange in the angle between the cell and the anal vein, reaching to the origin of vein Cu2, mixed at the edges with warm sepia, its distal margin oblique outwardly; a large oval patch of orange placed medially, running from the origin of vein M1 towards the tornus; a smaller patch of orange midway between the discocellulars and the apex, roughly crescent-shaped with concavity basad, reaching from vein R5 to vein M3; a spot of orange subterminally on vein Cu1, and a subterminal streak from vein Cu2 to the termen; fringe warm sepia, with a few orange scales near the apex. Hindwing warm sepia; a central orange patch occupying almost half the area of the wing, reaching from vein M1 to the inner margin, and entering the cell only at its lower angle; a subterminal streak of orange mixed with ground colour, running from vein Cu2 to the inner margin; fringe orange, warm sepia at base. Underside of forewing with orange area much increased, the two proximal patches joined and occupying, in addition, the whole of the inner marginal area; a streak of orange between the cell and the costa; fringe as on upperside. Underside of hindwing, and fringe, as on upperside, but with the central orange patch somewhat increased in size.

Expanse: 45 mm.
1 ♂ (holotype), Bangkei, Eastern Celebes.

Related to Euproctis josiault Wrkr. (1865).

In the British Museum collection is a single ♂ from the region between Maros and Tjamba, near Macassar, Celebes, 1896 (W. Doherty), which is slightly larger (48 mm.) and has the medial patch of orange on the forewing extended in size and reaching almost from the costa to the inner margin.

14. Euproctis gilvivirgata sp. nov. (Plate 1, fig. 32).

♀. Palpus and head ochraceous orange to ochraceous buff. Antenna light ochraceous buff, the shaft slightly paler. Thorax clove brown, with a few long upstanding hair-scales of light ochraceous buff; patagium ochraceous orange. Abdomen orange buff, the anal extremity hair brown dorsally, cartridge buff laterally. Pectus, venter, and legs orange buff to light ochraceous buff. Forewing bone brown, the veins and inner margin heavily outlined throughout with cartridge buff, and an additional streak of the same colour above and running parallel with the anal vein; costa tinged with ochraceous buff; a few long light ochraceous buff hair-scales near the base of the inner margin; fringe light ochraceous buff. Hindwing ochraceous buff; fringe light ochraceous buff. Wings beneath ochraceous tawny, the veins of forewing outlined with ochraceous buff and the distal half of wing shaded interneurally with russet; fringes ochraceous buff.

Expanse: 63 mm.
1 ♀ (holotype), Mt. Goliath, long. 139°, Central Dutch New Guinea, 5,000–7,000 ft., January 1911 (A. S. Meek).
15. *Euproctis ochrocraspeda* sp. nov. (Plate I, fig. 4).

♀. Palpus light buff mixed with fuscous. Antennal shaft pinkish buff, pectinations fuscous. Head pinkish buff mixed with fuscous; frons with a central patch of light buff bordered with fuscous. Thorax bistre; patagium pinkish buff; tegula with some long cream colour hair-seales. Abdomen bistre; anal tuft tawny olive mixed with bistre, lighter at its base. Legs light buff to pinkish buff; some fuscous scaling on tibia of foreleg; femur and tibia of hindleg mainly bistre. Pectus and venter bistre. Forewing cream colour; basal portion of wing bistre, the distal boundary of this area strongly bowed (convexity terminad) from costa at one-fourth, through the point of origin of vein *Cu2*, to the inner margin at one-half; over this area and along the whole of the inner margin some long upstanding cream colour hair-seales; a well-defined bistre postmedial fascia, bowed (concavity apicad) from costa at two-thirds to vein *M3*, thence inwardly oblique to below vein *Cu2*, thence to inner margin at right angles; on the distal side of the postmedial a band of bistre irration, not reaching the termen, narrowest at vein *Cu2*, densest between vein *Cu2* and the inner margin; fringe cream colour mixed with a few bistre scales. Hindwing bistre; veins from the termen, for a distance of about 3 mm., cream colour; fringe cream colour mixed sparsely with bistre. *Underside* of forewing cream colour; basal area bistre as on upperside; there is no postmedial fascia, but beyond the postmedial area, from costa to vein *Cu1*, and not reaching the termen, is an irregular patch of dense bistre irration; fringe as on *upperside*. *Underside* of hindwing bistre; a band of cream colour, irroration sparsely with bistre and about 3 mm. broad, bordering the termen; fringe as on *upperside*.

**Expanse**: ♀♀ 54–56 mm.

1 ♀ (holotype) and 4 ♀♀ (paratypes), Biagi, Mambare River, British New Guinea, 5,000 ft., January–April 1906 (A. S. Meek).

Resembles *Euproctis seminigra* Joic. and Talh. (1916), but considerably smaller. Among other differences the ♀ of *E. seminigra* does not possess the broad light-coloured band bordering the termen on the underside of the hindwing.

16. *Euproctis ochrocera* sp. nov. (Plate I, fig. 1).

♂. Palpus bistre, on the upperside darker. Antennal shaft snuff brown mixed with fuscous, pectinations ochraceous tawny. Head and thorax snuff brown, the vertex in front ochraceous tawny. Abdomen amber brown, anal tuft cartridge buff. Pectus and legs ochraceous tawny, tibiae fuscous with ochraceous tawny, tarsi fuscous. Venter amber brown. Forewing pale pinkish buff, irrorated so thickly with argus brown that the ground colour is scarcely visible; a patch of pale pinkish buff on the discocellulars; fringe argus brown, mixed with fuscous between the veins. Hindwing Mars yellow; fringe Mars yellow mixed with snuff brown. *Underside* of forewing Mars yellow, irrorated with snuff brown along the costa, broadly over the apical area, and narrowing in the terminal area down to the tornus; fringe snuff brown mixed with fuscous. *Underside* of hindwing Mars yellow, irrorated, except in the inner marginal area, with snuff brown; fringe snuff brown.

♀. Resembles the ♂, but somewhat lighter. Anal tuft drab, ringed narrowly at the base above, and more broadly beneath, with whitish. The irration on the forewing is amber brown, and there is no patch of pale pinkish buff on the
diseocellulat!. On the upperside of hindwing there is faint iroration along the termen and on the veins.

Expanse: $\delta$ 58 mm., $\varphi$ 69 mm.

1 $\delta$ (holotype) and 1 $\varphi$ (allotype). Ninay Valley, Central Arfak Mountains, Dutch New Guinea, 3,500 ft. November 1908–January 1909.

Somewhat resembles *Euproctis aroa* B.-Bak. (1904), but is larger, and the upperside of the forewing uniform in coloration.

17. *Euproctis diseleena* sp. nov. (Plate 1, fig. 15).

$\delta$. Palpus light ochraceous buff. Antennal shaft cream colour, the pectinations light ochraceous buff. Head Naples yellow. Thorax anteriorly Naples yellow, posteriorly (including the distal half of the tegula) tawny. Abdomen tawny, anal tuft cream colour. Legs whitish; tibia and tarsus of foreleg Naples yellow, and an admixture of Naples yellow on tibia and tegula of middleleg. Pectus and venter whitish. Forewing russet; costal area and distal third of wing Naples yellow, slightly darker on the veins; the Naples yellow area along the costa reaches the cell excepting just before the diseocellulat!, where the russet area almost reaches the costa; a tongue of russet projects towards the apex, reaching a point midway between the origins of veins $R_2$ and $R_3$; a further tongue of russet projects between veins $M_3$ and $Cu_1$ almost to the termen; a rather large white spot, almost circular, inside the lower angle of the cell; a small white spot just inside the russet area between the bases of veins $Cu_1$ and $Cu_2$, and a similar spot between the bases of veins $M_2$ and $M_3$; fringe Naples yellow. Hindwing whitish, lightly suffused over the centre of the wing and in the inner marginal area with Naples yellow; fringe whitish. Underside of forewing cream colour; a few scattered russet scales in and beyond the cell; costa and fringe Naples yellow. Underside of hindwing and fringe whitish.

Expanse: 27–29 mm.

1 $\delta$ (holotype) and 1 $\varphi$ (paratype). Biagi, Mambare River, British New Guinea, 5,000 ft. February–March 1906 (A. S. Meek).

There is a single $\delta$ in the Tring Museum from Ninay Valley, Central Arfak Mountains, Dutch New Guinea, in which the russet area on the forewing is slightly reduced, the white spot between veins $Cu_1$ and $Cu_2$ being at the junction of the russet and Naples yellow areas.

18. *Euproctis asaphobalia* sp. nov. (Plate 1, fig. 3).

$\varphi$. Palpus ochraceous tawny, lighter beneath. Antennal shaft tawny olive, pectinations buckthorn brown. Head and thorax light buff to warm buff, the thorax amber brown posteriorly. Abdomen amber brown, anal tuft buffy brown with a narrow whitish line at its base. Legs and pectus light buff to warm buff. Venter amber brown, anal tuft beneath whitish to pale pinkish buff. Forewing antique brown, the area between the cell, vein $R_2$, and the costa somewhat lighter; a curved whitish patch on the diseocellulat!, produced along the lower margin of the cell to a point equidistant between the origin of vein $Cu_2$ and the base of the wing, and extending for a short distance along each vein between $M_1$ and $Cu_2$; an oblong whitish patch commencing at one-fourth of the anal vein, and running along the upperside of the vein to one-half; veins in the distal third of the wing outlined with whitish, vein $Cu_2$ more heavily than the remainder; fringe buck-
torn brown. Hindwing orange buff, shaded in and below the cell, and inter-
neurally along the termen, with buckthorn brown; fringe orange buff mixed
with buckthorn brown. Underside of both wings, and fringes, buckthorn brown,
the veins of both wings faintly outlined with pale orange yellow.

Expansé: 59–62 mm.
1 ♂ (holotype) and 4 ♀♀ (paratypes), Biagi, Mambare River, British New
Guinea, 5,000 ft., January–March 1906 (A. S. Meek). In the British Museum,
ex Oberthür collection, 1 ♂ (paratype) with the same data.

Somewhat resembles Euproctis tetrabalia Collnt. (1930), from which it may be
readily distinguished by the position of the oblong whitish patch below the cell,
obliquely across the anal vein in E. tetrabalia, and running along the vein in the
present species.

19. Euproctis aeruginosa sp. nov. (Plate I, fig. 5).

♂. Palpus antimony yellow, on the inner and outer side fuscous. Antennal
shaft antimony yellow, the pectinations darker. Head light orange yellow.
Thorax xanthine orange, the patagium light orange yellow. Abdomen xanthine
orange mixed with light orange yellow, anal tuft antimony yellow. Legs, pectus,
and venter light orange yellow mixed with pinkish buff. Forewing with proximal
four-fifths army brown, the distal boundary of this area almost straight, crossing
vein M3 at one-half, and with a slight projection towards the termen just below
vein M3; distal one-fifth of wing pale orange yellow, interneurally deep chrome;
a patch of pale orange yellow at the base of the inner margin; a patch of pale
orange yellow on the discocellulars, almost rectangular in shape, beyond which,
between veins M1 and M2, the ground colour is for a short distance mixed with
xanthine orange; costa narrowly edged with antimony yellow; fringe pale
orange yellow. Hindwing pale orange yellow mixed with light orange yellow,
shaded in the inner marginal area with deep chrome; fringe pale orange yellow.
Underside of both wings, and fringes, pale orange yellow mixed with light orange
yellow.

Expansé: ♀♀ 34–38 mm.
1 ♂ (holotype) and 6 ♀♂ (paratypes), near Oetakwa River, Snow Mountains,
Dutch New Guinea, up to 3,500 ft., October–December 1910 (A. S. Meek); also,
in the British Museum, ex Joicey collection, 2 ♀♂ (paratypes) with the same
data. 3 ♀♂, Upper Setekwa River, Snow Mountains, 2,000–3,000 ft., August 1910
(A. S. Meek).

20. Euproctis gita sp. nov. (Plate I, fig. 18).

♀. Palpus, head, and thorax tilteule buff mixed with pinkish buff. Antennal
shaft tilteule buff, pectinations pinkish buff. Abdomen sepia, basal segments
tilteule buff mixed with pinkish buff. Legs and pectus tilteule buff mixed with
pinkish buff. Venter sepia. Forewing and fringe tilteule buff faintly suffused
with light drab; a postmedial fasia of light drab running roughly parallel with
the termen. Hindwing tilteule buff, distal half of wing lighter; fringe whitish.
Underside of both wings, and fringes, tilteule buff to whitish.

Expansé: ♀♀ 45–46 mm.
1 ♂ (holotype) and 1 ♀ (paratype), Angabunga River, affluent of St. Joseph
River, British New Guinea, 6,000 ft. upwards, November 1904–February 1905
(A. S. Meek). 1 ♀, Biagi, Mambare River, 5,000 ft., April 1906 (A. S. Meek).
21. *Euproctis talesea* sp. nov. (Plate I, fig. 2).

♂. Palpus fusaceous black, with a small cartridge buff spot proximally on the lower side of the second segment. Antennal shaft fusaceous black, pectinations ochraceous tawny. Head and thorax fusaceous black, with a few long and upstanding light buff hair-scales arising from behind the base of the antenna and from the tegula. Abdomen fusaceous black, anal tuft cartridge buff. Legs fringed with rather long hair, fusaceous. Pectus and venter fusaceous black, the pectus with a patch of light buff in front. Forewing fusaceous, the veins outlined with tilleul buff; some long and upstanding light buff hair-scales along the inner margin; fringe fusaceous, lighter at the vein-ends. Hindwing with basal half fusaceous, distal half and fringe deep chrome. Underside of forewing fusaceous; a small spot of light orange yellow on the discocellulars; fringe fusaceous. Underside of hindwing with basal half fusaceous, distal half and fringe light orange yellow.

Expanse: ♀♀ 53 mm.


May be placed near to *Euproctis subhalea* B.-Bak. (1904).

22. *Euproctis xanthocloea* sp. nov. (Plate I, fig. 19).

♂. Palpus xanthine orange. Antenna warm buff, the shaft somewhat lighter. Head massicot yellow, below and behind the eye xanthine orange. Thorax massicot yellow to baryta yellow, patagium xanthine orange. Abdomen ivory yellow, posterior segments xanthine orange, anal tuft ivory yellow. Legs, pectus, and venter ivory yellow to cream buff, the pectus in front, and the inner side of foreleg, shaded with xanthine orange. Forewing baryta yellow, costa at base narrowly edged with xanthine orange; fringe baryta yellow. Hindwing ivory yellow, mixed on the inner marginal area with baryta yellow; fringe ivory yellow. Underside of both wings, and fringes, ivory yellow; basal half of costa of forewing xanthine orange.

♀. Reminisces the ♂, but there is no xanthine orange on the patagium, and this colour on the palpus, head, foreleg, and costa of forewing is much reduced.

Expanse: ♂♂ 28–32 mm., ♀♀ 42 mm.

1 ♂ (holotype), 1 ♀ (allotype), and 8 ♂♂ ♀♀ (paratypes), Biagi, Mambare River, British New Guinea, 5,000 ft., March and April 1906 (A. S. Meek).

The conspicuous xanthine orange patagium of the ♂ of this species is a distinguishing feature.

23. *Euproctis hypocloa* sp. nov. (Plate I, fig. 35).

♂. Palpus and head orange buff, thorax somewhat lighter. Antennal shaft orange buff, pectinations ochraceous tawny. Abdomen pale orange yellow. Legs, pectus, and venter pale orange yellow, mixed on the pectus, and on the femur and tibia of foreleg, with orange buff. Forewing mustard yellow, darker at the base of the costa; an antemedial fascia of Sandford's brown, broken at the veins, running oblique inwardly in the upper half of the cell, then oblique outwardly almost to the lower angle of the cell, and from below the origin of
vein Cu2 oblique inwardly to the anal vein; a postmedial fesia, broken at the veins, running parallel with the termen from vein R4 to vein M2, thence bowed outwardly (concavity basad) to vein Cu2, and bowed inwardly (concavity terminal) to the anal vein: fringe mustard yellow. Hindwing and fringe pale orange yellow. Underside of fore- and hindwing, and fringes, pale orange yellow, shading in the costal and apical area of the forewing to orange buff.

Expanse: 48 mm.

1 ♂ (holotype), Upper Aroa River, British New Guinea, April 1903 (A. S. Meek).

24. Euproctis celidota sp. nov. (Plate I, fig. 27).

♂. Palpus warm buff. Antennal shaft warm buff, the pectinations somewhat darker. Head pale orange yellow. Thorax benzo brown, patagium and base of tegula ochraceous buff. Abdomen benzo brown, anal tuft ochraceous buff. Legs, pectus, and venter pale orange yellow to warm buff. Forewing benzo brown; a broad margin of light orange yellow in the terminal area, still broader at the apex and extending narrowly along the costa; a large and almost round fuscous subterminal spot reaching from vein R5 to midway between veins M1 and M2; fringe light orange yellow. Hindwing benzo brown; distal one-fourth of wing, and fringe, light orange yellow. Wings beneath as on the underside, but the subterminal spot is not present, the light orange yellow is replaced on both wings by pale yellow orange, and the benzo brown area is slightly decreased.

♀. Resembles the ♂, but the margin of light orange yellow on fore- and hindwing is less broad.

Expanse: ♂♂ 33–35 mm., ♀♀ 46 mm.

1 ♂ (holotype), Mt. Gedeh, Java, August 1926; 1 ♀ (allotype), West Java; in the British Museum, ex Joicey collection. 2 ♂♂ ♀♀ (paratypes), Mt. Gedeh, 4,000 ft., 25.x.1924 and 2.xi.1924 (G. Overdijkink).

This species is considerably larger than Euproctis lintu Moore (1859) and Euproctis nubilosa Eecke (1928), and the subterminal spot on the forewing is nearer to the tornus.

25. Dasychiroides nesites sp. nov. (Plate I, fig. 28).

♂. Palpus whitish, on the outer side olive brown. Antennal shaft whitish, pectinations ochraceous tawny. Head whitish, the area surrounding the eye olive brown. Head and thorax whitish mixed sparsely with buffy brown. Abdomen whitish. Legs, pectus, and venter whitish, mixed on the underside of tibia and tarsus of foreleg with olive brown. Forewing whitish, irrated over the whole wing with buffy brown to olive brown, giving a “grey” effect; traces of irregular antemedial, postmedial, and subterminal fasciae; an olive brown streak on the discocellulars, absent in some of the paratypes; a series of terminal interneural olive brown spots, continued round the apex and along the costa; fringe whitish. Hindwing and fringe whitish, faintly shaded on the inner marginal area with buffy brown. Underside of fore- and hindwings, and fringes, whitish; the interneural spots are faintly reproduced along the margin of the forewing at the apex, and the inner marginal area of the hindwing is shaded as on the underside.

Expanse: ♂♂ 45–51 mm.
1 ♂ (holotype) and 9 ♀♀ (paratypes), Talesea, New Britain, January–April 1925 (A. F. Eichhorn); also, in the British Museum, ex Joicey collection, 2 ♀♀ with the same data.

Nearest to Dasychiroides pratii B.-Bak. (1904). As in some other species of the genus, there is considerable variation in the intensity of markings on the forewing, and the area between antemedial and postmedial may be entirely filled in with a conspicuous band of buffy brown to olive brown. D. nesites is easily separated from other species by the light hindwing.

26. Dasychiroides nesites nesiotica subsp. nov.

♂. Not separable from D. nesites nesites Cöllnt. on external characters, but very distinct in the genitalia.

Male genitalia. The valve bears a curious club-like process directed dorsad, and this process terminates in a tuft of bristles. In D. nesites nesites this brush consists of short bristles, whilst in D. n. nesiotica the bristles are twice the length of those in the New Britain subspecies.

Expanse: ♂♂ 45–49 mm.
1 ♂ (holotype) and 10 ♂♂ (paratypes), New Ireland, November 1923–January 1924 (A. F. Eichhorn); also, in the British Museum, ex Joicey collection, 1 ♂ with the same data.

27. Aroa celaenostola sp. nov. (Plate I, fig. 10).

♂. Palpus cream buff. Antennal shaft dark olive buff, pectinations olive brown. Head ochraceous buff. Thorax and abdomen bistre, mixed on the thorax with ochraceous buff. Legs, pectus, and venter cream buff mixed with chamois. Forewing bistre, irroration, especially in the apical area, with ochraceous buff; a large fuscous spot on the discocellulars; a broad oblique fascia of buff yellow across the medial area, from the costa at one-half to the tornus, obsolescent above the cell, narrowed where it crosses vein Cu2, and continued on to the fringe; remainder of fringe bistre. Hindwing with termen slightly produced to an angle opposite vein Cu1; the wing bistre, with a patch of buff yellow in the terminal area from vein M2 to the anal angle, including the fringe; remainder of fringe bistre. Underside of forewing bistre; the apex irroration with buff yellow; a bistre spot on the discocellulars; the buff yellow fascia of the upperside increased in width and extending over the whole of the cell to the base of the wing; fringe bistre, buff yellow at the tornus. Underside of hindwing buff yellow; a small bistre spot on the discocellulars; a large patch of bistre in the apical area, extending almost to the upper angle of the cell and reaching the origin of veins M3 and Cu1; fringe bistre in the apical area, the remainder buff yellow.

Expanse: ♂♂ 25–29 mm.
1 ♂ (holotype), Kina Balu, N. Borneo; also, in the British Museum, ex Oberthür collection, 4 ♂♂ (paratypes), Kina Balu, 5.viii.1903 (John Waterstradt), and 1 ♂ (paratype), Kina Balu, January 1894.

Resembles Aroa flaveofusca Swinh. (1902), but appears to be a distinct species. The buff-yellow areas in A. celaenostola are replaced by ochraceous orange in A. flaveofusca. The lighter patches on the wings of both species vary considerably in area in different specimens.
28. **Aroa leucogramma meridionalis** subsp. nov. (Plate I, fig. 14).

rarian. Palpus pinkish buff. Antennal shaft pinkish buff, pectinations snuff brown. Head, legs, thorax, and pectus pinkish buff. Abdomen pinkish buff mixed with drab. Forewing and fringe pinkish buff slightly shaded with drab; a curved whitish streak on the discocellulars, varying considerably in width in the paratypes; in the angles at the bases of veins M2, M3, Cu1, and Cu2 are patches slightly darker than the ground colour, not visible in some of the paratypes. Hindwing and fringe pinkish buff mixed with drab, lighter in the inner marginal area and proximal half of the costal area; a curved whitish streak on the discocellulars, varying considerably in width in the paratypes. Underside of both wings, and fringes, pale pinkish buff to pinkish buff, slightly shaded with drab; the pale streaks on the discocellulars of both wings faintly visible.

Expanses: \(\delta \delta 28\text{-}31\) mm.

1 \(\delta\) (holotype) and 163 \(\delta \delta\) (paratypes), Manila, Luzon, in each of the months November to March, and May, 1911 to 1914 (A. E. Wileman); also, in the British Museum collection, 2 \(\delta \delta\) (paratypes), with similar data.

The two original specimens of *Aroa* (Caenina) *leucogramma* Fldr. are in the Tring Museum, and are of Semper's collecting in Luzon. The colour of fore- and hindwings is a very dark brown (Prout's brown to mummy brown) comparable to *Aroa luise Pag., 1885 (= niassana Swinh., 1907). The subspecies described above, from a very large series taken at Manila, varies in colour of forewing from a light to a medium shade of brown, and does not in any case approach to *A. leucogramma* Fldr. No \(\Psi\) of this or allied species appear to be known, and they are possibly wingless. I have followed Semper's arrangement in placing this species in *Aroa*, but a revision of the genus is clearly necessary.

29. **Opoboa chrysoparala** spec. nov. (Plate I, fig. 38).

\(\delta\). Palpus whitish, on the outer side snuff brown. Antennal shaft whitish, pectinations carmine buff. Head, thorax, and abdomen white, the latter with dorsal tufts on the basal segments. Legs, pectus, and venter whitish. Wings translucent, iridescent in certain lights, thinly scaled. Forewing whitish; a subbasal interneural fuscous black spot below the cell, and a similar spot subterminally between veins R5 and M1; a pinkish buff medial shade, broad and indistinct (not visible in the paratypes), running from the upper angle of the cell to the inner margin at one-half; a series of indistinct pinkish buff terminal markings on the veins (not visible in the paratypes); fringe white. Hindwing whitish; a well-defined fuscous to fuscous black fascia, running down the centre of the wing from a point just above the cell, angled inwardly at the lower margin of the cell, thence to the inner margin at one-half; a subterminal fuscous black spot between veins M1 and M2; fringe white. Wings beneath whitish, iridescent in certain lights; fringes white.

Expanses: \(\delta \delta 28\text{-}34\) mm.

1 \(\delta\) (holotype), Takwa, Gold Coast (R. E. James); 2 \(\delta \delta\) (paratypes), Warri, S. Nigeria, January 1896 and September 1897 (Dr. Roth); 1 \(\delta\) (paratype), Massadou, near Macenta, French Guinea, at light, 1,600 ft., 16.v.1926 (C. L. Collenette), British Museum, ex Joicey collection.

Nearest to *Opoboa schützei* Tessm., but quite distinct therefrom. In *O. schützei* the wings are hyaline.
The genus *Opoba* has been grouped formerly with the *Pterothysanidae*, but is here included with the *Lymantriidae*.

30. *Laelia phaeobalia* sp. nov. (Plate 1, fig. 16).

♂. Palpus pinkish buff, with a patch of Prout's brown on the outside of the second segment. Antennal shaft cartridge buff, pectinations fuscous brown with the bases fuscous. Head pinkish buff. Thorax pinkish buff, pale pinkish buff posteriorly. Abdomen pinkish buff, the base of each segment darker. Legs, pectus, and venter pinkish buff. Forewing pale pinkish buff mixed with snuff brown, the snuff brown predominating along the costa, in and beyond the cell; a postmedial series of seven equisized interneural Kaiser brown spots, roughly parallel with the termen to below vein *M*3, then oblique inwardly to below vein *Cu*2; fringe drab. Hindwing pale pinkish buff lightly shaded with snuff brown; fringe slightly darker than the wing. Underside of both wings pale pinkish buff mixed with snuff brown, the snuff brown predominating in the costal half of the forewing and along the costa of the hindwing; fringes drab.

Expanse: ♂♂ 27–29 mm.

1 ♂ (holotype), Kalewara, Central Celebes, January 1913; 2 ♂♂ (paratypes), Palae, Central Celebes, 5.vi.1912 and 30.x.1912; all collected by Dr. Martin.

31. *Laelia amaurotera* sp. nov. (Plate 1, fig. 12).

♂. Palpus proper, projecting well beyond the head, snuff brown. Antennal shaft snuff brown, pectinations fuscous black at base, remainder sayal brown. Head, thorax, and legs snuff brown, abdomen somewhat lighter. Forewing snuff brown, with an uneven appearance due to darker scales scattered over the surface; a postmedial series of seven interneural fuscous spots, roughly parallel with the termen to below vein *M*3, then oblique inwardly to below vein *Cu*2, the last spot being larger than the others; fringe snuff brown. Hindwing snuff brown to drab, the fringe somewhat darker. Underside of both wings, and fringes, sayal brown.

♀. Resembles the ♂, with forewing darker and interneural spots less distinct.

Expanse: ♂♂ 33–40 mm., ♀♀ 35–42 mm.

1 ♂ (holotype) and 1 ♀ (allotype), Banguio, subprov. Benguet, Luzon, 5,000 ft., March and April 1912 (A. E. Wileman); also, in the British Museum collection, with the same data, 7 ♂♂ and 4 ♀♀ (paratypes), and 3 ♀♀. June 1913 (paratypes). In the Tring Museum, 1 ♂ and 1 ♀, N. Luzon, 5,000–6,000 ft. (Whitehead).

32. *Laelia lophietes* sp. nov. (Plate I, fig. 17).

♂. Palpus light ochraceous buff, the outer side of second segment darker. Antennal shaft cartridge buff, pectinations fuscous at base, remainder light ochraceous buff. Thorax and abdomen pinkish buff, patagium light ochraceous buff. Pectus and legs light ochraceous buff, mixed on tibiae and tarsi with drab. Venter pinkish buff. Forewing sayal brown, veins pinkish buff; in the cell and beyond it the colour is somewhat lighter, with a darker shade below the cell; a postmedial series of small fuscous spots, the one between veins *M*3 and *Cu*1 being more distinct than the others; fringe drab mixed with sayal brown. Hindwing cartridge buff, fringe pinkish buff. Underside of forewing cartridge buff, shaded
with light ochraceous buff in the costal and terminal areas, the costa edged with snuff brown; fringe as on underside. Hindwing cartridge buff, costal area shaded with light ochraceous buff; fringe as on underside.

♀. Resembles the ♂, but considerably lighter in colour, and without the postmedial series of spots.

Expanse: ♂♂ 41–45 mm., ♀♀ 43–48 mm.

1 ♂ (holotype), 1 ♀ (allotype), and 2 ♂♂ (paratypes), Hights Place, Pauai, subprov. Benguet, Luzon, 7,000 ft., November–December 1912 and July 1913; 3 ♀♀ (paratypes), Bangnio, subprov. Benguet, Luzon, 5,000 ft., June 1913; also, in the British Museum collection, 1 ♀ (paratype) from Bangnio, dated June 1913, and 3 ♂♂, 2 ♀♀ (paratypes), dated March 1912. All the foregoing were taken by A. E. Wileman. 1 ♀ (paratype), N. Luzon, 5,000–6,000 ft. (Whitehead).

May be placed near to Laelia striata Wileman (1910).

33. Dasychira phenax sp. nov. (Plate 1, fig. 26).

♂. Palpus buffy brown mixed with fuscous black. Antennal shaft buffy brown irrorated heavily with bistre, and lighter towards the tip; pectinations buffy brown. Head and thorax buffy brown, a double streak of fuscous black longitudinally between the antennae, a single longitudinal streak of fuscous black down the centre of the patagium, and some fuscous black hairs and hair-scales in the tegula. Abdomen cartridge buff mixed dorsally with tawny olive, and with fuscous black dorsal crests on the basal segments. Fore- and middlelegs with long bushy hair-scales, buffy brown, mixed on the tarsi with fuscous black; hindleg cartridge buff, the tarsus ringed with fuscous. Pectus and venter cartridge buff. Forewing with ground colour buffy brown; a fuscous black subbasal fascia, running at right angles to the inner margin from costa to anal vein, thence outwardly oblique to inner margin; a whitish patch at the base of the inner margin; a spot of argus brown just below the cell between subbasal and antemedial fasciae; an antemedial fascia composed of two sinuate lines of argus brown, basad of which is a more irregular line of deep mouse grey; a broad whitish streak running from the costa in the postmedial area (where the veins crossing it are defined with ground colour) through the reniform to the antemedial fascia at its junction with the lower margin of the cell; reniform with proximal margin a crescent of argus brown, distal margin a smaller crescent of deep mouse grey; a well-defined fuscous black postmedial fascia, outwardly oblique to stalk of veins R3 and R4, thence parallel with the termen to vein Cu1, bowed (concavity terminad) to Cu2, thereafter following an E-shaped course, with points directed basad, to the inner margin; following the line of the postmedial fascia, and forming a background thereto, a broad shade of deep mouse grey mixed with ground colour, terminating at the median fold; a series of subterminal neural streaks of deep mouse grey, which are continued narrowly to the termen; a crenate argus brown preterminal fascia, points on the veins and concavities terminad; fringe of ground colour, darker interneurally, and a dark line at its base on the termen. Hindwing whitish; a faint postmedial fascia indicated by a few hair-scales of buffy brown, mainly on the veins; some scattered hair-scales of buffy brown along the termen, more numerous at the apex; fringe cartridge buff. Underwing of forewing whitish; a well-defined fuscous postmedial fascia, parallel with the termen, terminating at vein Cu2; the area from
the upper margin of the cell to the costa, and from the postmedial fascia to the
termens, shaded with buffy brown mixed with fuscous; fringe buffy brown,
darker interneurally and mixed with cartridge buff towards the tornus. Under-
side of hindwing whitish; a well-defined fuscous postmedial fascia, parallel with
the termens, ceasing at vein $M_2$; fringe cartridge buff.

♀. Resembles the ♂, but in the forewing the whitish streak running
through the reniform is much reduced, and the postmedial shade argus brown
instead of deep mouse grey. Hindwing and fringe suffused with buffy brown.

Expanse: ♂ 26–31 mm; ♀ 30–33 mm.

1 ♂ (holotype) December 1901, 1 ♀ (allotype), 1 ♂ and 1 ♀ (paratypes) April
1902, all Durban, Natal (G. F. Leigh); 3 ♂♂ (paratypes), Natal (A. J. Spiller);
also, in the British Museum collection, 7 ♂♂ and 6 ♀♀ (paratypes), bred February
and March 1913, and 2 ♂♂ (paratypes), bred December 1908 and 1909, all
Durban, Natal (G. F. Leigh); 1 ♂ and 1 ♀, Howick, Natal.

This species appears to have been confused previously with Dasychira lunensis Hmpsn. (1905), and the labels of some of the above paratypes bear this
name in the handwriting of G. F. Leigh. The two species are easily distinguished.
In the ♂ of D. lunensis, which appears to be represented in collections only by
the type, there is no whitish streak running through the reniform in the forewing,
and the hindwing is dark.

34. Dasychira anydra sp. nov. (Plate I, fig. 36).

♂. Palpus pale pinkish buff, a patch of mummy brown on the outer side,
the third segment cinnamon brown. Antennal shaft pale pinkish buff, pectina-
tions cinnamon buff. Head, thorax, and abdomen pale pinkish buff to pinkish
buff; two small patches of cinnamon brown at the base of the patagium behind
the antennae. Legs, pectus, and venter pale pinkish buff to pinkish buff; some
cinnamon brown shading on the tarsus of foreleg, and a patch of the same
colour on the front of the tibia. Forewing whitish; some indistinct mummy
brown spots in the basal area; a mummy brown antemedial fascia, oblique out-
wardly from costa to cell, oblique inwardly across the cell to a point midway
between lower margin of cell and the anal vein, thence oblique outwardly to the
inner margin; the following markings in avellaneous: a series of spots along the
costa and a spot in the centre of the cell; a streak on each side of the discocellulars,
broken at the veins; a broad and diffused postmedial fascia, broken at the veins,
narrowing towards the inner margin; a subterminal fascia formed of a number
of short streaks, parallel with the veins, to the number of two between each
vein; a series of terminal interneural spots; fringe whitish. Hindwing whitish;
the termens produced to an angle opposite veins $M_3$ to $Cu_2$; series of very faint
terminal and subterminal interneural avellaneous spots; fringe whitish. Under-
side of both wings, and fringes, whitish, and an avellaneous spot on the
discocellulars; forewing with a postmedial fascia running from the costa to
vein $M_2$; an indistinct subterminal fascia not reaching the inner margin;
interneural terminal spots between the apex and vein $M_1$; hindwing with traces
of a postmedial fascia, and a terminal spot between veins $R_s$ and $M_1$.

♀. Resembles the ♂, but with tarsi of all legs, and front of tibia of foreleg,
mummy brown. Markings on the upperside of forewing much reduced; the
antemedial fascia represented only by a large mummy brown spot on the inner
margin; the other fasciae apparently composed as in the ♂, but obsolete.

*Upperside* of hindwing without markings.

Expanse: ♂ 49 mm.; ♀ 73 mm.

1 ♂ (holotype) and 1 ♀ (allotype), Palawan, Philippines, August–September 1894.

In the British Museum, ex Joicey collection, are 4 ♀♀ from Mindanao, Philippines, entirely without markings on the wings, but of a form probably not separable from the above species.

This species strongly resembles *Dasychira lineata* Wlkr. (1855), but differs in several particulars. It may be distinguished in the ♂ by the shape of the sub-terminal fascia on the forewing, which is crenate in *D. lineata* and composed of parallel streaks in *D. amydra*.

It may be pointed out that *Dasychira lineata* Wlkr. and *Imaus mundo* Wlkr. (1855) are clearly congeneric. Any alteration, however, would involve so many other species that I have for the time being followed the arrangement in Seitz.

35. *Dasychira argyrooides* sp. nov. (Plate I, fig. 11).

♂. Palpus cartridge buff, on the outer side fuscous. Antennal shaft whitish, pectinations ochraceous tawny. Head and thorax whitish mixed with buffy brown. Abdomen buffy brown mixed with whitish, anal tuft whitish. Pectus, venter, and legs whitish, the tibiae and tarsi spotted and ringed with fuscous. Forewing whitish mixed in varying proportions with wood brown, more heavily in the distal third of the wing; some irregular dark spots along the costa; traces of a subbasal and an antemedial fascia; a dark spot on the centre of the discocellulars; a crenate postmedial fascia, points on the veins, concavities terminad, bowed with concavity basad from costa to vein Cu1, thence bowed with concavity terminad to inner margin; an irregular subterminal fascia formed of interneural crescent-shaped spots; fringe whitish mixed sparsely with wood brown. Hindwing drab; fringe whitish mixed interneurally with drab. *Underside* of fore- and hindwings cartridge buff, mixed in an irregular manner with drab; a faintly visible dark spot on the discocellulars of both wings; fringes whitish, mixed interneurally on the hindwing with drab.

Expanse: ♂♂ 46 mm.

1 ♂ (holotype), Kolambogan, Lanao, Mindanao, plains, 19. vi. 1914 (A. E. Wileman); also, in the British Museum, ex Joicey collection, 1 ♂ (paratype), Kolambogan, August–September 1922.

In appearance this species resembles a *Dasychiroidea*, but in structure is a *Dasychira*.

36. *Barlowia nephodes* sp. nov. (Plate I, fig. 33).

♂. Palpus ochraceous buff, the third segment fuscous black. Antennal shaft fuscous black, pectinations buffy brown. Head ochraceous orange, the frons somewhat lighter. Thorax and abdomen ochraceous orange; a series of fuscous black spots dorsally on the abdomen and a further series laterally; anal tuft fuscous black. Legs fuscous black, with ochraceous buff hair-scales on femora and tibiae. Pectus and venter ochraceous buff to ochraceous orange. Forewing drab mixed with hair brown, the veins and fringe darker; a large flesh ochre spot filling the distal third of the cell, but not quite reaching the discocellulars; some flesh ochre mixed with the ground colour between cell and costa, and
at the base of the inner margin. Hindwing flesh ochre; termen narrowly edged with fuscous; fringe fuscous. Underside of both wings as on upperside, but in the forewing flesh ochre is mixed with the ground colour over the whole of the basal half of the wing excepting the costa.

Expanse: 39 mm.
1 ♂ (holotype), Bihè, Angola (Edward Sanders).

37. Lymantria hemipyra sp. nov. (Plate I, fig. 23).

♀. Palpus capucine orange. Antenna fuscous black. Head Prout's brown. Thorax Prout's brown mixed sparsely with pearl grey; a collar of light coral red at the junction of head and thorax. Abdomen apricot orange. Legs capucine orange mixed with fuscous, the tarsi ringed with fuscous, the front of the femora light coral red; two pairs of spurs on the hindtibia. Pectus and venter capucine orange to apricot orange. Forewing Prout's brown; a broad indistinct antemedial fascia, shaped somewhat as in Lymantria mete Fawcett, indicated by scales of pearl grey mixed with the ground colour; distal third of wing with scattered pearl grey scales mixed with the ground colour; fringe Prout's brown, ochraceous buff at the vein-ends. Hindwing flesh colour, with an indistinct fuscous subterminal fascia; fringe flesh colour mixed with ochraceous buff. Underside of forewing fuscous, mixed with ochraceous buff and flesh colour in the terminal and apical areas and narrowly along the costa; fringe as on upperside. Underside of hindwing flesh colour, with an indistinct fuscous subterminal fascia; fringe as on upperside.

Expanse: ♀♀ 38–39 mm.
1 ♀ (holotype) and 7 ♂♂ (paratypes), Uaso Nyiro, Kenya Colony, 2,200–2,400 ft., November–December 1920 (W. N. van Someren).

May be placed near to Lymantria gondana Swinh. (1903).

38. Lymantria monoides sp. nov. (Plate I, fig. 9).

♂. Palpus and head cinnamon buff, with a lighter patch at the base of the antenna. Antenna bistre, the bristles at the end of the pectinations cinnamon buff. Thorax and abdomen bistre, anal extremity Mars yellow. Legs cinnamon buff to pinkish buff, the femora light coral red, and a few hairs of the same colour at the distal end of mid- and hindtibiae. Pectus cinnamon buff to pinkish buff, the venter darker. Forewing snuff brown; an irregular bistre antemedial fascia, passing through the junction of vein Cu2 with the cell; a small fuscous spot in the cell midway between the antemedial and the discocellulars, and a further spot on the centre of the discocellulars; a broad bistre medial shade running straight across the wing, through the lower angle of the cell and at right angles to the inner margin; a crenate bistre postmedial fascia with concavities terminal and the points on the veins, oblique outwardly from costa to vein M1, then roughly parallel with the termen to the inner margin, where it touches the medial shade; a series of faint bistre interneural subterminal spots, obsolete in some of the paratypes; fringe snuff brown. Hindwing and fringe snuff brown. Underside of both wings snuff brown, with an indistinct bistre spot on the centre of the discocellulars; fringes snuff brown.

Expanse: ♂♂ 44–49 mm.
1 ♂ (holotype) and 7 ♀ (paratypes), New Hanover, Bismareck Archipelago, February–April 1923 (A. S. Meek).

Allied to the variable Lymantria sphaera Collnt. (1930) from New Ireland, but much smaller and darker, and with fore- and hindwings of the same colour. The series shows little variation.

39. Lymantria cryptocloea sp. nov. (Plate I, fig. 6).

♂. Palpus pinkish buff mixed with coral pink. Antenna drab, the bases of the pectinations fuscous. Head pinkish buff, with a few coral pink hair-scales at the junction of head and thorax and at the base of the antenna. (In one of the paratypes there is a well-defined collar of coral pink between head and thorax.) Head cartridge buff mixed with drab; a streak of drab across the centre of the patagium and along the tegula. Abdomen cartridge buff. Legs and pectus pinkish buff slightly tinged with coral pink. Venter cartridge buff. Forewing whitish, crossed by a number of crenate bistre fasciae; the subterminal fascia ends with a rather broad patch of bistre opposite the tornus; a terminal series of interneural bistre spots; a small patch of coral pink at the base of the costa (continued in one of the paratypes along the costa to the apex); an irregular series of bistre spots along the costa to the apex; a bistre spot in the cell, followed by an angled bistre streak on the discocellulare; fringe whitish marked with bistre interneurally. Hindwing pale pinkish buff to cartridge buff; terminal and costal areas broadly but faintly shaded with bistre; fringe pale pinkish buff, marked interneurally with bistre. Underside of forewing, and fringe, pale pinkish buff; the bistre markings of the underside faintly reproduced, and traces of coral pink along the costa. Underside of hindwing and fringe pale pinkish buff, with slight bistre shading in terminal and costal areas.

Expanse: ♂♂ 29–34 mm.

1 ♂ (holotype), Kolambugan, sub-province Lanao, Mindanao, plains at sea-level, 2.vi.1914 (A. E. Wileman); also, in the British Museum collection, 2 ♂♂ (paratypes) collected by A. E. Wileman at the same place on 19 and 29.v.1914. There is a further ♂ in the British Museum, ex coll. Oberthür, labelled "Philippines" and agreeing well with this species.

I take this opportunity to publish the following cases of synonymy:

(Leucoma albifrons B.-Bak., 1911) = Stilpnotia purva Plötz (Leucoma), 1880.
Euproctis (nigripennis Hmps., 1893) = (Pīla) lativitta Moore, 1879.
Euproctis (flexuosana Strand, 1923) (nom. nov. for flexuosa Wilem., 1910) = labeculoides Strand, 1914.
(Artaza enunciativa Swinh., 1892) = Euproctis atrosquama Wlkr. (Gogana), 1866.
Euproctis (lunula B.-Bak., 1908) = luteomarginata B.-Bak., 1908.
(Chaerophlebia armadvillae Obthr., 1894) = Euproctis dichroa Fldr. (Cispia), 1861.
The type of E. dichroa Fldr. cannot be found and must be regarded as lost.

Felder's description seems to leave no doubt of the above synonymy.
Dasychiroides (nigrostrigata B.-Bak., 1904) = obsolete B.-Bak., 1904.
(Ornthopsycha authora Fldr., 1874) = Aroa difficilis Wlkr., 1865. Walker's type is a ♂, not a ♂ as stated in his description.
(Orgyia flumvittata Pag., 1900) = Aroa cometarish Btlr., 1887.
Aroa (niasana Swinh., 1907) = luisa Pag., 1885.
(Topomcna subinanis Wlkr., 1866) = Scarpona ennomoides Wlkr., 1862. Therefore Topomcna Wlkr., 1866 (genotype T. subinanis Wlkr.), sinks to Scarpona Wlkr., 1862 (genotype S. ennomoides Wlkr.).

Laelia (formosana Mats., 1921) = (Laelia) sangaiica formosana Strand, 1914.

Dasychira (vitensis B.-Bak., 1905) = fidjiensis Mab. & Vuill., 1890.

Lymantria (melanopogon Strand, 1914) = nebidosa Wilenri., 1910.

(Enproctis) fimpennis Wlkr., 1862, is a Porthe-sia Steph.

The species has been wrongly omitted in Seitz, and must not be confused with Genusa circumdata Wlkr., List Lep. Ins. B.M., iv, p. 819 (1855).

(Dasychira) suspecta Her., 1926, is a Noctuid.

(Aroa) exoleta Swinh., 1892, is an Anthela Wlkr. (Anthelidae).

Chenuula (raja Swinh., 1892) = (Ocneria) heliaspis Meyr., 1891.

The genus is rightly included by Swinhoe in the Anthelidae.

(Dasychira) signifera Wlkr., 1862, is an Ocinara Wlkr. (Bombycidae).

(Artaxa) metaleuca Wlkr., 1862, is a Darna Wlkr. (Limacodidae).

**EXPLANATION OF PLATE I.**

(Life size.)

Fig. 1. *Euproctis ochrocerca* sp. nov., type ♂. . . . . . . . . . p. 166
Fig. 2. *Euproctis talesca* sp. nov., type ♂. . . . . . . . . . p. 169
Fig. 3. *Euproctis asaphobalia* sp. nov., type ♀. . . . . . . . . p. 167
Fig. 4. *Euproctis ochrocraspeda* sp. nov., type ♀. . . . . . . . . p. 166
Fig. 5. *Euproctis aeruginosa* sp. nov., type ♂. . . . . . . . . . p. 168
Fig. 6. *Lymantria cryptocloea* sp. nov., type ♂. . . . . . . . . p. 178
Fig. 7. *Euproctis frigidior* sp. nov., type ♂. . . . . . . . . . p. 162
Fig. 8. *Euproctis florensis* sp. nov., type ♂. . . . . . . . . . p. 162
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REVISIONAL NOTES ON THE GENERA ABISARA AND SARIBLA
(LEP. RIODINIDAE), WITH DESCRIPTIONS OF NEW SPECIES
AND SUBSPECIES.

By N. D. RILEY.

(Plate II.)

The following notes are the outcome of a revision and rearrangement of the
African Riodinidae in the British Museum and in the Tring Museum, Lord
Rothschild having kindly placed at my disposal the whole of his material. All
the species and varieties hitherto known are dealt with by Aurivillius in
Vol. XIII of the *Macrolepidoptera of the World*, to which reference should be made.

I. ABISARA.

1. Abisara gerontes Fab. (1781).

The Fabrician type specimen, a male, is preserved in the Banksian Cabinet
in the British Museum. It belongs to the ordinary West Coast form and has
been correctly identified by most authors, e.g. by Aurivillius in Seitz, xiii, p. 295.
Its occurrence in Sierra Leone appears doubtful; it is found, with certainty,
however, in the coastal districts of S. Nigeria and the Cameroons. Farther
south the typical subspecies gives way to another, but the species appears to
be confined entirely to the tropical rain forest areas:—

A. gerontes gabunica subsp. nov. (Plate II, fig. I).

♂♀. In the development of the apical ocellus this subspecies is intermediate
between typical gerontes and the Ugandan *A. simulacris* (see below). It is,
however, a much larger insect (expanse 35–40 mm. as compared with 35–38 mm.)
and has the dark ground colour of the typical West Coast form. The principal
difference is in the white band. On the forewing this shows little or no con-
traction towards the inner margin, not infrequently attaining there a width of
6–8 mm. On the hindwing it is similarly expanded, not sharply triangular as
in typical gerontes; it practically reaches the margin in area 3 and extends well
around the ocellate spot on either side, and its inner edge is more or less evenly
curved in such a manner as to leave the base of area 6 largely black. The
underside differences are the same as those of the underside.

As in typical gerontes, there is in the ♂ a conspicuous subtriangular basal
patch of modified scales on the hindwing underside, extending from the base as
far as the white band, and from the costa to the anterior edge of the cell; and
the corresponding black patch on the underside of the forewing is also present.

Holotype ♂ and allotype ♂ “Gabun,” ex Crowley Coll. Further material
consists of 1 ♂, 2 ♀ from Ogowé River, 1890 (L. Gazengel); 2 ♂ Niari-Quouillon,
Station de Loudéma, Route de Loango à Brazzaville (Jacquot).
2. Abisara simulacris sp. nov. (Plate II, fig. 2).

♂. Very similar to A. gerontes, but with the following differences. Upperside ground colour lighter brown; the white band ecruiny, tapering more abruptly towards the costa, its outer edge strongly recurved in area 1b where often the ground colour forms a small projection into it; apical ocellus very small, punetiform; the white band of the hindwing moderately large, disposed almost exactly as in gerontes gabunica though a little narrower anteriorly; the faintly paler subapical fascia farther removed from the ocellar spot, narrower but longer. On the underside there are corresponding differences: the dark areas are much paler than in gerontes, and the dark band forming the inner boundary of the white bands of both wings is much narrower and shades imperceptibly into the grey basal area, especially on the hindwing. The most characteristic feature is afforded by the position and shape of the pale postdiscal fascia of the forewing, which commences on the costa at a point midway between the white band and the apex of the wing and runs in a sigmoid curve to the tornus. On hindwing the white band extends farther towards the apex than in gerontes, thus restricting the extent of the fusose patch which encloses the ocelli.

Holotype ♂: Uganda, west shores of Victoria Nyanza, Buddu, 3,700 ft., 19–25. ix. 1911 (S. A. Neave). Paratypes: 1 ♂, north-west shores Victoria Nyanza, 3,800–3,900 ft., 12–15. ix. 1911 (S. A. Neave); 1 ♂, shores of L. Isolt, or Wamala, 3,800 ft., 7–8. i. 1912 (S. A. Neave); 1 ♂, Entebbe (forest), 5,800 ft., 5–11. vii. 1911 (S. A. Neave). All in the British Museum. In the Tring Museum there is a series of 16 ♂ and 4 ♀ from Mondo, Monyonyo, Kampala, Kiwalogoma, and Kakindu in Uganda, from all of which localities, except Kakindu, there are also in the same museum examples of Abisara neavei.

The much-reduced apical ocellus, and the sigmoid curve of the postdiscal fascia on the underside of the forewing, serve to distinguish this species, and to distinguish it also from the much commoner Abisara of Uganda and British East Africa described below (No. 5). There is no trace of the patches of modified scales so well developed in A. gerontes.

3. Abisara dewitzi Auriv. (1898) (Plate II, fig. 3).

This appears to be a very constant form, but of restricted distribution, occurring only in the Kassai district of the Belgian Congo. It forms a connecting link between A. gerontes and A. rogersi. There is a series of 8 ♂ and 1 ♀ in the British Museum from Luluia-Sankuru, Haut-Kassai, where it was taken in 1902–4 by Landbeck, who also obtained at Luebo, Kassai, October 1903, a male now in the Tring Museum.

4. Abisara rogersi Druce (1878).

The type of rogersi Druce being now in the British Museum, it is interesting to discover that, in spite of Druce’s categorical statement to the contrary, there is present a minute apical ocellus on the forewing on both upper and lower surfaces. A male and a female from the same source (Angola, Rogers), also in the British Museum, show this ocellus even more prominently. A. geryon Stgr. (1887–8) is therefore a synonym of rogersi; Staudinger’s figure depicts very accurately a typical rogersi.
A. rogersi dollmani subsp. nov. (Plate II, fig. 4).

The species also occurs in N.-W. Rhodesia, where it was taken by H. C. Dollman, but the Rhodesian examples exhibit an ocellus so reduced as to be visible only, except in the female, with the aid of a fairly strong lens. They exhibit a further difference in that the white band of the upperside is very much wider (6–7 mm. at the widest point). These two features, which are very constant in a series of eight males and five females, serve to characterize this subspecies, which occurs in N.-W. Rhodesia and the Katanga district of the Belgian Congo.

Holotype ♂, and allotype ♀, both from Solwezi, N.-W. Rhodesia, May 1917 (H. C. Dollman).

The species commonly met with in Uganda and British East Africa is without a name. It may be known as Abisara neavei:—

5. Abisara neavei sp. nov. (Plate II, fig. 6).

♂. Upperside ground colour nearly as dark as in the corresponding sex of A. gerontes gerontes, the white band of forewing averaging about 4 mm. in width at the widest part and fully reaching costa (with very rare exceptions), its inner edge straight, its outer edge evenly curved and sharply recurrent at inner margin. A distinct, straight or slightly curved, sometimes partially pure white, pale subapical fascia extends from costa to vein 3 or thereabouts; no trace of apical ocellus. On the hindwing the white band, where it runs through area 3, instead of tapering to an ill-defined point, finishes bluntly and roundly near the margin; from its angle on or about vein 2, further, it runs direct to the costa, passing wide of the cell and the base of area 6 (in gerontes it follows the outer edge of the cell and runs behind the origin of vein 6).

Underside. The dark areas are more ochreous brown than in typical gerontes. Forewing is entirely devoid of apical ocellus; white band as on upperside; subapical band about 1.5 mm. wide, commencing on vein 9, running straight to vein 3, thence narrowing and curving back strongly to end on inner margin at end of vein 1. Ocelli of hindwing completely isolated from costa and apex by extension of white ground colour; central dark bar 2–3 mm. wide, proximally very ochreous, the area between it and base of wing only very faintly greyish, almost pure white.

♀. Like the ♂ except that the ground colour of the upperside is decidedly paler.

Holotype ♂, Entebbe, 12–20.i.1912 (S. A. Neave); allotype ♀, Ntebi (Entebbe), 3.v.1895 (Jackson); 29 ♂, 28 ♀ from various localities in Uganda and Kenya Colony.

A. neavei and A. simulacris appear to fly together in a number of localities in Uganda. Both species were taken by Dr. S. A. Neave at Entebbe, in the neighbourhood of Lake Isolt, and on the west shores of Lake Victoria Nyanza, in Buddu. In the Tring Museum also both species have been received from several places (see under A. simulacris); and in the same museum there are two males from the Gallery Forest, Rutshuru River, 1,000 m., Feb. 1908, and two males from the Kongour Forest, Manyema, both in the Congo Free State (R. Grauer), and a single male from Tambura, Southern Bahr-el-Ghazal.
Besides the typical subspecies of _A. neavei_ described above, two others are recognizable.

(a) **A. neavei latifasciata** subsp. nov. (Plate II, fig. 5).

In the high lands of the western Cameroons, bordering Nigeria, a form of _A. neavei_ occurs which is recognizable at once by the width of the white band on the upperside. At its widest part on the forewing this band measures 5·5–6 mm. across. No trace of apical ocellus.

Holotype ♂ and allotype ♀ from Banyo, Cameroons, 3,000 ft., August 1921; one paratype ♂ with same data.

(b) **A. neavei kivuensis** subsp. nov.

A short series of specimens received by Lord Rothschild from Kwidgwi Island, Lake Kivu, where they were taken at an altitude of 1,500–2,000 m, in November by Grauer, differ rather markedly from the other two subspecies. On the upperside the narrow subapical white band is greatly obscured, and nowhere pure white; there is a minute black speck, not repeated on the underside, where the apical ocellus should be. On the underside of the hindwing the dark band dividing the inner and outer pale areas is so reduced as to be almost linear, and as it is paler in coloration, like the other dark markings of this surface, than in typical _neavei_, it is by no means conspicuous; the yellow area surrounding the apical ocelli is also little more than linear, and there is a marked tendency for the fuscous area which in turn surrounds this to be connected across area 3 with the submarginal line that extends to the inner margin.

Holotype ♂, allotype ♀, and five ♂ paratypes all with data as given above, in the Tring Museum.

The two males from the Gallery Forest, Rutshuru River, referred to above under _A. neavei neavei_, exhibit decided tendencies in the direction of _A. neavei kivuensis._

6. **Abisara delicata** Lathy (1901).

Aurivillius states (Seitz, *Macrolep.*, xiii, p. 296) that _A. delicata_ occurs from "Nyasaland to British East Africa." It is not represented in the British Museum from any locality other than the Mlanje district of Nyasaland, where it occurs throughout the year in a constant form exhibiting no sign of seasonal variation.

7. **Abisara talantus** Auriv. (1891).

This species is represented by three distinct subspecies.

(a) **A. talantus talantus** Auriv. (1891).

S. Nigeria; coastal district of Cameroons.

(b) **A. talantus caeca** Rebel (1914).

= _A. barnsi_ Joicey and Talbot (1921).

N.E. Congo (Ituri, etc.) and Uganda.
(c) **A. talantus semicaeca** subsp. nov. (Plate II, fig. 7).

♂. **Upperside**: the purple-blue areas are reduced to a narrow subapical band, and a stripe along the inner margin on the forewing, and on the hindwing to a rather restricted eostial patch and the usual marginal and submarginal lines; the apical ocellus is present, but reduced in size. The **underside** is scarcely different from that of typical *talantus* except for a very slight general darkening, the smaller apical ocellus on the forewing, and the absence of the large oval dull ochreous patch at the base of the hindwing.

♀. **Upperside**: darker than in typical *talantus*, the pale area below the apical ocellus absent, and the other two transverse stripes narrower and darker. **Underside** as in the ♂.

Holotype ♂ and allotype ♀, Niari-Quouillou, Station de Loudéma, Route de Loango à Brazzaville (Jacquot); 2 ♂, 1 ♀ paratypes with same data. Also 2 ♂ from Ogowe and 1 ♂, 1 ♀ from Gabun in British Museum.

The characters of this subspecies from Gabun present an interesting parallelism to those of *A. gerontes gabunica* described above.

8. **Abisara tantalus** Hew. (♀) (1861).

≡ *Abisara intermedia* Auriv. (♂) (1893).

There can be no doubt that, as suggested by Aurivillius (Seitz, xiii, p. 296), *A. intermedia* is the male of *A. tantalus*.

A curious ♂-form in which the hindwing bears a moderately large rounded shining light blue apical patch, adjoining the apical ocellate spots, may be known as ♂-f. **caerulea** nov. (Plate II, fig. 8). The only specimen known to the author is in the British Museum and was obtained in the Lower Congo Valley by J. S. Jameson during the expedition for the relief of Emin Pasha.

The female exhibits a good deal of variation in the extent of the white suffusion in the apical third of the forewing. Two females in the Tring Museum from the Kassai district depart so much from the typical form of that sex as to be entirely devoid of all trace of white in this position. On the upperside there are two excessively faint transverse bands only, both of which are represented on the underside, however, by moderately wide grey bands, broad on the costa and tapering towards the tornus. This variety of the female may be known as ♀-f. **uniformis** nov. The type is labelled: Luebo, Kassai R. (P. Landbeck). Another specimen bears the data: Kassai R., Congo F. St. A male from the same source is not separable from males from the Cameroons and S. Nigeria.

9. **Abisara rutherfordi** Hew. (1874).

In addition to the two races of this species at present known (*rutherfordi* Hew., and *herwigi* Dewitz), a third exists which may be described as :

**A. rutherfordi cyclops** subsp. nov.

♂♀. Smaller than typical *rutherfordi*, less brilliant above, more uniformly grey beneath, quite devoid of the reddish tone of *rutherfordi*, and with narrower and fainter pale markings. The apical ocellus of the forewing absent above, very small (typically) or absent beneath. ♂ sex-mark on forewing shorter by 1–1·5 mm.; cell of hindwing uniformly dark brown, the sex-mark above it only
about one-quarter the size of that in typical *rutherfordi*; the blue patch on hindwing paler, elongate, extending barely half-way across area 3.


As the form of the female which is totally devoid of ocellus on the forewing appears to be commoner than typical *cyclops*, it may be called *A. rutherfordi cyclops* ♀-f. *caecata* nov. (Plate 11, fig. 9).

Type and paratype, Stanley Falls, 1900 (Landbeck), in B. M. ; 1 ♀, 9 days from Fort Beni, C. F. St., 13. v. 99. 1 ♂, Olinga, 8 days from Fort Beni, C. F. St., 12. v. 99 (Ansorge), in Tring Museum.

This subspecies is an interesting parallel to *A. talantus caeca*, and the eyeless forms of the *gerontes* group. Together they form an association in the Upper Congo and Uganda region characterised by the great reduction or complete absence of the apical eye-spot which is so prominent a feature of their West Coast allies.

11. **SARIBIA.**

1. *Saribia tepahi* Boisd. (1832) (Plate II, fig. 10).

Boisduval's figure is not a very good one, but it shows quite clearly the largest of the three Malagasy species of *Saribia* here recognized. In an average male the length of the forewing is about 25 mm. ; Boisduval's type (now in the British Museum) is a female, and has a forewing length of 26 mm. Apart from size, this species is distinguishable by a number of other small features. In the male the forewing has a distinctly falcate appearance, owing to the slight concavity of the termen between veins 2 and 6, and agrees with the female in being of such a dense, even dull brown colour that the transverse stripes of the underside do not show through at all, or only very slightly, more particularly in the female. On the hindwing the pale fuscous crescents surmounting the marginal spots in areas 4 and 5 are much darker than the larger crescent in area 3. The tip of the tail at vein 3 is white. On the underside of the forewing the light-coloured transverse stripes vary considerably in intensity, but the largest of them, which lies immediately beyond the end of the cell, invariably tapers conspicuously as it runs from the costa towards the tornus. The next stripe, which is a good deal narrower, lies rather more than half-way from this broad stripe to the apical ocellus, and is decidedly sinuous in its anterior half. The third, or submarginal, stripe is only conspicuous in areas 2 and 3, fading away towards the apical ocellus, and never giving rise to subsidiary ocelli. On the hindwing the most characteristic feature is provided by the angular white discal line, in that, starting from the costa as a very well-defined line, at vein 5 it becomes entirely obscured by a large diffuse shade of the ground colour, of a darker tint than elsewhere, and remains so obscured at least as far as vein 3 ; in area 5 there is a silver-edged black submarginal line which, however, never takes the form of a definite ocellus.

This species is represented in the British Museum by a series of 33 males, 15 females, from Tamatave (type locality), Fito, Fenerive, Antsianaka, Lake Alaotra, and Antakares ; and it is in the Tring Museum from Antanosy, Morondava, and Ambinanindranos near Mahanoro.
2. Saribia perroti sp. nov. (Plate II, fig. 11).

♂. Upperside: uniform dull brown, of a rather warmer tint than in tepahi except that the major transverse white lines of the underside show through rather clearly; marginal spots of hindwing as in tepahi but the pale ochreous crescents approximately all of the same colour, and brighter than in that species; the tips of the tails both ochreous. Underside ground colour bright reddish brown; on the forewing the fourth transverse white stripe (from base) is the most prominent, and is of equal width throughout its length, the fifth is as in tepahi, the sixth (submarginal) is always represented in areas 4 and 5, sometimes also in 3, by a minute white eye-spot; on the hindwing the angular white discal stripe is similarly of equal width throughout, nowhere obscured by the ground colour; there is never a definite marginal eye-spot in area 5, although generally, as in tepahi, there is dark sealing here, but it is even less suggestive of an ocellus than in that species.

♀. Upperside and underside lighter brown than in the male, the light stripes clearly seen above; otherwise as in the male.

Length of forewing (average) 20 mm.

Holotype ♂ and allotype ♀, Antsianaka, 2me semestre, 1890 (Perrot frères); also in British Museum, 43 males, 24 females, from Antsianaka and Lake Alaotra.

(a) S. perroti frana subsp. nov.

♂. Differs from typical perroti in being slightly larger (forewing 21–22 mm.); upperside darker, but with brighter and more sharply defined hindwing marginal markings; underside ground colour darker and less reddish brown, the pale markings more sharply defined, the small white submarginal ocelli of forewing very conspicuous and nearly always three in number.

♀. Differs similarly, but the ground colour of the upperside is very often of a light ochreous brown.

Holotype ♂ and allotype ♀ from Fianarantsoa (Perrot frères), 2me semestre, 1892; 35 males, 9 females, in addition in British Museum with same data.

(b) S. perroti ochracea subsp. nov.

♂♀. Upperside suggestive of tepahi in the darkness of the ground colour and dullness of the hindwing markings. The underside ground colour, however, is rich ochreous, with the pattern of perroti except for the complete absence of submarginal ocelli on the forewing, apart from the usual moderately large one in area 6.

Holotype ♀ Fenerive (Perrot frères), 1er trimestre, 1896; allotype ♂ "Madagascar,“ ex coll. Hewitson; one other female, probably from Tamatave, ex coll. Boisduval.

3. Saribia decaryi Le Cerf (1922) (Plate II, fig. 12).

The species has been well characterized by Le Cerf. It is much smaller and darker than either of the others, and nearly always has a well-defined submarginal ocellus on the underside of the hindwing in area 5. The female (allotype ♀, Antsianaka (Perrot frères), 1er semestre 1892), only differs from the male in its paler general coloration.
A series of 13 males, 2 females (ex coll. Oberthür) is now in the British Museum, from Antsianaka, Lake Alaotra, and Fianarantsoa.

EXPLANATION OF PLATE II.

Fig. 1. *Abisara gerontes gabunica* Riley, ♂ Paratype; Niara-Quouillou, Station de Loudéma.


8. *Abisara tantaus f. caerulea* Riley, ♂ Holotype.


11. *Saribia perroti perroti* Riley, ♂ Paratype; Antsianaka, Madagascar.


The upper- and undersides are of the same specimens.
AN ATTEMPT TO DETERMINE THE TRUE DATES OF PUBLICATION OF HEWITSON (W. C.), ILLUSTR. NEW SPEC. EXOT. BUTTERFLIES, 5 VOLS. [1852–] (1856–) 1876.


THE following paper is an attempt to unravel the dates of publication of the individual parts of Hewitson’s Illustr. Exot. Butts. I have several times been asked for these dates, and after much searching I found that the copy in the British Museum Library at Bloomsbury (7296.e.18) still had the wrappers preserved. This was a step in advance since it gave the stated date of publication and the actual date of receipt at the Copyright Office of the 100 parts of which the work is composed. At first sight this was, apparently, of little use, since the wrappers gave no clue as to their contents. By great good fortune, however, the clerk at the time responsible has date-stamped at least one plate and page of text in the first volume and each plate and some text in the remaining four volumes. After a great amount of sorting and cross-checking I have now obtained the following results, which I offer to Lepidopterists as the nearest to the truth at present attainable. In a few cases it appears that more than one part was received (or at any rate entered) on the same day; it is not now possible to separate the contents of such parts.

The paper is arranged for convenience in two parts, the first by the arrangement suggested by the author for binding the work, and the second by the contents of the parts as I believe they were issued.

In conclusion, I would point out that the method of dating the work by the printed dates of the plates is hereby proved to be unsafe.

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| Papilio IV | 30 | 1.iv.1859 | 27.v.1859 |
| Papilio V | 39 | 1.vii.1861 | 10.vii.1861 |
| Pieris III | 37 | 1.i.1861 | 7.ii.1861 |
| Pieris IV | 38 | 1.iv.1861 | 17.iv.1861 |
| Pieris V | 38 | 1.iv.1861 | 17.iv.1861 |
| Pieris VI | 38 | 1.iv.1861 | 17.iv.1861 |
| Leptalis II | 40 | 1.x.1861 | 29.x.1861 |
| Leptalis III | 24 | 1.x.1857 | 16.xi.1857 |
| Leptalis IV | 24 | 1.x.1857 | 16.xi.1857 |
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| Eresia II | 31 | 1.vii.1859 | 8.vii.1859 |
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| Epiphile | 21 | 1.i.1857 | 28.i.1857 |
| Epiphile II | 22 | 1.iv.1857 | 20.iv.1857 |
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† In all cases where a specific name occurs reference is made to a page of text, otherwise reference to a plate is intended.
* These two parts were apparently received together. It is not therefore possible for me to say what were the contents of either part.
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* See footnote *, p. 199.
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By R. J. WEST.

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THE descriptions in this paper are based on material in the collection of the late A. E. Wileman, now in the British Museum (Natural History).

HYPSIDAE.

Asota belophora sp.n.

♀: Palpus clove-brown, some cream-buff on second segment. Antenna setose. Head: frons and vertex cream-buff. Thorax: patagium and tegula cream-buff with central clove-brown spot, rest of thorax cream-buff, with two clove-brown spots. Abdomen cartridge-buff with lateral series of Saccardo's umber spots, venter cream-buff. Pectus cream-buff. Legs cartridge-buff, Saccardo's umber above. Forewing snuff-brown to Saccardo's umber, a large cartridge-buff; wedge-shaped patch, occupying the centre of wing, upper edge from costa at base, through centre of cell to discocellulars, angled, obliquely waved to subcosta, angled, then along subcosta to about two-thirds, outer edge obliquely incurred and crenulate, from subcosta to termen above vein 2, lower edge from inner margin subbasally, incurred to near median nervure, then slightly upcurved to termen just below vein 2: a group of clove-brown spots and dashes at base. Hindwing cartridge-buff, a border at termen of Saccardo's umber, wide at apex gradually narrowing to tornus. Underside: forewing cartridge-buff, Saccardo's umber on costa and apical area; in the cell a Saccardo's umber spot, with a streak towards base; hindwing cartridge-buff, bordered with Saccardo's umber along costa and termen as far as vein 4.

Expans 60 mm. (tip to tip 58 mm.).

Holotype ♀: 27.xii.1912, Philippine Is., Luzon 1., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: A. latiradia Swinh.

Deilemera plesiastes sp.n.

♀: Palpus clove-brown. Antenna pectinate. Head: frons and vertex cream-buff, with a clove-brown spot. Thorax: patagium cream-buff, with a clove-brown spot, tegula cream-buff, with a clove-brown spot, fringed with hair-scales of Saccardo's umber, rest of thorax cream-buff with a clove-brown spot posteriorly. Abdomen cream-buff banded with clove-brown, venter cream-buff. Pectus cream-buff, spotted with clove-brown. Legs cream-buff, Saccardo's umber above. Forewing Saccardo's umber, a white, wedge-shaped patch occupying basal half of cell, a white spot below near base, a white streak on inner margin for about a third; a large irregularly shaped, white patch occupying the greater part of the middle of wing, proximal edge from costa postmedially, obliquely incurred to near base of vein 6, inwardly to near middle of cell, angled
sharply, then outwardly oblique to base of vein 2, excurved, then inwardly along median nervure for one half, distal edge outwardly bowed and wavy to anal vein, lower edge gradually rising and joining proximal edge in a blunt point just below median nervure antemedia
cially; two white spots in subterminal area, one between veins 6 and 7, the other between veins 4 and 5. Hindwing white.

Saccardo's umber on termen on costa, a border of Saccardo's umber on termen in which are two white spots, one on vein 6, the other between veins 3 and 4, fringe white. Underside similar to upperside.

Expanse 50 mm. (tip to tip 47 mm.).


In the paratype the white is more extensive, the patches on the forewing being merged into one, the border of hindwing is broken up into patches.

Nearest ally: D. formosana Swinh.

**THyatiridae.**

**Thyatira dysimata** sp.n.

♂: *Palpus* pinkish buff, suffused with mummy-brown. *Antenna* fasciate. *Head*: frons and vertex pinkish buff, suffused with mummy-brown. *Thorax*: patagium mummy-brown, tegula mummy-brown, posterior half white tinged with testaceous. *Abdomen* pinkish buff, suffused with mummy-brown, venter pinkish buff. *Pectus* pinkish buff. *Legs* pinkish buff, tinged with mummy-brown, tarsal segments fuscous, pinkish buff at joints. Forewing mummy-brown tinged with fuscous-black, a number of wavy, transverse, fuscous-black lines on costa for two-thirds; basal patch, upper half white suffused with pinkish buff, two fuscous spots at base of cell, a slightly oval patch of testaceous to mummy-brown just below median nervure, fuscous below anal vein, the whole edged with white and defined by fuscous-black, distal edge outwardly oblique and wavy to median nervure, excurved to anal vein, outwardly oblique to inner margin; a pinkish buff patch on inner margin medially defined by fuscous-black, with a little white on upper edge; a patch on costa postmedia
dally, bordered by white, filled with testaceous tinged with mummy-brown, distal edge outwardly oblique, sharply angled, then inwardly oblique to just below vein 6, proximal edge inwardly oblique, sharply angled, outwardly oblique, then obliquely incurved joining distal edge; an elongate pinkish buff patch at apex almost touching point of postmedial patch; the space between and above these two patches V-shaped, fuscous-black, with three white points on costa; an irregular patch near tornus bordered by white, defined by fuscous-black, filled with testaceous suffused with mummy-brown, proximal edge inwardly oblique and wavy from above vein 2 to anal vein, sharply angled, then outwardly oblique to inner margin, upper edge downcurved, distal edge obliquely incurved to below vein 2, angled, then inward, again angled, then straight to tornus; terminal line crenulate (points distal), white in the two lower curves, fringe pinkish buff, mummy-brown spots at ends of veins. Hindwing pinkish buff, suffused with fuscous on distal half. Underside: forewing light buff suffused with fuscous, a light buff patch at apex, preceeded by fuscous on costa, fringe light buff with fuscous spots at ends of veins; hindwing light buff postmedial fascia fuscous, outwardly angled at vein 5.
Expanse 46 mm. (tip to tip 44 mm.).


Nearest ally: T. vieina Guen.

Palimpsestes dysanacrita sp.n.

♂: Palpus pale drab-grey mixed with fuscous. Antenna minutely ciliate. Head: frons and vertex pale drab-grey mixed with fuscous. Thorax: patagium pale drab-grey mixed with fuscous, tegula pale drab-grey. Abdomen pale drab-grey mixed with fuscous, venter pale drab-grey. Pectus pale drab-grey. Legs pale drab-grey mixed with fuscous, tarsi fuscous, pale drab-grey at joints. Forewing glossy, pale drab-grey, antemedial fascia consisting of three fuscous, wavy lines, the space between the lines being suffused with fuscous; orbicular and reniform pale drab-grey defined by drab-grey; postmedial fascia consisting of three fuscous lines in a fuscous suffusion, the proximal line inwardly oblique to subcosta, angled, outwardly oblique to base of vein 4, angled, inwardly oblique to just below vein 2, angled, then outwardly oblique to inner margin, the other two lines not so sharply angled; followed by a double row of pale drab-grey dashes on veins; subterminal area suffused with fuscous, with a pale drab-grey fascia commencing with a patch at apex followed by a series of dashes on veins, defined by fuscous distally; terminal line fuscous, crenulate (points distad), fringe pale drab-grey. Hindwing pale drab-grey, lightly suffused with fuscous, more densely in subterminal area; postmedial fascia a pale drab-grey, slightly excurved line, termen fuscous, fringe pale drab-grey. Underside: forewing pale drab-grey suffused with fuscous, termen fuscous, fringe pale drab-grey; hindwing pale drab-grey tinged with fuscous, termen fuscous, fringe pale drab-grey.

Expanse 41 mm. (tip to tip 39 mm.).
♀: Similar to ♂.

Expanse 41 mm. (tip to tip 39 mm.).


Nearest ally: P. plumbea Butl.

In addition to the specimens collected by A. E. Wileman, there are in the British Museum (Natural History) three perfect females, collected by L. Sugitani; one of these has been selected as the allotype.

EUPTEROTIDAE.

Apha gonioptera sp.n.

♂: Palpus warm buff mixed with warm sepia. Antenna pectinate. Head: frons warm sepia, a tuft of warm buff from base of antenna, vertex warm sepia. Thorax: patagium light buff, tegula and rest of thorax pinkish cinnamon. Abdomen pinkish cinnamon, venter russet. Pectus russet. Legs warm buff to cinnamon, tarsi cinnamon. Forewing pinkish buff, warm sepia on edge of costa, a fuscous-black spot in cell; postmedial fascia consisting of four, wavy, crenulate, cinnamon-brown lines; subterminal fascia a sharply defined, warm sepia line,
outwardly oblique from costa to vein 6, angled, then inwardly oblique to inner margin; subterminal area suffused with cinnamon-brown at apex, and from vein 4 to tornus, a series of internerval patches of warm sepia mixed with pearl grey, termen straight to vein 4, oblique to tornus. Hindwing basal half pinkish buff, distal half cinnamon-brown, spot in cell not so conspicuous as in forewing; fasciae forming continuation of those on forewing; in subterminal area a wavy, warm sepia fascia with a pearl-grey spot on each vein, termen straight to vein 4, angled, then oblique to tornus. Underside: fore- and hindwings similar to upperside, a pearl-grey suffusion in subterminal area of hindwing from vein 4 to inner margin.

Expanse 62 mm. (tip to tip 55 mm.).

Holotype ♂: 2.iii.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: A. aequalis Feld.

**Eupterote epicharis** sp.n.

♂: *Palpus* mars brown. *Antenna* pectinate. *Head*: frons and vertex warm buff. *Thorax*: patagium warm buff. tegula and rest of thorax chamois. *Abdomen* chamois, suffused with mars brown, venter and anal tuft warm buff. *Pectus* warm buff. *Legs* warm buff, mars brown outwardly. *Forewing* chamois, lightly suffused with mars brown for two-thirds, antemedial fascia consisting of a broad, excurved, warm sepia line from costa subbasally to inner margin antemedially; medial fascia consisting of two warm sepia lines, the proximal line thicker and more heavily marked, outwardly oblique from costa antemedially to base of vein 5, angled, then slightly waved to inner margin; postmedial fascia consisting of two warm sepia lines, the proximal line much broader and more defined, slightly incurved; subterminal area suffused with mars brown in which is a fascia of seven broad, light buff lunules, fringe chamois. *Hindwing* basal two-thirds chamois, distal third suffused with mars brown, medial fascia consisting of two faintly marked, excurred, warm sepia lines; postmedial fascia consisting of two warm sepia, excurred lines, the proximal line much broader and more defined; a fascia of seven broad, light buff lunules in subterminal area, fringe chamois. Underside: fore- and hindwings chamois, suffused with mars brown, markings similar to upperside.

Expanse 64 mm. (tip to tip 56 mm.).

♀: Similar to ♂.

Expanse 65 mm. (tip to tip 57 mm.).


Nearest ally: *E. testacea* Wlk.

**NOTODONTIDAE.**

**Spatalia acharista** sp.n.

buff. *Abdomen* pinkish buff suffused with mars brown, venter pinkish buff. *Pectus* pinkish buff. *Legs* pinkish buff mixed with mars brown. *Forewing* mars brown, a large patch of cinnamon-buff dusted over with mars brown on lower half, extending from anal vein subbasally, upwardly oblique to median nervure at middle of cell, along median nervure and vein 2 to near end, where it is excurred to tornus; subbasal fascia represented by three fusous-black dots; antemedial fascia a crenulate (points basad), fusous-black line; orbicular a prominent, oval, fusous-black spot, reniform not so clearly defined; postmedial fascia a crenulate (points distad), ill-defined, fusous-black line, inwardly oblique from costa to vein 3, then straight to inner margin; subterminally two light buff patches, one on vein 6, the other between veins 3 and 4; a terminal series of interneural dots, fusous-black defined by cartridge-buff proximally. *Hindwing* cinnamon-buff suffused with mars brown. *Underside*: fore- and hindwings pinkish buff tinged with mars brown.

*Expanse* 40 mm. *(tip to tip 38 mm.)*.


Nearest ally: *S. strigosa* Wlk.

**Furecula hapala** sp.n.

♂: *Palpus* white mixed with fusous-black. *Antenna* fusous, white on shaft, pectinate. *Head*: frons white, a little fusous-black laterally, vertex white. *Thorax*: patagium white, posterior edge fusous-black, tegula white, a fusous-black spot posteriorly. *Abdomen* white banded with fusous-black, venter and anal tuft white. *Pectus* white. *Legs* white, a fusous-black bar on tibiae, tarsal segments fusous-black, white at joints. *Forewing* glossy, white, subbasal fascia a broken, fusous-black line; antemedial fascia consisting of a broken, fusous-black line, slightly waved, and outwardly oblique; postmedial fascia consisting of two fusous-black, crenulate (points distad), excurred and wavy lines; subterminal fascia consisting of two, fusous-black lines, well separated on costa, gradually converging, and terminating at vein 4; interneural fusous-black spots on termen. *Hindwing* white, some fusous on veins subterminally, interneural fusous-black spots on termen. *Underside*: fore- and hindwings white, markings showing through from upperside.

*Expanse* 46 mm. *(tip to tip 44 mm.)*.

♀: Similar to ♂.

*Expanse* 56 mm. *(tip to tip 52 mm.)*.


Nearest ally: *F. prasina* Moore.

**Stauropus charistera** sp.n.

cartridge-buff mixed with Natal brown. *Forewing* with no definite pattern, but wing coloration divided into two parts, the proximal half being a darker shade than the distal half, the edge of the proximal half gently waved and oblique from costa at one-third to tornus, ground colour Natal brown; proximal half streaked with chromium green and white, the green being in indefinite patches separated by patches of whitish iroration; medially, streaked by whitish over which there is a purplish tinge; the subterminal area is streaked with chromium green, the green predominating and giving it a paler appearance, a dark patch formed by predominating Natal brown on costa well before apex. *Hindwing* cartridge-buff lightly suffused with Natal brown, a small Natal brown patch on costa before apex. *Underside*: forewing cartridge-buff with a patchy suffusion of Natal brown; hindwing cartridge-buff.

*Expanse* 44 mm. (*tip to *tip 43 mm.).


Nearest ally: *S. pallidifascia* Hmps.n.

**Stauropus nephodes** sp.n.

♂: *Palpus* cartridge-buff mixed with dusky drab. *Antenna* pectinate for three-fourths, apical fourth ciliate. *Head*: frons and vertex cartridge-buff mixed with dusky drab. *Thorax*: patagium and tegula cartridge-buff mixed with dusky drab, rest of thorax cartridge-buff. *Abdomen* dusky drab on basal segments to cartridge-buff on anal segments, with dorsal crests at base, venter cartridge-buff. *Pectus* cartridge-buff. *Legs* cartridge-buff mixed with dusky drab. *Forewing* proximal third cartridge-buff mixed with dusky drab, beyond dusky drab reaching termen at apex and tornus only, distal edge diffused, forming a large incurve from just below apex to tornus; reniform a cartridge-buff lunule; postmedial fascia a crenulate, wavy, cartridge-buff line; subterminal area cartridge-buff irrorated with dusky drab, in which is a series of interneural dusky drab dashes, interneural patches on termen. *Hindwing* cartridge-buff, a dusky drab patch at apex extending down to vein 5, and inwardly to discocellulars, a slight suffusion of dusky drab on inner margin; termen dusky drab. *Underside*: forewing cartridge-buff, dusky drab on costa for two-thirds, a suffusion of dusky drab at distal end of cell and beyond; hindwing cartridge-buff.

*Expanse* 38 mm. (*tip to *tip 36 mm.).


Nearest ally: *S. sikkimensis* Moore.

**Phalera melanata** sp.n.

purplish tinge, a suffusion of snuff-brown at base; antemedial fascia a slightly excurved, fuscous-black line; postmedial fascia an ill-defined, crenulate, fuscous-black line, outwardly bowed to vein 3, inwardly oblique to inner margin; subterminal fascia an ill-defined, wavy, fuscous-black line, interneural fuscous-black spots on termen. Hindwing warm sepia. Underside: fore- and hindwings sepia. 

*Expanse* 45 mm. (tip to tip 43 mm.).

*Holotype* ♂: 2.xii.1913, Philippine Is., Luzon 1., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: *P. obscura* Wileman.

**Gargetta euteles** sp.n.

♀: *Palpus* white, fawn colour above. *Antenna* minutely ciliate. *Head*: frons light buff mixed with fawn colour, vertex light buff. *Thorax*: patagium light buff, tegula white tinged with fawn colour. *Abdomen* fawn colour, venter light buff. *Pectus* light buff. *Legs* white, tibiae fawn colour above, tarsi fuscous above. *Forewing* fawn colour, a longitudinal strip of white irroration covering about one-third of wing, more pronounced on costa and just below, decreasing in density toward middle of wing; in this white irroration are some fuscous dashes on veins, a fuscous lunule on discocellulars; subbasal fascia a wavy, fuscous shade; postmedial fascia consisting of a band of fawn colour outlined with fuscous, followed by a series of fuscous dashes on veins, outwardly bowed to vein 3, slightly oblique to inner margin; fuscous streaks on veins in subterminal area, broken by a white, crenulate fascia passing through them, termen fuscous. *Hindwing* caridge-buff, suffused with fuscous on distal half, termen fuscous. Underside: forewing fuscous, some white points on costa before apex; hindwing caridge-buff suffused with fuscous below costa and on sub-terminal area.

*Expanse* 36 mm. (tip to tip 35 mm.).


Nearest ally: *C. acruodes* Turner.

**Gargetta dyspines** sp.n.

♀: *Palpus* caridge-buff mixed with fuscous. *Antenna* pectinate. *Head*: frons and vertex light buff. *Thorax*: patagium light buff, tegula caridge-buff tinged with fuscous anteriorly. *Abdomen* caridge-buff lightly suffused with fuscous, venter caridge-buff. *Pectus* caridge-buff. *Legs* caridge-buff suffused with fuscous. *Forewing* caridge-buff densely irrorated with fuscous on proximal half, distal half less densely irrorated; medial fascia an ill-defined, crenulate (points basad), fuscous line; an elongate fuscous spot defined by caridge-buff, on discocellulars; postmedial fascia a crenulate (points distad), outwardly bowed, fuscous line; a border on termen formed by a fuscous shade, on the proximal edge of which is a blunt point projecting inwardly at vein 5, termen fuscous. *Hindwing* caridge-buff suffused with fuscous, more densely on subterminal area, with a faintly marked, fuscous, medial fascia, and a faint fuscous mark on discocellulars. Underside: fore- and hindwings caridge-buff suffused with fuscous, markings on hindwing the same as on upperside.
Expanse 43 mm. (tip to tip 42 mm.).


Nearest ally: G. acarodes Turner.

Pydna callista sp.n.


Expanse 48 mm. (tip to tip 46 mm.).


Nearest ally: P. pallida Butl.

Ichthyura elachista sp.n.


Expanse 24 mm. (tip to tip 22 mm.).


Nearest ally: I. troglodyta Graes.

GEOMETRIDAE.

Geometridae.

Cleora paepalima sp.n.

brown posteriorly. \textit{Abdomen} white suffused with Rood's brown, bone-brown at joints of segments, venter cartridge-buff. \textit{Pectus} cartridge-buff. \textit{Legs} cartridge-buff with bone-brown patches. \textit{Forewing} Rood's brown, patchy overlay of bone-brown, white at base; subbasal fascia a white, wavy line; antemedial fascia consisting of a white line enlarged to a patch on distal side in cell, excurred from costa to median nervure, then excurred and inwardly oblique to inner margin; postmedial fascia consisting of a white line defined by bone-brown proximally, a white suffusion on upper half proximally, straight from costa to vein 3, where it is bent and inwardly oblique to inner margin; subterminal fascia consisting of a series of connected bone-brown patches defined by white, broken by an oblique white streak which rises from the proximal edge at vein 6 to apex, proximal edge excurred, distal edge wavy and deeply dentate between veins 2 and 4; interneural bone-brown lunules on termen. \textit{Hindwing} white, tinged with Rood's brown on proximal half, suffused with Rood's brown on distal half; postmedial fascia consisting of an excurred, white line; subterminal fascia consisting of two white lines, the distal one wavy, the space between these lines lightly suffused with bone-brown, more deeply near inner margin, termen bone-brown, crenulate. \textit{Underside}: forewing white irroration with fuscous, cell spot fuscous, subterminal fascia fuscous, a quadrate white spot at apex; hindwing white irroration with fuscous, cell spot fuscous, subterminal fascia fuscous.

\textit{Expanse} 52 mm. (\textit{tip to tip} 48 mm.).

\textit{♀}: Similar to \textit{♂}, but having antenna pectinate for two-thirds, apical third ciliate, with paired setae.

\textit{Expanse} 44 mm. (\textit{tip to tip} 40 mm.).

\textit{Holotype} ♀: 30.xi.1912; \textit{allotype} ♀ and \textit{paratype} ♀: 9.xii.1912, Philippine Is., Luzon L., subprov. Benguet, Pauai, Haight's Place, 7,000 ft. Differs from other species of the genus in appearance, having a strong superficial resemblance to \textit{B. discipuneta} Warren.

\textbf{BOMBYCIDAЕ.}

\textit{Clenera epigrypa} sp.n.

\textit{♂}: \textit{Palpus} minute, auburn. \textit{Antenna} pectinate. \textit{Head}: frons auburn, vertex burnt umber, tinged with warm blackish brown. \textit{Thorax}: patagium and tegula auburn to burnt umber. \textit{Abdomen} burnt umber suffused with warm blackish brown, venter and anal tuft auburn. \textit{Pectus} auburn. \textit{Legs} auburn, burnt umber above. \textit{Forewing} burnt umber suffused with warm blackish brown, costa arched before apex, which is produced, termen excised from apex to vein 3, then oblique and waved to termen; antemedial fascia warm blackish brown, outwardly oblique from costa to median nervure, sharply angled, then inwardly oblique to inner margin; medial fascia follows a similar course, but is not quite parallel with, or so sharply angled as the antemedial fascia; a blackish brown spot on discocellulars, quartered by an auburn cross formed by discocellulars and vein 5; subterminal fascia consisting of two warm blackish brown, slightly waved, oblique lines; two streaks of pinkish buff scaling, one below vein 2, the other on inner margin. \textit{Hindwing} burnt umber, blackish brown on inner margin, broken by pinkish buff scaling medially. \textit{Underside}: forewing auburn suffused with burnt umber on upper half, more densely toward apex; hind wing auburn suffused with burnt umber on inner margin, a burnt umber spot on discocellulars, postmedial fascia consisting of two excurred, burnt umber lines.
Expanse 44 mm. (tip to tip 42 mm.).


Nearest ally: C. proxima Roepke.

Mustilia gerontica sp.n.

♂: Palpus minute, orange-buff. Antenna shaft white, basal half pectinate, apical half minutely ciliate. Head: frons orange-buff, pale greyish vinaceous on upper half, vertex white. Thorax: patagium orange-buff, edged with pale greyish vinaceous posteriorly, tegula pale greyish vinaceous, rest of thorax chestnut to chestnut-brown. Abdomen chestnut to chestnut-brown, venter orange-buff at base to chestnut-brown at anal end. Pectus and legs orange-buff. Forewing chestnut; proximal two-thirds densely irrorated with pale greyish vinaceous, distal third irrorated with orange-buff; a small chestnut-brown spot on discocellulars; post medial fascia consisting of a chestnut-brown shade; subterminal fascia consisting of a faintly marked, chestnut-brown, obliquely incurved line; these two fasciae are placed more closely than usual. Hindwing upper half pinkish buff, lower half chestnut, chestnut-brown irrorated with pale greyish vinaceous on inner margin; post medial and subterminal fasciae consisting of two, faintly marked, oblique lines, rather close as in forewing. Underside: fore- and hindwings chestnut irrorated with orange-buff, a suffusion of chestnut-brown irrorated with pale greyish vinaceous on inner margin of hindwing, fasciae the same as on upperside.

Expanse 62 mm. (tip to tip 52 mm.).

Holotype ♂ and paratype ♂: 11. v. 1909, Formosa, Rantaizan, 7,500 ft.

Nearest ally: M. phaeoepa Hmps.n.

Trilocha myodes sp.n.

♂: Palpus minute, army brown. Antenna pectinate. Head: frons army brown mixed with light buff, vertex light buff. Thorax: patagium and tegula army brown mixed with light buff. Abdomen army brown above and beneath. Pectus light buff suffused with army brown. Legs army brown suffused with fuscous. Forewing army brown, light buff mixed with chestnut on costa; antemedial fascia a deeply excurved, faintly marked, fuscous line, defined proximally by light buff; a prominent fuscous spot on discocellulars; post medial fascia an ill-defined, fuscous shade, outwardly oblique from costa to vein 6, then slightly waved to inner margin; subterminal fascia a light buff line, edged proximally by fuscous, outwardly oblique from costa to vein 6, then wavy to inner margin; a small patch of fuscous on costa before apex, a larger patch of fuscous in subterminal area just below apex, these two patches divided by a light buff streak from subterminal fascia to apex. Hindwing army brown, post medial fascia a light buff, excurred, wavy line; three fuscous spots divided by light buff, on inner margin; subterminal area suffused with dark vinaceous brown. Underside: fore- and hindwings, markings similar to upperside, but of a warmer tone.

Expanse 26 mm. (tip to tip 23 mm.).

♀: Very much worn, uniformly fuscous, with light buff subterminal fascia and streak at apex as in the ♂.

Expanse 32 mm. (tip to tip 29 mm.).
Nearest ally: T. varians Wlk.

This species appears to vary in colour from army brown to fuscous.

URANIIDAE.

Pseudomicronia charassozona sp.n.

♂: Palpus fuscous. Antenna minutely ciliate. Head: frons fuscous-black, vertex white. Thorax: patagium and tegula white. Abdomen white above and beneath. Pectus white. Legs: coxae white, femora white with drab above, tibiae and tarsi drab. Forewing white, strigulated with drab, antemerial fascia a diffused, drab, inwardly oblique, narrow band; postmedial fascia a diffused, drab, narrow band, obliquely excurved from costa to vein 2, slightly oblique to inner margin; subterminal fascia a diffused, slightly waved, drab line, termen fuscous-black. Hindwing concolorous with forewing, postmedial fascia an excurved band forming continuation of postmedial on forewing; subterminal fascia forming continuation of subterminal on forewing, straight from costa to vein 4, angled, then inwardly oblique to inner margin, deeply dentate; termen fuscous-black, enlarged to a spot at the ends of veins 5 and 6, angled and produced to a point at vein 4; a fuscous-black spot on vein 4 in subterminal area, from which is a fine fuscous-black streak running to a point on termen. Under-side: fore- and hindwings drab.

Expanse 50 mm. (tip to tip 45 mm.).

♀: Differs from ♂ in being not so strongly marked, with the underside of wings white.

Expanse 50 mm. (tip to tip 45 mm.).


Nearest ally: P. justaria Wlk.

There being only ♀♀ in the Wileman Collection, one of the four ♂♂ in the British Museum Collection has been selected as the holotype.

Epiplema wilemani sp.n.

♂: Palpus blackish brown. Antenna minutely ciliate. Head: frons blackish brown, vertex tilleul buff. Thorax: patagium and tegula tilleul buff. Abdomen tilleul buff above and beneath. Pectus tilleul buff. Legs tilleul buff, foreleg suffused with blackish brown above. Forewing tilleul buff with fine strigulations of benzo brown; antemerial fascia an ill-defined, excurved, wavy line; postmedial fascia snuff-brown, slightly oblique, deeply excurved at vein 4, terminating in a blackish-brown patch on inner margin; subterminally, a series of blackish-brown spots defined proximally by tilleul buff; a small blackish-brown spot just below apex, and below this are two oval, blackish-brown spots lying obliquely and almost touching at their proximal ends. Hindwing concolorous with forewing, subbasal fascia blackish brown, crenulate (points distad); a longitudinal snuff-brown line from base to termen at vein 4; an outwardly oblique, incurved, snuff-brown line, from costa medially to the longitudinal line.
which it joins: postmedial fascia consisting of three snuff-brown lines, outwardly oblique and incurved to vein 4, where it joins the longitudinal line to termen; from vein 4 to inner margin a wide blackish-brown patch; termen crenulate and produced to two short tails, one at vein 4, the other at vein 6; four small blackish-brown spots defined by tiluleul buff, situate on termen above and below vein 4. **Underside**: fore- and hindwings tiluleul buff suffused with avellaneous, sparsely irrorated with benzo brown.

*Expans* 24 mm. (tip to tip 22 mm.).

♀: Similar to ♂.

*Expans* 22 mm. (tip to tip 21 mm.).


Nearest ally: *E. subflavida* Swinh.

**Epiplena oriocharis** sp.n.

♂: *Palpus* blackish brown, tiluleul buff beneath. *Antenna* laminate. *Head*: frons blackish brown, vertex tiluleul buff. *Thorax*: patagium and tegula tiluleul buff. *Abdomen* tiluleul buff above and beneath. *Pectus* tiluleul buff. *Legs* tiluleul buff, a suffusion of blackish brown on tarsi. *Forewing* tiluleul buff stipulated with benzo brown; antemedial fascia represented by three bone-brown spots; postmedial fascia consisting of a snuff-brown, wavy line, from costa to vein 4, obsolescent to vein 2, then bone-brown and waved to inner margin, with a bone-brown spot on proximal side; subterminal fascia represented by a bone-brown, wavy line, from just below costa to vein 4. *Hindwing* tiluleul buff, a longitudinal line from base to near termen above vein 4, suffused to base of vein 4, where it is joined by an outwardly oblique line from base of vein 6, rest of line diffused blackish brown: below this line, on proximal half some bone-brown stipulations, in subterminal area a light suffusion of blackish brown; postmedial fascia a bone-brown to snuff-brown line, outwardly oblique from costa to vein 4, sharply excurved, then inwardly oblique and wavy to inner margin, defined by cartridge-buff distally, a snuff-brown shade on both sides from veins 6 to 4, a bone-brown lunule on proximal side between veins 2 and 3; termen crenulate and produced to two tails, one at vein 7, the other at vein 4 three bone-brown patches defined by cartridge-buff, the upper one long and narrow. **Underside**: forewing tiluleul buff lightly suffused with benzo brown; hindwing tiluleul buff with some striations of benzo brown in apical area.

*Expans* 30 mm. (tip to tip 27 mm.).

♀: Similar to ♂.

*Expans* 30 mm. (tip to tip 27 mm.).


Nearest ally: *E. conflictaria* Wlk.

**Phazaca oribates** sp.n.

army brown, venter pinkish buff. Pectus pinkish buff. Legs pinkish buff suffused with fuscous. Forewing army brown, suffused with fuscous at base, and on and below costa almost to apex: medially, two fuscous patches, one extending from costa to vein 5, with a downcurved lower edge, the other from inner margin, triangular, the apex reaching vein 4. Hindwing army brown, antemedial and postmedial faseiae, fuscous, almost parallel, outwardly oblique to below vein 2, angled, then inwardly oblique to inner margin. Underside: forewing pinkish buff suffused with army brown; hindwing pinkish buff.

*Expanse* 18 mm. (tip to tip 14 mm.).

*Holotype* ♀: 10.v.1908, Formosa, Kanshirei, 1,000 ft.

Nearest ally: *P. fasciaria* Leech.

**Phazaca pedionoma** sp.n.


*Expanse* 22 mm. (tip to tip 20 mm.).


Nearest ally: *P. undulata* Warr.

**COSSIDAE.**

**Xyleutes euphyes** sp.n.


*Expanse* 52 mm. (tip to tip 51 mm.).


Nearest ally: *X. tectorius* Swinh.
Xyleutes euphanes sp.n.

♂: Palpus sayal brown, warm sepia above. Antenna basal third pectinate, apical two-thirds serrate. Head: frons and vertex sayal brown suffused with warm sepia. Thorax: patagium sayal brown, tegula sayal brown, bone-brown on upper edge, rest of thorax sayal brown, with lateral bone-brown streak. Abdomen sayal brown above and beneath, anal tuft bone-brown. Pectus sayal brown. Legs warm sepia. Forewing sayal brown, basal third suffused with vivid brown, distal edge oblique from costa at a third to inner margin at a fourth; in this suffusion, a longitudinal bone-brown streak, crossed by another on edge of basal suffusion; from costa at two-thirds to inner margin at one half, an oblique vivid brown shade in which are two prominent bone-brown patches, one on discocellulars, the other below base of vein 2. Hindwing sayal brown. Underside: fore- and hind wings sayal brown.

Expanse 56 mm. (tip to tip 54 mm.).


Nearest ally: X. tectorius Swinh.

Cossus lepta sp.n.


Expanse 30 mm. (tip to tip 29 mm.).


Nearest ally: C. chloratus Swinh.

Porthetes gen. nov.

Palpus short, not extending beyond frons. Antenna pectinate for three-fourths, apical fourth serrate. Legs, a claw beneath first segment of tarsus of foreleg. Forewing cell divided by two internal veins, stalked to middle of cell, joining discocellulars between veins 5 and 6; veins: 1 waved, 2 from cell well before angle, 3 from just before angle, 4 and 5 stalked from angle, 6 from below upper angle, 7 and 8 from upper angle, approximated at base only, 9 and 10 stalked, 11 free. Hindwing cell divided by an internal vein into almost equal parts, joining discocellulars just below vein 6; veins: 1a and 1b present, 2 from cell well before angle, 3 just before angle, 4 and 5 from angle, 6 from just above middle of discocellulars, 7 from upper angle, 8 from base.

Genotype: Porthetes cyrtozona.

Porthetes cyrtozona sp.n.

fuscous. *Abdomen* pinkish buff suffused with fuscous above and beneath. *Pectus* pinkish buff suffused with fuscous. *Legs*: fore- and mid-legs fuscous, hindleg pinkish buff suffused with fuscous. *Forewing* pinkish buff suffused with fuscous, fuscous on costa, striigulated with fuscous on distal third; three longitudinal fuscous streaks, one in apical area from upper angle of cell to termen, one from middle of cell to termen, the other below cell from base to near tornus, gently arched. *Hindwing* pinkish buff suffused with fuscous. *Underside*: fore- and hindwings pinkish buff suffused with fuscous.

*Expans*: 26 mm. (*tip to tip* 24 mm.).


**PSYCHIDAE.**

*Clania cardiophora* sp.n.


*Expans*: 38 mm. (*tip to tip* 36 mm.).


*Nearest ally*: *C. fuscescens* Snell.

*Clania lipara* sp.n.


*Expans*: 34 mm. (*tip to tip* 32 mm.).


*Nearest ally*: *C. vaulogerii* Heyl.

**LIMACODIDAE.**

*Ceratonema wilemani* sp.n.

♀: *Palpus* clay colour, speckled with warm sepia. *Antenna* simple. *Head*: frons and vertex clay colour. *Thorax*: patagium and tegula claycolour. *Abdomen* clay colour lightly suffused with fuscous, venter clay colour. *Pectus* clay colour. *Legs*: foreleg clay colour, mixed with warm sepia above; midleg clay colour mixed with warm sepia, a fuscous tuft beneath tibia; hindleg clay
colour. Forewing clay colour irrorated with warm sepia, postmedial fascia represented by a short, inwardly oblique, warm sepia line from costa to base of vein 5; subterminal fascia consisting of a warm sepia, slightly excurred line, termen warm sepia. Hindwing clay colour lightly suffused with fuscous. 

**Under-side:** fore- and hindwings clay colour.

*Expanse* 16 mm. (tip to tip) 14 mm.

♀: Similar to ♂, in very poor condition. Two wings missing.

*Expanse* 14 mm. (tip to tip 12 mm.).

*Holotype* ♀: vii.1908; *allotype* ♂: 11.vi.1906, Formosa, Kanshirei, 1,000 ft.

Nearest ally: *C. rufulasaule* Hamp. 

**Thosea irrorata** sp.n.

♂: Palpus pecan brown. *Antenna* basal half pectinate, apical half serrate. 

*Head*: frons and vertex pecan brown. *Thorax*: patagium ferruginous, tegula and rest of thorax sorghum brown. *Abdomen* sorghum brown above and beneath. *Pectus* and *legs* pecan brown. Forewing sorghum brown, dark livid brown on distal half of costa, suffused with livid brown at base and along inner margin; a dark livid brown, inwardly oblique line from costa subterminally to inner margin subbasally, another dark livid brown line from the same point on costa to inner margin near tornus. Hindwing sorghum brown tinged with livid brown. 

*Under-side*: fore- and hindwings warm buff tinged with livid brown.

*Expanse* 24 mm. (tip to tip 22 mm.).


Nearest ally: *T. divergens* Moore.

**Birthana senescens** sp.n.


*Under-side*: fore- and hindwings drab-grey, veins and termen pinkish buff, fringe pale drab-grey.

*Expanse* 22 mm. (tip to tip 19 mm.).


Nearest ally: *B. decemographa* Turner.
Birthama divergens sp.n.


Expanse 30 mm. (tip to tip 28 mm.).


Nearest ally: B. junctura Wlk.

Birthama pelochroa sp.n.

♂: Palpus warm sepia mixed with light buff. Antenna basal half pectinate, apical half decreasingly serrate. Head: frons and vertex clothed with snuff-brown scales tipped with whitish. Thorax: patagium and tegula clothed with snuff-brown scales tipped with whitish. Abdomen snuff-brown above and beneath. Pectus snuff-brown. Legs snuff-brown suffused with warm sepia. Forewing snuff-brown, densely irrorated with whitish, and sparsely with warm sepia, veins warm sepia; an oblique, warm sepia line, defined distally by whitish, from costa subterminally to inner margin antemediaally; subterminal fascia consisting of an ill-defined, warm sepia line, outwardly oblique from costa to vein 5, sharply angled, longitudinally inward for a short distance, when it is sharply angled and again outwardly oblique to near tornus. Hindwing snuff-brown lightly suffused with warm sepia. Underside: fore- and hindwings snuff-brown dusted over with light buff, warm sepia on apical area of forewing.

Expanse 22 mm. (tip to tip 20 mm.).

♀: Similar to ♂, differing only in size, paler colouring, antenna minutely ciliate.

Expanse 30 mm. (tip to tip 27 mm.).


Nearest ally: B. obliqua Wlk.

Birthama dyscrita sp.n.

antemedially; subterminal fascia consisting of a fine, ill-defined, warm sepia line, from same point on costa as postmedial, outwardly oblique and slightly excurred to vein 5, angled and along vein 5 to near base, again angled, then outwardly oblique and slightly excurred to inner margin. Hindwing Mikado brown. Underside: fore- and hind wings Mikado brown.

Expanse 30 mm. (tip to tip 28 mm.).


Nearest ally: B. obliqua Wlk.

Contheyla eupena sp.n.


Expanse 26 mm. (tip to tip 24 mm.).


Nearest ally: C. propeca Swinh.

Contheyla celaena sp.n.


Expanse 20 mm. (tip to tip 18 mm.).


Nearest ally: C. brunnea Swinh.

Contheyla daula sp.n.


*Expanse* 26 mm. (_tip to tip 24 mm._).

♀: Similar to ♂, with antenna apparently simple.

*Expanse* 33 mm. (_tip to tip 31 mm._).


Nearest ally: _C. melanostica_ Hmpsn.

*Miresa pura_ sp.n.


*Expanse* 20 mm. (_tip to tip 18 mm._).


Nearest ally: _M. rubicunda_ Wlk.

**Compsopsectra** gen. nov.

♂: _Palpus_ second segment closely and thickly scaled, third segment small. *Antenna* unipicate for two-thirds, apical third serrate. *Abdomen* with crest at base. *Legs*: mid- and hind-tibiae and tarsi heavily fringed with hair-scales. *Forewing* cell divided by internal from median nervure at a third to middle of discocellulars; veins: 1a slightly arched to just above tornus, 1b to tornus, 2 from cell well before angle, 3 from cell just before angle, 4 and 5 from lower angle, 6 from middle of discocellulars almost forming a continuation of internal vein, 7, 8, 9 stalked, 7 from 8 before 9, 10 from upper angle, 11 from middle of cell rising sharply towards 12 with which it is approximated to just before apex. *Hindwing* cell divided by an internal vein from base to middle of discocellulars; veins: 1a, b, c present, 2 from cell before angle, 3, 4 and 5 from lower angle, 6 from middle of discocellulars and forming a continuation of internal vein, 7 from upper angle and parallel with 6, 8 from base.

*Genotype*: _Compsopsectra elegans_.

**Compsopsectra elegans** sp.n.

scales. Forewing proximal third Natal brown with three fuscous-black, radiating streaks from base; antemedial fascia consisting of a white line outwardly oblique from costa to subcosta, sharply angled and deeply incurved to vein 2, angled and slightly incurved to inner margin; medial third Natal brown irrorated with fuscous-black, distal edge excurved; distal third carinate-buff suffused with fuscous-black, fringe carinate-buff. Hindwing carinate-buff suffused with fuscous, fringe carinate-buff. Underside: fore- and hindwings light buff suffused with fuscous, veins light buff.

Expanse 14 mm. (tip to tip 12 mm.).

Expanse 18 mm. (tip to tip 15 mm.).

**ZYGAENIDAE.**

**Chalcosiinae.**

**Pintia tafti** sp.n.

♀: Palpus white. Antenna pectinate. Head: frons produced to a rounded prominence, white beneath, bluish slate-black above, vertex bluish slate-black, a white spot below base of antenna, another white spot behind eye. Thorax: patagium bluish slate-black, a white patch on outer side posteriorly, tegula dusky brown edged with bluish slate-black, rest of thorax dusky brown divided up by bluish slate-black, a white spot in each division. Abdomen white, ringed at joints between segments with bluish slate-black, this being suffused over the white on segments forming dorsal and lateral lines; venter white. Pectus white, with bluish slate-black patches. Legs white, with bluish slate-black on coxae, femora and tibiae, tarsi fuscous. Forewing bluish slate-black to dusky brown, a white spot at base, a white streak between costa and subcosta from base to about one-third, a white wedge-shaped patch in proximal half of cell, a white wedge-shaped patch between median nervure and anal vein reaching to near tornus, a white streak below anal vein from base to near tornus; postmedial fascia represented by a white patch followed by three white spots, the patch having the appearance of a cluster of three spots; a series of interneural white spots subterminally. Hindwing white, a wide terminal border of bluish slate-black, in which is a series of interneural white spots. Underside the same as upperside.

Expanse 52 mm. (tip to tip 49 mm.).

Nearest ally: *P. latipennis* Hmpsn.

The patagium in this species differs from the usual formation in that it appears to be double.

**Heteropan lutulenta** sp.n.

suffused with slate-blue at base, venter light buff. *Pectus* and *legs* light buff. Forewing fusaceous, a metallic slate-blue line in subterminal area from below costa before apex, parallel with edge of wing to near tornus, fringe metallic slate-blue. Hindwing fusaceous suffused with slate-blue, pale gull-grey on upper half. *Underside*: forewing pale gull-grey, fusaceous at apex, on termen and inner margin; hindwing pale gull-grey, fusaceous on termen.

*Expanse* 22 mm. (*tip to tip* 20 mm.).


Nearest ally: *H. scintillans* Wlk.

**Paraphlebia jordani** sp.n.


*Expanse* 24 mm. (*tip to tip* 23 mm.).

♀: Similar to ♂, but having on forewing two light buff spots below costa postmedially, a light buff patch on costa before apex, two light buff spots on termen just below apex; on hindwing the ochraceous-tawny is more extensive, covering the upper half of wing.

*Expanse* 40 mm. (*tip to tip* 39 mm.).


Nearest ally: *P. fuscescens* Moore.

**DREPANIDAE.**

*Oreta thaumalea* sp.n.

♀: *Palpus* carmine. *Antenna* pectinate. *Head*: frons orange-buff, suffused with carmine on upper half, vertex orange-buff, a small carmine tuft below antenna. *Thorax*: patagium orange-buff anteriorly. Corinthian pink mixed with white posteriorly, tegula Corinthian pink mixed with white, rest of thorax Indian red. *Abdomen* Indian red, an orange-buff band at base dorsally, venter orange-buff. *Pectus* orange-buff. *Legs* orange-buff fringed with Indian red. Forewing orange-buff, a Corinthian pink streak on costa from base to about one half, a suffusion of Indian red on lower half of wing and at base; antemedial fascia Indian red, inwardly oblique and waved, proximal edge defined, distal edge diffused; an oblique white streak and spot in a suffusion of Indian red on discocellulars; postmedial fascia Indian red, inwardly oblique and waved, proximal edge diffused, distal edge defined; subterminal area suffused with Indian red, slight iroration of white at apex, two fusaceous-black spots near
tornus; apex produced, termen excised below apex then outwardly bowed to tornus, fuscous-black below apex to vein 5, then interneural irroration of white to tornus. Hindwing Indian red, subbasal fascia an oblique band of orange-buff, a suffusion of orange-buff on distal half between veins 2 and 5, termen irrorated with white. Underside: forewing orange-buff, streak on discocellulars, postmedial and subterminal fasciae Indian red, a suffusion of Indian red on inner margin and subterminal area, fuscous-black at tornus; hindwing orange-buff, a suffusion of Indian red on costa, apical area and at anal angle.

*Expanse* 44 mm. (*tip to tip* 41 mm.).


Nearest ally: *O. sanguinea* Moore.

### Callidrepana dialitha* sp.n.

♀: *Palpus* chamois. *Antenna* pectinate. *Head*: frons Mikado brown, warm buff on lower half, vertex warm buff. *Thorax*: patagium, tegula and rest of thorax chamois. *Abdomen* chamois above and beneath. *Pectus* and *legs* chamois. *Forewing* chamois, sparsely irrorated with metallic scales, postmedial fascia represented by a faint, fuscous, inwardly oblique streak from vein 7 to vein 2; subterminal fascia represented by a faint, fuscous, inwardly oblique streak from apex to vein 2; apex produced to a hook. *Hindwing* chamois, sparsely irrorated with metallic scales, postmedial fascia represented by two parallel, inwardly oblique, fuscous to Mikado brown lines, from vein 7 to inner margin, the space between the lines lightly suffused with whitish. *Underside*: forewing chamois, postmedial and subterminal fasciae Mikado brown; hindwing chamois, postmedial fascia Mikado brown.

*Expanse* 40 mm. (*tip to tip* 39 mm.).

♀: Differs from the ♂, in that on the forewing there are two oblique Mikado brown dashes, one across the middle of cell, the other on discocellulars followed by a spot; an oblique fascia from costa just before apex to inner margin at two-thirds, consisting of two parallel, Mikado brown lines, the proximal line being fine and faint compared with the distal line; subterminally, a series of Mikado brown spots on veins; on the hindwing a subterminal series of Mikado brown spots in addition to the fascia which corresponds to that of the ♂.

*Expanse* 54 mm. (*tip to tip* 51 mm.).


Nearest ally: *C. argenteola* Moore.

(Colours, except those in italics, from Ridgway's *Color Standards and Color Nomenclature*, 1912.)
NEW GENERA AND SPECIES OF STERRHINAE
(FAM. GEOMETRIDAE).

By LOUIS B. PROUT.

As my catalogue of this subfamily in the Lepidopterorum Catalogus is to appear this year, and it is desirable that it should place the species as nearly as possible in the genera to which they are assigned in the long-delayed Genera Insectorum revision, it has become urgent to publish a few genera which have hitherto stood in manuscript only. At the same time, there is some danger of a collision with the Sterrhinæ in Seitz, at least as regards Vol. XVI, for which the manuscript is completed, but not likely to be published for several months. I have therefore added diagnoses of several species which otherwise would have awaited publication in that work.

**Metallaxis** gen. n.

♂. Palpus short, terminal joint small. Antenna fasciculate. Hindtibia with a pair of spurs (type) or spurless; ♀ (semipurpurascens Hmpsn.) with four spurs.—**Forewing** with cell rather short, DC₁ usually short, areole double, SC² from cell, R² normal.—**Hindwing** with termen weakly bent at R², cell rather short, C normal, SC²-R³ shortly stalked, R² central, M³ separate. Genitalia show in the aborted mappa, etc., a near relationship to Rhodostophia, whereas Somatina approaches Scopula.

Type of the genus: *Metallaxis semiustinus* (Swinh.) = Erythrolophus semiustinus Swinh. (1894).

To the two hitherto known species (the type and *Rhodostophia* semi-purpurascens Hmpsn., 1896) I add provisionally:

1. **Metallaxis teledapa** sp. n.

♂. 18–21 mm. Smaller than the two Indian species, cell of forewing a little less short, hindwing with abdominal margin relatively longer. Hindtibia with strong peneils, without spurs, tarsus nearly 2/3. Whitish buff, the forewing irregularly (chiefly in posterior part and median area) irrorated with vinaceous cinnamon, the irroration largely confluent.—**Forewing** with dark admixture at base and (more leaden) along a large part of costal margin; an ill-defined longitudinal line along M and proximal part of M³; antennemian line fine, curving outward to near cell-mark, sometimes obsolescent anteriorly; postmedian fine, excurved; a rather oblique mark in distal area between the radials and a tornal patch as far as M³.— **Both wings** with a dark terminal line.—Underside paler, weakly marked.

Madagascar: Diego Suarez, 12 ♀♂ (G. Melou), type in Mus. Tring.

**Pseuderythrolophus** gen. n.

Palpus with 3rd joint short, especially in the ♀. Antenna of ♀ bipectinate to beyond middle, with very strong branches. Hindtibia of ♀ strongly thickened and tufted, without spurs, of ♀ with 3 spurs. Abdomen rather robust, in ♀
with lateral tufts on last two segments.—**Forewing** with areole double, SC\(^2\) from cell, R\(^2\) central.—**Hindwing** with SC\(^2\) just separate, R\(^2\) central, M\(^1\) arising near R\(^1\).

Type of the genus: *Pseuderythrolophus bipunctatus* (Warr.) = *Erythrolophus bipunctatus* Warr. (1899).

A comparison of the structure with that of *Erythrolophus* was given in *Ann. Mag. Nat. Hist.* (10) vi. 690.

**Apostegania** gen. n.

Palpus rather short. Antenna of ♂ with fascicles of cilia, of ♀ also well ciliated. Midtibia of ♂ with the spurs very unequal; hindtibia of ♂ with a single (strong) spur, of ♀ with a pair of spurs.—**Forewing** with cell short (\(^\frac{1}{2}\) or barely), areole double, SC\(^2\) from cell, R\(^2\) normal.—**Hindwing** with cell short (\(^\frac{1}{2}\) or less). C normal, SC\(^2\) about connate or very shortly stalked, R\(^2\) normal, M\(^1\) separate. Genitalia (♂) of the *Rhodostaphia* type but with gnathos undeveloped.

Type of the genus: *Apostegania crina* (Swinh.) = *Stegania crina* Swinh. (1892).

It is strange that Hampson, who worked largely by venation, did not discover Swinhoe’s incorrect subfamily reference; see *Faun. Ind., Moths.* iii. 166. To the present genus, which is unique in the one-spurred ♂ hindtibia, must be added *"Ptochocephylae" rectilineata* Swinh. (1906), which, however, is irregular in that the ♂ hindleg has a femorotibial hair-pencil and a dense tuft on 1st tarsal joint.

2. **Tricentra benevisio** sp. n.

♂, 15 mm. Face rosy. Palpus rosy above, pale yellow beneath. Vertex yellow, with slight rosy suffusion. Antennal shaft rosy. Body yellow, irrorated and spotted with rose-colour. Foreleg largely rosy. Hindtibia with both proximal spurs present, but short, one sometimes vestigial. Wings shaped as in *gavisata* (Walk., 1862). Yellow with rosy iroration and suffused (except extreme and fringes and on forewing a restricted area about the medians) with vinaceous; markings much as in *gavisata*, but with cell-spots of forewing yellow, confluent, subterminal shade weaker, more diffuse, on forewing less bent.

E. Bolivia: Buenavista, 750 m., January–April 1907 (J. Steinbach), type in coll. Joicey.

3. **Semaeopus maleformata** sp. n.

♂, 33 mm. Antennal ciliation not long. Midleg simple. Hindtibia and tarsus strongly dilated and tufted.

**Forewing** with termen faintly subconcave anteriorly, rather strongly bent at M\(^1\), thence strongly oblique; SC\(^2\) stalked, distal areole very small; colour and markings closely as in *scripturata* (Warr., 1906). Antemedian rather thicker, less incurved, posteriorly less oblique.—**Hindwing** rather narrow, termen straightish from apex to M\(^1\), here strongly toothed, weakly subconcave between tooth and tornus; SC and M converging distally; tufts of long, backward-directed hair from cell beneath, abdominal region beneath also somewhat hairy; like *scripturata*, but with marginal cloudings more reddish than smoky; hairs of underside ochreous.

Uruguay: Santa Cruz (Spencer Moore, collected during the Matto Grosso Expedition, 1891–92), 1 ♂ in Mus. Brit.
4. Neothyisanis aloxogramma sp. n.

♂ 20 mm. Near imella (Druce, 1899), of which bicolor Dogn. (1900, genotype) is perhaps an aberration. (Hindlegs lost.)

Forewing perhaps variable in ground-colour; proximal area and apical part of distal in the type paler and more mixed with yellowish, the rest more purple-brown; distinguishable at a glance from the other Neothyisanis by the very different form of the lines, the antemedian being excurred or outbent in the cell and somewhat waved throughout, the postmedian from costa at $\frac{3}{4}$ to hindmargin at $\frac{3}{4}$, gently sinuate; cell-spot moderate, slightly elongate; ill-defined anterior dots and posterior cloud close to termen.—Hindwing more unicolarous than forewing; central line slightly excurred.

Forewing beneath with distal area and hindmargin pale grey, the rest purple-brown; cell-dot black; postmedian line somewhat sinuous, excurred at hindmargin, more distal than above, beginning in a slightly thickened spot at fully $\frac{3}{4}$ costa. Hindwing with costal region tinged with reddish, the rest grey; a black cell-dot; a fine, rather irregular postmedian line, with a rather strong sinus inward between the radials.

Bolivia: Rio Suruta, Dep. Santa Cruz, 400 m. (J. Steinbach), type in coll. Joicey.

The lines are too differently formed to allow of our regarding this as a possible aberration of imella, which also occurs in the same locality. Both species have the areole double, the dividing wall from about end of cell, similar antennal structure, etc., but the angles at R$^3$ are perhaps slightly the less strong in aloxogramma.

5. Asellodes platygymna sp. n.

♂ 28–29 mm. Head white, with a greenish-yellow tinge; occiput flesh-coloured; palpus with 2nd joint upcurved, a fleshy streak on outsides. Hind-tibia and tarsus extremely short and aborted, a longish light-brown pencil on insides.

Forewing similar in shape and coloration to that of laternaria Guen., slightly narrower, the elbow or tooth at M$^1$ less appreciable, the coloration slightly paler; subhyaline area still more extended, basal patch with boundary straighter and less oblique, hind border limited for a much longer distance by SC$^3$, terminal border somewhat reduced; instead of the single triangular subcostal projection at end of cell which characterizes laternaria, two such projections, the smaller crossing the proximal areole and just entering the cell, the larger at and beyond the end of distal areole and crossing R$^3$.—Hindwing shaped more as in constellata (Warr., 1904) than in laternaria, but with the teeth even weaker; the floccous patch which in laternaria runs along the underside from tornus to the hook at R$^3$ almost wanting, merely indicated at tornus; subhyaline area much ampler than in laternaria, absorbing and over-reaching the spot in the angle of SC$^3$ and R$^3$; costal spot reduced, separated from basal patch.

Underside mostly pale; forewing with the proximal part of costa, the costal spots and proximal part of distal border, at least anteriorly, more or less strongly pink; the rest of the markings indicated by an increased opaqueness.

6. *Ptochophyle dollmani* sp. n.

Of about the shape of *hilaris* Warr. (1898), but considerably larger (27 mm.), the postmedian line much more distally placed, not widened into a band, on the forewing more sinuous; central area of forewing variegated with bright red and black-grey. Underside similarly marked, the hindwing a little paler, the red of the forewing less bright, but suffusing also a part of the proximal area.


7. *Ptochophyle apseogramma* sp. n.

Near *rubripennis* (Warr., 1898, *Chrysolene*) = *sanguinolenta* (Warr., 1898), perhaps a form. Not quite so broad-winged; forewing with the lines somewhat more approximated, the antemedian less bent at its ends; hindwing with the 2nd line more sharply angled, cut at its angle by a broad longitudinal cream-yellow line which runs in front of M and R3, starting proximally of the 1st line and continuing, though slender, as far as the macular subterminal.

N.W. Rhodesia: Solwezi, 6 December 1917 (H. C. Dollman), type ♂ in Mus. Brit.

8. *Ptochophyle subminiosa* sp. n.

♀, 27 mm. Hindwing more angled than in *rubripennis* and *apseogramma*. Colour less bright (yellow, mixed with pink). Forewing with an elongate dark cell-mark (as in *miniosa* Warr., 1899), lines fine and weak, faintly dark-edged in median area, the antemedian acutely angled in cell, the postmedian as sinuous as in *miniosa*, but nearer to the cell-spot. Hindwing still more weakly marked, the cell-spot white, very small.

N.W. Rhodesia: Mwengwa, 30 December 1913 (H. C. Dollman), type in Mus. Brit.

9. *Ptochophyle hyalotype* sp. n.

27–28 mm. Head between the antennae whiter than in *rubripennis* (Warr.); forewing slightly narrower, duller, more vinaceous-brown, lines less oblique, less uniformly developed throughout; hindwing quite distinct in shape, forming a blunt tail at R3–M1. Coloured as forewing, but with a somewhat hyaline white spot, which interrupts the 2nd yellow line.

Lake Kivu: Rugege Forest, Ruanda district, 7,000 feet, December 1921 (T. A. Barns), 2 ♂♂ in coll. Joicey.

10. *Ptochophyle zombensis* sp. n.

29 mm. Rosy, almost entirely washed over with pale purple-drab and with bright gold-yellow borders and fringes; in shape and coloration extremely like a ♂ of *togata* (Fb., 1798); cell-spot of hindwing pale primrose-yellow, not white; forewing above with a small red cell-dot; faint red ante- and postmedian lines, the latter more strongly outbent in the middle than on the forewing of *hyalotype*.

Nyasaland: Zomba, April–May 1925 (H. Barlow), type ♂ in coll. Joicey.

11. *Ptochophyle eclipse* sp. n.

♀, 29 mm. Head and body concolorous with wings.

*Forewing* with costa very slightly arched at base and near apex, termen markedly oblique, sinuous, between SC5 and R3 and between M1 and SM2 slightly
conca ve; dark grey, tinged with vinaceous; a more blackish cell-spot suggested; markings mostly buff-yellow; six irregular costal spots, appearing slightly more orange-buff on account of some red irroration, the three proximal small, the three distal larger; faint suggestions of a curved, macular antemedian from spot 2; some red irroration between spots 3 and 5, connected with a highly irregular and incomplete postmedian of a deep hellebore-red colour (or a little redder), which forms a longitudinal streak in front of R^3, is distinctly double and dentate from R^1 to M^1, then very weak, hardly more than red irroration; subterminal buff-yellow, from spot 6, macular, interrupted between R^2 and M^1; a similar, but slightly narrower and (except between R^3 and M^1) more continuous line close to termen, arising from a costal dot or dash. — *Hindwing* termen with the first concavity (R^1 to R^3) more pronounced, the second short and weak; SC^3 connate; concolorous with forewing, the only distinct marking an irregular buff-yellow antemedian between cell-fold and hindmargin.

Underside mostly less dark; the outer two lines much paler yellow, fused into a band which is interrupted between R^2 and M^1, bears some vinaceous vein-dots and is continued on hindwing; base of wings also with some pale yellow, the rest largely suffused with vinaceous, the forewing, however, retaining an ample but ill-defined dark-grey area in and around cell.

Madagascar: Station Perinet, 149 km. E. of Tananarivo, 20 October–10 November 1930 (Mme. N. Olsoufieff), 1 ♀ in coll. Tring, Mus.

The peculiar coloration of the upperside suggests that this may be an aberration, but the shape distinguishes it from all the known *Plochophyle* of the African Region. The subterminal maculation has something in common with that of *rubripennis* (Warr., 1898).

12. Chrysocraspeda rosina heterora subsp. n.

Differs from *r. rosina* Warr. (1898) in having yellow subterminal spots, especially between R^3 and M^1, the yellow border of the forewing widening more triangularly in its posterior part, the hindwing perhaps more acutely angled at R^3.


Possibly a distinct species.

13. Chrysocraspeda heringi sp. n.

♀, 20 mm. Forewing rather narrower than in *rosina* Warr., termen more regularly curved. More mixed with yellow (especially in proximal area of forewing) and with dark irroration; cell-spots black, that of hindwing elongate; a yellow postmedian narrow band or thick line, on the forewing sinuous, on the hindwing bent parallel with termen; forewing also with interrupted yellow subterminal and indication of curved dark antemedian. Hindwing beneath much paler. S. Cameroons: Lolodorf, type ♀ in Zool. Mus. Berlin.

*Ptochophyle* gen. n.

Palpus rather short; 3rd joint rather small, especially in the ♀. Antenna in the ♀ with long pectinations, apical ♀ merely ciliated; in the ♀ with very short ciliation. Hindtibia in both sexes with all spurs. Forewing with apex acute, termen bent in middle, areole single, SC^3 from its apex or often stalked beyond,
cell somewhat shortened, with M¹ connate or stalked. Hindwing with apex prononned, a blunt angle at R²; R¹ connate or stalked, M¹ stalked.

Type of the genus; _Ptochophyle subcarnea_ (Warr.) = _Traminda subcarnea_ Warr. (1902).

Differs from _Ptochophyle_ Warr. (= _Chrysoleone_ Warr.) in the point of origin of M¹ of the forewing. The ♀ genitalia, moreover, which in _Ptochophyle_ agree pretty closely with those of _Calothysonis_ (= _Timandra_) have more in common with _Traminda_, but show no signs of the complicated uncus.

14. _Traminda vividaria_ (Walk.).

_Trimandra vividaria_ Walk., List Lep. Ins, xxiii, 500 (1861) (Caffraria).

The pink forms of this variable and very widely distributed species should be called, by analogy with those of _T. ocellata_ Warr. (1895), ab. _rufa_ ab. n.

_Traminda obversata atroviridata_ (Saalm., 1880).

This race, which differs from the continental _o. obversata_ (Walk., 1861) in having the line firm, not punctiform, also produces a pinkish aberration (_rufa_ ab. n.). I have not yet seen such in the very common and generally distributed name-type.

15. _Anisodes connexa_ (Warr.) Prout.


As the species earlier described as _Perixera_ (? _radiata_ Warr. (Nov. Zool. iv. 221, 1897, Bonthain, Celebes) is also an _Anisodes_, I propose to call the dimorphic Peruvian species by the second of the two names which were contemporaneously erected by Warren. Those who so desire are still at liberty to call the form in which the longitudinal streak is subobsolete “ab. _radiata_,” or to give it a new name.

It should be added that logically, according to the spirit of the requirements of binary nomenclature for the species, the name which ought to be altered in such cases of collision as the present is the one which obtains later admission into the genus wherein a species bearing the same name was primarily erected. But as the apparently universal custom has been to regard the chronology of the species-name as the sole criterion, I am willing to sacrifice logic to uniformity.

16. _Anisodes polysticta_ nom. n.

_Anisodes multipunctata_ Warr., Nov. Zool. xi. 509 (1904) (nom. praecoc.) (Carabaya, S.E. Peru).

“ _Perixera_ multipunctata” Warr., Nov. Zool. vi. 336 (1899), from Milne Bay, is also an _Anisodes_; if, however (or so long as), this latter can be regarded as an absolute synonym of _thermosaria_ (Walk., 1862, Sarawak), the new name may be considered as superfluous—another illustration of the complications that are involved in “secondary homonymy.”

17. _Anisodes irregularis rothschildi_ nom. n.


Lord Rothschild overlooked that M. Dognin had already (Mém. Soc. Ent. Belg. xxii. 9, 1913) dedicated an _Anisodes_ from Colombia to Mr. Warren. The Snow Mountains insect is at most a race of _Anisodes_ (Plocucha) _irregularis_ Warr.
Anisodes misella nom. n.


Both this and "Brachycola (?)" inornata Warr., Nov. Zool. iv. 216 (1897) are now referred to Anisodes.

Anisodes obviata nom. n.


Warren in 1900 (Nov. Zool. vii. 145) described an Anisodes stramineata from Ecuador.

Anisodes pantophyra sp. n.

♂, 34 mm. Face impure white, mixed with red above. Palpus long, 3rd joint not much shorter than 2nd; red above, whitish beneath. Head, antennal shaft, thorax and anterior part of abdomen rood's brown above; abdomen anteriorly with some red on side; last few segments of abdomen and underside whitish. Hindfemur and tibia glabrous, the tibia well over ½ femur, a single long spur as in denticulata Hamp. (1895)—section Eremocentra Warr.

Forewing with areole ample, SC⁵ just before its end; slightly greyer than rood's brown, irregularly marked with antimony yellow; some mottling proximally; an antemedian band between SC and hindmargin in and behind end of cell, interrupted at M, widening a little behind; postmedian spots between SC⁵ and R² and between fold and SM¹, the anterior one quite near two subterminals, which are central and subapical; a row of black vein-dots just proximal to subterminal spots, inbent at R² so as to approach postmedian spot.—Hindwing with a similar but somewhat reduced pattern in outer half.

Underside very much paler, with shadowy cloudings and on forewing weak outer vein-dots.


Anisodes hirtifemur sp. n.

Like lyciscaria Guen. (= bitactata Walk.), which it evidently represents in Southern Nigeria. Distinguishable by the ♀ hindleg, which has the femur fringed with coarse hair and the proximal spur of the tibia shortened. Face with the red (upper) part restricted—less than ½ (in lyciscaria about ⅔). Cell-dot of hindwing sometimes sharply outlined with black.

Warri (including the type) and Degama, a short series in Mus. Tring.

Ab. bitactata ab. n., has dark distal cloudings as in name-typical lyciscaria, the simpler type-form corresponding to lyciscaria ab. caecaria Guen.

Anisodes proconcava sp. n.

♂♀, 20–22 mm. Group of megista Druce (1892). Palpus in both sexes similarly elongate. Hindtibia in ♀ densely clothed with long coarse hair, proximal spur (as in the whole group) wanting. Head and body concolorous with
wings, the face and upperside of palpus a little more reddened; the slight crests of abdomen whitish.

*Forewing* in ♀ with costal margin sinuous, between the small basal and the longer distal convexity faintly but quite appreciably concave, apex not produced, termen in anterior part curved and faintly waved, posteriorly straighter and fairly strongly oblique; areole well developed (in ♀ sometimes small); ground-colour pale, suffused almost throughout with avellaneous, much as in *argenticristata* Warr. (1901), thus decidedly less warm than in most of the group; antemedian and postmedian series of vein-dots distinct, much as in the last-named, the white cell-dot rather strongly outlined in blackish, the median shade almost or quite touching it on distal side.—*Hindwing* with abdominal margin relatively rather long, at least in the ♀, termen subcrenulate; markings corresponding to those of forewing.

Underside anteriorly suffused with pinkish, the hindmargin of forewing and almost the whole of hindwing pale; markings—except on pale part of forewing—much as above, the antemedian slight.

Mexico, Costa Rica. N. Venezuela and Fonte Boa, the typical series from San Esteban, Venezuela (S. M. Klages), in Mus. Tring.

Diffsers from *argenticristata* in coarsely clothed hindtibia, in shape, and in presence of the areole.

23. *Pleuroprucha archigetes* sp. n.

♀♂. 19–23 mm. Extremely like *rudimentaria* (Guen., 1858). Palpus with 3rd joint longer. Hindtibia of ♀ with 4 spurs. Average size larger; tone, as compared with the pinkish-red shade of *rudimentaria*, rather more orange-red or brown-red; markings rather stronger; median shade of forewing rather broad. Hindwing with M¹ connate to stalked.

Venezuela to French Guiana, the type ♀ from Potaro River, British Guiana, April 1908 (S. M. Klages), in coll. Tring Mus. Perhaps also in Central America.

The obviously very close relationship of this species and the following to the typical *Pleuroprucha* precludes the possibility of our considering the irregularities in their ♀ hindtibial armature as generic. Similar irregularities are already admitted in the closely allied genus *Anisodes*.

24. *Pleuroprucha protopages* sp. n.

♂♀. 17–19 mm. Also extremely like *rudimentaria* Guen., but with the 3rd joint of the palpus longer. Hindtibia of ♀ with 3 spurs. Average size small; tone, as compared with *rudimentaria*, redder; markings moderate in expression (in *rudimentaria* generally weak). Hindwing with M¹ stalked.

French Guiana, the type (in coll. Tring Mus.) and a number of others from the Maroni River. Also from Parâ.

25. *Myrice steinbachi* sp. n.

♂. 23 mm. Head orange. Palpus dark grey, beneath orange. Antenna with the fascicles of cilia on the first six joints virtually sessile, the succeeding joints progressively dentate-fasciculate, but with the teeth continuing shorter than in *inequalis* (Walk., 1854, as *Asiona*). Body grey, the thorax largely
(especially above) overlaid with orange. Hindfemur, as in *inaequalis*, broadened, somewhat hollowed on outsides, the tibia somewhat shorter than in that species (little longer than femur), somewhat dilated, one of the spurs reduced to a knob, the other moderate, rather blunt.

**Forewing** relatively slightly shorter than in *inaequalis*; uniform grey, the veins little or scarcely darkened. — *Hindwing* uniform grey.

Underside the same, the costal margin of the forewing a little darker or more densely scaled.


Shape more as in *transiens* Walk. (1854), but with no trace of the white inner-marginal spot, etc.

**Isoplenodia** gen. n.

Palpus very short and slender. Antenna of ♀ bipectinate with long branches, as in *Epicosymbia*, in ♀ also pectinate, but more shortly than that of *Isopleenia*. Hindtibia of ♀ shortened and broadened, spurless, fringed above and with a hair-pencil; of ♀ with 2 spurs. — *Forewing* shaped much as in *Epicosymbia*; areole double, SC² from cell. — *Hindwing* with SC² shortly stalked.

Type of the genus: *Isopleenia arrogans* sp. n.

Diffsers from *Epicosymbia* in the very short palpus, the ♀ antenna and the hindtibia.

26. **Isoplenodia arrogans** sp. n.

♂, 18–19 mm.; ♀, 23 mm. In ground-colour like the much larger *Epicosymbia dentisignata* (Walk., 1862) and *Isopleenia trisinuata* Warr. (1897), but with more purplish irroration. Vertex and antennal shaft pure white.

**Forewing** with cell-dot small, but sharply black, median shade much more proximally placed than in the species named; terminal line interrupted. — **Hindwing** with similar distinctions.

N. Madagascar: Diego Suarez, March–April (G. Melou), 6 ♂ ♂, 1 ♀ in Mus. Tring.

Ab. *degener* ab. n. (? sp. div.) is less reddish, without purple suffusions, the markings weaker, terminal line obsolete. SC² of hindwing scarcely stalked. 1 ♂, 23 August 1917.

27. **Somatina rhodochila** sp. n.

♂, 32 mm. Head and antenna dull red; antennal ciliation 1.

**Forewing** rather elongate; venation normal; distinct in its olive-buff and rosy suffusions and coarse black irroration; costal and distal borders pink; cell-mark crescentic; very vague sinuous postmedian and subterminal lines indicated, formed somewhat as in *purpurascens* Moore (1867) or still more oblique costally. — **Hindwing** with termen roundly bent, weaker-marked, an ill-defined vinaceous-cinnamnous apical cloud.

Underside dirty whitish, unmarked; costal margin of forewing buff, at extreme edge redder; fringes dull purplish.

W. Kivu; south side of middle Lowa Valley, 3,500 feet, forest, March 1924, wet season (T. A. Barns), 2 ♂ ♂ in coll. Joicey.
28. Somatina ioscia sp. n.

Rather larger and broader-winged than sedata Prout (1922), the head and costal edge without any ochreous colour.

Wings pale grey with rather strong lilac-grey reflections and with some fine olive-grey iroration; the indistinct olive-grey lines are sinuous, in part dentate, and commence from characteristically darkened and oblique costal streaks on the forewing; distal areole extremely small.

Matoppas, Bulawayo, 14 March 1923 (R. Stevenson), type ♀ in coll. Transvaal Mus.

29. Somatina figurata candida subsp. n.

Differs from f. figurata Warr. (1897) in having the ground-colour white, almost as pure as in vestalis (Buttl., 1875).

Uganda, the type a ♂ from Wakibara, Unyoro (Dr. Ansorge), in Mus. Tring.

30. Problepsis rorida sp. n.

♂, 39 mm.; ♀, 50 mm. ♂ pectinations fairly long, gradually diminishing, to become mere teeth at about the 38th-40th joints; hindtarsus scarcely over $\frac{1}{2}$ tibia.

Forewing with markings weak, the silvery cell-mark without any dark element, median line just distal thereto, postmedian complete, dentate.—Hindwing similarly marked, the cell-mark expanded posteriorly by means of a proximal projection, median just proximal to it.

Nyasaland: Mt. Mlanje, 10 May 1913, type ♂ in Mus. Tring; the larger, robust and broad-winged ♀ in Mns. Brit., collected at 6,000–7,000 feet, 2 May 1910 (S. A. Neave). Formerly misidentified as latonaria Guen.

31. Problepsis neumanni sp. n.

♂, 36 mm. Structure and shape nearly as in similinotata Prout (1917), the pectinations scarcely so short.

Forewing with the cell-mark reverting more nearly to the shape of that of aegretta Feld. (1875), without anterior prolongation; lines fine and weak, the postmedian almost obsolete anteriorly.

S.W. Abyssinia: Djiren, Djimma, 20 May 1925 (O. Neumann), type in Mus. Tring.

Ignobilia gen. n.

Palpus moderate, 2nd joint straight, appressed-scaled, reaching well beyond face, 3rd joint shortish-moderate. Antenna in ♂ with moderate, well-ciliated pectinations, ending in short, slight fascicles; in ♀ minutely ciliated. Pectus slightly hairy. Hindtibia in ♂ spurless, with dense pencils, tarsus short, partly concealed; in ♀ with 4 spurs.—Forewing rather broad, costa arched, apex acute, termen faintly sinuous, little oblique, tornus well expressed; cell short, DC$^3$ rather long; areole double, the distal usually very small, the dividing wall from stalk of SC$^{3−5}$; SC$^3$ and SC$^4$ from distal areole, SC$^{2−3}$ very long-stalked from its apex; R$^2$ from somewhat before middle of DC (considerably less extreme than in Nobilia), M$^1$ separate.—Hindwing with costa rather long, termen convex between apex and R$^1$, then considerably less so, not bent at R$^2$, tornus pronounced; cell $\frac{1}{2}$ or rather less; SC$^2$ separate, M$^1$ separate.
Type of the genus: *Ignobilia urnaria* (Guen.) = *Ephyra urnaria* Guen. (1858).

Differ from *Somatina* in the longer palpus, from nearly all its species likewise in the \( \delta \) antenna; from *Nobilia* in R\(^2\) of forewing and separation of SC\(^2\) of hindwing; from both, as well as from *Orthosericea*, in shape; from *Lissoblema* in the position of the dividing wall of the areole.

32. **Antitrygodes acinosa** sp. n.

Structure about as in *dentilinea* Warr. (1897). Forewing with termen slightly more sinuous, hindwing with the tooth at R\(^3\) rather more acute. Deeper purplish, the green blotches larger, including some partially rounded ones in the distal area.

São Thomé (T. A. Barns), recorded in *Trans. Ent. Soc. Lond.* 1927, p. 189, as *dentilinea*; type in coll. Joicey.

33. **Scopula ectopostigma** sp. n.


Forewing with cell noticeably over \( \frac{1}{2} \); whitish, the irroration not strong, the lines light brown, rather weak; cell-dot small but conspicuous.—Hindwing with termen very weakly toothed at R\(^3\); cell fully \( \frac{1}{2} \); cell-dot and a line beyond; terminal dot between SC\(^2\) and R\(^3\) strengthened.

Underside with cell-dot and traces of the lines beyond, forewing with smoky suffusion in cell.

Fernando Po, 3,000–4,000 feet, June 1926 (T. A. Barns), 1 \( \delta \), somewhat wasted but easily recognizable; type in coll. Joicey.

34. **Scopula longitarsata** sp. n.

\( \delta \bar{\delta} \), 19–22 mm. Antennal joints projecting, the fascicles of cilia somewhat over 1. Hindtibia slender, of about the same length as femur, tarsus markedly longer.

Wings brownish white, with strong irroration, somewhat reminiscent of *virgulata* Schiff. (1775), but with sharper cell-dots, median and postmedian lines of forewing curved near costa, these lines on hindwing more proximally placed, terminal line more broken into dashes, hindwing beneath with postmedian line much more distal than above.

Kenya Colony: Kibwezi, April 1922 (W. Feather), 1 \( \delta \), 2 \( \varphi \varphi \) in Mus. Tring.

35. **Scopula nigrinotata** (Warr.).


This extremely variable species was founded on a white form with irregular blackish irroration. Two other colour-forms deserve names, as they probably indicate modifications due to the soil or rocks, as with many of the *marjinepunctata* group.

Ab. *uniformis* ab. nov. is almost uniformly dusted with dark grey, closely like the Indian *cleoraria* (Walk., 1861), except in the less white subterminal spot. Type a \( \varphi \) from Sabie, Transvaal (W. Grubb) in coll. L. B. Prout.
Ab. argillacea ab. nov. Ground-colour more clayey, or inclining to cinnamon-buff. Rather prevalent about Cape Town and other parts of Cape Colony. Type a ♂ from Port Elizabeth (Fitz Simmons) in coll. L. B. Prout.

36. Scopula cassioides sp. n.

♂♂, 23–25 mm. ♂ antennal ciliation shorter than in cassiaria (Swinh., 1904), hindtarsus about ⅔ tibia.

Forewing rather more brownish than in cassiaria; median shade arising from a blacker costal spot, then weaker, much more angled outward at R₃, postmedian also bent anteriorly. — Hindwing concolorous.

Underside with the hindwing less strongly marked than in cassiaria.

Kenya Colony: Kibwezi (W. Feather), type ♂ and allotype ♀; Mombasa (Doherty), 1 ♂; all in Mus. Tring.

S. cassiaria, to which the new species is perhaps not really so closely related as it looks, has the ♂ antennal ciliation about 2, the hindtarsus longer than the tibia, and is obviously very near accentuata (Guen., 1858).

37. Scopula jejuna sp. n.

Apparently a link between deserata (Warr., 1897) and dissonans (Warr., 1897) on the one hand, and bistrigata (Pagenst., 1907) on the other; narrower-winged than the latter, hindwing somewhat more angled than in deserata. Cell-dots minute. Forewing marked almost as in weakly-marked deserata, the fringe pale; hindwing with postmedian line and subterminal shades bent or curved at R₃. Face brown, not very dark.


38. Scopula rhodocraspeda sp. n.

Possibly a colour-form of bistrigata (Pagenst.); comparison difficult as the only ♂ bistrigata yet known to me (Diego Suarez, 31 August) is very worn; central shade obsolete above, as also the distal markings, which in bistrigata apparently connect the postmedian line with the apex. Mustard-yellow to apricot-yellow, the costal edge of the forewing rosy, also the fringes. Forewing beneath suffused with testaceous, only the hindmargin remaining pale.


39. Scopula leucoloma sp. n.

Closely related to rubrosignaria (Mab., 1900) = minuta (Warr., 1900, "S. America," ex err.), hindtarsus apparently a little shorter, wings slightly more rounded. Both, excepting the distal margins and parts of the other margins, strongly suffused with somewhat pinkish cinnamon; forewing with antemedian line more angled than in rubrosignaria, both wings with a strongly developed subterminal. Face burnt sienna, heavily dark-mixed above.


40. Scopula sanguinisecta subcatenata subsp. n.

More flesh-coloured than S. s. sanguinisecta (Warr., 1897), median line strongly incurved at fold, subterminal spots more numerous, though commonly weaker or anteriorly smaller, in the ♀ generally forming a complete chain.
Madagascar: Diego Suarez (G. Melou), 10 ♂♂, 5 ♀♀, in Mus. Tring.
Of the above series, 1 ♂ and 1 ♀ have the ground-colour whitish—
ab. *albida* ab. nov.

41. **Scopula batesi** sp. n.

♂, 30 mm. Closely like a large, pale, weak-marked *sanguinisecta* (Warr.),
the postmedian of the forewing slightly more sinuous, the hindtarsus only about
¾ (in *sanguinisecta* about 1).

Cameroons: Gendern, 4,600 feet, August 1921 (G. L. Bates), 1 ♂ in coll.
L. B. Prout.

42. **Scopula quintaria principis** subsp. n.

Differs from *q. quintaria* (Prout, 1916) in having the upperside almost pure
white, the forewing beneath smoky proximally and with a postmedian line more
or less developed (in *q. quintaria* almost as unmarked as in *tricommata* Warr.,
1899).

Principe, 1,500–2,000 feet, April–May 1926 (T. A. Barns), 6 ♀♀ in coll.
Joicey.

43. **Scopula aphercta** sp. n.

♂♀, 22–25 mm. Size of *nemorivagata* (Wlkgrn., 1863) = *bonacentura* (Warr.,
1897), easily distinguished therefrom by the absence of the characteristic markings
of the distal area, from *finbrilineata* (Warr., 1902) by the smaller size and smoother
wing-margins, from both by the merely curved, not angled, median shade of the
forewing and the large cell-dot of the hindwing.

S. Nigeria and Belgian Congo, the type ♂ from Ogruga, Niger, in coll.
Tring Mus. A very worn pair from Farniso, near Kano (N. Nigeria), December
1919 (A. Buchanan), also almost certainly belong here.

44. **Scopula suda** sp. n.

♂, 26 mm. Antenna with fascicles of cilia rather long (about 2). Hindtibia
with hair-pencils, tarsus little over ⅓.

*Forewing* shining white; costal edge buff; lines not very sharply defined
obsolescent anteriorly, the postmedian obscurely lunulate-dentate; no median
shade; terminal line wanting.——*Hindwing* subquadrate, termen slightly
sinuous; as forewing.

Underside with costal edge of forewing black in proximal part, the entire
cell smoky; otherwise almost unmarked.

Lake Kivu: Rugege Forest, Ruanda district, 7,000 feet, December 1921
(T. A. Barns), 1 ♂ in coll. Joicey.

45. **Scopula coniargyris** sp. n.

♀, 24 mm. Face black.

*Forewing* white, copiously and almost regularly sprinkled with black; cell-
dot minute; lines pale buff, somewhat obscured by the black irroration, finer
than the olive-buff lines of *quadrifasciata* (Bastelb., 1909) = *glaucoeyna* (Hmpsn.,
1910), much more sinuous, more as those of *superior* (Butl., 1878), etc.; median
line well beyond cell-dot, outer subterminal ill-defined, macular; terminal dots
minute.——*Hindwing* shaped much as in *superior*, or with the bend at R3 slighter
still; 1st line wanting, median proximal to cell-dot, the rest as on forewing.
Underside with the irroration weaker, cell-dots and terminal dots as above, lines on forewing fainter and greyer, on hindwing obsolete.


46. Scopula isomala sp. n.

Antennal ciliation of ♂ longer than diameter of shaft, hindtibia strongly thickened, tarsus quite short.

Wings rather broad, both with the termen faintly sinuous; strangely similar to aequidistans (Warr., 1896) from Timor, of which only the type ♀ is known; irroration darker, antemedian line of forewing right-angled in the cell, median less sinuous and more oblique than in that species.

Nairobi, 7 May 1911 (T. J. Anderson), type in Mus. Brit., where there is also a browner ♀, in poor condition but probably conspecific, from Mlanje, 2,300 feet, 29 August 1913 (S. A. Neave).

47. Scopula stephanitis sp. n.

♂, 21–22 mm. Antennal ciliation nearly even, about 1. Hindtibial pencil strong, tarsus less than ½. Recognizable by the faintly sinuous distal margins, the creamy white ground-colour and dark olive-buff costal edge and markings. Underside with sharp cell-dots, the other markings quite shadowy.

Virunga Mountains (Kivu), 9,000 feet, October 1921 (type); Kabira Forest (Ruanda), 7,000 feet January 1924 (1 ♂), both in coll. Joicey, collected by T. A. Barns.

Perhaps near caducaria (Swhin., 1904), but more recalls the South American abornata (Guen.).

48. Scopula mollicula sp. n.

Size, shape and coloration much as in caducaria (Swinh., 1904), but less glossy, perhaps better associated with the spoliata-lubricata group. Face whitish, only a little dark-mixed in upper part. Antenna of ♂ with fairly long ciliation, hindtibia strongly penciled, tarsus short (about ½).

Both wings with cell-dot strong; median and postmedian lines of forewing more distally placed than in caducaria, the latter marked with dark vein-dots; subterminal less strongly sinuous, its accompanying shades sometimes weak.

Underside paler, especially the hindwing, which has the lines obsolete.

Madagascar: Diego Suarez, a good series in coll. Tring Mus.

49. Scopula crawshayi sp. n.

♂, 29 mm. Larger than even the largest praeeruptorum Prout (1920), considerably paler. Antenna subserrate, with longer ciliation. Hindtibia long, tarsus ⅗ or slightly less. Both wings with postmedian line strongly inbent between the radials, but the forewing without the acute tooth on R³, on the other hand with a thickening in the sinus, as in caducaria (Swhin.) ; fringe slightly irrorated, but without definite black dots. Underside with forewing suffused to just beyond the postmedian, then whitish, the hindwing whitish, almost without markings except the cell-dot and terminal dots.

50. Scopula luxipuncta sp. n.

♂, 26 mm. Antenna subdentate-fasciculate, the ciliation rather long. Hindtibia little dilated, but with a long pale hair-pencil; tarsus somewhat over $\frac{1}{2}$.

Forewing whitish buff, with more fleshy suffusion in distal area; shadowy lines of the latter colour, the median excurved considerably beyond the strong black cell-dot, the postmedian black vein-dots exceptionally angled outward at R\textsuperscript{3} (where, moreover, the dot is elongate).—Hindwing with termen waved, very slightly prominent at R\textsuperscript{3}; marked nearly as forewing, median line proximal to cell-dot.

Forewing beneath irregularly suffused with grey proximally, cell-dot black, markings outside it greyer; hindwing almost unmarked, except cell-dot and terminal dots.

W. Kivu: Lowowo Valley, S. Lowa district, 4,000 feet, mountain forest, March 1924 (T. A. Barns), type ♂ and an ab. (?) rather duller and more weakly marked, but with stronger median shade of forewing; both in coll. Joicey. Kampala, Uganda, a ♂ in Mus. Tring.

51. Scopula cornishi sp. n.

♂♀, 23–28 mm. In shape near luxipuncta, i.e. the forewing scarcely so broad and convex-margined as in praecuratorum Prout and improba (Warr., 1899). The whitish ground-colour shows, in fresh specimens, a strong fleshy suffusion; markings intermediate between those of luxipuncta and the improrna group, the postmedian recalling the latter, the very distally placed median of forewing as in the former, but distinct from those of both in its less grey, more fawn colouring. Antenna of ♂ nearly as in luxipuncta, hindtibia with normal hair-pencils, tarsus well over $\frac{1}{4}$.

Madagascar: Ambinanindrano, 50 km. W. of Mohanoro (G. K. Kestell-Cornish), type ♂ (unfortunately rather worn) and 14 ♂♀ in Mus. Tring.

52. Scopula astrabes sp. n.

♂, 16 mm. Structure as in serena Prout (1920). Both wings appear slightly narrower still, the margins being less curved, the apex of the forewing rather sharp. Ground-colour much more fleshy and with stronger dark irroration; lines greyer, much stronger, the median of the forewing crossing the cell-dot, the median and postmedian of the hindwing very straight, especially the latter, which approaches the cell-dot; marginal shade stronger, the rather large terminal dots slightly connected by a grey line. Underside with similar distinctions.


53. Scopula oenoloma sp. n.


Upperside variable in colouring, some specimens much paler than the ochrous type-form; median shade more or less mixed with grey, postmedian line varying in thickness, sometimes marked with blackish dots on the veins; the
vinaceous fringe (only proximally somewhat suffused with the ground-colour) is characteristic.

Underside always with the usual pale ground-colour of Scopula, only becoming more ochre at costal edge; forewing proximally irrated with black; markings slight, especially on forewing; fringe vinaceous, with pale base.

Nyasaland: Mlanje Plateau, 6,500 feet, December and March 1913 (S. A. Neave), 4 ♂♂; Mt. Mlanje, 5,000–7,000 feet, 1 May 1910, 1 ♂; all in coll. Brit. Mus.

54. Scopula benenotata sp. n.

*Craspedia benenotata* Warr. M.S.

♂, 26 mm. Similar in structure to latitans Prout (1920). Forewing a little narrower, with termen somewhat more oblique; colouring warmer, pinkish buff or light pinkish cinnamon, cell-dots larger, postmedian line marked with angular black dots or short teeth outward on the veins and on the hindwing with a large black dot at abdominal margin; fringe with small dots at base opposite the veins.

Madagascar: Ivohimanitra Forest, Tanola, 21 October 1894 (F. Major), 1 ♂ in Mus. Tring.

55. *Zygophyxia palpata* sp. n.

♀, 18 mm. Face and palpus brown, the latter much more heavily scaled than in typical *Zygophyxia*. Wings less extremely narrow than in *relictata* (Walk., 1866), white with moderately dense but unevenly distributed brown-grey iroration, the median shade proximal to the cell-dot on both wings, the subterminal strong, band-like, parallel with termen. Hindwing with a terminal excision between M♀ and tornus, as in *tornisecta* Prout (1916).

Kenya Colony: Kibwezi, April 1922 (W. Feather), type in coll. Tring Mus.

Palpus rather more robust than in *tornisecta*. Wings slightly narrower, whiter, the lines less brownish, etc.

56. *Zygophyxia erlangeri* sp. n.

In structure and coloration close to *relictata* (Walk.), in markings nearer to *tornisecta* Prout. Only the cell-dots and the band-like outer line distinct, both above and beneath; hindwing not noticeably paler than forewing; terminal marks punctiform (in *relictata* linear); underside of palpus and of wings paler than in *relictata*.

A. Merehan: Djeroko (type) and Wante; Garre; Gardoba-Djira; Karo-Lola, S. of Dana River; Gorgoru, Ganale River; a series of 10 ♀♀ collected in April–May 1901 (Baron C. von Erlanger), all in Mus. Tring.

**Ptychamalia** gen. n.

Head, antenna, thorax and leg-structure as in *Scopula*, the ♀ hindleg occasionally (*exempla, costifera, ptychopoda*, etc.) with a tendency to lose the outer proximal spur.—*Forewing* with termen smooth, at most very faintly sinuous; cell less than ½; areole double, SC♀ arising from cell, occasionally connate, extremely rarely stalked or with its base lost (leaving the areole undivided), R² central or a little before middle.—*Hindwing* with termen rounded, or very feebly bent in middle; C normal, SC♀ stalked, M♀ separate, often rather widely so.
Type of the genus: *Ptychamalia perlata* (Warr.) = *Haemalea perlata* Warr. (1900).

An extensive genus, of very uniform facies, which has been confused with *Hamalia* Hb. but differs essentially in the ♂ genitalia, which are more Sterrha-like in structure—gnathos present, valves not fused, no cerata—while *Hamalia* more favours *Scopula*. Of the superficial characters which are generally used in Sterrhine taxonomy, no single one seems absolutely valid in all cases, though the hindwing venation (SC in *Hamalia* comate or just separate, only exceptionally short-stalked; M^1 closely approximated or almost comate) will generally suffice, while the rather more robust build of *Hamalia*, its more aborted ♂ hindleg and sometimes hindwing specialization are also of differential value. From *Scopula*, *Ptychamalia* differs regularly in the stalking of SC^2 of the hindwing and almost invariably in the double areole of the forewing.

57. *Ptychamalia sara* sp. n.

♂, 20–21 mm. Smaller than *nigromarginata* (Dogn., 1890). Forewing with antemedian line generally complete, sinuate inward between M and SM^2, the diffuse median shade replaced by a concise line (rarely thick) just beyond the cell-dot, minutely dentate outward on the veins, gently incurved between M^1 and SM^2; postmedian with its oblique anterior part prolonged so as to touch (or almost touch) the terminal blotch just behind R^1.


58. *Ptychamalia melanoma* sp. n.

♂, 19 mm. Face blackish brown, narrowly white below. Palpus white at base and beneath, partly brown on outsides. Antennal fascicles 1 or slightly over. Hindtibia rather long, strongly dilated, with white pencils, tarsus very short.

*Forewing* rather narrow; both areoles rather long, SC^2 from cell; white, with minute and sparse dark irroration; costal edge black to about middle; cell-dot moderate; antemedian and median lines sinuous, weak, the former crossing base of M^2, the latter just outside cell-dot; postmedian marked chiefly by dark vein-dots and blacker dots at both margins, running from costa 2-5 mm. before apex, slightly oblique outward to R^1, then slightly less oblique than termen to M^1, finally almost parallel with termen and with fine interneural lunules; vague dark subterminal shading, stronger as an elongate mark between SM^2 and tornus; terminal line black, slightly interrupted.—*Hindwing* rather elongate costally, termen anteriorly rounded, near tornus straighter to faintly suboneave; median line continuing antemedian of forewing, postmedian continuing median; sub-terminal shades a little strengthened.

Underside more weakly marked, the cell-dots and postmedian well noticeable, especially on forewing; forewing slightly suffused at base, brown-tinged along costal margin, the black proximal edging less long than above.


Near *psychopoda* (Prout, 1910) in size, shape and ground-colour, but with the darkened costa of *perlata* (Warr.), *costifera* (Dyar, 1914), etc.
Tricentrogyna gen. n.

General characters of Sterrha Hb. (= Ptychopoda Hb.), but with 3 spurs (1 proximal, 2 terminal) on the ♀ hindtibia. Generally further differentiable by the double areole of the forewing, but I include here, at least provisionally, a few aberrant forms in which the areole is simple or even obsolete. Hindleg of ♀ spurless, generally slender. Distinguishable from the 3-spurred Enmaecrodes by the less elongate abdomen and wings and shorter cells, generally also (though I include here ligicicolor Warr., 1904, and informipennis Warr., 1905) by the more regular shape of the hindwing; from the occasional 3-spurred Ptychamalia, apart from the pattern, by the stalking of R3 and M3 of the hindwing.

Type of the genus: Tricentrogyna vinacea (Butl.) = Hyria vinacea Butl. (1878) = Acidalia flavomarginata Möschl. (1890) = Acidalia opulentaria Möschl. (1890).

59. Lobocleta isocyma sp. n.

♀, 20 mm. Face blackish. Palpus short and slender, blackish-mixed on outside. Vortex pure white; occiput and collar more buff. Thorax and abdomen white, irritated with buff.

Forewing white, with some very fine buff irroration; markings buff (inclining to pinkish buff), band-like; basal and subbasal ill-defined, partly interrupted, partly confluent; antemedian more definite, as oblique as termen; median, postmedian and subterminals parallel, sinuous (inward at both folds, outward before, between and behind), separated by bands of the ground-colour scarcely as broad as themselves, the distal subterminal smooth-edged distally, separated from termen only by a white thread; terminal line very fine, but marked with dark dots at the veins; three darker dots at apex and on distal-part of costa; fringe white, very weakly clouded with buff. — Hindwing similar; termen very faintly sinuate between the radials and behind M3.

Forewing beneath more suffused; hindwing white, feebly marked.

Matto Grosso: Melguira, 10 miles S. of Diamantino, 2,000 feet, 23 May–3 June 1927 (C. L. Collenette), 1 ♀ in coll. Joicey.

A quite distinct species, somewhat recalling the African Scopula quadrifasciata (Bastelb., 1909), but without the minute black cell-dots.

60. Sterrha inquisita sp. n.

♀, 16 mm. Face and palpus purple. Vertex buff-yellow. Body buff-yellow, the abdomen above much clouded with dull purple. Legs predominantly yellow, anterior coxa and femur marked with purple.

Forewing scarcely so extremely narrow as in exquisita (Warr., 1897) and angusta (Butl., 1896); glossy cream-buff, clouded with buff-yellow; markings vivid purple or slightly redder; basal patch 3 mm. long in cell, narrowing behind; subterminal band 1–1.5 mm. wide, sinuous-edged, at hindmargin reaching tornus. — Hindwing gently sinuate between the radials, straightish between M3 and tornus; a subterminal band nearly as on forewing.

Underside similar, the proximal patch rather weaker.

Possibly a race of *exquisita* (Warr.), the basal patch shorter anteriorly, the band more proximal.

61. **Sterrha prionodonta** sp. n.

♀, 17–21 mm. Larger and relatively longer-winged than *fumilinea* (Warr., 1903), paler and with scarcely any black irroration. The principal lines more acutely angulated, the median more distally placed, faint, brownish, on the forewing arising from a black costal spot, very acutely angled outward at R₁, then curving inward to the base of the medians; black dots on fringe intense. Under-side very faintly marked, excepting a postmedian costal dot and the fringe-dots.


62. **Sterrha tristega** sp. n.

♂♀ 14–22 mm. Face black. Antenna of ♀ with the joints projecting, bearing rather long fascicles of cilia. Hindleg of ♀ less short than in *fumilinea* Warr., the tibia heavily scaled above and with a hair-pencil from the femorotibial joint, the tarsus quite short (about ¾).

Variable not only in size but also in the warmth of the ground-colour, which, however, always shows a decided tinge of reddish or cinnamon-brown; the dark shading between the postmedian and subterminal lines recalls that of the Palaearctic *trigeminata* (Haw.) though each pair of “twin” spots is generally more confluent; the nearest affinities, however, seem to be evident with *fumilinea*, from which it differs in having the markings less coarse (on the hindwing generally weaker), the median shade generally weak, the ante- and postmedian lines less irregular.

Madagascar: Diego Suarez (G. Melou), a long series in Mus. Tring.

63. **Sterrha leucorrheuma** sp. n.

♂, 14 mm. Palpus minute, grey. Tongue wanting (?). Antenna rather slender, joints scarcely projecting, ciliation about 2. Hindleg short, the tibia and tarsus together very little longer than the femur.

Forewing with tornus slightly more pronounced than in the *fumilinea* group; cell just over ½; whitish, slightly glossy, mostly suffused with mousel-grey, in places with some coarse darker irroration; a narrow band (shaped almost as in *nexata* Hb.) remaining white between the median and postmedian lines, the rest of the median area intermediate in whiteness; median line thick; the white subterminal almost as sinuous as in *fumilinea* (Warr.) but less thickened; fringe dark-mottled, with blackish dots.—Hindwing with termen strongly convex, more sinuous than that of forewing; SC² short-stalked; marked nearly as forewing.

Underside similarly but still more sharply marked.


64. **Sterrha staudingeri** nom. n.


“*Leptomeris* (?)” *uniformis* Warr., Nov. Zool. iii. 373 (1896) is a *Sterrha* (vide *Ins. Samoa*, iii. (3) 131) and involves renaming Staudinger’s species.
65. *Sterrha swinhoei* nom. n.


"Eois (? )" *rufula* Warr., *Nov. Zool.* vii. 334 (1899) is also a *Sterrha*, perhaps a form of *S. uniformis* (Warr.), but in any case invalidating *S. rufula* Swinh. (see on *Anisodes connexa*, no. 15 supra).

66. *Sterrha heres* sp. n.

Near *associata* Warr. (1897), but with the ♂ antennal joints projecting almost as in *echo* (Prout, 1916) ; ciliation even, about 1. Cell-dots wanting or very faint, the shade just outside the postmedian also obsolete or very narrow, even the characteristic darkening at the abdominal margin of the hindwing generally scarcely noticeable ; a fine, almost straight median line, on the contrary, generally well developed on the forewing. Underside similar to upper, the cell-dots sometimes better expressed. ♀ rather larger than ♂.


67. *Sterrha pocilocrossa* sp. n.

♂♀, 9-13 mm. Hindtibia of ♂ with long, slender peneil, tarsus very short.

Forewing narrow, with cell very long ; whitish; easily known by its thick, sinuous postmedian line (placed unusually close to termen), its delicate violet-grey subterminal shading, warm brown costal edge and fringe, etc. ; cell-dot black, median line nearly straight, proximal to it. —*Hindwing* with termen rounded anteriorly and only very faintly sinuate posteriorly; distally similar to forewing, proximally a trifle more weakly marked.

Madagascar : Diego Suarez (G. Melou), a long series ; type in Mus. Tring.

68. *Sterrha simonsi* nom. n.


"Hyria " *marginata* Swinh. (1894), which is likewise a *Sterrha*, invalidates Warren’s name.

69. *Sterrha prucholoma* sp. n.


Forewing shaped about as in *marginata* Swinh. (1894) ; areole rather small, SCi generally separating beyond its apex; in colour and markings extremely like a rather pale *marginata* ; the purple-brown border with the proximal projections rather strong between the radials and in the submedian area. —*Hindwing* with the termen not—as in *marginata*—appreciably bent at R3; concolorous with forewing ; the irregular border broadest apically or subapically.

Underside similar, with the markings slightly broadened and strengthened, forewing proximally somewhat suffused, posteriorly and distally (with hindwing) a trifle paler than upperside.
Uganda (G. H. E. Hopkins), the type ♀ in good condition from M. 11, Jinja, 12 April 1931, a worn ♂ allotype (recognizable, useful for the structural characters), 25 May 1931, both in Mus. Brit. The Tring Museum has a smaller ♂, also in poor condition, from Kumasi, Gold Coast, and another from Kassai district, Congo Belge (Taymans).

70. Sterrha tornivestis sp. n.

♀♀, 19 mm. At least as long-winged as flamingo (Warr., 1901), but with the distal margins not sinuous. Pale, not reddish, the postmedian line pretty direct but slight, subterminal shades strong, in the ♀ more or less suffusing with the postmedian to form a broad dark border. ♂ hindwing at tornus and distal part of abdominal margin clothed with long coarse specialized scaling which projects somewhat beneath.

Nairobi, a few of each sex in different collections, the type ♂, 28 April 1928 (G. H. E. Hopkins), in coll. Joicey. Also 1 ♀ from Mt. Mlanje, 2,300 feet (S. A. Neave), in coll. Brit. Mus.

71. Sterrha falcifera nom. n.


So long as Deinopygia is regarded as a section of Sterrha, Warren’s name for this species is preoccupied by [“Idaea? ”] Sterrha falcipennis Warr. (1893) from Sikkim.

72. Sterrha zonata nom. n.


There exists a prior fasciata in the genus Sterrha (sect. typ.), namely S. fasciata (Stgr., 1892, Taurus), which, although almost certainly a race of determinata (Stgr., 1876), preoccupies the binomial.

73. Sterrha villitibia sp. n.

♂, 22 mm. Antennal ciliation very short. Midleg rather long and strong, tibia clothed with very long shaggy hair, tarsus shorter than tibia; hindleg short, weak, hairy, the tarsus aborted. Head and body eoneolorous with wings, vertex of head more smoky, face blackish.

Forewing with termen slightly more oblique than in proximaria (Leech, 1897); areole moderate, SC1^5^2^3^4 stalked well beyond it; light vinaceous-buff, a little warmer and more uniform than in proximaria, but closely similar; markings as in that species, rather weak, darkening of costal edge slighter and narrower. —Hindwing with apex well expressed, termen long, from apex to R^2^ straight, then gradually curving, more sharply bent about the medians, submedian area relatively reduced, abdominal margin long; underside clothed with moderately appressed hair; SC^2^ – R^3^ stalked to about ½ their length; as forewing.

Underside more weakly marked, the dark terminal shade undeveloped.


Apparently a highly specialized development of proximaria (Leech), the hindwing shape recalling that of informis (Warr., 1897, as Strophoptila) or some specialized South American Sterrha.
74. Sterrha rufulata versicolor subsp. n.

Rather larger than typical rufulata (Warr., 1900, as Pogonogya, Venezuela), hindwing above more strongly irrorated with red, beneath with a broad red band distally, occupying more than half of the wing, only shading off to the ground-colour towards tornus.


75. Sterrha caustoloma sp. n.

♀, 16 mm. Evidently near ustímargo (Warr., Proc. U.S. Nat. Mus. xxx. 459, as Psychopoda, Dutch Guiana), which is only known to me from the description. Structure the same, also the purple (overlaid with glossy blue-black) head, dorsum of abdomen and costal margin of forewing.—Wings pinkish buff, in some lights with violet or bluish-silvery reflections; cell-dots present; all three lines marked by dark vein-dots, the postmedian of the forewing the blackest and most distinct, connected by traces of a very fine dark thread; different from that of ustímargo in that it curves after reaching R1, thence running parallel with termen at a distance of about 1 mm., bending out towards tornus behind SM2; distal area not filled in with purplish grey, merely with faint shadowing proximally to the thick blackish-purple terminal line, which is almost interrupted about M2.

Matto Grosso: with the preceding species, 3 ♀♀.

76. Sterrha buchanani sp. n.

"Sterrha fylloidaria Swinh."

♀, 14 mm. Smaller than fylloidaria (Swinh., 1904), apex of forewing and termen of both wings somewhat more rounded. Paler grey-brown, not reddish; postmedian line much weaker, about parallel with termen, thus more proximally placed at the angle on R1, which angle is less extremely acute; subterminal band stronger, approximately parallel with termen; hindwing less contrasted in colour within and beyond the postmedian line.

Makochia, Damagarim, 15 September 1920 (A. Buchanan), 1 ♀ in Mus. Tring.

77. Sterrha lycagidia sp. n.

♂, 14–18 mm. In shape and general aspect, as well as in having C of the hindwing anastomozing with the proximal half (or more) of the cell, evidently related to liliiputaria (Warr., 1902). ♀ antennal joints projecting, with paired fascicles of cilia. ♀ hindtarsus long (in liliiputaria very short). More Zygophyria-like than the following species and liliiputaria, the postmedian line of the forewing very oblique, the hindwing only with cell-dot and a weak line beyond.

Madagascar: Diego Suarez (G. Melou), a long series in coll. Tring Mus.

78. Sterrha sympractor sp. n.

♂, 13–15 mm. On an average smaller than the preceding, still nearer to liliiputaria (Warr.) in shape and markings, but somewhat browner, with stronger grey irrtoration or suffusions, the lines commencing from black costal spots.
♂ antennal ciliation rather short. ♀ hindtarsus about \( \frac{1}{2} \). Venation as in *lilliputaria*.

Madagascar: Diego Suárez (G. Melou), a long series in coll. Tring Mus.

**Notiosterra** gen. n.

Face rounded, protuberant, smooth-scaled. Palpus shortish, rather stout, terminal joint small. Tongue developed. Antenna in ♂ with shaft almost simple, bearing fascicles of long cilia. Peetzus somewhat hairy. Femora glabrous. Hindleg of ♂ rather long, tibia not dilated, bearing a pair of well-developed terminal spurs, tarsus long; ♀ probably with terminal spurs only.—*Forewing* with costa rather strongly shouldered at base, then very straight to near apex, termen rather short, nearly straight, not very strongly oblique; cell almost \( \frac{3}{4} \), DC^3 well developed, areole single, ample, R^2 slightly before middle, M^4 rather widely separate.—*Hindwing* with costal margin relatively long, apex rounded, termen smooth, straightish between R^1 and M^2, straight or almost incurved between M^3 and tornus; cell at least \( \frac{1}{2} \); C normal, SC^2 very shortly stalked, R^2 slightly before middle, M^1 well separate.

Type of the genus: *Notiosterra rhodocosma* (Lower) = *Sterrha rhodocosma* Lower (1897).

The shape and texture of the type more recall *Omphax bacoti* Prout (1912) than the ordinary Sterrhine forms, though the termen of the forewing is slightly shorter and less oblique still. Comparison is also possible with *Rhodometra*, which has—except for still longer cell of forewing and strong anastomosis of C of hindwing—similar venation, similar colouring, similar hindwing, protuberant (though less rounded) frons, but which is, I think, not quite so robust and has considerably longer and more oblique termen of forewing and strongly pectinate ♀ antenna. Distinct from *Sterrha* in the frons, long cells, wing-shape, very short stalkling of SC^2 of hindwing, etc.

Here will probably belong *aglaodesma* (Lower, 1893), *interalbulata* (Warr., 1904) and *triglypta* (Lower, 1908); the last-named, described as "*Dichromodes?*", must, I think, be near *interalbulata*, though much larger—unless "28 mm." is a misprint.
BIRDS OF KENYA AND UGANDA, BEING ADDENDA AND CORRIGENDA TO MY PREVIOUS PAPER IN "NOVITATES ZOOLOGICAE," XXIX, 1922.

By V. G. L. VAN SOMEREN, M.B.O.U., Etc.

(With Plates III and IV.)

The object in writing this paper is twofold: firstly, to bring my previous Report up to date by adding new species and races which have been described since its publication and inserting species which were inadvertently omitted previously; and secondly, to make such corrections in nomenclature as are necessary, taking Sclater's Systema Avium Aethiopicarum as a guide. Where I either differ entirely from the views expressed by Sclater, or make modifications thereto, I submit my views for what they are worth. That we have reached finality with regard to the classification of the birds of East Africa is not to be expected; but I trust that such notes as I have made will help toward clearing up some of the many difficulties before us. It is, of course, possible that instead of clearing up a difficulty, I have added to it, albeit unintentionally, and I should like to make it perfectly clear that such opinions as I express are based on the results of my own investigations of the very large collections at my disposal, and of the birds in the field.

It will be recalled that my previous paper was based on my large collection of 15,000 skins; I have now added another 6,000, and, in addition, I have made free use of the bird collections in the Nairobi Museum.

It must be remembered that Kenya and Uganda are very complex countries: combinations of factors, differing in several areas, tend to the formation of geographical races hitherto unrecognized. These ecological factors can be appreciated only by the man on the spot, who has actually studied the country in detail.

As before, the area covered by this Report is limited to Uganda and Kenya, but takes in the area of Jubaland now under Italian administration.

The arrangement adopted is that of my previous paper, which is based on the classification given by Reichenow in Vögel Afrikas.

Several new races are referred to, some recently described by American and English authors, and many which have appeared in the Journal of the East Africa and Uganda Natural History Society, no. 37, July 1931.

Alterations in names are preceded by the designation previously used by me, followed by the corrected name in heavy type; additions are given in heavy type; additional localities are recorded for many species and races previously cited.

The principal works referred to in this Report are as follows:

Chapin, J. P.: Journal für Ornithologie, 1929.

I take this opportunity of thanking Messrs. Sclater and Bannerman for their help in comparing certain birds with material in the British Museum, and Dr. Hartert for similar services in the Zoological Museum at Berlin.

PODICIPIDAE.

The following corrections of my previous notes on the Grebes are necessary. According to Sclater, Systema, p. 4, the genus Poliocephalus must now be used for the African Little Grebes; the race found in Kenya and Uganda, where they are resident and breed, is P. ruficollis capensis (Salvad.), No. 3, type locality Shoa.

The resident race of the Black-necked Grebe, now placed in the genus Proctopus, has been described by Roberts as Proctopus nigricollis gurneyi, type locality Lambert's Bay, Cape Province. These birds nest twice a year on Lakes Nakuru and Naivasha, and it is very doubtful whether the European race finds its way so far south in the winter; my No. 4.

The genus Podiceps is now used for the Great Crested Grebes; the resident breeding race is Podiceps cristatus infuscatus Salvad., No. 5.

SULIDAE.

Sula dactylatra melanops Hegl. Masked Booby.

The Indian Ocean race of the Masked Booby is recorded by Sclater along the coast of East Africa from Lindi to Somaliland.

Morus capensis (Licht.). Cape Gannet.

This species has been noted on several occasions south of Mombasa, and even in the harbour. I have obtained 2 specimens from the coast off Vanga. There is a breeding colony on a small island some distance south of Zanzibar, but very few birds seem to come farther north than Mombasa.

PHALACROCORACIDAE.

Phalacrocorax carbo lucidus (Licht.). White-breasted Cormorant.

This is the large Cormorant which is found along the Tana and Juba Rivers. It apparently does not occur on the inland lakes.
ANHINGIDAE.

Anhinga rufa rufa (Lacép. & Daud.). African Darter.

Owing to an oversight, records of this bird were omitted from my paper in Nov. Zool., 1922. The species is very common on all the lakes and larger rivers throughout Kenya and Uganda. Large nesting colonies exist on Lake Victoria. One occasionally finds a clutch of eggs which lack the outer layer of white chalk, thus they are bluish in colour.

LARIDAE.

Larus ciirocephalus Vieill., No. 8.

Most authors dealing with this species recognize but one form; in a recent paper, however, by Friedmann, the name poiocephalus Swains. is used to distinguish the African race from the South American form. He further places this gull in the genus Hydrocoloeus—Bull. U.S. Nat. Mus., no. 153, p. 194.

ANATIDAE.

Nyroca nyroca nyroca (Güld.). White-eyed Pochard.

This species is omitted from Sclater’s Systema as a migrant to Kenya. I have secured a female in good plumage, which was shot from a small flock in February 1925. The species was again obtained in January 1930. It is more than likely that these birds have, in the past, been overlooked and probably confused with the immature of the African Pochard. Dr. Hartert, who has verified the identification, writes: “It is recorded from Northern Nigeria, Khartoum, Sokotra, and Abyssinia. Is also said to occur in the Congo, but the record is unreliable.”

Nyroca fuligula (Linn.), No. 24.

In my previous paper (op. cit.) I recorded what I took to be the first specimen of this duck obtained in East Africa. Although Sclater had access to this record, he omits any reference to it in his Systema. I have now handled no less than 6 specimens in the flesh, obtained on Lake Naivasha, in February 1924, and on Lakes Elmenteita and Nakuru, 1925. The birds obtained are in fine fresh plumage, with well-developed tufts. Jackson does not include the species in his Game Birds of Kenya and Uganda. Mr. Allen Turner informs me that they are regular visitors to the Kinangop Dams.

Anas crecca Linn. European Teal.

This species must now be added to the list of ducks found in Kenya and Uganda. The first specimens were obtained on Lake Naivasha, in January 1919; the bird was found again in April 1923, and since then I have obtained examples each winter. As in the case of practically all the northern migratory ducks shot here, the degree of moults and plumages exhibits every gradation from the full breeding dress to the complete eclipse, besides many stages in the change from the first winter to summer garb of the young. I have seen specimens taken on the crater lakes of Toro, in Uganda. Jackson omitted to include this species in his book on the Game Birds, and Sclater likewise does not record it from Kenya in Systema.
Anas penelope Linn. European Widgeon.

A further species hitherto unre corded from Kenya. I have obtained a few examples from Lake Naivasha, including a full-plumed male, a male entering its first summer dress, and one still in the first winter. All these were shot in January 1925, while females were obtained in February 1925. Other specimens were shot in January 1931 on Lake Naivasha.

Anas undulata ruepelli Blyth. Abyssinian Yellow-billed Duck.

Sclater records this form as from Uganda, in the north-east, where it intergrades with the typical form.

Anas platyrhynchos Linn. Mallard.

H. B. Sharpe records this bird from Lake Marsabit, but the record should be substantiated by a specimen—*Batureur*, vol. ii, no. 4, p. 106, 1930.

PLEGADIDAE.

Hagedashia hagedash erlangeri Neum., No. 40.

In my previous paper, Nov. Zool., 1922, I recorded my Lake Jipe, Kilimanjaro, birds as belonging to this race. I have since obtained specimens from Serenli, on the Juba River, on which I have reported in the *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 26. These three birds have the following measurements: Culmen 122, 127, 126 mm.; wings 310, 325, 327 mm.; tails 133, 130 mm.; tarsi 60, 61, 63 mm. It will be seen that every measurement is well below those given for Kenya birds, though Neumann apparently had small birds also, the minimum bill length given by him being 128 mm.

The specimens which I refer to true *erlangeri* were obtained at Serenli on the Juba River, and undoubtedly belong to this form, type locality Dogge, S. Somaliland. A pronounced feature in these specimens is the very dark grey of the head and throat, contrasting with the neck and accentuated by the creamy white stripe which extends from the gape to the lower edge of the earcoverts. The grey of the underside is paler than in Uganda and Kenya specimens.

Although Sclater gives the distribution of *erlangeri* as East Africa from S. Somaliland south to Nyasaland and the Zambezi, and I myself have recorded birds from Lakes Naivasha and Jipe under this name, I cannot but feel that Kenya birds are not really *erlangeri*, but are intermediate between that form and nilotica, and should be reckoned as a distinct race.

Oreoibis akleyorum, No. 38 = Lampribis olivacea akleyorum (Chapm.).

Chapin has recently given an interesting review of the *Lampribis olivacea* group, Amer. Mus. Novit., no. 84, Aug. 1923, and shows that the Kenya bird belongs to the genus cited above, and the genus *Oreoibis* becomes a synonym. Very few specimens have been obtained, and, besides the 2 types, only 3 others are recorded: Percival, 1919; W. N. van Someren, 1921; and one in 1927 taken by one of my collectors at Meru. This last was seen feeding at the edge of a swamp, and my Boy, having nothing but a butterfly net handy, pulled the shaft off the net and flung it at the bird, luckily striking it on the neck and
killing it instantaneously. The specimen is an exceptionally fine one in full plumage. Measurements: culmen 126 mm.; tarsus 68 mm.; wings 370 mm.

The species is not actually rare in the vicinity of Mt. Kenya and the Aberdares. It keeps to the forests, but when grass fires are burning within a short distance of its retreat, one may see small flocks up to a dozen individuals hunting for insects in advance of the slowly moving line of flames.

**ARDEIDAE**

*Nycticorax leuconotus* (Wagl.). *White-rumped Night Heron.*

This species must now be added to the list of Kenya birds. Two examples were seen near the edge of the forest in the west Taveta district, and one procured. I have no typical specimens for comparison, but Sclater records only the one form. The type came from Senegambia.

No. 46, *Ardea gularis.* The specimens from Witu and Zanzibar, mentioned by me as recorded by Jackson, refer to *Demigretta dimorpha* Hart. *D. gularis* is confined to West Africa.

No. 50, *Egretta alba.* Friedmann, *Bull. U.S. Nat. Mus.* 1930, p. 19, has recently pointed out that the Great White Egret or Heron, which is found south of Egypt and Northern Africa, is not the European race, but the African, *Casmerodius albus melanorhynchos* (Wagl.). He states that the distinguishing feature is the colour of the exposed end of the tibia, which is yellow in *C. albus albus,* and black in *C. albus melanorhynchos.* This character, however, is rather unsatisfactory, as the young or immature in both races have black legs. There is also a seasonal change, a characteristic which is very well demonstrated in *Egretta garzetta garzetta.*

*Ardia idae* (Hartl.), No. 54.

Sclater, p. 27, places this bird as an insular race of *Ardea ralloides* (Scop.) and confines its range to Madagascar. There is not the slightest doubt that *idae* occurs on the mainland of Africa, as various records prove, and, as Friedmann has shown, *Bull. U.S. Nat. Mus.* no. 153, p. 23, that both birds occur on the island of Madagascar, I prefer to maintain the two as distinct species.

*Butorides atricapillus* (Afz.), No. 55.

This species should be referred to as a race of *Butorides striatus.*

*Ardetta sturmii,* No. 57 = *Ardeirallus sturmii* (Wagl.).

Sclater upholds the genus *Ardeirallus* for this species.

*Ardetta minuta payesii = Ixobrychus minutus payesii* (Hartl.).

The resident race in Kenya and Uganda is *I. minutus payesii* (Hartl.). The typical race, *I. minutus minutus,* occurs as a migrant.

**CICONIIDAE.**

*Abdimia* is replaced by *Sphenorhynchan* Licht., No. 65.

*Ephippiorhynchus* replaces *Mystery,* No. 67.

*Tautalus ibis* now becomes *Ibis ibis* (Linn.), No. 70.
PHOENICOPTERIDAE.

The Greater Flamingoes, which occur on the larger lakes of Kenya and Uganda, should be known as Phoenicopterus ruber antiquorum (Temm.), No. 71, while the Lesser Flamingo is referred to the genus Phoeniconaias, No. 72. The Greater Flamingo is recorded as a breeding bird on Lake Rudolf.

GLAREOLIDAE.

Glaecola pratincola.

In my previous paper, p. 11, I recorded birds from the coast of Lamu, Lakes Rudolf and Victoria, as belonging to the race fulleborni. On geographical grounds it might be suggested that the series contains birds referable to at least three geographical forms, viz. fulleborni for birds obtained on Lakes Naivasha and Victoria (the type came from Lake Rukwa, T.T.); limbata for birds taken on Lakes Rudolf and Karoli; and erlangeri for birds obtained along the coast of Kenya between Kismayu and Lamu (type locality Kismayu).

In actual fact, it is very difficult to assign certain birds to any given race, except perhaps in the case of inland Kenya birds, which are fulleborni. My specimens from Rudolf and Karoli are not really separable from Lake Victoria birds, yet Friedmann,1 when reporting on specimens taken at the south end of Rudolf, states that he places his birds as limbata, though they are actually intermediate between this form and fulleborni. I assume, therefore, that they tend more to the former than to the latter. With regard to specimens from the coast,2 there appears to be little difference in coloration, but they tend to be rather larger, the wing measurements varying from 184–204 mm., average 189·75 mm., as against 170–186 mm., average 176 mm. They should perhaps be referred to the race erlangeri Neum.

Galachrysa nuchalis emini (Shell.), No. 76.

This race, according to Sclater, is identical with the form marchei (Oust.) inhabiting the Gaboon (Systema, p. 846), and the genus used above replaces Glaecola. This seems to me unsatisfactory, more especially as we have the race antaenia (Reichw.) in the Belgian Congo.

Glaecola ocularis Verr., No. 75.

To the localities on the coast should be added a record by Dr. Granvik from Kendu Bay, Lake Victoria, Journ. f. Orn., February 1923, p. 33.

Rhinoptilus chalcopterus chalconpterus (Temm.). Bronze-wing Courser.

Sclater records the typical form as from Kenya, Systema, p. 139, but it probably does not occur except in the north-western districts. The race found south of the Mau is obscurus Neum.

Rhinoptilus cinetus emini (Zedl.). Emin’s Courser.

This race should be added to the Kenya list, as it has been taken in the Kisii area. There is, however, a tendency towards the typical form in some specimens.

Cursorius cursor littoralis Eml. Jubaland Courser.

The type of this race was obtained at Kismayu and, according to Selater, *op. cit.*, p. 137, it is this race which extends throughout the dry country north of Mt. Kenya. In my previous paper I referred the Rudolf specimens to the race *somalensis* Shell., No. 77. I am still inclined to the view that these inland birds are nearer to *somalensis* than to *littoralis*. Wings 125–140 mm. On the other hand, we have a name given by Mearns to birds from north of Mt. Kenya, viz. *meruensis*, *Smithon. Misc. Col.*, vol. 65, no. 13, 1915. Selater makes no reference to this supposed race. My few examples would indicate that birds from the Northern Guasso Nyiro and Waghier are darker than those from the Turkwell and West Rudolf; Mearns's name would apply to the former.

CHARADRIIDAE.

Charadrius marginatus tenellus Hartl.

The specimens referred to me by *marginatus* should be placed as the race *tenellus*, type locality Madagascar. As already noted, these birds are paler than the race inhabiting the west coast, but I have suggested in my report on the birds of Jubaland, *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 27, that they should be carefully compared with typical Madagascar material.

Charadrius geoffroji, No. 84 = Charadrius leschenaulti Less.

Charadrius alexandrinus pons Neum.

Neumann has recently described this race, *Nov. Zool.*, vol. xxxv, 1929, p. 212, as inhabiting the coastal strip from Obbia, Southern Somaliland, to Kismayu, Jubaland. It is said to be paler and smaller than the race *seebohmi*; wings ♀ 98–102, and ♂ 100–104 mm., cf. Friedmann, *Bull. U.S. Nat. Mus.*, no. 153, p. 157.

Stephanibyx lugubris (Less.), No. 95.

Friedmann ¹ has drawn attention to the limited distribution of this bird as given by Selater in *Systema*, p. 123, and points out that the species has been recorded by me and others from localities north of the limit cited. My records show that the species is found on the mainland, from the coast at Lamu, inland to the Athi Plains, north to Naivasha and Nakuru, Sotik and Kericho, Lake Victoria and in Western Uganda. There are also specimens in the Nairobi Museum from Morogoro, T.T., and Dar-es-Salaam. The wing variation is from 160–187 mm.

Lobivanellus senegallus lateralis, No. 103 = Afriryx senegallus lateralis (L.).

Hemiparra crassirostris hybrida Reichw.

This form of the Thick-billed Plover occurs in the south-east of Lake Victoria.

Anomalophrys superciliosus (Reichw.), No. 102.

My records of this species within Kenya were placed in the genus Sarcio- 
phorus in accordance with Reichenow’s Vögel Afrikas.

Sclater does not include this species as from Kenya in his Systema, although my records were published in 1922. The distribution given by him should therefore be extended to include the eastern shores of Lake Victoria, in Kavirondo.

Haematopus ostralegus ostralegus Linn. Oyster-Catcher.

By an unfortunate oversight this species was omitted from my list. It is common on the coast of Kenya and occurs on Lake Victoria as a winter migrant.

BURHINIDAE.

Burhinus vermiculatus büttikoferi Reichw.

The West African race of this Stone-Curlew occurs in Western Uganda and should be included in the list of birds of this country.

Burhinus capensis affinis Rüpp., No. 108.

As indicated in my previous paper, the race found in the Rudolf-Baringo area is this northern form. I have now secured birds from Chanler’s Falls, Marsabit, Turkwell, and Lodwar. There is some variation, but no bird approaches the southern form, which extends up to Kikuyu. Birds from the Turkwell are very rufescent.

SCOLOPACIDAE.

The genus Capella must now be used for all the Snipe hitherto placed in the genus Gallinago.

Capella stenura Bp. Indian Pin-tail Snipe.

This species has been recorded by me from the Juba River (Journ. E. Afr. 
de Ug. Nat. Hist. Soc., no. 35, p. 30). The specimen taken is in all probability an accidental vagrant. Sclater does not include this species as occurring in any part of Africa. The identification has been verified by Dr. Hartert.

The genus Calidris now applies only to the Knot, so that the Dunlin, Curlew-sandpiper, and Little Stint must be placed in the genus Erolia.

Calidris ferruginea, No. 126 = Erolia testacea (Pall.).

Philomachus pugnax (Linn.), No. 115.

The Ruff must now be known under the above name, Philomachus replacing both Pavoncella and Machetes.

Actitis hypoleucos (Linn.), No. 121.

Now placed in the genus named. The status of this bird in Eastern Africa requires some careful investigation; for there is little doubt that some birds remain here throughout the year. We have previously recorded the species as
breeding in Uganda, and have photographic evidence of the parent bird on its nest. I should not be at all surprised to find that several pairs nest on the shores of Lake Naivasha.

**Limosa limosa limosa** Linn. Black-tailed Godwit.

This species of Godwit has been recorded from the Tana River.

**Limosa lapponica lapponica** Linn. Bar-tailed Godwit.

Has been taken off the coast at Kismayu on the Juba River.

**Numenius arquata lineatus** Cuv. Eastern Curlew, and

**Numenius arquata arquata** Linn., No. 112.

The predominant race of Curlew found in Eastern Africa belongs to the large eastern form. Wings 276–305 mm.

**Numenius phaeopus phaeopus** (Linn.), No. 113, and


The description of an East African race of the Whimbrel gives rise to some speculation as to the correct identification of Whimbrels recorded from East Africa. The salient features of the African race appear to be the uniform white axillaries, underwing, and tail-coverts. In the limited material at my disposal there appears to be considerable variation in colour in these areas. It is more than possible that the birds recorded from the lakes of Kenya and Uganda will prove to be the European bird on migration, and the majority of the coastal records will apply to the East African race. A series from each locality would be required to settle the matter.

**JACANIDAE.**

**Actophilornis africana** (Gmel.), No. 133.


**RALLIDAE.**

**Limnocorax flavirostra** (Swains.) replaces *L. niger* Gmel., No. 138.

**Limnobaenus marginalis** (Hartl.). Striped Crake.

Sclater records this species as having been taken at Ribe (? Rabai) near Mombasa. It is apparently a rare bird.

**Porzana parva** (Scop.). Little Crake.

Sclater gives Uganda as its southern range in winter.
Porzana pusilla obscura Neum., No. 140.

Additional material shows that the wing measurements vary from 77–84 mm. Friedmann has recently described the South African birds as a distinct race under the name *intensa*, Proc. New Eng. Zool. Club, vol. x, p. 77, stating that this race is darker than that occurring in East Africa. A fully adult male now in my collection is very dark grey on the sides of the head and the lower surface as far as the upper abdomen. Additional material of this exceedingly shy bird is required to clear up the position.

*Sarotherura rufa* subsp.

Since the publication of my report in Nov. Zool., 1922, I have obtained a Pigmy Rail which belongs to this group, but is much nearer to *S. r. ansorgei* mihi than to *S. r. elizabethae* mihi. The white markings on the dorsum are rounded, not linear; those on the flanks are of similar shape, while the white spotting on the tail feathers is restricted to the long upper tail-coverts, the rectrices themselves being black. The under tail-coverts are almost entirely black, with a very few minute white spots.

This specimen was procured by Capt. Dent in the swamp at Kiambu, 12 miles from Nairobi; but unfortunately the legs are missing, having been eaten by rats. The difference between this and *S. r. elizabethae* is so marked that I am inclined to consider it a distinct race. The bird differs from *ansorgei* in being darker and in having the white spots more rounded and distinct.

*Sarotherura rufa elizabethae*, No. 141, occurs in the Nairobi swamp in the typical form, being similar in every respect to specimens from Kismu and the Elgon region west to Kyetume in Uganda.

*Sarotherura bôhmi* somereni Bannerm., No. 142.

Additional material, unfortunately all males, goes to show that this bird is remarkably constant. Except for a slightly more heavy striping on the breast of one example, they are very uniform. Stoneham records this bird from Kitale, and says that it is fairly common in that district.

Mr. Chapin, *in litt.*, states that he has compared one of my birds with the type of *S. bôhmi* and "could not see that they differed." He further states that I was correct in associating my males with the female cited by Bannerman as the type of *S. somereni*. Mr. Chapin is a most careful worker and his opinion is valuable, but I have already suggested that there is an element of doubt as to the association of my males with Bannerman's female. Selater, *op. cit.*, maintains *somereni* as a good race.


The type of this bird came from Mt. Kenya and has remained unique.

*Sarotherura antonii* Mad. & Neum. Antony's Crake.

The unique type of this Rail was procured at Shirati on the borders between Kenya and Tanganyika.

Specimens of all these Pigmy Rails are greatly needed, and until a series of
each, representing both sexes, is secured, no satisfactory division can be arrived at. Netting with a small 1-in. gill net would probably produce the material.

Porphyrio alleni, No. 146 = Porphyryula alleni Thoms.

PTEROCLIDAE.


Wedgewood Bowen has devoted some considerable time to the Decorated Sandgrouse, and a preliminary paper will be found in the Proc. Acad. Nat. Sci. Philad., vol. lxxxii, pp. 4-7.

PHASIANIDAE.


Numida mitrata mitrata Pall.

Type locality Madagascar. The form which occurs along the coastal area of Kenya.

Numida mitrata reichenowi O.-Grant, No. 158.

Reichenow's Guineafowl is now recognized as a form of N. mitrata.

Numida mitrata intermedia Neum.

This is the form of the Helmeted Guineafowl without a bunch of bristles at the base of the nostrils, inhabiting the south-west area of Uganda, in the Ankoli country, reported recently by Pitman.

Numida meleagris ansorgei Hart.

This bird is rather puzzling. Sclater suggests that it is a doubtful form. Owing to its unsatisfactory position, I referred to the bird as N. ansorgei in my notes cited above. I now have living birds from the type locality Lake Nakuru. Although this bird is surrounded on three sides by N. m. reichenowi, there is evidence that they bear a stronger relationship to the N. meleagris than to any other species. The general scheme of body colouring, as also that of the wings, resembles that of N. meleagris major or N. m. macroceras; further, the colour of the head and soft parts is very different from N. mitrata reichenowi. The wattles are blue for the most part, with just a suspicion of red at the base and an equally small spot of red at the tip. In the males, there is a distinct bunch of caruncles, not bristles, at the base of the bill between the nostrils. One would almost be inclined to consider these birds as the link between the N. mitrata and N. meleagris if it were not for the fact that the two groups evidently overlap. For example, Sclater records a form of N. meleagris from Kilimanjaro, and I have
myself taken *N. mitrata* in the same district; further, Sclater gives the eastern shores of Lake Victoria as being within the range of *N. mitrata*, and I have taken *N. meleagris major* in this area. I still incline to the view that we must recognize ansorgei as a race of the *N. meleagris*.

*N. ptilorhyncha rendilis*, No. 159 = *Numida meleagris macroceras* Erl.

It has been shown by Sclater and others that the above name must be used for the Helmeted Guineafowl with bristles which ranges through the northern part of the Rift Valley, i.e. Solai, Baringo, Rudolf, and east to Meru and the Northern Guasso Nyiro. The names *rendilis* Lönnb. and *baringoensis* C. Grant are synonyms. My notes in *Nov. Zool.*, 1922, and *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, 1925, should be amended accordingly.

*Numida meleagris somalensis* Neum.

The Somali Tufted Guineafowl should be added to my list; it occurs throughout Jubaland to Waghier and the Lorian. 8 specimens.


Sclater gives no distribution, so possibly his material of this race is inadequate for defining the range.

*Acryllium vulturinum* (Hardw.), No. 161.

To the recorded localities add: Serenli, Juba, and Waghier.

*Guttera edouardi sethsmithi* Neum., No. 163.

Additional localities: Cherangani, Elgeyu, Lumbwa.

*Guttera pucherani* Hartl., No. 164.

Add the following localities: Juba River (? subspecies), Northern Guasso Nyiro, Meru, Mt. Kenya, Marsabit, Nairobi, Tana River, Dalgube.


The following are definite races of *Pt. leucoseopus*: *P. l. muhamed-benabdulla* Erl., from Jubaland, N.F. Province, Lorian, Northern Guasso Nyiro, Marsabit, and Rudolf; *P. l. infuscatus* Cab., No. 165, from the region of Lake Jipe through the whole of Kenya to Elgon and Baringo, with an intermediate form in the region of Mt. Kenya (*keniensis* Mearns); and the dark birds from the region of North-east Uganda, recently described by Stoneham as *P. l. tokora*, from Kara-moja and Turkana, in *Bateleur*, October 1930, p. 113.

Ptternis humboldi, No. 167 = Pt. afer leucoparaeus Fisch. & Reichw.
This name should be used for the race of the Red-throated Francolin inhabiting the coastal strip of Kenya.

Francolinus squamatus and races, Nos. 168 & 169.
I have dealt with the races of the Sealy Francolin as they occur in Kenya and Uganda in my paper cited above: I can only repeat that until we obtain a long series of each supposed race, taken throughout the whole year, we shall not be able to test the validity of the supposed geographical forms.

Francolinus iterorhynchus and races, No. 171.
Sclater includes Uganda within the distribution of the race dybowski Oust., making emini Neum. a synonym; he further treats ugandensis Neum. binominally, but suggests that it is possibly a hybrid between races of F. iterorhynchus and F. clappertoni. I cannot agree with these suggestions. I consider that ugandensis is not a hybrid, but merely an individual variety of emini, which is possibly a synonym of dybowski Oust.

Francolinus clappertoni gedgei O.-Grant, No. 176, and
Francolinus clappertoni griesescens Mearns.

Francolinus hildebrandi helleri Mearns.
This race, which is a good one, should be added to the list published in Nov. Zool., 1922.

Francolinus levaillanti kikuyuensis O.-Grant, No. 178, and
Francolinus levaillanti mulemae O.-Grant.
Although I have expressed the view that these two names really apply to only one recognizable race of the Red-wing or Freckle-neck Francolin, Sclater, in his Systema, upholds both names, applying the first to the birds found in the Nandi and Mau district of Kenya, and the latter to those of Uganda and Ruanda.

Francolinus shelleyi shelleyi O.-Grant.
This species should be added to my original list. It is recorded from the south-western districts of Uganda. Sclater makes the Elgon Francolin a race of this species and records it as F. s. elgonensis O.-Grant, limiting its distribution to Mt. Elgon, 7,700–11,000 ft. The species extends actually as far south as the Mau, Kenya, and the Aberdares.

Francolinus africanus ubvensis O.-Grant, No. 174, and
Francolinus africanus ellenbecki ErL.
The Ulu Francolin is a race of F. africanus and is replaced by a distinct northern form which must be referred to, or is near, F. a. ellenbecki ErL. These birds, which occur north of the Northern Guasso Nyiro, Marsabit, Meng, Barseloi, and Matthews Range, are dealt with in Journ. E. Afr. & Ug. Nat. Hist. Soc. 1926, no. 25, pp. 29–60.
Francolinus coqui ruandae van Som.

The Golden-headed Francolin inhabiting the Ruanda and south-western corner of Uganda should be added to my original list, cf. op. cit., p. 34.

Francolinus sephaena and races, No. 181.

Friedmann has reviewed this group in Bull. U.S. Nat. Mus., no. 153, 1930, pp. 106-112, but the confusion remains as great as ever. Large series from the type localities of the supposed races must be got together before any finality can be reached.

OTIDIDAE.

My Nos. 191 and 193 should both be placed into the genus Lissotis, while No. 192 is now placed into the genus Eupodotis. To the list must be added E. canicollis somaliensis Erl., Amelia River.

Choriotis struthiunculus Neum., No. 194.

This bird is now placed in the genus cited, and to the species found within the limits of Kenya must be added Ch. adolfi-friederici Neum., described from the Mara River. The status of this bird is, however, uncertain; Friedmann, Bull. U.S. Nat. Mus., no. 153, 1930, states that it is identical with struthiunculus, the distinguishing feature being merely a partial melanism.

Neotis heuglini Hartl.

This species has been taken in the north-east area of Jubaland, and must be added to the list.

Neotis cafra, No. 190 = Neotis cafra jacksoni Bannerm.

The East African birds, tentatively placed by me as of the nominate race, have now been separated by Bannerman as above. The distinguishing features are their larger size, darker colour above, and the blackish, not whitish, lores.

COLUMBIDAE.

Vinago; this name must now be used for the Green Pigeons.

To my list should be added the Yellow-bellied Fruit Pigeon, Vinago waalia (Meyer). It ranges throughout the northern districts of Uganda and East Africa, and is found in numbers in certain districts when a suitable fruit crop is ripening.


Turtur afer kilimensis Mearns, of which sclateri Roths. is a synonym. No. 208 of my list.


The genus to be used for the Speckled-neck or Laughing Dove is Stigmatopelia, and the race found in Kenya and Uganda is aequatorialis.
Streptopelia, Nos. 211, & 212.

For a recent revision of this group see Friedmann, *Bull. U.S. Nat. Mus.*, no. 153, pp. 225–228. The race which inhabits the intermediate area between tropica of Uganda and the coastal form somalica has been described by Friedmann as anceps. These are the birds I tentatively placed as electa Mad., No. 212.


AEGYPIDAE.

The race of Necrosyrtes monachus found in Kenya and Uganda is pileatus Burch., No. 223.

No. 225 is now placed in the genus Trigonoceps.

Torgos tracheliotus nubicus Smith. Lappet-faced Vulture.

Friedmann records undoubted examples of this bird taken at the Ulukenia Hill, Kapiti Plains, and Lekindingu River.

FALCONIDAE.

*Gymnogenys typicus typicus* (Smith), No. 227.

The Bare-faced Whistling Hawk is now placed in the genus cited.

*Melierax metabates*, No. 231.

There is still some doubt as to the position of this bird, and I now accept the findings of Friedmann and Sclater, and treat it as a species. It is, however, quite possible that it is not the typical bird which is found in Uganda and Kenya.

*Melierax poliopterus* (Cab.), No. 232.

Sclater treats this bird as a species, while Friedmann accepts it as a race of *M. musiens*; I am still uncertain as to its position.

*Astur tachiro sparsimfasciatus* Reich., Nos. 236–238.

In my paper in *Nov. Zool.*, 1922, I temporarily recognized three forms according to distribution. Sclater does not admit more than one form for East Africa and Uganda, viz. *A. t. sparsimfasciatus* Reichw., type locality Zanzibar. Friedmann suggests that the so-called East African forms are merely individual variants of *A. t. sparsimfasciatus*. Swann, on the other hand, in the second edition of his *Synopsis of Accipitres*, recognizes several Eastern races, but apparently on insufficient grounds. The names which would become synonyms are: *nyanzae* Neum., Lake Victoria; *tenebrus* Lönberg, Londiani; *aceletus* Oberh., Taveta; *orienticolu* Oberh., Mombasa.

*Accipiter rufiventris perspicillaris* (Rüpp.), No. 243.

The typical race is apparently confined to South Africa, so that the examples taken in Kenya are probably of the North-eastern form. Sclater, however, does not include Kenya in the distribution of the species, but the bird is not infrequently taken round Nairobi.
Accipiter minullus intermedius Erl.

Sclater admits this as a good race and includes Uganda within its distribution. He further upholds my opinion that the form found in Kenya, east and south, is tropicalis Reichw.

_Astur melanoleucus_, No. 235 = Accipiter melanoleucus Smith.

_Accipiter ovampensis_ Gurney, No. 242.

Sclater does not include East Africa in the distribution of this species, but my records have been confirmed, and the range must be extended to include Kenya.

_Circus pygargus_ (Linn.). Montagu's Harrier.

This species was inadvertently omitted from my previous list. An adult male and a juvenile male were obtained at Nakuru and Kyambu in January and February respectively. It is very much less in evidence than the Pallid Harrier.

_Circus aeruginosus aequatorialis_ Stres.

Sclater makes no reference to this race of African Marsh Harrier, but places ranivorus as a race of _C. aeruginosus_, giving its range as South Africa north to Tanganyika Territory. The African Marsh Harrier extends into Uganda, and its numbers are augmented during the winter by numbers of _C. aeruginosus aeruginosus_, No. 229.

I have insufficient material to decide whether there is any reliable difference between the two races of the local Marsh Harriers, _aequatorialis_ and _ranivorus_.

_Kaupifalco monogrammicus monogrammicus_ (Temm.), No. 234, and

K. m. meridionalis (Hartl.).

In this species with a very wide distribution we are faced with the difficulty of accurately assigning certain specimens to a definite race. Swann is of the opinion that the typical bird is the form found in Uganda south to Kilimanjaro; on the other hand, Sclater and Praed state that the southern form extends much farther north than is supposed, and that Kenya and Uganda birds belong to the race _meridionalis_. Sclater, however, in his recent work follows Swann, but assigns the birds inhabiting the coast of Kenya to the southern form. An examination of a long series shows that the size is very variable, as is also the width and number of the white bars on the tail and the barring on the under surface of the body.

Birds from the coast of Kenya give the following wing measurements:
12 specimens: 210–231 mm., average 220.
Uganda, 9 specimens: 216–234 mm., average 222.5.
There is very little difference in size.

_Circætus pectoralis_ Smith, No. 245.

The species of Harrier-Eagles are extremely difficult to assign to their proper status, especially when one is dealing with immature specimens. Size is one of the safest guides. The immature plumages are so unlike the adult that one is
apt to be misled. The fact that three species, whose relationship one to the
other is not clearly defined, are found in the territories covered by this Report
adds to the difficulty.

The immature of *C. pectoralis* is extremely like one of the immature phases
of *Buteo rufofuscus augur*, being dark earth-brown above, each feather with
paler tips; the throat pale sandy brown with dark shafts to the feathers, and
the rest of the underside isabelline light brown. The rectrices are almost
uniformly dark brown. *C. pectoralis* is much larger, having wings of 520–
540 mm.

There is also a certain similarity in the field between the black-throated
form of the Augur Buzzard and *C. pectoralis*; the main features which
distinguish the former are, of course, the red tail and the more finely barred secondaries.

Though found throughout Kenya and Uganda, *C. pectoralis* is never abundant
anywhere. I have specimens from Jubaland, Lamu, Kyetume, and Nairobi.

**Circaëtus cinerascens** Müll. Lesser Banded Harrier-Eagle.

This species occurs sparingly throughout Uganda and Kenya, inhabiting
the more open country.

*Stephanoaëtus coronatus* (Linn.), No. 246.

This generic name must be used for the Crowned Hawk-Eagle instead of
*Spizaëtus*.

**Polemaëtus bellicosus** (Daud.). Martial Eagle.

This species was omitted from my previous paper, though recorded from
Uganda in my report published in the *Ibis*, April 1916. These large Eagles
are never abundant, though widely distributed. They are found along the
margins of forests and in the cultivated areas, where they do considerable damage
to poultry. They were nesting in the Chagwe Province of Uganda in November.

*Hieraaëtus wahlbergi*, No. 248 = *Aquila wahlbergi* Sund.

**Aquila rapax raptor** Brehm. Northern Tawny Eagle.

This race undoubtedly ranges into the Jubaland area of Eastern Africa
and extends to the northern districts of Kenya.

The birds found in the Central Kenya areas belong to the typical race,
*A. rapax rapax*, No. 250.

**Aquila verreauxi** Less. Verreaux's Eagle.

Friedmann has drawn attention to the possibility of this species being found
within Kenya. He cites an observation made by Mearns, to the effect that this
species was observed to the south of Lake Rudolf and the Ndoto Mts. I repeat
this note in the hope that the observation may be verified by actual specimens.

**Terathopius**, No. 251, replaces *Helotarsus*. 
Cuncuma vocifer vocifer (Daud.). **African Fish-Eagle.**

Though recorded by me in various publications, this species was accidentally omitted from my paper now under review. The species is, of course, very common on the greater rivers and the lakes of Kenya and Uganda. They are adepts at catching fish and seldom fail to secure their prey. They are usually in pairs, or single.

Cuncuma vocifer clamans Brehm. **Northern Fish-Eagle.**

Although Sclater does not recognize this race, Friedmann upholds the view of Zedlitz, *Journ. f. Orn.*, 1910, and Erlanger, *ibid.*, 1904. I am inclined to support the race on such evidence as is before me. I have measured three females from Southern Somaliland and one from the north-east of Jubaland; none of these has a wing measurement of over 530 mm., whereas males from Uganda and Lake Naivasha measure 530-560, females 560-580. Bannerman, *Birds of Tropical West Africa*, vol. i, p. 268, upholds this race.

Gypaëtus barbatus ossifragus Savigny. **African Lämmergeyer.**

Sclater states that this species has not been recorded from Eastern or Western Africa, while Neumann and Erlanger suggest that the North-east African birds should be known by the racial name *ossifragus*. As the material available is so limited, I can form no personal opinion on the matter. If correct, my specimen should belong to the north-eastern race. Jubaland, north.

*Buteo angur, No. 254 = Buteo rufouscus angur* (Rüpp.).

Chelictinia riocourii (Viell. & Oud.). **African Swallow-tail Kite.**

This very distinct species has been seen on three occasions in the Kedong Valley, once at Mt. Suswa, and again near Kijabe. The bird is unmistakable, and has been observed by other naturalists besides myself. These would appear to be the only records of this species in Central Kenya, but the White expedition to the N. Guasso Nyiro obtained it in the Northern Province. Dent has recorded it from Kedong Valley, 1929.

Milvus migrans aegypticus (Gmel.). **Egyptian Black Kite.**

There is some confusion in the records of this race from Kenya and Uganda, but there is little doubt that some birds migrate south with the typical *migrans* during the winter.

Aviceda cuculoides verreauxi Lafresn., replaces *Baza verreauxi*, No. 261.

Sclater upholds *eminii* as the race inhabiting the Ituri district of the Belgian Congo. The species occurs in Uganda, and the birds from this area should be *eminii* (Reichw.). The Central Kenya birds which link up the northern form with those of the coastlands of Kenya should be intermediates. Bannerman apparently does not admit the races allowed by Sclater, and states, *Birds of Tropical West Africa*, vol. i, p. 220, that the typical *cuculoides* extends eastwards to cover the area of the supposed race *eminii*. I have already indicated that the form with uniform underwing coverts extends east to Mt. Elgon and North
Kavirondo, and that in this latter locality one finds birds with slightly barred underwing coverts.

Size variable; 8 specimens now available give the following: 286, 292, 293, 294, 295, 300, 303, 306 mm.

The nesting plumage is unknown to me, but young birds in the first year are as follows: Forehead, crown, mantle, coverts, and rump, dull ashy brown with light edges to each feather; a marked superciliary stripe commencing at the mid-orbital point or just behind the anterior angle is white in colour, sometimes streaked with black; the ear-coverts are blackish or tinged with brown, while the gular stripe is black and white. The chin to the under tail-coverts is white, with long oval spots on the breast and cordate spots along the flanks and thighs, and hastate spots on the under tail-coverts. The rectrices are ashy brown with three lighter greyish brown bars and pale tips. In some specimens the outer rectrices are almost entirely white on the underside, there being only an indication of a subterminal black spot and a broken subbasal bar. This plumage is retained for a year and the intermediate plumage is gradually assumed; the first indications appear in the region of the lores and upper breast; the spotting on the under surface is replaced by bars. The superciliary stripe becomes brownish, as do also the ear-coverts and the feathers in the region of the nape. In the intermediate plumage the breast is not uniform grey or grey washed with fulvous, but each feather has a large rufescent cordate spot tinged with grey, giving to the breast a mottled appearance. The barring of the breast and flanks is brown or blackish brown, while the crown, mantle, and scapulars are dark ashy grey. The primaries and rectrices are not replaced until a complete body moult has taken place. In the fully matured birds one finds two types: one with wide brown bars and the other with black bars; some with uniform grey breasts, others with this area washed with fulvous. The variations are due to age and sex; old males and females develop a uniform grey breast.

**Falco naumanni pekinensis** (Swinh.). Eastern Lesser Kestrel.

There is not the slightest doubt but that both forms of the Lesser Kestrel migrate to Eastern Africa for the winter. We have previously recorded the western form from various parts of Kenya and Uganda, and I now have before me specimens which undoubtedly belong to the eastern race. Meinertzhagen, *Ibis*, 1922, pp. 58-59, records *pekinensis* from Kenya. The pale whitish colours of the claws of this species will enable one to distinguish the females of this bird from males and immatures of the common Kestrel.

**Falco ardosiaeus** Bonn. & Vieill. Grey Kestrel.

Selater records this species from Uganda, as also does L. M. Seth-Smith, who flushed the bird off its nest, which was built in a disused nest of *Scapus* (cf. Bannerman, *Birds Trop. W. Afr.*, vol. i, p. 220).

**Falco amurensis** Radde. Eastern Red-legged Falcon.

Selater treats this bird as a species distinct from *vespertinus*. It has been recorded from Kenya (Kikuyu, Loita).

**Falco ruficollis**, No. 264 = **Falco chiquera ruficollis** Swains. Additional localities: Rabai and Tana River; also Lamu.
Falco fasciinucha Reichn. & Neum., No. 267.

I again draw attention to the specimen of this very rare Falcon obtained by Blayney Percival at Voi, and recorded by me in my previous paper. Sclater does not include this record in his Systema.

Falco concolor Temm.

A specimen of this bird was obtained by Woosnam at Archer’s Post, Northern Guasso Nyiro, in November 1911 (Nairobi Museum).

Falco biarmicus biarmicus Temm. South African Lanner Falcon.

Sclater records a bird from Kitui as belonging to the southern form, so that we must now admit both northern and southern races to the Kenya list.

Polihierax semitorquatus, Nos. 272 and 273.

There is still some doubt as to the validity of the various races of the pigmy Falconet. Sclater recognizes but two forms, a northern and a southern. Friedmann (Bull. U.S. Nat. Mus. no. 153, pp. 99–102) writes at length on this subject, but owing to uncertainty places all his Southern Abyssinian material as castanotus. In my paper on the birds of the Northern Frontier of Kenya and Jubaland I followed Sclater and assigned my Jubaland (North-east) birds to this race, bracketing homopterus with it (Journ. E. Afr. & Ug. Nat. Hist. Soc., no. 35, p. 37). This Jubaland material gives the following measurements: 108, 110, 111, 112, 112, 112, 114, 116, 115, 120 mm. (last three females). Additional Central Kenya material, 6 specimens, gives the following, 120–127 mm. Rudolf material, 5 specimens, 116–120 mm.

The preceding notes were written in March, and I have now received the notes published by Bowen in which he reviews the various forms recognized by him. According to this author, the typical race does not occur within the Kenya-Uganda territories, and such material as most authors have considered to be of the southern race are not so. He modifies the races recognized by Zedlitz in that he limits the distribution of the southern form and describes the large form inhabiting North Tanganyika Territory and Western Kenya as a distinct race, recognizable on colour differences and size. This race he names major, type locality Mbuyuni, in the Teita-Taveta area of Kenya. He draws attention to the fact that I have all along stated that there are two distinct forms in Kenya and Uganda, a small northern race and a larger darker southern one, but he suggests that the names applied to these birds are wrong. If we accept the statement limiting the nominate race, then I am prepared to accept the name major for the large southern form of Kenya. I am also prepared to accept the name deckeni for the race found in the region of the Juba River, but I cannot agree that the birds from west of Rudolf, from Suk to the Turkwell and Karamoja, are the same as the Juba River race. If the race homopterus Oberh. is separable from castanotus, then the Rudolf birds would belong to that race.

I unfortunately have no Gondokoro material to compare with my Jubaland specimens, neither had Friedmann.

Pandion haliaetus Linn. Osprey.

Since the introduction of fish to Lake Naivasha, this species has become resident and breeds there.

STRIGIDAE.

Bubo capensis capensis Smith, No. 275.

Although Sclater does not allow the range of this race to extend farther north than Natal, I am satisfied that the examples from the Kilimanjaro-Taveta area belong to this form. I cannot find any difference between these specimens and typical South African material. Friedmann states that Oberholser’s amerimnus is a synonym of B. africanus cinerascens, and not of B. capensis as suggested by me.


This race, which is very rare, is apparently limited to the Mt. Kenya regions, as far as we know. Very few examples have been taken, and the full range is really unknown.

Scotopelia peli fischeri Zedl. Rufous Fishing Owl.

Two specimens from the Juba River would belong to this race if valid (cf. Sclater, Systema, p. 246).


This species, not hitherto recorded by me, is now represented in my collection by 3 specimens taken on the coast of Kenya in the Sokoke-Mongeya Forest, and again on the Gilgil Escarpment. It is very much rarer than the smaller G. perlatum.

Glaucidium perlatum Vieill., No. 282.

Two young birds, still in the nest, though completely feathered on the body and showing no down still, have sprouting rectrices and wing feathers. They have the entire feathers of the crown to the nape and the mantle uniform reddishbrown without any spotting or barring. Each crown-feather, however, has a white spot midway along the shaft which would show when the tips of the feathers get worn.


This race described in the paper cited is represented in Kenya by a smaller and greyer form which will doubtless be separated eventually. It would appear best to place Kenya specimens under this race in the meanwhile. Wing, 118–120 mm. Locality recorded: Simba.

Otus senegalensis subsp. Juba Pigmy Owl.

The birds from the Juba River are smaller and more uniform than any other Eastern form, and will have to be recognized as a distinct race when more material is available. It is quite distinct from the next race. Wing, 112 mm.
Otus senegalensis caecus Friedm.

This race, recently described by Friedmann, ranges into Kenya to the Northern Guasso Nyiro.

Otus scops ugaandae, No. 280 = O. senegalensis ugaandae.

Chapin and Friedmann have written on these Owls and uphold several races: Amer. Mus. Novit., no. 412, 1930; Auk, no. 4, 1929.

Otus scops scops. European Scops Owl.

Undoubted examples of this European Scops Owl migrate to Uganda and Kenya for the winter. I myself have taken examples during the months of January, February, and March. Jinja and Kyetume, Uganda; Kyambu and Nairobi, Kenya. The stomachs contained beetles (chafers).

Otus scops pulchellus Pall. Eastern Scops Owl.

This race is recorded from Uganda and Kenya. Specimens are now in my collection.

Syrmium woodfordi, subsp., No. 281 = Strix woodfordii nigrifrontia (Sharpe).

Following Sclater, all my central Kenya birds belong to this race, or suahelicum if this form is valid, while my Uganda material should be nuchalis Sharpe. Much remains to be done with this species.

PSITACIDAE.

Poicephalus fuscicapillus = P. fuscicapillus tanganyikae Bowen.\(^1\)

Bowen has separated the coastal form of the Golden-headed Parrot under the above name on the ground that the mainland birds differ in size from the insular form found on Zanzibar, whence came the type.

The nominate race is larger, 165–173 mm. as against 145–159 mm. Further, the head is paler and more olive brown, the mantle greener, and the rump and underparts are brighter yellowish green.

As my series of coastal birds gives the following wing measurements: 150–158 mm., average 154, I support this race.

MUSOPHAGIDAE.

Corythaica cristata yalensis Mearns, No. 297.

Sclater states that this form is only known from the type; this is incorrect. I myself have 6 birds from the type locality, and there are many others available for comparison. There are 20 in the Nairobi Museum. I adopt this name for the birds inhabiting the greater part of Uganda east to the Nandi country.

Turacu hartlaubi Fisch. & Reichw.

I refer readers to the account given by Friedmann in Bull. U.S. Nat. Mus., no.153, pp. 250–253. The only point I should like to add is that the species extends through Marsabit to the forests at the south end of Lake Rudolf and the Orr Valley, from which localities I have examined specimens.

Turacus emini, No. 303 = T. schuetti emini Reichw.

Sclater gives as the distribution Ituri east to Uganda. This should be extended to Mt. Elgon, Kakamegas, and Nandi. It is of interest to note that one specimen from the Kakamega forest shows a decided tendency towards the coloration of T. hartlaubi in that the mantle, back, wings, and tail are almost as dark blue as in that species; further, the white in front of the eye is almost as large; and the crest feathers are decidedly shot with dark blue. It may possibly be a hybrid between the two.

Turacus schalowi marungensis Reich. = T. schalowi loitanus Neum. Long-crested Plantain Eater.

Neumann described the Loita birds under the name loitanus, but this apparently is a synonym of marungensis; cf. Grant, Ibis, 1915, p. 410. Sclater upholds this opinion.

The species has a limited range in Kenya, being found in the districts along the Tanganika border from the Nguruman Mts. to the Amala River and lower Chepalunga Forest.

Turacus fischeri Reichw. Red-crested Plantain Eater.

This is the common Plantain Eater of the coastal forests of Kenya. Found nesting in June. 17 specimens: Tana River, Mongeya, Sokoke, Rabai, and Ganda Forest.


This very distinct species has a somewhat curious distribution, and within the Kenya boundaries is limited almost entirely to the more densely wooded river courses. I have specimens from the lower Chania and Sabaki, the Athi River, Shimba Hills, and Ganda Forest.

Ruwenzorornis johnstoni johnstoni Sharpe. Ruwenzori Plantain Eater.

The typical bird is apparently restricted to the mountain range of Ruwenzori. I have seen a specimen from the region of the North-western Ankoli district, but as it is not available for close study at this moment, I cannot say whether it resembles the typical or the Kivu race.

Chizaerchis africana zonura, No. 305 = Crinifer zonurus (Rüpp.).

CUCULIDAE.

Centropus monachus fischeri Reichw.

Much has recently been written about the races of C. monachus, and while Sclater treats fischeri as a species, I am of the opinion that all the birds of Uganda and the region of Lake Victoria, including the whole of the Kavirondo district north, south, and Kisii areas, must be considered as fischeri, a race of C. monachus; cf. Friedmann, Bull. U.S. Nat. Mus., no. 153, pp. 276–280. On the other hand, we must consider the opinion of Bannerman, Rev. Zool. Africaine, p. 150, who states that Neumann points out in a letter to Sclater that fischeri always has a
yellowish lower mandible, a more slender bill as compared with monachus, and always has a buff oral spot.

I have in my material 4 birds which have the characters as given by Neumann, except for the buff. I consider these birds to be not quite mature.

_Centropus grilli_, No. 311 = _Centropus grilli_ subsp.

This species would appear to be rather uncommon, as very few examples have been taken by collectors in Kenya. My material comes from Kitosh, Sotik, Kyambu, and the coast of Kenya at Rabai and Sokoke. I have seen and obtained the bird in greatest numbers in this last region. The validity of the races is in some doubt. Sclater does not record any race from Uganda or Kenya, and as the general appearance alters greatly with the amount of wear, it is difficult to assign my birds to any given race.

_Centropus senegalensis senegalensis_ (Linn.).

According to Sclater, the typical race extends into Uganda. The material at my disposal is too limited to verify this. Granvik, _Journ. f. Orn._, February 1923, described a bird from Elgon as a distinct race, which he calls incertus, and he has declared a specimen from the coast of Kenya to be identical with his bird. These coastal birds are probably the same as the Nyasaland race fascipygialis. Much more material is required to settle the position of these supposed races.

_Centropus superciliosus intermedius_, No. 310 = _C. superciliosus furvus_ Friedm.

Sclater suggests that this race is doubtfully distinct, and other writers, such as Granvik and Friedmann, make the same remark.

Typical _intermedius_ = _furvus_ (preoce.) is the coastal form, which extends from the mouth of the Juba River to Vanga and reaches the thorn-bush of South Ukambani. I am satisfied that the coast birds are not of the nominate race. Farther inland the birds are larger and in Uganda tend towards the _loandae_ form.

_Ceuthmochares aereus_, No. 312 = _C. aereus australis_ Sharpe.

Common in the coastal forests and extending to the foothills of Kilimanjaro, thence to the Escarpment, the Ithanga Hills, and Eastern Uganda. What then are its limits of distribution and where does it meet with the Uganda form _intermedius_ Sharpe? Sclater does not admit _intermedius_ to Kenya, but I have actually handled fresh birds from Mt. Kenya and the Kavirondo-Sotik country. The distribution of the two forms, if forms they really are, within Kenya and Uganda is well worth further investigation.

_Coccystes cafer_, No. 314 = _Clamator cafer._

Males 184, 168, 184, 179 mm. In addition to the specimens recorded by me previously, I have now taken the bird at Sotik and Nairobi. The Nairobi birds were seen in my garden for two weeks during the month of August in a small flock of 8. They were all adults. The dates of the other specimens are: Jinja, December; Sotik, April; Kyambu, April; Nairobi, August. What are the migratory movements of these birds?
Clamator serratus albonotatus Shell. Black-crested Cuckoo.

Wings 172, 167, 179, 163 mm. Two completely adult birds in all-black plumage, except for the white bar on the primaries and, in one specimen, a very small white spot on the left outer rectrice, and in the other larger white spots on the two outer rectrices. The third bird has no white on the tail-feathers; under tail-coverts tipped with white; rest of plumage, sheeny black, rather worn primaries and secondaries which are brown-black, except for the outer secondary which is black and freshly grown. Specimen four is similar to the third above, even to the presence of a new outer secondary in each wing; but in addition the inner secondary is also new; the second outer rectrices are new and have a white tip, not merely a white spot on the outer web. The under tail-coverts are dirty white with blackish centres; the abdomen is greyish white with faint dark lines; the breast black with wide white margins to the feathers, giving this area a streaky appearance, not unlike that of C. cafer. The dates are as follows: Adult male January; adult female June; almost mature female May; female with striped underside April.

Friedmann has written at length on this bird, and has noted the opinions of other writers, notably Sclater, Stresemann, and Reichenow. Bates suggests that hypopinurus, serratus, and jacobinus, are merely phases of the same species! Stresemann thinks albonotatus is the melanistis phase of cafer; Sclater treats them all as species and admits albonotatus as a race of serratus.

I possess young of cafer, jacobinus, albonotatus, all different, and I support the arrangement given by Sclater and disagree with his footnote on p. 181.

Coccystes jacobinus (Bodd.), No. 315 = Clamator jacobinus pica Hempr. & Ehrenb.

I would like to draw attention to the fact that I have before me material collected in the following months: July, December, January, April, and May; that is to say, taken in practically the same months as albonotatus and cafer, and in the same districts! The supposed race hypopinurus is recorded from Ruwenzori.

Coccystes glandarius, No. 316 = Clamator glandarius (Linn.).


Localities additional to those already recorded: Kyambu, Nairobi, Archer's Post, Northern Guasso Nyiro, Kipini, and the Tana River.

Cuculus canorus canorus Linn.

Two immature birds, one in the red phase and the other in the grey, were shot in November. A third specimen, which certainly belongs to this race, was shot on June 6! It is a bird with two juvenile primaries in each wing, and three outer secondaries in like condition. A fourth specimen, shot in January, is in good fresh plumage.

Cuculus canorus telephonus Heine. Eastern Cuckoo.

Meinertzhagen records this race from Kenya in December and February, and my specimen was procured in January.
Friedmann described I possible have being Tchitrea all Sclater jacksoni, clamosus reichenowi, suahelica. This is this Bannerman all definite my obtaining in this name. Friedmann, Bull. U.S. Nat. Mus., no. 153. The main point of interest, from the nomenclatural point of view, is the opinion that the name jacksoni is a synonym of chalybeus Hengl., which again is nothing more than a race of clamosus. I am unable to contribute any definite opinion on this vexed question. In all my twenty years of collecting in this country, I have only obtained 2 black adults and 6 with the barred underside moulting in black feathers, which I place as clamosus clamosus. These birds were all obtained in the months of April to October. Of the birds hitherto known as jacksoni, all are taken between March and August. An intensive study of the Cuckoos of Africa would be well worth while. In Bates’s recent work on the birds of West Africa, gabonensis is made a race of clamosus; I described a race of gabonensis from Uganda; Friedmann treats jacksoni of Uganda as a race of clamosus; Sclater makes three of them species, and so the muddle goes on!

Chrysococcyx auratus = Ch. cupreus cupreus (Shaw).

In my notes on this species several most unfortunate errors were made, and Bannerman justly criticized me very severely in the October number of Nov. Zool., vol. xxix, 1922. I have done my best to rectify these appalling mistakes in my paper in the Ibis, July 1925.

Chrysococcyx klaasi, No. 325 = Lampromorpha klaasi (Steph.).

I have now obtained records, covering a period of six successive years, of this Cuckoo laying in the nest of Oyphantes reichenowi; all were obtained from my own garden. Another bird which is commonly victimized is Tchitrea v. suahelica. This year both cupreus and klaasi laid in the nest of Oyphantes reichenowi, and the young were reared in my garden.

INDICATORIDAE.


This race described by Neumann from the mouth of the Juba River is upheld by Sclater and Friedmann. Neither makes reference to the birds of the
coast of Kenya, though the latter does mention the race as occurring on the Tana River at 1,200 ft. Friedmann quotes the measurements of the nominate form as 105–114 mm. and of jubaensis as 97–103 mm. My typical variegatus from Masindi, Jinja, Moroto, Kavirondo, Kericho, Embu, Meru, Nairobi, and Kyambu give the following: 108, 118, 110, 110, 112, 112, 114, 115, 115; and the birds from the coastal zone at Sokoke to Malindi and Rabai are as follows: 100, 100, 100, 102, 102, 104, 104, 105 mm. Birds from Helleshid on the Juba 100 mm.

**Indicator minor erlangeri** Zedl. **Somali Lesser Honey Guide.**

I have specimens which should be referred to this race, if it is valid.

**Indicator exilis**, Nos. 330 & 331.

Even with additional material I cannot fathom the relative position of these small Honey Guides.

**Indicator exilis narokensis** Jacks., No. 331 = **L. meliphilus** Oberh.

**Prodotiscus insignis**, Nos. 333 & 334.

Sclater places specimens of this bird from Nairobi as belonging to the race ellenbecki; I previously regarded my specimens, 7, as being possibly reichenowi, the type of which came from Moshi. I have since obtained 2 specimens from the type locality, and they agree with the Nairobi specimens. I am not satisfied that Sclater is correct in calling these birds ellenbecki, more particularly as he suggests that emini is not a good form; my example of emini is decidedly different from the typical race and reichenowi.

**CAPITONIDAE.**

**Lybius tridactylus ugandae**, No. 340 = **L. guisobalito ugandae** Berger.

I am still prepared to maintain this as a good race.

**Tricholaema melanoccephalum** blandi Phillips.

The birds recorded by me in *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 39, are not typical melanoccephalum, but agree with the above race. They were obtained in North-west Jubaland. If they are not the same as the Somali bird, then they should be described as a new race.

**Tricholaema lacrymosum**, Nos. 344 & 345.

In the *Bull. Orn. Club*, vol. 143, 1923, p. 167, Jackson described a race of this bird under the name narokensis. This form is apparently upheld by Sclater, who admits it in the *Appendix*, p. 859. Friedmann, who recently worked on this group, *Bull. U.S. Nat. Mus.*, no 153, p. 446, places it as a synonym of the nominate form lacrymosum.

I have before me 6 examples from the type locality of this supposed race, besides 15 typical lacrymosum and 8 typical radcliffei. I cannot see how Friedmann can suggest that Jackson’s bird is of the nominate form. Narok birds have round spots, not elongate pear-shaped ones. This type of bird extends through West, Central, and South-eastern Uganda, round the shores of Lake Victoria, through Central Tanganyika Territory, and eventually merges into the race
ruahae. The nominate form ranges over the whole of the dry thorn-bush country of Kenya from Kilimanjaro, through Ukambani, north to Kenya, but not on the mountain, North Guasso Nyiro, Baringo, and Rudolf to Elgon and the Turkana country. I consider narokensis Jacks, to be a synonym of radcliffei. Females have larger spots than males.

**Tricholaema diadematum mustum** Friedm. Large Buff-bellied Barbet. 1

Previously recorded by me as possibly a new subspecies, I have obtained further material from the Kerio and Turkwell Rivers and can substantiate this form. 8 specimens.

**Buccanodon olivaceum olivaceum** Shell., No. 351.

Though considered a rather rare bird in collections, I have found the species to be very plentiful in certain localities, from the type locality Rabai to the Tana River at its mouth and south to the Usambara Mts. My series of over 60 specimens shows the species to be very constant. Three nests were found in the dead branches of a fig tree; the eggs are pure white with a semimatt surface, two to three forming the clutch. They breed in May to July and December to November. Like many other species of large Barbets, these birds go about in small flocks, very often composed of adults and young. They are noisy and easily found, but if once shot at, fly off and remain quiet for a long time, and as they keep to the tops of the trees it is almost impossible to follow them up. The easiest way to procure the bird is to take up a stance below a fig tree in fruit and wait until the birds return time after time, as they will always do. The species is apparently limited in distribution to the coastal forests, not reaching more than 1,000 ft. (Kenya).

**Buccanodon leucotis kilimensis** Shell., No. 352.

I have secured typical examples of this race in order to test the validity of a form which I referred to Dr. Hartert in 1923. I pointed out to him that specimens from the Kenya area and Mau differed from the Kilimanjaro and Usambara birds in having a very wide dark centre to the feathers of the rump and continuous with the upper tail-coverts. The specimens were returned as kilimensis with the remark that some specimens of this form had dark rumps.

4 specimens of kilimensis from the type locality, 2 from Moshi, and 9 from the Shimba Hills and the Ganda Forest north of Vanga, show that typical kilimensis has only a slight dark line or no line at all down the rump. If we compare these with the birds from Mau and Mt. Kenya region, Embu and Meru and Nanyuki, we find that all 11 skins have a wide dark line in this area almost to the exclusion of the white. These birds have now been named by Wedgewood Bowen as:

**Buccanodon leucotis kenya** Bowen. 2

The characters given by Bowen are "darker than leucotis and kilimensis, and more washed with steely blue on the breast; rump mottled dark brown and white." The first character is not a good one, so far as kilimensis is concerned, but as I have already pointed out, the rump eharacters are good, and taking averages I am prepared to support this form.

Barbatula bilincata subsp., No. 359 = Barbatula bilineatus alius (Friedm.).


Very like B. pusillus affinis, but paler below, less washed with buff on the flanks and abdomen, more creamy yellow, and constantly smaller; wings 46–50 mm. The frontal red patch is uniformly more extended and rounded.

Type, male, Serenli, 8/22, north corner Juba River, in my collection. Compared material: 16 affinis, 7 lollesheid.


Trachyphonus erythrocephalus erythrocephalus Cab., No. 366.

Kitui as type locality is an unfortunate selection, Kitui being on the borderline of this form and the next race. The type of country is similar throughout until we get to the region of the Guasso Nyiro and South Rudolf. Typical birds of the nominate race are found in the regions round Kilimanjaro, more particularly those of the Voi, Tsavo-Tcita areas, i.e. the thorn-bush country, a type which obtains throughout the zone allotted to the intermediate race, T. erythrocephalus jacksoni.

It will be noted that I cast some doubt on there being a second form in the North Ukamba country south of Rudolf. At the time I had only 2 specimens from this northern area, and allowing for individual variation, I said that versicolor Hartl. was probably not a good race. The material of the nominate form, 18 specimens, gives 97–100 mm. as wing measurements.

Trachyphonus erythrocephalus versicolor Hartl. Rudolf Red-headed Barbet.

The series before me, 20 examples from the Turkwell, Kerio, Kobna, Meuressi, Marich, Moroto, West and South-west Rudolf, are all remarkably uniform. The wing measurements vary from 92–97 mm., average 95.5 mm. All are very much paler than the nominate form, less washed with red on the head and throat; and not one has red or red-orange under the tail-coverts. Further, the upper tail-coverts are either a uniform lemon-yellow, or very sparsely streaked with red. The hind neck band is a clear lemon-yellow spotted black, without a red wash. I am strongly in support of this race.

Trachyphonus erythrocephalus x jacksoni. Intermediate Red-headed Barbet.

I have 8 specimens of this intermediate race; they have wings of 93–99 mm. and on the whole are very close to the nominate form, having both upper and under tail-coverts red, but the red on the head is more restricted. Localities: Tana River at Sankuri; Archer’s Post; Marsabit.


1 Ask, vol. xlvii, January 1930.
They are to all intents small editions of the nominate race, but differ as follows: the males have the anterior and lateral margins of the black coronal patch surrounded by yellow, whilst the posterior margin and postero-lateral margins are bright red. The black on the throat is limited to a patch on the lower part; and the distal margin of the breast band is spotted with red; the upper and under tail-coverts are a less bright red, tinged with magenta, and not mixed with yellow. Wings 82–89 mm., average 83. Localities: East Jubaland on the northern Juba River, at Mandaïra, Neboi, Dolo. The distributional map given by my friend Friedmann for the races of *T. erythrocephalus*, op. cit., is misleading. If we compare the distribution of race 4, *jacksoni*, with the distribution given by Sclater in the *Appendix*, p. 860, we shall find that the two do not agree. Sclater states: “Northern Kenya Colony from the Juba River to Lake Rudolf,” type locality, “Wajheir, north of the Lorian Swamp.” The greater part of the southern portion mentioned by Friedmann is occupied by an intermediate race, slightly smaller than the nominate form as stated by him, but certainly not as small as the Jubaland birds.

*Trachyphonus darnaudii* darnaudii (Prév. & Des Murs.), No. 367, and *T. darnaudii* zedlitzi Berger, No. 368.

There is still some confusion with regard to this species and its races. With my additional material, 11 skins, from South-west Rudolf, Kerio River, Wei Wei River, Turkwell River, Moroto, Marich Pass, Kaebeliba, I am inclined to the view that *zedlitzi* Berger is merely the intermediate form towards *böhmi*. At the moment of writing, insufficient typical *darnaudii* are available. I have 2 females from the Turkwell-Kerio area which are extremely like the race *böhmi*, except that the top of the head is flecked with yellow-orange.

*Trachyphonus darnaudii* böhmi Reichw., No. 371.

I am now satisfied that this bird is a race of *T. darnaudii* and not a species. Although I have not found evidence of overlapping, there are certain intermediates which support this view.

I have young examples of this bird with yellow tips to the crown-feathers, and there is one adult from Voi which has the black on the crown limited to a frontal patch. Birds from the Juba are rather smaller than Kenya ones, averaging 71 mm. against 77 mm. The former are topotypical.

*Trachyphonus usambiro* Neum., No. 369.

I now refer to these birds binominally, being satisfied that this is a species, having nothing to do with *T. darnaudii* or *emini*. The material before me, 10 specimens, includes both male and female, the sexes being almost alike and with wings of 81–89 mm. This species is more heavily built than *darnaudii* in every way, and has the bill always black, not brown or yellowish. Even in young birds the bill is very dark brown-black. They are fairly numerous in the Loita Plains between the Southern Guasso Nyiro and the Amala River.
PICIDAE.

Campethera nubica, Nos. 375 & 376.

Much has been written on the relative validity of the suggested races of this species. Schlater, in his Systema, admits three, including albifacies = scriptoricauda. I have already stated my reasons for ranking scriptoricauda as a species, and I have no reason to alter my opinion now. Assuming my contention to be correct, we are left with but two forms admitted by Schlater, nubica nubica (Bodd.) and n. pallida (Sharpe). Friedmann, in Bull. U.S. Nat. Mus., no. 153, pp. 475-480, has supported this, and while agreeing with me as regards the status of scriptoricauda, disagrees with my further view that there is a recognizable highland Kenya race of nubica to which the name neumannii has been applied. I have every reason to adhere to the opinion previously expressed with regard to these highland birds and maintain the name neumannii. Type locality Naivasha.

Campethera abingoni kavirondensis van Som. Kavirondo Stripe-breasted Woodpecker.1

A well-marked race, so far known only from the South Kavirondo, Kisii Amala regions. It differs from the nominate race as follows: The mantle and rump are purer olive green, less washed with golden; the spotting is larger, but not in the form of bars; in the male the red of the crown is more extensive, the frontal feathers being greyish with red tips, not olive tipped red; the cheeks are white, with blackish streaks distally only; the gular stripe is darker; the throat has a wide black stripe from chin to breast, where it widens out to form heavy black streaks along the centre of the feathers. The whole of the ground colour of the underside is whiter, much less washed with yellow. This race differs markedly from the next form.

Campethera abingoni suahelica Reichw., No. 380, part.

I have now before me topotypical examples of this race from Arusha and the foothills of Kilimanjaro. I must amend my previous notes on this race, the material then recorded not being typical suahelica. The Kilimanjaro race has a very strong yellow wash over the whole of the underside, and the mantle and coverts are strongly transversely barred, the whole washed with golden.

The Lambo birds are paler throughout with the striping on the underside very much reduced, the barring on the dorsum well marked on a pale yellowish green washed with a tinge of grey, giving the area a paler appearance; hence the English name used in my previous notes. These birds are probably near annecetens Neum.

Campethera abingoni mombassica Fisch. & Reichw., No. 379.

My series of this race, now numbering some 40 specimens, is very uniform. In the first or juvenile plumage the whole of the upperside including the head is very like the adult female, but duller throughout. The greatest divergence from the adult plumage is found on the upper breast; here all the dark marks are large round spots, as are found in nubica, becoming elongate along the flanks and upper abdomen, with small spotting over the whole of the abdomen to vent.

1 B.B.O.C., vol. xlvi, p. 70, 1926.
Campethera tenuiolaema harsburgi Sharpe, No. 387.

Selater makes no mention of this race. The race is a perfectly good one, and I am pleased to find that Friedmann upholds it. I have not the slightest reason for altering my views on the races of C. tenuiolaema, Nos. 386 and 387.

Mesopicos goertae, Nos. 389 & 390.

If M. goertae centralis and the Kenya bird rhodocogaster, No. 391, are races of the same species, it is interesting to note that they occur side by side from Baringo to Elgon: I find no intermediates.

Mesopicos ruwenzori, No. 392 = M. grisecephalus ruwenzori Sharpe.

Thripias namaquus decipiens Sharpe. South Kenya Bearded Woodpecker.

This widespread species has been divided up into several races and, with the exception of schoensis, No. 395, all are considered doubtfully valid by Selater, who further states in the Appendix to the Systema, p. 863, that the type of decipiens Sharpe, as per original label, came from the Shimba Hills south of Mombasa, and not from Zanzibar. Accepting this label locality as correct, we are free to speculate as to the relative positions of decipiens and intermedius, No. 396. I have before me specimens taken in the type locality of decipiens which are similar to the birds from Southern Kenya that most writers have assigned to intermedius, type locality Ugogo, Lat. 6 in the Dodoma area. Kilimanjaro birds agree with decipiens, and unless we are prepared to accept a name for the intermediate aggregate, i.e. intermedius C. Grant, we should have to admit decipiens as extending right up to the Nairobi area, a suggestion which I am inclined to adopt.

Thripias namaquus schoensis (Rüpp.), No. 395.

To the localities already given for this race add: Neboi, Dolo, Northern Juba River; Turkwell River, Kulal, Southern Rudolf.

Dendropicos lafresnayi lepidus (Cab. & Heine), No. 398.

Selater's division of this species, considered with that of Bannerman, Rev. Zool. Africaine, vol. 10, p. 96, and read in conjunction with the remarks made by Friedmann, at once shows how difficult it is in some cases to assign certain races either to lafresnayi or fuscescens. Claude Grant's boundae has been placed by the first two authors mentioned into two distinct and opposite groups; then Friedmann states that the birds I assigned to f. centralis Neum., No. 401, are nothing more nor less than l. hartlaubi of the Tanganyika coast. There are certain general characters by which the major portion of these little Woodpeckers can be assigned to particular species and "form circles," but on the other hand, there are just those intermediates which might be placed in either of the two groups. I have before me 8 birds from the Sotik-Buret area which one cannot call lepidus; they are larger, wings 90-93 mm., much more clearly barred on the back and the wings, and agree almost with those birds which Friedmann states are l. hartlaubi. Selater gives as the distribution of lepidus in Kenya "east of the Rift Valley," and does not include Tanganyika Territory at all;
Grant does, as does also Bannerman; and all are agreed that hartlaubi is a coastal form only. I should very much like to examine the type of centralis Neum. Is it really a synonym of fusescens massaicus?

*Dendropicos* fusescens albicans, No. 402 = *D. fusescens hemprichii* Ehr.

I have now obtained toptotypical material which shows that this form extends south and merges into the race massaicus on the Tana.

**COLIIDAE.**

*Colius striatus*, Nos. 405-409.

This is a further instance of a species with a very wide range which breaks up into many races, which, where they overlap, produce intermediates. The various criticisms which have been made on the conclusions come to by me have interested me greatly. With the addition of much more material I have no reason whatsoever to alter my views. I should like to draw attention to that most interesting paper by Dr. Chapin, *Journ. f. Orn.*, 1929, Band 2, pp. 174–183, in which the colour of the eye is stressed as being sound evidence in support of racial characters. I had already noted these differences when describing my races, but perhaps not closely enough; suffice it to say, however, that by these characters as well as by others Chapin supports my races *kikuyuensis* and *ugandensis*. He, however, admits *affinis* as the Mombasa coastal form. In this he is in error, and I can only suggest that he has not carefully examined toptotypical material, birds from the exact type locality. On the other hand, if we turn to Friedmann’s paper, *op. cit.*, we find that he recognizes *mombasicus* and clearly states the distinguishing characters. Although he admits the Uganda birds as distinct from the Kikuyu ones, he suggests that the name for this form, *ugandensis*, should be *jebelensis*!

Before going farther, it might be well to refer to a form recently described by Jackson as *marsabii*, from the locality of that name. This form is admitted by Selater; it is made a synonym of *kikuyuensis* by Friedmann. I myself have 12 specimens from Marsabit, and these agree very well with Kerio and Turkwell specimens, except that they are not so brown below and the eyes are brown, not yellowish white or cream. They are certainly not typical *kikuyuensis*, as suggested by Friedmann, and are more likely *erlangeri*. As Jackson appears to have compared his birds with *ugandensis*, which is the same as *kikuyuensis* according to him and Bannerman, the compared material was a mixture, and one cannot ascertain from his remarks whether the differences cited were in contradistinction to those found in the Uganda form or the Kenya (Nairobi) one. It may help to solve the difficulty if I repeat the note which followed Jackson’s description of the Marsabit birds. He states: “In company with Mr. Bannerman, I have carefully considered the validity of *C. s. kikuyuensis* . . . and we both agree with the conclusions expressed by Dr. H. Granvik, *Journ. f. Orn.*, 1923, p. 95. We cannot see the slightest difference between *C. s. ugandensis* and *C. s. kikuyuensis* . . . .” This statement surprised me much, and with a view to substantiating my opinion I have presented to the National Collection a series of both races obtained in their type localities. The acknowledgment of the gift contains the following: “In your series the two forms are quite distinct, and
you were quite right in separating them on the material." The material sent was additional to that which I had previously used and amply proved the soundness of my opinion, yet in spite of the acknowledged difference, the two forms are united by the workers in the British Museum. In cases of this sort material from the exact type locality should be used for comparison before an opinion is expressed.

Within the area dealt with in my work, I recognize the following races in addition to those given in my previous paper:

- C. s. intermediate erlangeri *bilgerti*, Upper Juba River.
- C. s. marsabit Jacks., this extends to South Rudolf and Kulal.

*Coltius macrourus*, Nos. 412–414.

Friedmann, *op. cit.*, has given a distributional map of the races he recognizes. He suggests (a) that the nominate form (of which *syntactus* is a synonym) extends right across to Somaliland along Lat. 10°; (b) that the race *pulcher* ranges from the area south of the Kenya-Tanganyika border to midway through Italian Somaliland, including the whole of the coastal strip of Kenya and Jubbaland. Has Dr. Friedmann examined a series of birds from this coastal strip? He would find that these birds are a very uniform lot, much paler than *pulcher* or the intermediates between *pulcher* and *macrourus*, such as are found through the Northern Frontier districts of Kenya to Rudolf, Turkwell, Moroto, Turkana. I have a series of 14 skins of these coast birds, and as they confirmed the opinion stated in my previous report, p. 72, I submitted them to Dr. Hartert, who writes: "Yes, they do differ from *pulcher*, but we cannot see any difference from *C. macrourus* from Senegal"! Are these birds to be called *C. macrourus macrourus*? If so, they range west to east and then south through South Somaliland and along the Kenya Coast!

**TROGONIDAE.**

*Apaloderma narina* subsp.? No. 415 = *A. narina brachyurum* Chapin.¹

Chapin has described the bird to which I had drawn attention. Those localities in Uganda refer to this race and the remainder, in Kenya, to *A. narina narina*. The coast form of this bird, which extends up to the Juba River and Southern Somaliland is smaller and decreases in size as it reaches the Juba River. The measurements are: wings 117–125, and tails 155–160 mm., as against the large inland form of wings 129–144, tails 160–200 mm. This race I have named *A. narina littoralis*, type locality Sokoke Forest, type male, 20.5.21, in my collection. *B.B.O.C.*, vol. li, p. 80, 1931.

Besides this very marked difference in size, there are colour differences as follows: In the male, the vermiculations on the wing very fine on a pure white ground; the red of the underside purer. In the female, the facial brown and that of the breast band lighter, clearer brown, not tinged with grey, and the grey of the lower chest very much paler pearly grey, with just a slight admixture of pinkish on the flanks; the abdomen and flanks a paler, cleaner pink, slightly darker on the under tail-coverts. Compared material: 20 skins of the coastal form; 18 of the nominate race.

¹ *Amer. Mus. Novit.*, no. 56, 1923, p. 4.
Heterotrogon vittatum vittatum (Shell.), No. 416.

Wedgwood Bowen has recently described a race of the Barred-tail Trogon from the Meru area as distinct from the form inhabiting the other forests of Kenya and Tanganyika Territory; examination of my material shows that the character on which this race is founded is an unstable one. In my Meru and Mt. Kenya specimens the tail barring is not any more close than in Kyambu Forest or Elgon birds; on the other hand, those from Kyambu are more heavily barred. I am inclined to consider keniensis a synonym of the nominate form, and Bowen’s type merely an individual variation similar to those found elsewhere. Bowen states that the outer tail-feathers in this species are not subject to great individual variation; my series of 26 skins shows otherwise.

Heterotrogon vittatum minus, No. 417 = H. vittatum camerunense Reichw.

PITTIDAE.

Pitta angolensis longipennis Reichw., No. 418.

The distribution given by Selater, so far as Uganda is concerned, needs extending to include the Mabira Forest. The Kenya records known to me are rather curious ones; the first was of a bird which flew into one of the hotels in the principal thoroughfare of Nairobi, and the other a bird which walked into a private house at Limuro in a starving condition. The first specimen was sent to the British Museum and never returned; the second is in the Nairobi Museum. My specimens all come from the Uganda Forests of Bugoma, Budongo, Mabira.

Pitta reichenowi Mad. Green-breasted Pitta.

Selater records this species from the forests of Chagwe, presumably the Mabira.

CORACIIDAE.

Coracias abyssinicus, No. 423 = C. abyssinicus abyssinicus Herm.

Coracias caudatus lorti Shell., No. 422.

Selater does not admit this bird to the Kenya list, but I would draw his attention to my previous records which show that this bird and C. caudatus caudatus are found together over a very large area. His distribution of the nominate form is also misleading, the race being plentiful from Uganda through the whole of Kenya except at high altitudes.

Friedmann, Bull. U.S. Nat. Mus., no. 153, p. 377, when referring to my remarks regarding the coincidence of the two forms, suggests: “It seems somewhat doubtful that the Southern examples of lorti are really of that form and not intergrades between it and caudatus or even immature caudatus.” This last suggestion is wide off the mark as far as my material goes, and with regard to the birds being possible intergrades, I mention that there is no variation between the birds from North Jubaland right through to Kilimanjaro; 20 skins. I have a few adult birds from the Tana River area which one could place as intermediates, but those from Ukamba are mostly lorti.
Eurystomus gularis neglectus Neum., No. 427.

This form extends into Eastern Uganda. I have a specimen shot near Jinja. Selater's distribution must be adjusted to take in this area.

BUCEROTIDAE.

Bycanistes cristatus, No. 431 = B. cristatus brevis Friedm.

Proc. N. Engl. Club, vol. xi, pp. 31-33; type locality Usambara. Friedmann has recently drawn attention to the difference in size between the typical birds and those which occur in Central Kenya south to Eastern Tanganika Territory. The observations made by him are corroborated by the series available to me, 11 skins, which give the maximum wing length as 373 mm., minimum 355 mm.

Lophoceros nasutus epirinus (Sund.). Southern Black-billed Grey Hornbill.

This race, so far as Kenya is concerned, is only found in the regions from South Ukambani to the Kilimanjaro area. North of this area there is a strong tendency toward the northern form, and in my opinion birds from north of Lat. 1 south should be referred to the typical form.

Lophoceros hembri chi exsul Neum. Rudolf Red-billed Hornbill.1

If Neumann is right in separating these Turkwell and Rudolf birds from typical hemprichi, then my specimens should belong to that southern race. Type locality Moyale.

Lophoceros melanoleucos geloensis Neum., and L. melanoleucos stegmanni Neum.

As to the relationship of these two birds, Selater does not admit stegmanni, Systema, Appendix, p. 854. Friedmann admits it tentatively. On the other hand, the race suahelicus, No. 434, is also suppressed by Selater. In my previous paper, I queried geloensis on the ground that one of the chief characteristics, viz. the white supercilium, was a variable one. I am now prepared to admit that the birds found from Nairobi north to Uganda, including the Loita-Kericho area, are much darker and considerably larger, wings 258-272 mm. They should be stegmanni if that race is valid, or if not, then they are geloensis. The race suahelicus is found throughout Southern Kenya and Southern Jubaland.

ALCEDINIDAE.

Ceryle maxima, No. 457 = Megaceryle maxima maxima (Pall.).

Ispidina picta jubaensis van Som. Juba Violet-eared Kingfisher.2

The birds from the Juba River as recorded by me in a previous paper, i.e., no. 35, p. 43, are constantly smaller than any from Kenya and Uganda, the wings varying from 43–50 mm., as against 52–57 mm., tails 17–20 mm., as against 23–28 mm. These differences constitute sufficient grounds on which to base a geographical race. Material compared: 10 Juba birds, 20 from Uganda and

1 Journ. f. Orn., 1928, p. 784.
Kenya. Type, male, Serenli. 7/22, in my collection. Distribution: the mid-reaches of the Juba River from Dolo to Waregta. The Tana (lower reaches) birds are intermediate, but nearer the Uganda form.

Specimens of this Kingfisher from the Ganda Forest on the coast near Vanga are very close to the southern form, natalensis.

**Halcyon albibventris erlangeri** Neum. **Juba Buff-breasted Kingfisher.**

This is a perfectly good race. My series give wing measurements of 90–93 mm., as against 101–107 mm. in birds from Dar-es-Salaam. This race does not occur at Mombasa, the birds of that area being orientalis Peters, No. 443, a form which extends up the coast to the Tana River and inland up to Kitui district, Nairobi-Thika area, and Meru.

Wedgewood Bowen has recently described a race from Meru which he has named pretissgrayi; the distinguishing features are said to be the darker buff on the underside, more deeply coloured than albibventris or orientalis. Size large: wings 105 mm. He suggests that the two birds recorded by Friedmann from the junction of the Thika-Tana Rivers are near this form. The type is unique!

I have before me a series of 28 orientalis, No. 443. There is great variation in the colour of the underside, from a rich ochreous-orange to almost a uniform white with a slight wash of buff on the flanks and less on the breast. The wing measurements are as follows: Coastal birds 98–105 mm.; Kilimanjaro-Moshi 103–106; Kitui-Tana, Meru 100–106; Morogoro–Dar-es-Salaam 97–104. The darkest birds are from the Kilimanjaro-Moshi area. Under these circumstances I am not prepared to accept pretissgrayi as a sound race.

**Halcyon senegaloides ranivorus** Meinertzh. **Kenya Red-billed Grey-breasted Kingfisher.**

This race has been separated by Meinertzhagen, *B. B.O.C.*, vol. xlv, p. 44, on the ground that the Northern birds are smaller and paler on the crown. Examination of the material within the confines of this supposed race reveals the following: wings 99–103 mm., culmen 40–45 mm. Dar-es-Salaam: 100–112 mm., culmen 42–52 mm. (these latter said to be intermediate). Vaughan, *Ibis*, 1930, p. 16, suggests that separation is not justified in that, although the birds from the type locality are small, those from Lamu are large, giving wing measurements of 100–103 mm., and Pemba birds 102–109 mm. I have two Pemba birds with 100–102 mm. wing measurements and culmens 47 mm., being within the range of the larger southern bird. They differ, however, in that they have a white loral spot and white-feathered eyelids, not black as in the mainland form.

The race ranivorus is admitted in the *Systema*, but there appears to be some little doubt as to its soundness.

**Halcyon chelicuti chelicuti** (Stanley), No. 442.

Practically every student of African ornithology has at some time critically examined large series of this bird in order to try to discover whether or not it breaks up into geographical races. Races have been described, but as the species has such a wide, almost continuous, range over Africa, only the extremes can be admitted. What then are we to do with the intermediate forms? I consider the races recognized by Friedmann, namely, *chelicuti*, *eremogiton*, and *damarensis*,...
to be the only ones worthy of recognition. Grote's *hylobius*, Stoneham's *phaeton*, and *zinjense* are nothing more than variations of the intermediate form between the southern *damaresensis* and the nominate form *chelicuti*.

Size variations are uncertain criteria so far as the Kenya, Uganda, Tangan-
yika, and Mozambique birds are concerned, as will be seen from the following: 
Lumbo, sea-level, 15 birds, 74–83 mm.; Dar-es-Salaam, sea-level, 9 birds, 75–80 mm.; Kenya coast, Vanga to Lamu, sea-level, 15 birds, 75–83 mm.; Kenya inland, Simba-Loita, 3,400–4,000 ft., Tana-Thika, 4,000–5,000 ft. to Marsabit, 2,500 ft., 10 birds, 74–84 mm.; Uganda: Jinja, 4,000 ft. to Rudolf; Masindi, 4,000 ft.; Gulu-Entebbe, 4,000 ft., 10 birds, 78–85 mm. The figures given by Friedmann, *Bull. U.S. Nat. Mus.*, no. 153, pp. 354–355, agree absolutely. If we work on the averages of my birds, we find that the Uganda series gives an average of 82 mm., Kenya inland 81 mm., Ethiopia 80 mm., Coast 79 mm., Mozambique-Lumbo 80 mm. On these data the only possible race which might be admitted would be *hylobius* of Grote.

I am afraid I cannot understand Stoneham when he says, speaking of the nominate form: "In this race, I place all birds from over 4,000 ft.—with wings of 82 mm. and 86 mm. or greater." Does he suggest that elevation, irrespective of geographical contiguity, produces a geographical race? For example, if we obtained a bird of 84 mm. on Mt. Kilimanjaro at 8,000 ft., and another of the same size at the same elevation on Kenya, and another on Elgon, would he put all three as belonging to one geographical race?

Let us consider the suggested coastal race, *zinjense*, with wing variation from 73–76 mm. Compare these measurements with mine, of birds from Dar-es-Salaam, sea-level to 100 ft., 75–80 mm.; Lumbo, sea-level to 100 ft., 74–83 mm.; Vanga to Lamu, sea-level to 100 ft., 75–83 mm.

*Myioceyx ruficeps ugandae*, No. 455 = *Myioceyx lecontei ugandae* van Som.

I have now a series of some 9 skins, which agree with the type.

**MEROPIDAE.**

*Melittophagus pusillus cyanostictus* Cab., No. 462.

There has been some controversy as to the validity of the race *sharpei* Hart. Friedmann upholds this form as a good one. I have drawn attention to the fact that many of the birds taken in the North Juba River district at Dolo, Dowa River, and Lugh show a distinct tendency towards *sharpei*, as one would expect, so much so that birds I sent to Dr. Hartert for an opinion came back marked *sharpei*. They are undoubtedly grades towards this form.

**UPUPIDAE.**

*Irrisor erythrohyrynchus niloticus*, No. 478 = *Phoeniculus purpureus niloticus* Neum.

Sclater's distribution of this race is not comprehensive enough, as the race undoubtedly ranges through the districts round Lake Rudolf. I have on several occasions recorded it from West Rudolf, and Friedmann now states that it goes to the Ndoto Mts., south-east of Rudolf. I have recently obtained a collection of birds from Lodwar-Kabona, in which there are specimens of this race. The largest male has a bill measurement of 64 mm., 3 with bills of 56 mm.
Irrisor erythrophlychus marwitzi, No. 477 = Phoeniculus purpureus marwitzi Reichw.

I have before me a very interesting series of 26 birds showing the gradual transition from the nestling plumage through the juvenile, sub-adult, to the adult. The three nestlings are worthy of note in that two, sexed as females, have the heads entirely black with a purply tinge; the throats flecked with purply bronze-brown, with here and there slight green reflections; the whole of the underside a deep purply black. The third, sexed a male, has the entire head strongly tinged blackish brown, while the throat is a lighter brown. In all three specimens the mantle and seapulars are a deep purply black with purply bronze reflections somewhat as in damarensis granti, but of course not highly metallic as in that species. In two of the specimens the primaries are tipped with white. The rectrices are frayed at the ends owing to abrasion in the nest. The bills are black; the feet red-brown. The mantle feathers are replaced by metallic ones first, then the moult extends on to the head and breast; the wing feathers are then moulted in pairs, followed by the rectrices. A complete moult takes place before the bill, which has hitherto been black, becomes red. The birds are sexually mature before the bill turns completely red; this is proved by the fact that the female was shot with the young in July.

The longest bill measurement in the male is 53 mm. in my series.

Phoeniculus somaliensis (O.-Grant), No. 480.

Fairly numerous on the Juba River; 6 specimens were obtained between Dolo and Mandaira.

Phoeniculus bollei jacksoni (Sharpe), No. 481.

My remarks under this species were mainly to draw attention to the characters in the series before me at that time; 35 specimens. The most important point which Friedmann appears to overlook is the fact that my Cherangani series showed not only small wing dimensions as compared with typical birds, but that there was a decided preponderance of birds without white on the head or very little white.

The nestlings of this race have pure white heads, with a tinge of greyish down the centre of the crown; the mantle, wing-coverts, and upper breast are dull black, with a moderate degree of greenish reflections, more particularly on the mantle. The abdomen and vent are dull black. The wings are dark greenish blue, with a slight purple reflection, while the rectrices are deep blue with strong purple and golden sheen basally on the central pair and on the outer web of the remainder. The bills black.

Rhinopomastus minor cabanisi Defil., No. 485, and

Rhinopomastus minor extimus Friedm.

The races of Rh. minor within the boundaries dealt with have hitherto been cabanisi and somaliensis. In my previous paper I drew attention to the fact that birds hitherto called cabanisi occurring in the districts of Southern Kenya and round Kilimanjaro were considerably larger than northern ones. Friedmann has now added another name to the races of minor which is applicable to these
large southern birds, viz. extimus. Although I agree with him that one cannot call these birds cabanisi, what is one to do with the intermediate forms which exist over a considerable area? In going over the material which I now have, I am compelled to query the soundness of labelling the southern birds with a name of their own. The following wing lengths, arranged according to localities, may be of interest:

1. West Rudolf, Turkwell.
   Kerio, Moroto . . Males 106, 106, 106, 109, 102 mm., females 93, 95, 100 mm.
2. South Kavirondo . . Males 105, 106, 106 mm.
3. Tsavo, Mbuyuni, Teita, Voi Males 102, 103, 104, 103, 112 mm., female 96 mm.
4. N. Guasso Niyro . . Males 100, 105 mm., females 92, 94 mm. (No white bar; young in July.)
5. Upper Juba River . . Males 90-96 mm., females 82-83 mm.


The 10 birds from the Juba River mentioned above belong to this race. They are characterized by their small size, and in all but one there is a distinct white bar on the wing, which varies somewhat in size.

MICROPODIDAE.

The following alterations should be made in the nomenclature of the Swifts. In place of Apus substitute Micropus; in place of Tachornis use Tachynautes.

Apus affinis, No. 513 = Micropus affinis abessynicus (Streubel).

This is the common breeding species of Mombasa and the immediate mainland. It does not appear to occur in the highlands of Kenya. My series includes birds from the North Juba, the Northern Guasso Niyro, Voi, Makindu, and the coast.

Apus roehli, No. 506 = Micropus apus roehli (Reichw.).

In spite of what has been written by recent workers, I am unable to agree that the birds which I have placed as roehli are the same as shelleyi. Cf. Friedmann, Bull. U.S. Nat. Mus., no. 153, p. 313; Selater, Systema, p. 257, following Meinertzhagen, Ibis, 1922, pp. 40-41. I repeat that birds which I have used in comparison (my own material) were breeding birds, either with eggs or young. There is no element of difference in colour due to age or wearing. It will be noted that my specimens, 3, which I place as roehli are larger than any shelleyi (assuming nakuruensis to be a synonym), having wings of 161, 170-175, and cotype roehli 165 mm. Now, all my shelleyi (and nakuruensis) are smaller, 13 specimens, 150-159 mm., Meinertzhagen's figures being 148-161 mm.

Meinertzhagen further suggests that the two birds in Tring labelled shelleyi are probably M. murinus somalicus. This race of murinus is known to me, and I cannot agree that any of my Nakuru birds resemble it at all, and I doubt if the Tring birds do either.
Apus murinus subsp.?, No. 512 = Micropus murinus somalicus (Clarke).

Somali Grey Swift.

Obtained in the Northern Frontier, Kenya, and at Dolo, Juba River.

Micropus melba africanus (Temm.). African White-bellied Swift, and

Micropus melba maximus (O.-Grant). Ruwenzori White-bellied Swift.

Both these birds have been taken from time to time, the latter only from the Ruwenzori Range.

Telacanthura usscheri stictilaema (Reichw.). Mottle-throated Spine-tailed Swift.

Has been obtained at Mombasa, and observed there on two occasions. Friedmann records it from Meru and the Mara.

HIRUNDINIDAE.

Hirundo rustica transitiva (Hart.). Palestine Swallow.

This race has been taken in Uganda, and also at Kisumu, on migration.

Hirundo puella abyssinica, No. 527 = H. abyssinica abyssinica Guér.

This is the Abyssinian form which occurs in the northern parts of Kenya and Rudolf. The southern form, which has been named unitatis by Selater and Praed, is found throughout the greater part of Kenya and Uganda.

According to Selater, Hirundo gordoni = H. semirufa gordoni and Hirundo melanocriisa emini = H. rufula emini.

MUSCICAPIDAE.

Melaenornis lugubris ugandae, No. 536 = M. edolioides ugandae van Som.

Melaenornis ater pammelaina, No. 537 = M. pammelaina tropicalis (Cab.).

I made a mistake in suggesting that ater, 1850, should be used for the group of Black Flycatchers. The name pammelaina antedates it, 1814.

Bradornis bafirrawari Bann. Wajheir Brown Flycatcher.

This species was described by Bannerman, B.B.O.C., vol. xiv, p. 41, 1924, and I mention it not only because it comes within the scope of this paper but to emphasize it, as it appears to be known from two skins only, taken at Wajheir.

Bradornis pallidus and Bradornis griseus

From the large series at my disposal, I am led to recognize two species as above, each with several races. It is true, however, that within Kenya there are certain birds which it is difficult to assign to either species with any degree of certainty.

B. pallidus.—Birds with ashy brown mantles, pink-buff inner webs to wing feathers; not grey but brownish wash on the breast.
If we unite the birds hitherto called *murinus* with *pallidus*, as is done by Selater, then we have the following recognizable forms (Uganda and Kenya):

1. *B. pallidus pallidus* (Müll.), found in the northern portions of Western Uganda.

2. *B. pallidus suahelicus* van Som., topotypical in the highland areas of Kenya, 4,500–9,000 ft., ranging into South-east and Central Uganda, its southern range extending to the Kilimanjaro area. It merges into the coastal form in the region of Southern Ukambani and the Teita area.

3. *B. pallidus subalaris* Sharpe, a coastal form, which is found most plentifully at sea-level, but which extends inland to the thorn-bush country, from Teita and Southern Ukamba, the lower Tana area to Lamu and the lower waters of the Juba River, thus found at sea-level up to 2,500–3,000 ft. Wings 80–87 mm., average 87 mm.

4. *B. pallidus* intermediate to *subalaris*. A rather difficult aggregate of intermediate colour, which extends the range of *subalaris*, northward through the thorn-bush country to the Northern Guasso Nyiro, keeping to altitudes of 2,000–2,500 ft. and seldom higher.

5. *B. pallidus* near *subalaris*. A common form, found on the mid and upper waters of the Juba River, which agrees with *subalaris* in coloration, but smaller. Wings in the males 80–83 mm., average 81 mm., females 74–77 mm., average 75 mm.

**B. griseus.**—Birds with grey or ashy grey mantles; pale greyish or white inner webs to wing-feathers; decided grey wash on upper breast and flanks.

1. *B. griseus griseus* Reichw. What I take to be typical birds are found in the part of Kenya comprising the Kisii, Mara River, Loita area to Magadi. Selater has kindly verified my identification. They are birds of a decidedly grey upperside, streaky head, and with a strong grey wash on the upper breast and along the flanks. Wings 90–95 mm., 7 specimens. 3,000–3,500 ft. An area influenced by Lake Victoria. When we examine the birds from the southern end of the Southern Masai Reserve, including the Magadi area, and extending through the northern part of the Ukamba province, we find that they are rather paler grey above and below and are smaller. Similar birds range to the Northern Guasso Nyiro. These are not true *griseus*, though Lönnberg records typical birds from the Northern Guasso on the identification of Reichenow (*K. Sv. Vet. Akad. Handl.*, Band 47, p. 80).

Lönnberg remarks on the smallness of these Northern Guasso Nyiro birds, but accepts Reichenow's identification. Examples from this area, recently submitted to Selater, are returned with the identification *B. g. erlangeri*, i.e. similar to the Juba River specimens. With this identification I cannot agree, as very long series from the area between *griseus griseus* and *griseus erlangeri* are intermediate. Type male, in my collection, Kiu, 1921.


3. *B. grisesus erlangeri* Reichw. This is a small form, which ranges from Southern Somaliland and along the Juba River. It is very much paler than the nominate race and very much smaller. A series of 14 gives the following wing variation: males 75–77 mm., females 69–73 mm. The wing measurements
recorded by me for this race, op. cit., no. 35, p. 46, should be modified, as they included a specimen of B. pallidus.

*Bradornis taruensis* van Som., No. 543.

In a footnote to page 407 in *Syst. Av. Aethiop.*, Sclater suggests that the above name is a synonym of *B. griseus griseus*. I have recently sent a series of this bird to Sclater, who now states, "Series E is I suppose your *taruensis*, and I think it is probably distinct from *griseus*, and should probably stand." There is no doubt in my mind that the two are distinct, and fresh material supports my original diagnosis of this bird. At the time of describing this bird, I had 31 specimens.

I now come to the birds from West Rudolf, Karamoja, and Turkanaland, which I placed as *B. g. punitus* Sharpe, No. 544. These birds are as light grey on the mantle as the Northern Guasso Nyiro birds, but they lack the grey wash on the breast and flanks and are actually like *B. p. subalavis* below, but above they are nearer to the *griseus* group. In the original description, Sharpe states that it is a small race of *murinus*, but much greyer than *pallidus*. For the time being I retain my original identification. The range given by Sclater, for *griseus*, is much too wide, and covers such a diversity of type of country that it is not in the least surprising that we have more than just the typical race within the range given.

*Alseonax lugens melanoptera* Jacks., No. 550 = *A. cassini melanoptera*.

*Alseonax coerulescens kikuyuensis*, No. 553 = *A. cinereus kikuyuensis*.

*Alseonax infalata infalata*, No. 555 = *A. aquaticus infalata*.

*Alseonax aquaticus ruandae* Gyld. White-throated Swamp Flycatcher.

This race occurs in the south-western corner of Uganda, while the race *infalata* is found in the region of Lake Kioga, East Uganda, and round the eastern and southern shores of Lake Victoria.

*Alseonax minimus murinus* Fisch. & Reichw., No. 556.

As indicated in my previous remarks, I was not satisfied that the birds from Nairobi and the highland country to the north belonged to the race *murinus*. I have now a good series of type material from Kilimanjaro-Meru. This series shows very clearly that the Kilimanjaro birds are much darker, more ashy grey-brown above and darker below with a strong ashy grey wash on the breast. Wings 63-67 mm. Sclater gives the range of this race as Elgon-Marsabit to Kilimanjaro, including the highlands. I cannot accept this on the evidence of my considerable series. The race *murinus* is limited to the region round Kilimanjaro and only extends into the area covered by my report in the Taveta-Teita districts.

*Alseonax minimus roehli* Grote. Usambara Little Brown Flycatcher.

I have examined a series from Usambara and can uphold this race as being a purer grey above and paler below than *murinus*. 
Alseonax minimus marsabit van Som. Marsabit Little Brown Flycatcher.  

Sclater’s statement that the typical _murinus_ extends to Marsabit is entirely wrong. I have before me 13 perfect specimens from this locality. They differ from _murinus_ in being smaller, wings 56–63 mm., mostly 56–57 mm., and in being much more ashy brown above, and richer, more ochreous, brown below, without the greyish wash to the breast. They are very like the Western Uganda race, but are quite distinct from that form. Type, male, Marsabit, 2.7.23, in my collection.

_Alseonax minimus pumilus_ Reichw., No. 557.

This form is found in the western and central parts of Uganda. It is a small race.


I refer to this race all the birds found in the highlands of Kenya, from Nairobi-Kenya north-west to the forests of Eastern Uganda, including Elgon. This form differs from _murinus_ in being less dark greyish above, more brownish and lacking the greyish wash to the breast.

Type, male, Molo Forest, 8.7.18, in my collection. Out of a series of over 20 birds there is only one (from Nairobi) which approaches the Kilimanjaro race. All the others cannot be confused with _murinus_.

In the _Systema_ Sclater uses both _minimus_ and _murinus_ under _A. minimus_, though, according to Grote, _minimus_ should be used for the entire group, a mere pen slip.

_Artomyias fuliginosa_ ? subsp., No. 97 = _A. fuliginosa minuscula_ Grote.  

_Megabius atrialatus aequatorialis_ Jacks., No. 569 = _M. flammulatus aequatorialis_ Jacks.

_Batis mixta_ Shell. Short-tailed Puff-backed Flycatcher.

This species, described from Kilimanjaro, extends throughout the forests at Taveta, the Shimba Hills, Rabai Hills, Mongeya, and the Sokoke Forest to the lower Tana River. I have before me a fine series of 15 adult males and 15 adult females. The young males in first plumage are like the females and develop the black breast-band and a whitening of the rest of the underside at the same time as the change in the wing colour—this latter taking a longer period to be completed. The young female has the top of the head almost the same colour as the mantle; while the superciliary stripe is buffy, not white. The rufous of the breast is not so strong as in the adult, while that on the wings is deeper in tint.

I propose here to adopt the arrangement given by Sclater with regard to the small Puff-backed Flycatchers of the _Batis_ group, treating _minor_ as the nominate form of the group with the blackish crown.

The type of this bird came from the mid-reaches of the Juba River. I have now before me 7 examples from the type locality and adjacent areas to the north. This is a small bird, with wings in the male 52-55 mm., in the female 50-54 mm. The breast-band in the male is narrow, slightly wider at the ends; that of the female is also narrow and chestnut in colour.

Batis minor suahelicus Neum., No. 576.

The material representing this race, in my collection, is as follows: Males 11, females 9. Wings ♂ 54-57; ♀ 52-56 mm. Range: Lamu and Manda south along the coastal belt to Vanga, inland to the Tsavo-Tana Rivers. Sagala and Taveta. Moshi and Kilimanjaro foothills.

Specimens from Kilimanjaro are slightly larger, males and females showing a 2 mm. increase in wing length.

Breast-band in the male narrow, in the female narrow and of a slightly lighter chestnut brown than in minor minor.

Batis minor nyanzae Neum., No. 577.

Larger than the two previous ones. Males have wings of 60-65, females 60-64 mm. Range represented in my collection: Elgon through Uganda to Masindi and South Ankole, Kisumu, Kakamega, and Kendu Bay. In the Nairobi Museum are specimens from Morogoro which, as Sclater states, belong to this large form.

Batis molitor puella Reichw., No. 578.

The birds available for reference are from the following localities: Kilimanjaro, wings 58-63 mm. (3); Kitui, wings 60 (2); Nairobi, wings 60 (3); Naivasha, wings 61-63 (3); Mt. Kenya, wings 60 (2); Elgeyu-Marakwet, wings 60-63 (3); Kericho, wings 60-64 (5); Mara River, wings 62-63 (3); Mt. Moroto, wings 62-63 (4); Turkwell, wings 62-63 (2). 32 specimens. It will be noted that this series covers an area from Kilimanjaro north through Kenya to Eastern Rudolf. All these birds, with the exception of the one Kilimanjaro female, have wings of 60 mm. and over. The sexes are very uniform, with the exception of a female from the Turkwell River, which has both the chin patch and the breast-band of a light chestnut colour, though not as pale as in B. perkeo. I have given these details at length because I am satisfied that the coastal race, which I described and which Sclater does not admit, is a sound one. It will be noted that in the distribution assigned to B. molitor puella, Sclater himself does not include the coast, in fact he definitely by word excludes this area. This is an interesting fact, because he had before him my statement that my race taruensis ranged from the coast to the Taru desert. He says that this race is a synonym of puella. If it is, then this form must range to the coast, as evidenced by my material from Changanwe! Taking this discrepancy of range into account, one can only say that it is added evidence that my race taruensis is sound.


When I described this bird I had 7 examples, with wings 53-55 mm. I am satisfied that this is a small coastal form. A possible explanation of the
non-acceptance of this form as ranging to the coast is that Sclater admits a further race (according to his arrangement) to be present along the coast, namely soror. This, or a race of it, does occur, for I have specimens from the coast, but I do not admit it as a race of molitor, but consider it a distinct species.

_Batis soror_, Nos. 580 & 581.

This group is rather puzzling. When I described a race from North Mozambique as _pallidigula_, No. 581, I had before me specimens from Zanzibar with darker chin-spot and breast-bands, _littoralis_ Neum., and also _soror soror_. The material of the suggested race, 5 specimens, was so constantly different from either of the other two, that I decided to describe the form. Sclater places both _littoralis_ and _pallidigula_ as synonyms of _B. molitor soror_. My additional material is from Shimba Hills. I am certain that we have more than one form from Mozambique to the Tana River!

_Batis soror perkeo_, No. 580 = _Batis orientalis perkeo_ Neum.

The above designation is based on the arrangement adopted by Sclater. If we consult the distribution as given in the _Systema_, we find that Sclater does not include the sub-coastal area, i.e. the thorn-bush country between the coastal belt and mid-Ukamba-Masai zone; had he noted the localities given by me in my 1922 paper, he would have seen that the bird has been taken as Maungu, Tsavo, Mbuyuni, Campi-ya-bibie, and, I now add, Taveta; Northern Guasso Nyiro, Archer’s Post; Kapenguria, Lokitang, Kamakun in Turkana, west of Lake Rudolf.

_Dyaphorophyia ansorgei silvae_ Hart. & van Som. _Kaimosi Yellow-bellied Wattle-eyed Flycatcher._

There are now three known specimens of this race, all obtained in the Kakamega Forest on its southern border. The type is in Tring, a second specimen in my collection, and a third in the Milwaukee Museum. All have been taken by my collectors.

_Erythrocercus holochlorus_ Erl., No. 587.

Sclater follows Roberts and admits this to a new genus, _Chloroptella_, and places it next to _Chloroptera_. I am not satisfied that this is sound. Since my report of 1922, I have found this species to be very common in the low-lying bush and forests at the coast, not over 1,000 ft. My series consists of over 30 adults and several young. The first plumage is dull olive green above, very pale yellowish white below, with the ear-coverts creamy. Localities: Lower Juba, Lower Tana, Sokoke, Rabai, Shimba Hills, Ganda, Vanga.

_Elminia longicauda teresita_, No. 590 = _Erannornis longicauda teresita_ (Antin.).

Oberholser has pointed out that the genus _Elminia_, hitherto used for these flycatchers, is preoccupied, and substitutes the genus given above. The following locality should be added to those already given: Kericho, Chepalunga Forest.

_Elminia longicauda albicaua_, No. 591 = _Erannornis albicaua kivuensis_ (Grote).

The White-tailed Blue Paradise Flycatcher of South-west Uganda, if distinct from the Angolan bird, must be known as above.
**Trochocercus cyanomelas bivittatus**, No. 592 = T. bivittatus Reichw.

The type of bivittatus is said to have come from the lower Tana River at Muniumi; specimens obtained from the forests of the coast, therefore, are of the nominate race. A series of 11 males and 10 females gives the following wing and tail measurements: males, wings 62, 66, 66, 66, 67, 68, 69, 69, 68, 70 mm., tails 68, 68, 70, 70, 72, 72, 73, 75, 75, 76 mm.; females, wings 62, 63, 63, 64, 64, 65, 65, 66, 68 mm., tails 65, 65, 66, 66, 68, 68, 68, 68, 70, 70 mm. If we compare this series with birds from the Kenya Highlands, it will be noticed that the latter run rather larger, as follows: males, wings 71, 71, 72, 72, 73, 73, 74, 74 mm., tails 75, 81, 81, 81, 81, 81 mm.; females, wings 68, 68, 70, 70, 70, 74 mm., tails 75, 76, 76, 77, 80 mm. Thus in averages we get: coastal birds, wings 67 mm., as compared with 72:5 in inland birds, and tails, coastal race 72 mm., against 81 mm. up-country. The same proportion obtains in the case of the females.

Nominate race: Coastal birds are from Lower Tana, Sokoke Forest, Rabai Forest, Mungeya, and Shimba Hills to Ganda Forest near Vanga. 13 males, 11 females.

Highland birds: Kyambu and Ngong Forests, Meru and Mt. Kenya. 10 males, 9 females.

I have therefore proposed the name *kikuyuensis* for these larger birds (*Journ. E. Afr. & Ug. Nat. Hist. Soc.* no. 37, July 1931).

The females of the up-country race have the breast more strongly streaked than in the coast form. This character, however, is not to be confused with the dark breasts of young males of the coast form. Type, male, Kyambu, 27.12.16, in my collection.

The race described by Grote as *sonalicus*, from the Juba River, is unknown to me.

**Trochocercus albonotatus** (Sharpe), Nos. 595 & 596.

To the localities given for this species add: Meru, Mt. Kenya, Aberdares, Kericho, Kapenguria, Turkana, Turkwell River.

I should like to mention here that my remarks on the form which occurs in the Kivu-Albert Edward region, as they appear in my Report, are not as written by me in my manuscript. As printed, they are open to misinterpretation, as in the case of Count Gyldenstolpe, who states, "van Someren has, however, only been able to examine a single male." This is incorrect, for I had a series, one of which I cited as the type, for I had actually given the form a name in my manuscript. These birds are almost identical with *T. a. subcoeruleus* Grote, from Usambara.

**Trochocercus nigromitratus kibaliensis** Alex., No. 598.

When writing of these birds in 1922, I had a series of my own taking, numbering 17 specimens, equally representative of the forests of Western and Eastern Uganda. I mention this because, according to Selater, we get two forms of this bird in Uganda: viz. *kibaliensis* of the North-eastern Congo, skipping the forests of Lake Albert and appearing again in the Mabira Forest, Mubango, and Elgon; and *intensus* ranging from Kivu through the Semliki to the forests of Albert at Bugoma and Budongo! At the moment of writing I have before me material from Kegezi, north to Bugoma and Budongo, east to Mabira and Elgon, and south
to Kakamega. All these birds are identical. Gyldenstolpe described his race from a single skin, and states that it cannot be *kibaliensis* because this race has the centre of the breast whitish. Some of my birds are uniform bluish grey; others have the central area rather paler, light grey, and these are from the Bugoma-Kegezi-Budongo area.

*Tchitrea emini* (Reichw.), No. 604.

This species undoubtedly crosses with *viridis*, and in my opinion *T. albiventris* of Stoneham is such a hybrid. I have a male specimen in my collection which agrees with his description, and 2 females very similarly coloured.

Slater makes *emini* a subsp. of *T. nigricaps*; cf. *Systema*, p. 435.

**Tchitrea perspicillata plumbeiceps** (Reichw.). Grey-headed Paradise Flycatcher.

Slater does not include Kenya in the range of this bird, but there is no doubt that it occurs there, as I have specimens which have been taken in the area extending from Vanga through the forests of Rabai and Sokoke to the mouth of the Tana. It is also found on Zanzibar.

*Tchitrea viridis*.

The arrangement given by Slater for this very difficult group does not carry us much farther, at least as far as we in East Africa are concerned. According to his distribution of the various races of this species, we should have in Uganda a mixture of *T. viridis viridis* and *T. viridis speciosa*. As regards Kenya, we should have the race *viridis* in the central portion, and the race *suahelica* in the coastal zone. No mention is made as to what to expect in the northern province and round about Rudolf; neither is any mention made of those undoubted environmental forms which are found in one place only, and which conform to a specific type. The race *ferreti* is stated to be limited to Abyssinia; but is it? A series of birds from Juba River, right in the path of the supposed range of *suahelica* which is said to extend to Somaliland (*vide Systema*, p. 433), are certainly not of this race; for these Juba birds the young male, when moulting from the first female-like plumage, develops a large amount of white on back, wings, and tail, and does not have a long-tailed brown and grey plumage; conversely, the strain found on the Usambara Range, of which I have examined a series through the courtesy of Moreau, does not develop the white-backed white tail plumage, and furthermore, the blue of the throat is defined from the light grey of the breast. Now Kilimanjaro birds, typical *suahelica*, do become white-backed, for I have such in my collection from this locality; furthermore, the strain inhabiting the forests of Nairobi and Ngong do not develop this type of plumage, but are always brown-backed with brown tails and a varying amount of white on the wings. It is of the greatest importance that ecological strains should be studied by workers in the field.

**CAMPEPHAGIDAE.**

*Coreina caesia pura* (Sharpe), No. 606.

To the localities add: Kakamega, Kericho, and Marsabit. The young of this species in first plumage has the head, mantle, and breast white with greyish-black flecks; the wing feathers grey, heavily margined with white, as are also the rectrices. Found breeding in June. Young just from nest in July.
Campephaga quiscalina martini Jacks., No. 610.

Scater’s distribution of this race should be modified to take in the forests of Nairobi, Ngong, Aberdares, Meru, and Mt. Kenya, from all of which places I have obtained specimens. The Meru-Kenya examples are very like the nominate race.

Campephaga phoenicia (Lath.), No. 607.

The range as given by Scater should be extended to include the Kakamega Forest and Nandi, and Uganda generally, not Northern Uganda only, as stated.

Campephaga nigra nigra, No. 608 = C. flava flava (Vieill.).

Campephaga petiti (Onst.), No. 609.

Scater gives Kakamega as a locality for this species on the authority of Chapin. If reference is made to my previous notes on this species, one will find that I recorded the bird from Kakamega and Nyarondo in Nandi, in 1915.

DICURIDAE.

Dicrurus modestus ugandensis van Som., No. 693.

This form ranges to the Nandi Escarpment and my previous distribution will be extended accordingly. My friend Bannerman has made some rather pointed remarks about me, Rev. Zool. Afr., 1922, pp. 267-268, more particularly for having had the temerity to describe the Uganda birds as a distinct race, which he refuses to admit. In his review in Ibis, 1920, he admits only having had 25 skins from all localities from Gaboon to Uganda. I had the use of that same material plus 25 skins from Uganda. In his Ibis paper he omits reference to the ranges and races of two Drongos, one of which is found in the Elgon district northward to the Turkwell, and the other in the Tana Valley, doubtless because he had not seen the material. The omission is, of course, covered by his footnote.

Dicrurus ludwigii elgonensis van Som., No. 694.

Additional material shows that this form ranges from Kavirondo to Elgon and the Turkwell.

Dicrurus ludwigii ludwigii (Smith).

7 skins from the Tana Valley below Sankuri are of this form, according to Dr. Hartert, to whom specimens were sent, and similar birds range to the mouth of the Juba, though in this latter locality the gloss becomes more dark-bluish, less greenish.

Dicrurus adsimilis divaricatus (Licht.).

In Bannerman’s review of the genus, Ibis, 1920, a long list is given of comparative measurements; the Kenya birds being lumped together and apparently no notice taken of the topography of the country. It is therefore of interest to compare my measurements with those given by Bannerman:

Coastal birds (sea-level to 1,000 ft.): wings 115, 115, 118, 118, 118, 118, 120, 120, 120, 121, 122, 122, 124, 125, 125, 125, 125, 128 mm., average 121.2 mm.

Kenya Highlands (4,000-6,000 ft.): wings 120, 125, 125, 125, 127, 130, 135, 135 mm., average 131.5 mm.
If we accept the very comprehensive range as given by Bannerman, we must include the following birds also as belonging to *divaricatus*, a position I am not prepared to accept:


The average tail lengths are as follows:

Coast 112 mm. Highland 114 mm. Juba River 102-6 mm.

The accompanying photograph (Pl. III., figs. 1-4) shows the marked difference between the tail formation of the Juba birds and others.

**Dicrurus adsimilis jubaensis** van Som. Juba Drongo Shrike.


This race differs from *divaricatus* in the formation of the tail, which is only slightly forked, and is very much shorter (*vide* photograph, Pl. III., figs. 5-9). The inner webs of the wing feathers are pale, not black; the gloss on the body is a greenish blue-black.

**PRIONOPIDAE.**

*Eurocephalus rueppelli* and races, Nos. 611 & 612.

Sclater states that the typical form ranges through Uganda and the greater part of Kenya. I have no White Nile material before me at the moment and cannot check this statement, but my impression in the past has been that the typical bird was smaller than that ranging through Kenya.

Sclater, however, admits three races: *erlangeri*, limited to Abyssinia and Northern Somaliland; *deckeni* occurring in Southern Somaliland and the Juba River south along the coast to about Witu; and *böhmi*, found in South and South-west Tanganyika Territory.

The material now at my disposal gives the following results as regards wing measurements:

*E. r. rueppelli.*

Western Rudolf and Northern Guasso Nyiro: 122, 122, 123, 124, 127, 127, 128, 129 mm., average 125-25 mm.

Northern Guasso Nyiro: 123, 125, 125, 135 mm., average 127 mm.

*E. r. intermediate rueppelli z deckeni.*

Tsavo and Samburu: 121, 121, 121, 123, 124, 125, 125, 125, 127, 128 mm., average 124-2 mm.

*E. r. deckeni.*

Juba River: 119, 119, 120, 121, 121, 121, 121, 121, 121, 124 mm., average 120-8 mm.

*E. r. intermediate to böhmi.*

Tanganyika Territory: 128, 130, 135, 136 mm. (Morogoro district).

It will be seen that the smallest birds are those from the Juba River, which should belong to the race *deckeni*. Some are of the size of the Samburu-Tsavo birds, which according to Sclater should be of the typical form, *r. rueppelli*, which are represented by the series from Rudolf and the Northern Guasso Nyiro. The birds from Tanganyika are intermediate between *rueppelli* and *böhmi.*
**Prionops poliolopa** Fisch. & Reichw., No. 617.

This remarkable species has been taken by me in the Kedong Valley, the Amala River district, and at Naivasha. It is not very common, but, as with other representatives of this genus, it is found in small flocks of 4 to 8 or so.

**Prionops poliocephala** Stanley, No. 614.

When I reported on this species in 1922, I had but seldom come across it. It appears to be rather erratic in its appearance; a small flock was noted in the Machakos area for about a week and then disappeared. A further flock was seen in the Loita in June 1924, but search in this area in July of the same year was unrewarded by a sight of a single specimen. On September 30, 1922, a flock of 9 individuals appeared in my garden in Nairobi in the morning at about 6 a.m. and specimens were secured. The bird had never previously been noted, nor has it since appeared in the Nairobi area. Two specimens were procured in the Tsavo-Masongoleni district in January of this year.

**Prionops concinnata** Sund., No. 613.

Selater does not include Uganda in the range of this species, but I have specimens taken in Unyoro and Chagwe. His distribution must be amended accordingly.

**Prionops cristata omoensis** Neum., No. 616.

I reported at some length on this species, and this race in particular, in my previous paper. Selater admits the race; and a comparison of fresh material (7 skins from Kaptirr, Turkwell, January 1931), with that reported on previously, shows that the colour on the hinder part of the crown is variable.

**Prionops cristata melanoptera** Sharpe.

I am not at all satisfied with the inclusion of this bird within the *cristata* group as is done by Selater. The series before me of 13 *poliocephala*, 13 melanoptera, 20 *vinaceigularis*, suggests that all these short-crested Helmeted Shrikes belong to one large group, with a possible inclusion of even the *cristata* group amongst them. The division of these birds into two groups, one with black wings and the other with a broad white line and white patch on the coverts, is artificial. Even in the group with the particoloured wings, the feathers which are white are not identical in any two birds, and very often are not symmetrical on both wings. In the series of *vinaceigularis*, there are 6 birds with two or three secondaries narrowly margined with white and some of the coverts partly white, and this to my mind indicates a relationship to the "particoloured wing" group. If one consults the distribution of the two groups one finds practically little overlapping except in the region of the Southern Loita and Western Ukambani, where *poliocephala* meets *vinaceigularis*, and, as one would expect in such a case, two well-marked forms produce a few intermediates; then again, I have shown that these birds wander a fair amount, and in these movements there may be invasion of respective territories without any interbreeding. A sketch map showing the distribution of these birds as evidenced by the material I have examined during the last twenty years would emphasize the points I have endeavoured to make.

The localities from which the race melanoptera is represented in my collection are: Juba River, Mandaira, Dolo, Neboi, Jebier, Serenli.
In my report on a collection of birds from Jubaland and the Northern Frontier Province of Kenya, published in *Journ. E. Afr. & Uy. Nat. Hist. Soc.*, no. 35, pp. 48–49, I stated that I could not recognize the difference between the Juba birds and those from the Tsavo-Taru area. Of colour difference there is none, and as regards size, we find the following:


It will be seen from the above that the range of variation is practically identical, with a slight preponderance of larger birds from the Juba. The probable explanation is that the Juba birds are not true *melanoptera*, but an intermediate strain towards the southern form.

**Sigmodus scopifrons. Red-fronted Helmeted Shrike.**

According to my friend Sclater, the nominate form, *S. s. scopifrons* Peters, type locality Mozambique, ranges from Beira to Mamboia in South-eastern Tanganyika Territory, skips a stretch of diverse country of 700 miles, and appears again in identical form on the north-east side of Mt. Kenya at Meru, a feat which has its parallel in the case of the races of *Colius macrourus*; but I think that Sclater is wrong. Sclater refers to this species as a rare one; if he looks up my remarks in *B.B.O.C.*, 1923, p. 80, he will see that I had 25 of one race and 32 of another, all in my collection at the time. The race which Sclater describes, *B.B.O.C.*, 1924, p. 92, is said to range along the coast from the Pangani River (presumably the mouth) to Lamu; this he names *S. scopifrons kirki*. This race has been taken by me in considerable numbers (32 specimens). It extends up the Tana River, and meets the Meru form *keniensis* van Som. The young of the coast form has the whole of the upperside dull ashy grey-brown, each feather strongly edged with dirty white; the area between the eyes is mottled whitish, while the frontal area is covered with short upright ashy grey "pile" feathers. The wings are ashy grey with whitish edges to each feather; the greater part of the underside is ashy grey-brown, with pale edges to the feathers; the vent and under tail-coverts white. The bill is pale orange-red. A complete body moult takes place before the wings and rectrices are replaced; the frontal patch comes in straw colour, and is not replaced with light chestnut until the following moult.

The races which I at present admit as occurring in Kenya are: *S. scopifrons keniensis* van Som.; *S. s. kirki* Sclat.

*Nilaus minor minor* Sharpe, No. 621.

Under this heading I propose discussing the validity of the race *erhangeri* Neum. In my previous paper I stated that I was doubtful of its value, partly on account of the fact that Neumann had included Taru birds amongst the birds of this race, but I also stated that I had no South Somali birds for comparison. I have now a large series from the Juba River, which is well within the range of this race. The wing measurements are as follows:

Juba River: 71, 72, 72, 72, 72, 72, 73, 73, 73, 74, 74, 74 mm., average 72.9 mm.
Northern Guasso Nyiro, Marsabit: 73, 73, 73, 73, 74, 75, 75, 75, 75 mm., average 74.1 mm.
Taru area: 73, thirteen of 74, 75, six of 77 mm., average 74.18 mm., one 84 mm. abnormal.
All that we can gather from the above is that the Juba birds are slightly smaller and might possibly be maintained by those who wish to accept this slight evidence. The races within Kenya and Uganda would thus be: N. minor minor, north-east through Uganda, Rudolf, Northern Guasso Nyiro south to Kilimanjaro; and N. m. erlangeri in Jubaland.

*Nilus afer massaicus* Neum., No. 620.

Selater is in doubt about the number of species, and in a footnote, p. 602, *op. cit.*, says that *minor* should perhaps be included in the *N. afer* group. Under the grouping which he adopts, there are no forms of *afer* in either Uganda or Kenya. The bird which I have accepted as *afer massaicus* Neum. he calls *minor massaicus*, limiting this race to a region “from the Amala River to the country round Kilimanjaro.” My series of this bird, whether it be considered a race of either *minor* or *afer*, is from the south shore of the Kavirondo Gulf, through the Amala area and Loita to Kilimanjaro. It might be suggested that all these birds belong to one large “form circle” as it sometimes is called, but there is some apparent overlapping and I prefer to keep the two forms distinct as species, until we find out whether this overlapping is due to invasion of territories during local movement.

In my 1922 paper I recorded *massaicus* from Toro; this bird would belong to the race *ruwenzorii* Bannerman, *Ibis*, 1923, p. 698, if this race can be upheld; Selater states that it is doubtfully distinct from *massaicus*. Thus *ruwenzorii* must be a bird with a pale flank stripe, such as is found in the areas mentioned above. In spite of what Selater states to the contrary, regarding races of *afer* occurring in Uganda, there is undoubtedly a certain race of this species which I have recorded as *N. a. erythraeae*, with very dark broken flank line quite distinct from *massaicus* or *ruwenzorii*.

**LANIIDAE.**

*Harpolestes australis littoralis* van Som, No. 626.

Selater suggests in a footnote, *op. cit.*, p. 626, that this is probably similar to *minor*, type locality Mwanza. I can only suggest that he has not seen a series from the type locality of my race. Again, he suggests that *dohertyi*, type locality Kikuyu Escarpment, is the same as the Bukoba bird called *emini*. His suggestion amounts to this, that all birds within Uganda and Kenya found north of S. Lat. 1, and south of Lat. 3 north, on either side of Lake Victoria, are of the same race as the Bukoba bird, from west of Lake Victoria, whilst those south of S. Lat. 1 to S. Lat. 5, within Kenya, are similar to the Mwanza bird. This is certainly not the case.

*Harpolestes senegalus catholeuca* (Neum.). S. Somali Red-winged Bush-Shrike.

I have recorded 7 birds from the Juba River (upper waters) as belonging to this race. They are distinct from any other race found in Kenya or Eastern Uganda. Selater records birds from Rudolf (no more definite locality than just this) as *erlangeri* (Neum.) and those from Uganda as *camerunensis* (Neum.).
Chlorophoneus elgeyuensis van Som., No. 644.

Sclater places this bird as a race of *nigrifrons*, and states that it is doubtfully separable from the nominate form. He evidently has not got a series on which to base his views. If he had a series of the Kenya *nigrifrons* and compared them with typical Kilimanjaro birds, little difference if any would be seen. New localities: Mt. Kenya, Meru, Embu, Mau.

*Chlorophoneus nigrifrons nigrifrons* (Reichw.), No. 643.

To the localities previously mentioned add: Kilimanjaro, Embu, Meru, Chuka, Kapenguria, Turkwell, Sotik.

*Chlorophoneus rubiginosus* subsp. nov. ?

A single specimen of this species was taken on the Embu-Chuka road. It does not agree with either the Uganda forms or those of Tanganyika Territory. It probably represents a Mt. Kenya form.

*Chlorophoneus sulphureopectus fricki* Friedm.

Friedmann has recently described the South Ethiopian bird under the above name, and includes in its range the Northern Frontier of Kenya. I have but 3 specimens from Marsabit and Moyale which should belong to this form, but I am not in a position to refute this race.

*Chlorophoneus sulphureopectus modestus*, No. 642.

To the localities given under the race *modestus*, which, according to Friedmann, should be the nominate form, add: Kericho, Sotik, Kapenguria, and Kitirr on the Turkwell.

*Chlorophoneus dohertyi* Rothsch., No. 646.

To the localities already recorded add: Sotik, Kericho, Chepalunga Forest, Mbarara, Kegezi.

*Chlorophoneus quadricolor nigricauda*, No. 645 = *Telophorus quadricolor nigricauda*.

Additional localities: Sokoke Forest, Mongeya, and lower reaches of the Tana River.

*Chlorophoneus bocagei jacksoni* (Sharpe), No. 663.

I have placed this species in the above genus instead of in *Dryoscopus*, as I am quite certain that this is correct. *Vide* my notes on immature plumages. Additional localities: Kericho, Kakamega, Jinja, Mile 6, Majanji.

*Rhodophoneus cruentus hilgerti* (Neum.), No. 647, and

*Rhodophoneus cruentus cathemagenus* (Reichw.), No. 648.

Sclater (p. 638) places these birds into two species. I do not agree. In my last Report I recorded birds from the Tsavo and Athi River junction, 5 males and 5 females, as belonging to this northern race. They are within the range...
of *cathemagmenus*. These 10 birds agree with 10 males and 6 females from the Juba River which cannot be anything else than *hilgerti*. Similarly, I have specimens from the Kasut Mts., Marsabit, and the Northern Guasso Nyiro, which one cannot place in anything else but *hilgerti*. In my opinion *cathemagmenus* is nothing more than a southern form of *cruentus*, and this is supported by the fact that even on the Juba one gets a male with the red throat and breast mark, with a marked though restricted black mark on the chest. In addition to the material collected by me and mentioned in my 1922 paper, I have now 17 other specimens of the two races; a bigger series than probably exists in any other collection, and one on which one can hazard an opinion. There is therefore a considerable area in which mixture occurs, producing typical strains and intermediates between the two races. If they are species the chances that they hybridize are more remote than if they were races; how else would one account for the intermediate forms?

*Laniarius erythrogaster* (Cretzschm.), No. 662.

The only additional localities are: Rudolf, Turkwell River, Kerio River, Kapenguria, Kaptirr in Turkana, Soroti.

*Laniarius barbarus mufumbiri* O.-Grant, No. 661.

To the localities given previously add Kampala.

*Laniarius lübderi castaneiceps* Sharpe, No. 659.

The immature stages of this bird are as follows: First dress—crown and mantle dull brownish olive; coverts, rump, and upper tail-coverts olive-ochreous barred with tawny; wing feathers olive-brown edged with olive-ochre, paler along the wing line greater coverts and secondaries; rectrices olive-brown with rusty edges; lores and ear-coverts greyish olive; throat greyish buff barred blackish, slightly more orange-ochreous on the breast and flanks and more greenish yellow on the centre of the belly, with diffuse dark barring. Bill and legs horn brown, the latter with a greyish tinge. In this immature dress, the crown is reddish chestnut but with a strong olive tinge; the mantle is a strong olive; the lores and ear-coverts are black washed with olive; the wings are similar to the first stage except that the innermost secondaries are darker and the white bar is more pronounced. The underside is almost as in the adult but rather duller. A transitional plumage shows a mottled back of olive and black; the rectrices are renewed from centre outward and the wing feathers in pairs; inner secondaries, inner primaries.

Additional localities: Kerieho and Sotik; Kakamega, Mau.

*Laniarius ruficeps*, Nos. 657 and 658.

Sclater states that the nominate form ranges to the upper waters of the Juba River; this is interesting because, as I stated in my paper in the *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, pp. 50–51, these North Juba birds are near my race *cooki*, and this race according to Sclater is doubtfully distinct from *rufinuchalis* Sharpe from Eastern Abyssinia. If *cooki* is a doubtful race, it should be near the nominate form.
The first dress of the juvenile is as follows: Crown, nape and mantle dull greyish olive-brown, superciliary stripe dirty white; scapulars and rump mottled white with olive-brown edges, the latter with ochreous ends; the rectrices uniform greyish olive, the outer two pairs widely tipped with tawny and with buffy-white outer webs. Wing-feathers full olive-brown with ochreous margins; wing stripe slightly indicated with buffish. Underside strongly washed with sandy buff, paler on centre of belly and throat. In the next plumage the front of the crown is mottled with blackish and the nape becomes dull reddish; the loral spot and ear-coverts become dull blackish and the wing-feathers and rectrices are replaced with blackish ones, from within outwards. Bill horny brown. Feet grey-brown. The mantle does not become grey and black until a complete moult has taken place.

*Laniarius aethiopicus major*, No. 654 = *Laniarius ferrugineus major* (Hartl.)

*Laniarius ferrugineus sublacteus* (Cass.), No. 656.

This must be considered a race. It breeds with *ambiguus* in the Kilimanjaro–South Ukambani region, as is proved by intermediate forms from these regions. To the localities add: Mongeya, Tana, Lamu, Manda, Ganda, Vanga.

*Laniarius ferrugineus ambiguus* Mad., No. 655.

This Central Kenyan form definitely breeds with the coastal form as reported above, and also merges into the race *major* in the Rift Valley. However, it is found true to type in such regions as Marsabit; north of this locality it meets with the race *aethiopicus*, which extends down to Rudolf.


I accept this as a good race: 7 specimens from the Juba River. Similar in type of plumage to *ambiguus*, but smaller.

*Laniarius nigerrimus nigerrimus* (Reichw.), No. 651 = *Laniarius nigerrimus erlangeri* Reichw.

I have before me topotypes of the two described forms, and I cannot perceive any difference. The Lamu and Manda birds agree with Kipini specimens in colour and size, 82–93 mm. The Juba birds are indistinguishable and run from 86–92 mm., Jebeir, Mfudu.

*Laniarius funebris funebris* (Hartl.), No. 652.

The locality of the nominate form is the Unyamwezi country, and the nearest to this locality represented by specimens in my collection is the Burungali Plain, Mara River. These birds are considerably darker and larger than those from other parts of Kenya. Wing measurements: 90, 92, 92, 93, 95, 100 mm., average 93·4 mm.

Sclater gives Ankole, Kenya, and Tanganyika Territory as the distribution; it is a pity that he is not more explicit in the range as affecting Kenya. If one reads in conjunction with this the opinion he expresses on the supposed race
bergeri, type locality Baringo, footnote, p. 617, one must assume that the race which occupies a considerable area of Kenya is not funebris, but rothschildi Neum., though under the distribution of this race he does not admit Kenya as within its range. It is, of course, possible that Selater’s Kenya and my Kenya are not identical.

If the Baringo bird called bergeri is a synonym of rothschildi, it follows that this latter must range into Kenya and occupy there quite a considerable area. I do not know on what grounds he admits the race rothschildi Neum. I examined the types, which are at Tring, and as I failed to see the characters cited for this race, I united the birds from Northern Kenya and North-east Uganda as funebris funebris. However, if we are to admit rothschildi as a good race, then all those birds recorded by me from Mt. Moroto, Meuressi, Turkwell, Suk, Baringo, and Kerio, Lodwar, Kula, and Marich Pass, must belong to this race, as must also specimens from Marsabit, Kulal, Mgombe Crater, Matthews Range, Northern Guasso Nyiro. Such birds as occur in the localities mentioned above are not similar to those now recorded as funebris funebris, but are intermediates between the nominate form and the race degener Hilg. and the subspecific name rothschildi may be employed for them.

Birds from the Moroto to Marich and Baringo have the wing measurements as follows: 80, 82, 83, 85, 86, 90, 91, 91 mm., average 86 mm.

Birds from Marsabit to Northern Guasso Nyiro: 84, 86, 86, 86, 86, 87, 89, 90, 90, 90 mm., average 87-4 mm.

L. alboplaga tus (Jacks.) is a synonym of funebris and not a species. L. funebris is liable to variation or mutation as in the type of this bird. I have a bird with a white crown, another with a white patch in the intercapular region, yet a third with two pure white feathers on either wing.

Laniarius funebris degener Hilg., No. 653.

I have before me 14 specimens from the region of the type locality. They are very much greyer above and below than the birds recorded above; the result is that the dark head and throat are clearly differentiated from the rest of the body. The wing range is: 83, 84, 84, 85, 86, 86, 87, 87, 87, 87, 88, 89, 90 mm., average 86-5 mm. Comparing these birds with those previously recorded by me as belonging to this race—that is, birds from the coastal districts of Kenya, inland to the Taru desert and the thorn-bush country of Tsavo to Taveta—we find that they are practically indistinguishable, being only slightly greyer below in some cases. One is justified in placing these Southern Kenya birds as degener with a slight tendency to rothschildi. Wings 86-90, average 88-2 mm. Selater gives as the range of this race: “Southern and Western Somaliland, and perhaps the coastal regions of Kenya.” In compiling the above notes, I have had before me over 50 examples of funebris and its races. I would suggest the following division, so far as Kenya and Uganda are concerned:

L. funebris funebris; limited to the districts round the Mara River and Loita north of Nguruman Hills, Ankole in Uganda.

L. funebris rothschildi; East and North-east Uganda, Rudolf to Baringo, Northern Guasso Nyiro, and Ukamba (north) Kitui.

L. funebris degener; Juba River and Elwak, and coastal region of Kenya, inland to Taveta, Southern Ukamba, and the Tana River.
Dryoscopus pringlii Jacks., No. 666.

To the localities add: Northern Guasso Nyiro, Archer’s Post, Moyale, Mandera, Juba River.

Dryoscopus gambiae nyansae, No. 665.

Birds from the Northern Guasso Nyiro and Marsabit to Moyale are intermediate between nyansae and erythreae. They have the heads decidedly darker than the mantle, and both areas are darker than in nyansae; the upper surface thus resembles erythreae, but the under surface is as dark as in nyansae.

Dryoscopus cubla hamatus Hartl., No. 667, and

Dryoscopus cubla affinis (Gray), No. 668.

I propose to consider the above birds together. Sclater keeps them widely apart and as species. I have before me over 100 specimens of cubla and over 50 of affinis. This series is assembled to endeavour to ascertain the relationship between these birds, which have hitherto been looked upon as two distinct species. In my 1922 paper I drew attention to the fact that in point of size there were two geographical races of cubla hamatus, the larger inland form and the smaller coastal form. To illustrate this I append wing measurements of adult birds of both forms:

Inland race, extending from Elgon south through the Cherangani, Man, Sotik, Mara River, Aberdares, Mt. Kenya, and Nairobi district to Kilimanjaro: 78, 80, 80, 82, 82, 82, 82, 83, 83, 83, 83, 84, 84, 85, 85, 86, 87, 89, 89 mm., average 84 mm.

Coastal form, extending from Dar-es-Salaam north along the coast to the Tana River, and through the thorn-bush country of the Taru and River Galana area: 71, 72, 73, 75, 75, 76, 76, 76, 76, 76, 77, 77, 77, 77, 77, 77, 77, 78, 78, 79, 80, 80, 80, 80, 80, 80, 81, 81, 81, 81, 81, 81, 82, 82, 83, 83, 84 mm., average 77 mm.

What is the relationship of these coastal birds to affinis? The range of affinis is given as Zanzibar (type locality), along the coast of the mainland from Dar-es-Salaam to Lamu, and I now have a series from the Juba River at Serenli to Mfudu and Kismayu. The characteristic features of the affinis males are the pure white rump, and the white of the wing, if present, being limited to a small patch on the shoulders, never on the coverts or the secondaries.

In cubla hamatus the rump is white with a decided greyish wash on the surface; the wings with a white scapular patch, white on the edges of the median and greater coverts and on the secondaries and the outer edges of the primaries.

Birds conforming to the characteristics of affinis occur as stated in the distribution, but only true to strain in the extremes of their distribution. From Vanga to the Tana they are undoubtedly influenced by the invasion of the hamatus-like strain, the result being that, although one may obtain a few specimens which one can without the slightest hesitation place as affinis, a very large number are absolutely intermediate in characteristics. What is one to do with such birds? The dominant strain is undoubtedly hamatus-like, and combined with this there is the reduction in size as compared with typical hamatus. 30 birds are of this intermediate form; the rump is in almost all cases white, with
no grey wash; the wings show white on the greater and median coverts and secondaries as well as on the scapular region. They are neither hamatus nor affinis. They range over an area roughly 200 miles by 100. Should one give a name to this intermediate aggregate, if one places affinis as a race of cubla, as it undoubtedly is, with affinis true to form at the extremes of distribution? If one were to seek a simple way out of the problem, one has only to treat affinis as a species, and make the coastal hamatus-like birds a race of cubla, a position I am not prepared to take up. Other systematists may think otherwise.

I think this case is a good example of the gradual encroachment of one race upon the territory of another, the races at one time having been separated by a considerable area.

_Malaconotus poliocephalus approximans_ (Cab.), No. 673.

Type locality Usambara. This point is of interest inasmuch as we find a difference in the size of the birds found along the coastal strip of Kenya and those inland. The following figures will indicate this point:

Coastal strip to 1,000 ft.


Now according to Selater, the southern race, hypopyrrhus, ranges north to the Pangani River, that is, to the type locality of approximans, Usambara; in other words, typical approximans must be an intermediate between the southern form and the Kenya form. The question then arises: which birds are typical approximans, the smaller coastal form or the larger inland form? Of the inland form, we have the following:


(d) Nairobi, Simba: 113, 113, 114, 114, 117, 120 mm., average 115 mm.


The above measurements are of birds which Selater states are approximans. What race inhabits Central Tanganyika Territory? It should be hypopyrrhus, and be similar to the Dar-es-Salaam birds; but it is not. I have before me 12 Dar-es-Salaam birds, which Selater says are hypopyrrhus; they are wonderfully uniform, but they do not agree with Morogoro birds which resemble the Nairobi-Kikuyu specimens; these latter (16) resemble the birds from Lumbo, North Mozambique! I am strongly of the opinion that the distribution assigned to approximans by Selater is too wide; further, I would suggest the recognition of schoanus Neum. (which Selater suppresses as a synonym of approximans), making it applicable to the large birds which range on either side of Lake Rudolf, through the Northern Guasso Nyiro to Central Kenya and possibly uniting with true approximans south of this area. The birds which occur in the west and north of Tanganyika Territory are unknown to me, and Selater omits these areas from the ranges of any of the races recognized by him.

Even with this very large series, over 80, from Rudolf south to the coast, I am unable to place the races satisfactorily, due largely to the amount of intergrading between the forms.

*Malacornotus* monteiri × *catharoxyanthus.*

I have before me a specimen of the Giant Shrike which is in perfect plumage and has the following characters: Lores white, this colour extending round the eye to a small patch behind; the whole of the under surface from the chin to the vent is canary yellow *without* any rufous tinge to the breast. It thus resembles *monteiri* in the matter of the degree of white on the head, and *catharoxyanthus* with regard to the underside. The bird was obtained in the Kakamega Forest.

Sclater states that *interpositus* Hart. does not appear distinguishable from *poliocephalus,* and extends the range of this race to Uganda, whence Stoneham records birds from Lira and Kitgum, Northern Uganda. From Bombo, South Uganda, Stoneham procured *catharoxyanthus,* whilst I obtained similar birds at Masindi and North Kavirondo. From north-east of these areas, Moroto Meunessi, I have specimens which I compared with *interpositus* and found them to agree. These birds are possibly intergrades between *schoanus* Neum. and *poliocephalus*; *interpositus* being intergrades between *poliocephalus* and *hypopyrrhus.*

These intergrades of mine are characterized by having the white of the head restricted to the lores; in having the yellow of the under surface washed with rufous on the upper breast, *not* sharply defined from the yellow throat, nor from the rest of the breast. They therefore approach *poliocephalus* closely, linking up Stoneham's Kitgum birds with the Rudolf birds which I accept as *schoanus.*

*Malacornotus* poliocephalus blanchotii (mihi), No. 675 = *M. poliocephalus hypopyrrhus* Hartl.

*Urolestes melanoleucos aequatorialis* Reichw.

This species has now to be added to the Kenya list. 7 examples, of which I have 2, were obtained in the South Kisii area and on the Mara River. I also noted a small flock of 4 in the Southern Game Reserve in 1924.

*Corvinella corvina affinis* Hartl., No. 691.

To the localities add the following: Sotik, Komolo, Moroto, West Rudolf.

*Lanius excubitorius* and races, Nos. 682–684.

Sclater admits only one race as occurring within Uganda; in this he is wrong, for there are two. The small birds which range from the Nile Province through Masindi south to Ankole, and the race *bohmi* which extends into Uganda in the Kigezi area.

In Kenya there is a resident breeding bird which is large and ranges along Rudolf south to Kisumu and Kavirondo, and a smaller bird which migrates as far south as Loita, being specially common in the region of Lake Naivasha. Vide my previous records.
*Lanius somalicus mauritii* Neum., No. 679 = *L. antinorii mauritii* Neum.

The specimens obtained since my previous paper are topotypical of Neumann's race. 4 males, 2 females, and 3 young were obtained in the Koroli-Marsabit area. The young in first dress, unlike most Shrikes of this group, is not heavily barred on the crown and mantle, but is almost uniformly grey-brown, with very small pale tips to the feathers of the lower back; the coverts and inner secondaries and primaries are widely margined with brown, and the longest secondaries and primaries are white-tipped. The under surface white from chin to vent, with a greyish wash on the sides of the breast; this area faintly barred, as are the flanks. The upper half of the ear-coverts ashy grey, the lower white; the cheeks also white. The rump and upper tail-coverts white, the latter showing very slight barring. The centre rectrices tipped with dirty white or brownish, the outermost pair pure white, the next two pairs with decreasing amounts of white at the tips. In the following plumage, the top of the head and the back become ashy grey; the black of the head does not appear until the wings and rectrices are replaced.

*Lanius dorsalis* Cab., No. 678.

To the localities add the following: Juba River at Serenli and Jebeir; Kulal, Isiola, Northern Guasso Nyiro, Matthews Range, Ngombe Crater; Kismayu.

*Lanius mackinnoni* Sharpe, No. 681.

This species has been obtained in the following additional areas: Sotik, Mara River, Southern Ankole, Kigezi.

**CORVIDAE.**

*Corvus corax edithae* Phillips, No. 701.

Additional localities: Juba River at Mandaira and Neboi. Kulal, Rudolf (east).

*Corvus capensus minor,* No. 698 = *C. capensis kordofanensis* Laubm.

*Corvus scapulatus,* No. 700 = *C. albus* Müll.

*Cryptorkina afra,* No. 704 = *Philostomus afer* (Linn.).

**ORIOLIDAE.**

*Oriolus auratus notatus* Peters, No. 707.

The range of this Oriole extends to the Juba River, whence I have obtained 6 examples.

*Oriolus larvatus roleti,* No. 709 = *O. monacha roleti* Salvad.

This is the form of Black-headed Oriole with white edges to the wing-feathers which occurs in Northern Uganda east to Elgon, where it meets with the larger race *eikyuyenensis*. Birds from Karamoja and Turkana belong to the race *rolleti*. To the previously recorded localities add: Moroto, Meuressi, Kapteir, Nepau Pass, west of Rudolf, Marsabit, east of Rudolf (these birds should be compared with *permistus* Neum., from the Omo River, N. Rudolf).
Oriolus larvatus reichenowi, No. 711 = O. monacha reichenowi Zedl.

My friend Meinertzhagen places this race with a query, and says that he had only one bird from Lamu which should belong to this race. He then states that Mombasa birds are typical rolleti, but goes on to say that all birds from the Kenya coast are smaller. This is a true statement of fact, and such birds, including Mombasa ones, belong to the race reichenowi. I have before me 11 birds from the Juba River with wing measurements varying from 120–130 mm., average 124 mm., while coastal Kenya birds vary from 119–130 mm., average 125 mm. (30 specimens). All are O. m. reichenowi.

Oriolus percivali O.-Grant, No. 712.

16 specimens from the Kakamega Forest, the only Oriole obtained there during three months’ collecting, give the following wing measurements: 129–140 mm., average 133 mm.

STURNIDAE.

Perissornis carunculatus, No. 715 = Creatophora carunculata (Gmel.)

To the localities add: Marsabit and Kulal.

Pholidanmus verreauxi, No. 723 = Cinnyricinclus leucogaster verreauxi (Bocage)

and

Pholidanmus leucogaster, No. 724 = Cinnyricinclus leucogaster leucogaster (Gmel.).

C. leucogaster has recently received the attention of Bowen, Proc. Acad. Sci. Philad., June 1930, pp. 165–167. He has split up the species into four races instead of the hitherto two forms, a Northern and a Southern. He recognizes a North-eastern South Abyssinia form, under the name of friedmanni, and a Central East African form as lauragrayae. The distinguishing features are size and the degree of white on the outer rectrices. With regard to friedmanni, which is stated to range into Uganda, said to be larger, wings 106–113 mm., I can only say that my East Uganda leucogaster have wings of 100–103 mm. With regard to the race lauragrayae, founded on smaller size and more white on the tail, I append wing measurements and distance from tip of rectrix to beginning of white colour, showing a great variation of both characters, indicating that these are unsound characters on which to base races.

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<th>Locality</th>
<th>Distance of white to tip.</th>
<th>Wing length.</th>
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<tr>
<td>Kapenguria, Turkana</td>
<td>15 mm.</td>
<td>111 mm.</td>
</tr>
<tr>
<td>Mara River</td>
<td>20 mm.</td>
<td>109 mm.</td>
</tr>
<tr>
<td>Elgeyu Escarpment</td>
<td>12 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td>Kaimosi</td>
<td>18 mm.</td>
<td>112 mm.</td>
</tr>
<tr>
<td>Kaimosi, 4,000 ft.</td>
<td>27 mm.</td>
<td>112 mm.</td>
</tr>
<tr>
<td>Kabale (Uganda)</td>
<td>12 mm.</td>
<td>112 mm.</td>
</tr>
<tr>
<td>Fort Hall</td>
<td>10 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td>Fort Hall, 4,000–5,000 ft.</td>
<td>30 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td>Meru</td>
<td>20 mm.</td>
<td>109 mm.</td>
</tr>
<tr>
<td>Samburu</td>
<td>12 mm.</td>
<td>101 mm.</td>
</tr>
<tr>
<td>Samburu</td>
<td>25 mm.</td>
<td>106 mm.</td>
</tr>
<tr>
<td>Samburu, 1,500 ft.</td>
<td>17 mm.</td>
<td>105 mm.</td>
</tr>
<tr>
<td>Samburu</td>
<td>19 mm.</td>
<td>109 mm.</td>
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<tr>
<td>Samburu</td>
<td>30 mm.</td>
<td>110 mm.</td>
</tr>
<tr>
<td>Localities</td>
<td>Distance of white to tip</td>
<td>Wing length</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>Ganda (Coast)</td>
<td>30 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td></td>
<td>22 mm.</td>
<td>110 mm.</td>
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<td></td>
<td>17 mm.</td>
<td>104 mm.</td>
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<tr>
<td></td>
<td>20 mm.</td>
<td>110 mm.</td>
</tr>
<tr>
<td>Rabai, sea-level to 1,000 ft.</td>
<td>20 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td></td>
<td>29 mm.</td>
<td>106 mm.</td>
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<tr>
<td>Sokoke</td>
<td>17 mm.</td>
<td>108 mm.</td>
</tr>
<tr>
<td></td>
<td>15 mm.</td>
<td>105 mm.</td>
</tr>
<tr>
<td>Nairobi, 5,000 ft.</td>
<td>15 mm.</td>
<td>109 mm.</td>
</tr>
<tr>
<td></td>
<td>20 mm.</td>
<td>105 mm.</td>
</tr>
<tr>
<td>Moroto, Karamoja, 4,000 ft.</td>
<td>21 mm.</td>
<td>107 mm.</td>
</tr>
<tr>
<td></td>
<td>11 mm.</td>
<td>109 mm.</td>
</tr>
</tbody>
</table>

The variation in the amount of white on the outer rectrix is 11 mm. to 30 mm.; the variation in wing measurement is 101 mm. to 112 mm. On the above evidence I cannot support the race lauragrayae.

*Pholidanges sharpei*, No. 721 = *Pholia sharpei* (Jacks.)

*Pholidanges femoralis*, No. 722 = *Pholia femoralis* (Richm.)

Selater (p. 655) places these two birds in the same genus, but I consider this to be quite wrong. *Ph. sharpei* has a short but very broad bill, while *Ph. femoralis* has it slender and long.

*Speculipastor bicolor* Reichw., No. 720.

Additional localities: Marsabit, Juba River, Neboi, Kula and Kolodeke in Turkana, January, February, 1931. The range given by Selater is incomplete; it should be from Somaliland south through Jubaland west to Turkana and Karamoja, Elgon and Sotik, and Central Kenya to the coast.

*Spreo fischeri* Reichw., No. 719.

Additional localities: Juba River, from Dolo to Kismayu; Archer’s Post, Northern Guasso Nyiro; Marsabit.

*Spreo shelleyi* Sharpe, No. 718.

Selater (p. 669) places this bird as a race of *S. hildebrandti*. This I cannot accept, for both species are resident and breed in the thorn-bush country of Ukambani and Teita. I have young *shelleyi* which were being fed by their parents; obtained at Simba. The southern range given by Selater must be extended to take in Teita.

*Spreo superbus* (Rüpp.), No. 716.

To the recorded localities add: Juba River, Dolo, and Mandaira; Marsabit and Northern Guasso Nyiro; Kolosia, Turkana.

Birds from Naivasha, Loita to Dodoma have wings 115–128 mm., average 123 mm.; West Rudolf to Juba, 110–121 mm., average 116 mm.
Lamprocolius curruscus mandanus van Som., No. 726.

I have before me a very large series collected from the coastal belt of Kenya from Vanga to the mouth of the Juba River, and along this river to its upper waters at Dolo. These agree in all respects with the race described by me in 1921. The wing measurements are of interest in that we must now recognize a further large race which is found inland on Mt. Kenya. The range of variation of the coast birds is as follows: 95, 95, 95, 98, 98, 98, 100, 100, 100, 100, 101, 103, 103, 105, 105, 105, 106, 106, 106, 106, 106, 107, 107, 107, 107, 108, 108, 109, 110, 110, 110, 110, 110, 111, 111, 111, 111 111 mm., average 105 mm. 41 specimens.

The species also ranges up the Juba River, and these birds, 10 skins, give the following result: 97, 100, 100, 100, 102, 102, 102, 106, 107 mm., average 101.8 mm.


As mentioned above, a large race of L. curruscus inhabits the region of Mt. Kenya and the Jombeni Range. The general scheme of coloration is similar to that of mandanus, but rather brighter; the size, however, is considerably larger. 5 specimens give the following measurements: 116, 116, 121, 121, 121 mm., average 118 mm. Type ♂, Jombeni, 20.12.20, in my collection.

Lamprocolius chalceus emini Neum.

According to Sclater, the purple-tailed Glossy Starling as found on Mt. Elgon and the Kakamega Forest perhaps belongs to the race emini. I presume he had no specimens from these localities for personal examination.

Lamprocolius chalybeus chalybeus Hempr. & Ehr., No. 728, and

Lamprocolius chalybeus massaicus Neum., No. 729.

If we follow Sclater in his Systema, p. 657, all birds of this species found within the greater part of Uganda and the northern and central areas of Kenya are of the nominate form, thus making massaicus Neum. a synonym. When I wrote my previous report I accepted Neumann's race, based on the wing measurements of the large material then available. Measuring males alone I obtained 145–157 mm. for the nominate form, and 140–150 mm. for the Kenya form. With additional series from Kenya I find the following: Males 140–155 mm.; average 146 mm. Birds from East and West Rudolf and Juba River, males 140–147 mm., females 132–135 mm.

Lamprocolius sycobius Hartl.

and

Lamprocolius sycobius pestis van Som., No. 730.

Sclater makes sycobius a race of chalybeus, and links with it the race pestis. I described my race on account of its larger size and much more purple belly. The wings of males vary from 132–140 mm., with an average of 134 mm.

Belcher, Birds of Nyasaland, p. 286, states that the average is 122 mm. I am prepared to maintain the validity of my race.
**Lamprocolius chloropterus elisabeth** Stresem.  *Blue-shouldered Starling.*

This race is recorded from Mombasa and Vanga, whence I have specimens.

**Lamproctornis purpuropterus purpuropterus** Rüpp., No. 735.

Additional localities: Kerio River, Moroto, Turkwell, Juba River at Serenli and Jebeir.

**Cosmopsarus regius donaldsoni**, No. 737 = *Cosmopsarus regius regius* Reiher.

The type locality of *C. regius regius* is Massa on the Tana River. On examining totopypical material I found that the Tana birds agreed with the material from Somaliland and Marsabit, and not with Kilimanjaro specimens; I was therefore obliged to rectify my error in having taken this material to be typical and for describing the northern birds under the name *donaldsoni*, No. 737. This name is a synonym of *regius regius*. The error was rectified in *B.B.O.C.*, 1924, pp. 70-71. 8 males and 5 females from the Juba River, Lorian, and Marsabit show that in these areas the birds are very constant.

**Cosmopsarus regius regius**, No. 736 = *Cosmopsarus regius magnificus* van Som.  *Tsayo Golden-breasted Starling.*


**Onychognathus fulgidus intermedius** Hart.  *Green-headed Red-wing Starling.*

There has always been some confusion regarding this species and the race *intermedius* described by Dr. Hartert. My specimens have been verified by Dr. Hartert, and I support his views (*Nov. Zool.*, 1919, p. 135). My male has a wing of 135 mm. Mabira Forest, March 1921. The distribution given by Selater will have to be greatly extended eastward to take in the Mabira Forest, Chagwe, Uganda.

**Amydrus walleri elgonensis**, No. 742 = *Onychognathus walleri elgonensis* (Sharpe).

If we accept Selater's distribution for this race, Ankole through Uganda to Elgon, Nandi and Mt. Kenya and Marsabit, then we should include birds with a most remarkable degree of variation in size! I cannot for a moment agree to the birds from Mt. Kenya being identical with Elgon ones. The difference is obvious at a glance. The wings of typical Elgon-Nandi material measure as follows: Males 123, 124, 125, 125, 125, 127 mm. Tails 90 mm. British Museum material: male 121-123 mm., female 115-122 mm. My material is from Elgon, Nandi, Kericho, Elgeyu.


The Mt. Kenya birds, as I have already indicated, are not the same as the Elgon race. They differ only in size, the wing measurements of 2 males and 2 females being: males 135, 140 mm.; females 130, 132 mm. The bills are also very much deeper, wider, and longer. Tails 105 mm.
Cinnamopteryx tenuirostris, No. 743 = Onychognathus tenuirostris (Rüpp.).
Add to the localities given by Sclater and myself: Lake Magadi and Voi.

Onychognathus morio shelleyi Hart., No. 739.
Add to the localities given by Sclater and myself: Lake Magadi and Voi.

Onychognathus morio rupPELLii (Vert.).
Add to the localities given by Sclater: Moroto and West Rudolf, and foothills of Elgon. The birds from these localities incline towards this race rather than to shelleyi. They are intermediate.

Galeospar salvadorii Sharpe. Helmeted Red-wing Starling.
The series before me, 18 specimens, comes from the Suk country, Turkana, Marsabit, Lasamis, Northern Guasso Nyiro, and Fanwak on the Juba.

Poeoptera stuhlmanni, No. 744 = Stilbopsar stuhlmanni Reichw.
This species is apparently rather restricted in distribution; the additional localities from which I have obtained it are: Sotik, Mau.

Poeoptera kenricki, No. 745 = Stilbopsar kenricki Shelley.
Obtained at Lake Jipe and Taveta, and again on Mts. Kenya and Meru. The Kenya birds run rather larger, and a series from each mountain should be compared.

Ploceidae.

Textor albirostris, No. 746 = Bubalornis albirostris (Vieill.).

Textor niger intermedius, No. 749 = Bubalornis niger intermedius (Cab.).
The type locality is the Usambara district of Tanganyika Territory, and Sclater states that this race (of which, according to his classification, albirostris is the nominate form) ranges through the northern portion of Tanganyika Territory, Kenya to Somaliland and Abyssinia, thus he makes scioanus Salvad. a synonym. If this is correct, then the birds referred by me to scioanus, No. 747, should be placed as intermedius. To the recorded localities add: Northern Guasso Nyiro, Chanler Falls, Merile, Koroli, and Lugh on the Juba River.

It is of interest to note, however, that the young from the region of the Koroli are far less striped below, the markings being longitudinal streaks and not blackish triangular marks as are found in the southern young birds. The bills are ochre-yellow, not brown or red.

Dinemellia dinemelli (Rüpp.), No. 750.
Specimens of this species from the Juba River are interesting, as amongst 5 skins there are 4 which show abnormal coloration. Two are semi-albinos, answering to the variety described in Shelley’s Birds of Africa, vol. iv, p. 311; another specimen has a black abdomen, and another a more restricted abdominal patch.
In measuring my series, 15 birds from Moroto to the Northern Guasso Nyiro, the wing-variation is from 108-115 mm., average 111:02 mm. Birds from the Teita country are larger and darker and are transitional to bohmi Reichw., with wings from 115-124 mm., average 119:5 mm.

**Plocepasser mahali propinquatus** Shell.

Sclater, following Hartert, places this bird as a race of mahali and not of pectoralis. The type is said to have come from Somaliland. *P. erlangeri* Reichw. was described from Kismayu, and if it is proved that the Juba River birds are not the same as the Somali form, they will have to be known as erlangeri. The specimens which I have for examination are from the Juba River at Waregta and Kismayu. As I have already pointed out in my paper, *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 56, the pale bill is an indication of non-breeding condition. This bird would appear to be somewhat scarce in collections. Wings 80-87 mm.

**Plocepasser mahali melanorhynchus** Bp., No. 753.

To the recorded localities add: Marsabit, Isiola, Lasamis, Archer’s Post; Lokwanotthing, Turkana; Mandaira, Upper Juba River.

**Plocepasser donaldsoni** Sharpe, No. 751.

I have now obtained a large series of this species from the following localities: Northern Guasso Nyiro, Archer’s Post, Lasamis (type locality), Chanlers Falls, Ngombe Crater; Marsabit; Koroli; and Kenna on the Tana River.

**Passer griseus ugandae** Reichw., No. 927.

The new localities for this race are: Kericho, Sotik.

**Passer griseus swainsoni ≠ neumanni.**

Mara River. Although Sclater does not admit *swainsoni* to occur in Kenya or Uganda, Admiral Lynes, in his review, *Ibis*, 1926, p. 386, records typical *swainsoni* from Nairobi, Kikuyu, and Loita.

These birds were submitted to Tring and the report is that they are near *neumanni*, but not so rufous on the back: they are not *suahelicus*.

**Passer castanoptera** Blyth. **Somali Yellow-bellied Sparrow.**

The only locality given for this species by Sclater is British Somaliland. My specimens from the Northern Guasso Nyiro and Marsabit constitute a southern extension of the range by several hundred miles. It is possible, of course, that these Marsabit birds are not typical, but at the moment I have no material from Somaliland for comparison.

**Passer domesticus indicus** Jard. & Selby.

Sclater does not include this race from Eastern Africa. It is the common sparrow of Zanzibar, and was undoubtedly introduced, as it has been on occasion, to Mombasa.
Sorella emini guasso van Som.

This race is now recorded from Marsabit and the Lorian: 24 specimens.

Sorella emini emini Hartl., No. 922.

The range of the nominate form is extended to the Rift Valley at Njoro.

Petronia pyrgita massaica, No. 931 = Gymnornis pyrgita massaica Neum.,


The type of massaica came from the Kikuyu country, and the race is said to range through Kenya to the coast. A small series from the Turkana and Karamoja country, which should agree with kakamariae Stoneham, are not any darker than massaica, but they are larger than a series from Nairobi, the variation being 87–94 mm., average 91 mm., as against 80–90 mm., average 90 mm. On the other hand, birds from Kisumu and Mara River run from 90–93 mm., average 92 mm.; others from Northern Guasso Nyiro 81–93 mm., average 84–67 mm. Coast birds from 80–90 mm., average 84–5 mm.; Juba River, race reichenowi, 76–85 mm., average 84 mm. These Juba birds are slightly smaller and paler.

Sporopipes frontalis loitanus van Som., No. 754 = ? S. f. cinerascens Mad.

In 1919 I described a race, type locality Loita Plains, as loitanus, representing the dark form which ranges through Kenya north to Rudolf and Uganda. In 1918 Madarász described a race from Mwanza under the name cinerascens. According to Selater the forms are identical. I have no Mwanza material, and can neither support nor deny this view. These birds were with young still being fed in January.

Anaplectes melanotis (Lafr.), No. 759.

Additional localities are: Marsabit, Northern Guasso Nyiro, Kipini Tana River, Mara River.

Symplectes kersteni (Finsch and Hartl.), No. 760.

Selater places this as a race of bicolor. I am not prepared to support this. The species is represented in my collection from Serenli and Jebeir on the Juba River; Kipini, Bura, Hola, and Mwina, on the Tana River; Mongeya and Sokoke Forest, south along the coast to Ganda and Shimoni.

The young bird is duller black and duller yellow than the adult and has the buffy yellow of the underside carried up to the chin.

Some females have the throat yellow, others have it speckled, while others again are similar in colour to the males. They are, however, smaller. Males 90–97 mm., females 80–86 mm. The Juba birds are very slightly smaller. The females are on the whole rather duller than the males and the yellow of the underside is tinged with olive.

Phormoplectes insignis insignis (Sharpe), No. 762.

The type of the nominate form came from Elgon, whence I have collected a series. Selater admits three races, and a race of a race! I presume he is uncertain whether preussi is really a race of insignis. As regards the race described
by Granvik as *ornatus*, type locality Kiambu Forest, it is merely a varietal form, the tinge of chestnut being exhibited in Elgon as well as Kiambu birds. I have obtained this species from the localities mentioned, and from Kericho, Sotik, Marsabit Mt., and Kapenguria on the Turkwell in Turkana.

*Otyphantes reichenowi reichenowi* (Fisch.), No. 763.

I have now obtained topotypical birds from Arusha and Kilimanjaro, and these agree with specimens taken throughout the greater part of Kenya east of the Rift Valley as far north as Marsabit Mt. Although the Kilimanjaro birds are rather paler yellow below and have a wide yellow stripe joining the yellow of the crown to the yellow of the neck, the Central Kenya birds are richer and the yellow head stripe is variable.

*Otyphantes reichenowi* subsp., No. 764 = *O. reichenowi nigrotemporalis* Granvik.

Although I drew attention to the difference between Elgon birds and birds from Central Kenya as far back as 1917, I did not have sufficient material to describe the form. My friend Granvik procured the necessary specimens, and in 1922 described these birds under the above name. He gives as the distribution: slopes of Elgon. This should be modified to read: Turkwell and Kerio Rivers, Elgon, North Kavirondo, Kakamega to Lumbwa and Sotik. (Intergrades toward the nominate form, Man and Aberdares.) These birds should be compared with a series of *O. r. fricki* Mearns.

*Hyphanturgus stephanophorus*, No. 767 = *Heterhyphantes melanogaster stephanophorus* Sharpe.

Additional localities: Kericho, Kapenguria, Turkwell River.

*Hyphanturgus nigricollis ricillans* van Som., No. 769.

In my notes under this race a statement is made that "typical birds are decidedly East African." This, I am afraid, is an Editorial alteration of my original MS., the statement therein being: "I have compared my birds with typical birds, i.e. *nigricollis*, and whereas all typical birds have decidedly olive-greenish backs, my birds, with the exception of not fully mature adults, have the mantle deep olive-black to black, but not so jet black as in the race *melanoxanthus*. The undersides are also richer yellow." This is a perfectly good form linking up the western *nigricollis* with the coastal *melanoxanthus*.

*Xanthophilus castanops* Shell., No. 773.

Add Kampala, Jinja, Majanji, to the localities for this species.

*Xanthophilus aureoflavus aureoflavus* Smith, No. 780.

I note that Sclater has recognized but one species of these Yellow Weavers, and has made *castaneiceps*, No. 779, and *bojeri*, Nos. 777 and 778, races of it. In attributing ranges of distribution to the three supposed races, he has absolutely ignored the fact that even within Kenya we get all three forms in the same area, each with its separate breeding colony. I wonder if he read the distribution given under the species in my previous paper; if so, did he presume misidentifica-
tion on my part? *X. aureoflavus* has an established breeding colony in the region of Taveta and another at Lake Jipe. In the same regions we have colonies of *X. castaneiceps*, and here also we find *X. bojeri* nesting in colonies separate from either of the other two.

*Xanthophilus castaneiceps* Sharpe, No. 779.

This bird and *X. bojeri* are said by Sclater to be the same species, though representing geographical races. How then is it that both forms are resident and have separate breeding colonies as stated above, also on the Tana, at Rabai, and the Sokoke district, and again in such a far-distant district as north-east of Meru, Mt. Kenya? According to Sclater, *castaneiceps* only just comes into Kenya in the Taveta area. What about the birds from Simba, Rabai, Samburu, Tana, Meru? The three birds are distinct species.

To the localities given in my previous paper add: Dominuki's, North-east Meru, Simba, Samburu, Rabai, Sokoke, Kipini, Kao, Shimba Hills, Ganda Forest, Vanga, and Moshi. Over 50 examples.

*Xanthophilus bojeri* (Cab.), Nos. 777 and 778.

I consider this to be a species, and not a race of *X. aureoflavus*. The only additional locality of any interest from which I have now obtained this bird is the Juba River.

*Xanthophilus aurantius rex* Neum.

I have a fine series of breeding males and females from the Buvuma Islands. Some of the males have black lores, others have them orange. I do not consider that this species should be placed in the same genus as *X. aureoflavus*, the type of bill being quite different.

*Sitagra pelzelni*, No. 774 partim = *Icteropsis pelzelni tuta* Bangs and Phill.

*Large Slender-billed Weaver*.

This name will apply to the larger race indicated by me in my previous paper. Localities: Kisumu and along the east shore of Lake Victoria.

*Hyphantornis dimidiatus fischeri*, No. 793 = *Sitagra capitalis dimidiatus* (Ant. & Salvad.).

Assuming that Sclater is right in making *fischeri* Reichw. a synonym of *dimidiatus*, the distribution of the race must be extended to include the whole of the Kavirondo country of Kenya.

*Hyphantornis heuglini sukensis*, No. 789 = *Sitagra heuglini sukensis* van Som.

Although Sclater suggests that this is a synonym of the nominate form, he does not include Rudolf and Elgon in the range of the species. Is it because he has seen no specimens?

*Hyphantornis intermedius kisumui*, No. 787 = *Sitagra intermedius kisumui* van Som.

*Hyphantornis intermedius littoralis*, No. 788 = *Sitagra intermedius littoralis* van Som.
Sitagra vitellinus subsp. ?

A series of birds, males and females (16), from the Juba River is not identical with uluensis Neum., No. 791, of which I have topotypical specimens. The females are markedly different, being brownish olive on the mantle, not olive-green. Selater does not mention the Juba area in his distribution of uluensis; on the other hand, he mentions that this race extends right to South Abyssinia and Somaliland.

Xanthophilus dicrocephalus (Salvad.). Somali Black-headed Weaver.

This is a very interesting species, as it exhibits two extreme types of coloration of the head: in some specimens the whole of the head is a rich chestnut, in others the crown and checks are black while the throat is a chestnut. 10 males and 8 females were collected. Selater places these birds in the subgenus as above, but I fail to see why they should be kept apart from Sitagra. Localities: Dolo, Seranli, Hellesheid, on the Juba River.

Cinnamopteryx tricolor intersecularis (Reichw.), No. 798.

To the localities already given add: Busoga and Majanji; Yala River.

Pachyphantes superciliosus, No. 799 = P. pachyrhynchus (Reichw.).

Quelea sanguinirostris, Nos. 813 & 814 = Q. quelea (L.).

Selater has shown that the name sanguinirostris cannot be used for these Weaver Finches. Thus alteration will have to be made in my references to this species in my previous paper. In the review of this group, B.B.O.C., 1925, p. 19, Selater states that he cannot retain for the Kenya birds the name intermedia Reichw., type locality Barawa, coast Italian Somaliland. I have recently obtained 25 birds from the Rudolf area east to Marsabit, which I do not consider the same as the Central Kenya form, which agrees with the birds from the Juba River and along the coast of Kenya. I retain the name aethiopica (Sund.) for these northern birds and intermedia, No. 813, for the Kenya and Jubaland birds.

Amadina fasciata fasciata (Gmel.)

According to Selater, it is the nominate form which ranges east to Lake Rudolf. The race alexandri Neum., Hawash River, is said to range over the whole of Kenya, including Jubaland. With this race Selater unites candida Friedm., Occ. Papers Boston Soc., 1926.

The following material is before me, but I am unable to come to any definite opinion: 12 West Rudolf, Kobua, Turkwell, Moroto Kerio, wings average 67 mm.; 17 from Marsabit, wings average 66 mm.; 6 Juba River, Serenli, Lugh (rather paler and smaller), wings average 64 mm. Tsavo, Simba, Magadi (candida), wings average 66 mm.

Wherever the name Pyromelana is used in my paper, substitute Euplectes Swains. The following alterations are in accord with the Systema, p. 759.
Pyromelana flammiceps changamwensis, No. 816 = Euplectes hordeacea changamwensis (Mearns).

Additional localities: Tana River, Anasa, Lamu.

Pyromelana flammiceps rothschildi, No. 817 = Euplectes hordeacea rothschildi (Neum.).

According to Sclater, this race is synonymous with craspedoptera (Bp.), Abyssinia.

Pyromelana marwitzi, No. 819 = Euplectes orix wertheri (Reichw.).

If we admit this bird as a race of orix occurring in South-west Uganda and Ankole, it seems to me difficult to reconcile the range as given by Sclater for the race sundevalli Bp., which is said to extend to Toro. My Ankole birds are similar to Toro ones, and they are certainly not wertheri.

It will be recollected that I kept them as species in my previous report.

Pyromelana nigrifrons leuconota, No. 818 = Euplectes orix sundevalli Bp.

The above alteration is in accordance with Sclater’s finding. I am not satisfied that this is right.

Euplectes diademata Fisch. & Reichw., No. 822.

I have a fine series of males and females from the Northern Guasso Nyiro at Chanler’s Falls and at Marsabit. 20 specimens.

Euplectes taha ladoensis Reichw. Yellow-headed Bishop.

Examples of this bird were obtained by Jackson in the Rift Valley, Eldama Ravine, and have been taken at Rudolf. The record of the race intercedens from Baringo probably refers to this race.

Coliuspasser macrourus conradsi Berger, No. 832.

According to Sclater, this race is confined to the island of Ukerewe; my specimens accordingly should belong to the nominate form.

Coliuspasser eques, No. 834 = C. albonotatus eques (Hartl.).

Additional localities: Mombasa, Sokoke, and Marsabit.

Vidua serena, No. 844 = V. macroura (Pallas).

Vidua hypocherina Verr., No. 843.

Additional localities: Kinya, Odda, Serenli, on the Juba River.

Linura fischeri Reichw., No. 842.

Additional localities: Odda on the Juba River; Marsabit.

Steganura paradisca verreauxi (?), No. 841 = S. paradisaea paradisaea (L.).
Odontospiza caniceps (Reichw.), No. 845.
New localities are: Northern Guasso Nyiro, Marsabit.

Aidemosyne cantans meridionalis, No. 846 = Euodice cantans meridionalis Mearns.
I now have a series of 22 skins. East and West Rudolf, Koroli, Kulal, Marsabit, and the Northern Guasso Nyiro.

Euodice cantans tavetensis van Som., No. 847.
Darker on the head and throat than the foregoing, and the scaling on the crown and throat is much more distinct. Sclater makes this a synonym of meridionalis, but I cannot agree. Additional localities: Kapiti Plains, Samburu, Voi.

Amaurastes fringilloides (Lafr.), No. 848.
I have now obtained this bird from Taveta and Moshi.

Spermestes stigmatophorus, No. 853 = S. bicolor stigmatophorus Reichw.

Cryptospiza salvadorii, No. 857 = C. salvadorii ruwenzori Sclat.

Cryptospiza borealis, No. 859 = C. salvadorii borealis Percival.

Cryptospiza reichenowi, No. 862, and C. ocularis, No. 863, are said by Sclater to be doubtfully distinct.

Nesocharis capistrata (Hartl.), No. 864.
Sclater does not extend the distribution of this species to include the forests east of Lake Albert; but I have specimens from this region.

I have a small series of this bird from the type locality.

There is no doubt whatsoever that this bird is distinct from the next race. Although hitherto restricted to the forests of Mt. Kenya, I have since obtained the bird on the Upper Molo Forest.

Linurgus kilimensis elgonensis van Som., No. 866.
A further series from the forest of Kakamega substantiates the validity of this bird.

Nigrita schistacea, No. 867 = Nigrita canicapilla schistacea Sharpe.
Topotypical examples from Sotik and Kericho do not differ from the Uganda material as enumerated in my paper. I doubt if diabolica is valid. One specimen from Meru, Mt. Kenya, has the inner secondaries tipped with white, the greater coverts also marked thus, as well as the median and lesser; the wing is thus
very spotted. This is not a sign of immaturity, as the young bird in nestling
and sub-adult plumages is unspotted on the wing.

*Spermospiza ruficapilla*, No. 803 = *Spermophaga ruficapilla ruficapilla* (Shell.).

*Hypargos nivicollis* (Peters), No. 899.
Additional localities: Vanga, Ganda, Shimba Hills, Rabai, Moshi.

*Hypargos nitidula*, Nos. 896 & 897 = *Mandingoa nitidula* (Hartl.).

I now have a series of this bird from the coast of Kenya, from the Ganda
Forest to Rabai and the Sokoke Forest. Sclater unites with this the bird described
by Friedmann from Usambara as *virens*. I have specimens of *nitidula* from
Kilimanjaro, which should belong to Friedmann's race. I have also taken
the species at Nairobi, and Mt. Kenya, Meru, and Chuka. The race *chubbi*
(O.-Grant), from Marsabit, should be represented by my Meru-Chuka birds. In
*Ibis*, 1910, Bannerman described what he took to be typical *nitidula*, and figured
birds, from the Jackson collection, taken at Marsabit. The Marsabit bird was
subsequently described as *chubbi* by Grant, who linked with it the Uganda birds,
the range given, according to Gyldenstolpe, being Mombasa to Uganda and
Marsabit. As Sclater has limited *chubbi* to Marsabit, I take it that a bird from
this area was marked the type. If the foregoing is correct, then what does
Sclater do with the Entebbe birds taken by Jackson? The distribution of
*nitidula* according to Sclater is Natal, Mashonaland, northward along the Eastern
African coast as far as Mombasa! The only race of which he says "perhaps
Uganda" is *schlegeli* (Sharpe). In my previous paper I recorded this race from
Uganda (Bugoma and Mubango), after having compared my birds with typical
ones.

From the material before me, 15 specimens, I am prepared to admit the
following to the list of birds from Kenya and Uganda:

1. *M. n. schlegeli*, No. 896. Uganda forests from west of Mt. Elgon.
2. *M. n. chubbi*. Kenya, from Marsabit, south to Mt. Kenya, Aberdares,
and Nairobi district.

*Pytilia melba* (L.). (Pl. IV., figs. 16–27.)

The classification of the subspecies of this bird as given by Sclater, in so
far as Kenya is concerned, is unsatisfactory. According to this authority, we
have a race called *belli* O.-Grant, ranging from Ruwenzori and Toro across
Uganda to about Elgon, turning southward through Kavirondo to the Loita
and losing itself somewhere there; and a second race, *soudanensis* (Sharpe), ranging
from the Upper White Nile, passing south on either side of Lake Rudolf, and
taking in the whole of Kenya, except the area allotted to *belli*, and the whole
of Jubaland and extending all along the coast, thus occupying the area hitherto
assigned to *kirki*, type locality Lamu, which race is now said to be identical with
*soudanensis*. With this distribution of races I entirely disagree.

The series before me from Western Rudolf, assigned by me to the race
*soudanensis*, cannot be considered the same as the birds from Lamu, called
 kirki *Shell*, No. 890. Nor can either of these for a moment be confused with
the birds from the Juba River, which are described hereafter. It is only when we come to the intermediate aggregate, found in the area of Central Kenya, that we find difficulty in allocation to any described form, i.e. those birds found in the area between the Tana River and the Kilimanjaro zone. These birds are nearest to *kirki*, but intergrade toward *belli*.

The Juba birds are characterized as follows: Males with very much brighter, more orange, red on the forehead, cheeks, and throat; the red of the throat distinctly defined from the golden bar on the breast; the grey on the hinder part of the head and on the nape paler than in *kirki*; and the mantle and wings more golden-olive. The underside of the body is much paler, less barred, the centre of the abdomen being immaculate. The females are even more clearly separable. The grey of the crown, cheeks, and nape much paler than in *kirki*, the olive of the mantle paler, more golden; the throat white, not grey, followed by a very light-grey breast-band, faintly barred with white; the middle of the breast and abdomen pure white, only barred on sides and flanks with widely separate narrow brown-black bars. This race I name *jubaensis* subsp. nov.; type female, Serenli, July 1922, in my collection. 18 specimens. Distribution: Juba River from Dolo to Serenli and Mfudu.

There is another very strong point of difference in the races *kirki* and *jubaensis* in the young, which in *jubaensis* are altogether paler above and below; much more greyish above, less washed with olive-brown, and much whiter below.

*Pytilia melba mosambica*, No. 888 = *Pytilia melba grotei* Reichw.

When I described the Lumbo birds as new, I had not seen the description of *grotei*, which was published a few months earlier than my description. In my differential diagnosis I compared this bird with specimens from Tsavo which I took to be *kirki*, and I mentioned that the Lumbo females had grey throats in distinction to the whitish throats of *kirki*. In this last statement I am wrong, as true female *kirki* from Lamu and adjacent areas have dark grey throats. The majority of the birds recorded previously by me under the race *kirki* are intergrades to *belli*, though showing a marked affinity to *kirki*.

*Lagonostica rhodopareia*, Nos. 901-904 = *L. rubricata rhodopareia* Heugl.

Although Sclater, *op. cit.*, p. 789, admits this race, he qualifies the admission by stating that it is barely separable from the race *hildebrandti* Neum., No. 903. I suggest that in arriving at this opinion he confined his observation to males of the two races. If the females are compared, it is at once obvious that the two are distinct: whereas *rhodopareia*, No. 901, has a brown crown similarly coloured as the mantle, *hildebrandti* has the head and nape washed with a strong tinge of lilac; further, whereas the lores and throat of *hildebrandti* are pinkish ochreous, those of *rhodopareia* are red. There are other differences besides.

Within the area dealt with in this paper, this form is found from the districts on East and West Rudolf to Marsabit and Nyiro.

*Lagonosticta rhodopareia umbriventer*, No. 904 = *L. rubricata hildebrandti* ≳ *rhodopareia*. 
Lagonosticta jamesoni taruensis, No. 905 = L. rubricata taruensis van Som.

I am not satisfied that this should be made a race of L. rubricata, as we find it overlapping with hildebrandti, of which kilimensis Mad. is a synonym. Several Kilimanjaro examples examined.

Lagonosticta oenochroa, No. 900 = L. rara rara (Antin.).

Has now been obtained by me on Elgon and the Kakamega Forest.

Lagonosticta senegala somaliensis Salvad., No. 907.

I think the distribution given by Sclater for this race needs modification. I would suggest that L. s. zedlitzi Grote is valid.

Some six years ago I separated in my collection the Eastern Tanganyika Territory birds as an undescribed race.

Anaplectes melanotis, No. 759 = Coccopygia melanotis (Temm.).

Sclater, op. cit., p. 794, recognizes both nyansae (Neum.) and kilimensis Sharpe, including in the former specimens from Elgon, which I cannot separate from birds from Kilimanjaro. Kenya and Aberdare birds are identical.

Estrilda astrild massaica Neum., No. 921.

This is the race which is found round Kilimanjaro, through the highlands of Kenya to east of Lake Victoria.

Estrilda astrild minor (Cab.). Coast Red-eyebrowed Grass Finch.

This form is found along the coast through the dry thorn-bush country to Voi and Tsavo. It meets the race massaica in Ukambani. Localities: Voi, Samburu, Tana River (mouth), DalOGube, Ganda, Mongeya.

Estrilda charmosyna charmosyna (Reichw.), No. 912.

I now have topotypical material from the Juba River. With the series of material from topotypical areas, I support pallidior Jaek., No. 913, from Northern Guaso Nyiro, nigrimentum Salvad., from Southern Abyssinia to West Rudolf, Turkwell, Kerio, Karamoja, and kiwanuku van Som., No. 914, from the thorn-bush country of South Ukambani to the coast and Magadi.

Uraeginthus bengalus littoralis van Som., No. 585.

I have examined a series of skins from Eastern Tanganyika, U. b. ugogoensis Reichw., and they differ from the birds I have described under the above name.


Birds from the region of Marsabit, Lasamis, and Langai are paler than the typical bird from Kilimanjaro-Tsavo area, and I am prepared to uphold this form. Moreover, the buff on the underside is more extensive, with a reduction of the blue on the flanks. On the other hand, I have specimens (males from Loyapa) from West Rudolf, Turkana, which I cannot distinguish from the Tsavo birds.
Granatina ianthinogaster and races, Nos. 877–881.

I do not agree with my friend Sclater in his division of this species into geographical forms. The nominate form has a wide range through the southern parts of Kenya westward into the central parts of Tanganyika Territory. The race barckeri Phillips is now represented in my collection by birds from the Juba River; rothschildi van Som. is the extreme dark, rich form, which is confined to the area round the east shore of Lake Victoria; roosevelti Mearns inhabits the area of the Southern Guasso Nyiro and Loita, extending as far as the Mara River, and merging in the south with the typical form ianthinogaster in the area north of Kilimanjaro and East Ukambani; montana van Som. occurs up the Rift Valley in a cul-de-sac of highland open bush and grass country extending up to Lake Nakuru; and ugandae van Som. has a range as indicated by Sclater. These various races were not described without due regard to ecological factors, nor yet without very large series of each, as follows: ianthinogaster 27 skins; roosevelti 18; montana 21; rothschildi 31.

FRINGILLIDAE.

Serinus (flaviventris) loveridgei, No. 950 = S. sulphuratus loveridgei van Som.

This bird is intermediate between sharpei and shelleyi, but vide Sclater, Systema, p. 816.

Serinus icterus madaraszi, No. 954 = S. mozambicus madaraszi Reichw.

I have now a series of 20 skins, from the coast of Kenya; these do not agree entirely with my limited material from Morogoro and Dodoma, T.T., as previously indicated. They are certainly not the same as S. mozambicus mozambicus, of which there is a series in the Nairobi Museum.

Serinus icterus barbatus, No. 953 = S. mozambicus barbatus (Heugl.).

The race which ranges from the Eastern Congo to the eastern province of Uganda. It is a small bird with wings of 60–66 mm.

Serinus pseudobarbatus, No. 955 = S. mozambicus pseudobarbatus van Som.

I am prepared to admit this as a race of mozambicus, but not to unite it with barbatus. I have now a bigger series which shows conclusively that in pseudobarbatus we have a large race ranging from the Elgon-Kavirondo area through Central and South Kavirondo, and south to the region of the Mara River and Sotik. Wings 66–73 mm. Greyish green on the back, not yellowish green, with the stripes only very faintly indicated, thus different from dorsostriatus.

Serinus dorsostriatus ?, No. 946, and

Serinus dorsostriatus dorsostriatus, No. 947 = S. d. dorsostriatus Reichw.

With a much larger series, it is evident that old males, and some females, develop a uniform yellow abdomen; most females, however, have this area white.
Serinus maculicolus maculicollis, No. 948 = S. dorsostriatus maculicollis Sharpe.

The birds from East and West Rudolf should be referred to the nominate form, while those from the Kerio River, Turkwell River, Kobua, Moroto, Mt. Nyiro, and Marsabit belong to the present race. Skins from the Northern Guasso Nyiro show a tendency toward taruensis mihi, but are nearer the nominate form.

Serinus maculicolus taruensis, No. 949 = S. dorsostriatus taruensis van Som.


This bird, described as a race of S. maculicolis, should be placed as above. I have obtained specimens from the Juba River which substantiate this race.

Serinus donaldsoni donaldsoni Sharpe. Somali Thick-billed Serin.

This race, as predicted in my previous paper (p. 170), has now been obtained on the Northern Frontier of Kenya, Archer's Post, and Marsabit. These birds are very much richer below, with a marked yellow supercilium, yellow rump, and white crissum.

Serinus donaldsoni buchanani Hart., No. 945.

To the localities already given add: Loita, Kedong, and Mara River.

Serinus t. capistratus, No. 957 = S. capistratus subsp.

Serinus flavivertex flavivertex (Blanf.), No. 956.

Represented in my collection from Elgon, Mau, Molo, Kikuyu Escarpment, Aberdares, Kenya, and Kilimanjaro.

Spinus citrinelloides frontalis Reichw., No. 958.

This race ranges through Uganda from the west to Elgon, Kakamega, where it meets with kikuyuensis.

Spinus citrinelloides kikuyuensis Neum., No. 959.

Occurs in the highland areas of Kenya to Mt. Kenya, Mau, Aberdares, and Sotik, and to the Yala River, Kakamega.

Spinus citrinelloides hypostictus Reichw., No. 960.

So far as the territorial limits of this paper are concerned, this race is found in the forests of Taveta and Kilimanjaro. The birds tentatively placed by me in this race, from Kisumu and S. Elgon, are intergrades between kikuyuensis and frontalis.

Poliospiza striatipectus, No. 933 = P. gularis striatipectus Sharpe.

According to Sclater, P. elgonensis O.-Grant, No. 932, is a synonym. Localities: Ravine, Escarpment, Elgon, Matthews Range, and Northern Guasso Nyiro.
Poliospiza angolensis somereni (Hart.), No. 940.
Range: Western Uganda, Anokle, Kigezi to Elgon and Kakamega.

Poliospiza angolensis reichenowi (Salvad.), No. 941.
According to Sclater, p. 821, all these birds from West Rudolf to the coast, except from Lamu northward, are of the typical form. It is true that Marsabit birds are the same as those farther south, but those from West Rudolf are in my opinion more like hilgerti.

Poliospiza reichenowi hilgerti, No. 943 = P. angolensis hilgerti (Zedl.).
Birds from the Juba River south to Lamu belong to this pale race.

Poliospiza albifrons albifrons, No. 939 = P. burtoni albifrons (Sharpe).
All these big-billed Serins are placed as races of P. burtoni. The race which inhabits the forests east of the Rift Valley, Mt. Kenya, Aberdares, Kikuyu, has a distinct white frontal band.

Characterized by having heavier bills and by being darker above and below than kilimensis, and in having no white frontal band. New locality: Kericho.

? Poliospiza albifrons kilimensis, No. 938 = P. burtoni tanganjicae (Granvik).
Kivu Thick-billed Serin.

Sclater recognizes this form, as does Gyldenstolpe, the latter stating that these birds can easily be distinguished from kilimensis by their smaller bills. Although I now have Kilimanjaro birds, I cannot appreciate the difference in colour, though the bills are indeed slightly smaller.

Poliospiza burtoni kilimensis (Reichw. & Neum.). Kilimanjaro Thick-billed Serin.
Now represented in my collection by 6 examples from Moshi, Taveta Forest.

Poliospiza striolata striolata (Rüpp.), No. 934.
According to Sclater, there are, beside the nominate form, only two races recognizable, both found in Uganda, i.e. Elgon and Kivu area. The race affinis described by Richmond from Kilimanjaro is not admitted. I am more than surprised at this division suggested by Sclater, more particularly as he admits races of burtoni which are to me so close that one is inclined to query them! Apart from the races ugandae and graueri, there are, in the large series before me, three distinct types: (1) affinis, from Kilimanjaro, 8 skins, all characterized by a buffy tinge to the lower surface, streaky head, but no creamy stripes on the mantle, this area being dark grey-brown with dark stripes, and by the stripes on the breast being finer than in Nairobi specimens and more plentiful than in Naivasha birds; (2) a series of 20 birds from Nairobi, Kikuyu, Mern, Kenya to Sotik and Kericho, characterized by having deep buffy undersides plentifully
and boldly streaked with dark brown, not being so dark on the mantle as \textit{affinis}, but having the head and the mantle boldly streaked with creamy yellow, giving to the back a very mottled appearance; and (3) there are the Naivasha, Kinangop-Nakuru birds, with pale creamy undersides, only slightly streaked on the breast, paler on the back, but with the same broken mottled appearance as the Nairobi form. According to this material at least three forms should be recognized: (1) \textit{affinis}, from Kilimanjaro; (2) the Nairobi Kenya form; (3) the birds from Naivasha-Nakuru.

\begin{equation}
\text{Polioisipiza striolata affinis, No. 936} = \textbf{P. s. affinis} \text{(Richm.)}
\end{equation}

\begin{equation}
\text{Polioisipiza striolata graueri} \text{(Hart.)} \geq \text{ugandae} \text{ van Som.}
\end{equation}

Sclater limits my race \textit{ugandae} to Mt. Elgon, and suggests that the Kivu-Ankole-Kigezi birds may be separable from \textit{graueri}, from Ruwenzori. These are the intermediate birds referred to by Gyldenstolpe, \textit{K. S. Vet. Akad. Handl.}, 1921, p. 70, and which I united with the Elgon birds, No. 935.

**EMBERIZIDAE.**

\textit{Emberiza cabanisi} ? subsp. nov., No. 967 = \textbf{E. cabanisi cabanisi} \text{(Reichw.).}

The birds of Western Uganda are said by Sclater to belong to the nominate form; but see the remarks in my previous paper.

\textit{Emberiza affinis} ? \textit{forbesi}, No. 963 = \textbf{E. forbesi forbesi} \text{Hartl.}

Sclater omits any reference to \textit{E. affinis} as occurring within Uganda or Kenya. Bannerman, Bates, and Neumann are also silent on this point, doubtless because they have seen no specimens from these localities; but there were my records published in 1922! Neumann, however, mentions the specimen taken by Seth-Smith at Fatiko. My specimens from Elgon would appear to be the most southern recorded. I am prepared to support Neumann in sinking the name \textit{affinis}, \textit{Ibis}, 1927, p. 506, as \textit{nomen incertum}. This species breeds in the area north and east of Elgon; April.

\textit{Emberiza flaviventris flaviventris} Steph., No. 964.

Additional localities: Nanyuki, Kenya, Fort Hall, Naivasha, Kericho, Loita, Mara River, Eldoret. Young birds were obtained in the following months: March, April, November (nestlings).

\textit{Emberiza poliopleura} (Salvad.), No. 965.

To the recorded localities add: Turkwell, Turkana, Moroto, Kerio, Marsabit, Northern Guasso Nyiro; Juba River, Dolo to Kismayu; Malindi, Mongeya, Ganda. Nestlings obtained in January at Voi and at Marsabit in May and June.

\textit{Emberiza tahapisi}, No. 961 = \textbf{Fringillaria tahapisi tahapisi} \text{(Smith).}

Additional localities: Marsabit, Northern Guasso Nyiro, Fort Hall.
ALAUDIDAE.

_Eremopterix signata_ (Oust.).

5 males from West Rudolf have the brown of the head, throat, upper breast, and the mantle spot bright chestnut red-brown; that of the upper breast separated from the black by a complete white band which is continuous with the white of the flanks. On the other hand, 6 males taken on the Northern Guasso Nyiro have the brown areas very dark chocolate-brown to black, that of the throat continuous with the black of the breast. The mantles are also very much darker, though lighter than is the case in topotypical material. Pale birds: West Rudolf. Dark birds: Marsabit, Northern Guasso Nyiro.

_Eremopteryx frontalis melanauchen_, No. 969 = _E. nigriceps melanauchen_ (Cab.). Juba River. Paler than typical material.

_Eremopteryx leucotis madanaszi_ Reichw., No. 970.

Additional locality: Mara River.

_Eremopterix leucopareia_ (Fisch. & Reichw.), No. 971.

These birds vary in different localities as already indicated in my previous paper. Reichenow states that the mottled head and darker back are indicative of "winter" birds. My series of topotypical material is uniform; the heads are uniformly red-brown without any greyish edges to the feather, with the black supercilium extending to the nape, but not meeting in a complete circle. The mantles are very pale sandy greyish buff with ashy grey centres to each feather; the wing coverts are broadly edged with tawny buff.

The Kenya birds are generally much darker, with narrower buff edges to the feathers of the mantle, and with a blackish patch in the centre of the brown area of the mantle. This difference of plumage cannot be accounted for by date, as I have various Kenya birds taken in the same month and weather conditions as the Tanganyika Territory material.

Additional skins from: Northern Guasso Nyiro, Kapiti, Meru.

_Calandrella athensis_ (Sharpe). _Kenya Short-toed Lark._

A fine series of over 30 birds was collected in the type locality Athi Plains. The May birds are very much worn after the breeding season, while those taken in August and September are in fresh full dress. The differences are marked. Nestlings were obtained in May. It is a common species with a somewhat restricted distribution, being confined to the high grass veldt of the Masai country.

_Calandrella brachydactila longipennis_ (Eversm.).

This species has been recorded from the Athi Plains, but once only. I mention it here in the hope that someone may turn it up again. It is a migrant from Turkestan.

_Calandrella cinerea saturatior_ (part.), No. 992 = _Tephrocorys cinerea saturatior_ (Reichw.).

According to Sclater's division, the dark birds from Uganda mentioned in my previous paper (p. 179) should be referred to this race.
Tephrocorys cinerea andersoni (Trist.).

It is suggested by Selater that the birds from the western districts of Kenya should be referred to this race. In this connection it is interesting to note that the birds which live and breed in the district of the Southern Masai country, i.e. the open grass veldt of the Athi Plains, are uniformly smaller than those which inhabit the highlands of Naivasha-Nakuru, and the Njoro plains, viz. the grass veldt enclosed by the Aberdare range and the Mau Escarpment. The wing measurements of 35 Athi Plain birds vary from 82–90 mm.; in the higher veldt from 90–100 mm. 20 specimens. The high plateau birds are richer coloured above and have a stronger chestnut breast-band. More investigation will reveal some interesting data about these birds.


During a visit to the Northern Guasso Nyiro, a splendid series of this very rare Lark (which according to Selater was hitherto only known from the type in the British Museum) was obtained: 5 males and 2 females. They are remarkably similar _inter se_, only differing in wing measurements: 85–92 mm. This locality extends the range of the species south to a very considerable degree.

_Pseudalaemon delamerei_, No. 991 = _P. fremantlii delamerei_ Sharpe.

I have now secured a very fine series of this bird in all stages. Over 20 examples show clearly the change in general appearance due to wearing of the feathers. Here, again, the very limited area from which this species has been taken is most interesting, especially so as this bird would appear to be a race of the Somali bird. The known range is the open grass veldt country in the Southern Masai country, Kapiti and Athi Plains.

_Galerida cristata somaliensis_ Reichw., No. 993.  Somali Crested Lark.

Selater admits this race to range west to Lake Rudolf.

In addition to the series already recorded, I have now obtained this race from Koliokwell River—Lodwar, Koroli, and Kulal, i.e. east and west of Lake Rudolf. The Koroli specimens are much browner and richer buffy below. Young in nestling plumage were shot in July. The wing variation is from 96–106 mm. I am not satisfied that all my birds belong to one race.

_Galerida theklae ellioti_ Hart.

Selater does not record any races of this species from Kenya, but I have specimens which have been compared at Tring, and recognized as belonging to the above race. I suspect that the North Kenya bird will have to be considered as a distinct race, as it is darker above than _ellioti_, but not so dark below as _praeterrissa_, nor so large. My specimens were obtained at Koroli in July, and one more at Marsabit; they constitute a new record for Kenya.

_Mimus_ (Calendulauda) _poecilosterna poecilosterna_ (Reichw.), No. 972.

The type of the nominate form is from Kibaradja, Tana River. A bird from Kenna on the Tana is inclined towards the dark Tsavo-Taveta birds _massaica_. Birds from the length of the Juba River from Dolo to Kismayu are pale, and
similar birds are found from Koroli, Marsabit, Lasamis, Northern Guasso Nyiro, Archer's Post.

\textit{Mirafra (Calendulavida) poecilosterna massaica} (Fisch. & Reichw.), No. 973.

The only additional locality in which I have obtained this bird is in the Loita to Mara River. Selater states that it is this form which occurs at Moroto in Karamoja, which is very interesting, because I do not know of any record of this species north of the Mau Escarpment.

\textit{Mirafra fischeri fischeri} (Reichw.), No. 979.

22 specimens from the coast of Kenya (topotypical) are, compared with other races (except the Northern Frontier birds), very uniform in type of coloration. The only indication toward a rufous phase is found on the mantle where the ground colour becomes rufous, but the black marks are of equal distribution so that an even and general dark appearance is maintained. These specimens are shot in practically all months of the year. Localities: Ganda, Shimba Hills, Rabai, Sokoke, Mongeya, Malindi, Tana (at mouth), all in addition to the localities previously recorded.

\textit{Mirafra rufocinnamomea} (Salvad.). Abyssinian Flappet Lark.

I have now obtained a good series of 12 birds from the region of Mt. Marsabit. As already noted, they are very uniform in themselves, and present a general rich rufous-chestnut appearance above, this colour predominating, with a great reduction of the black markings. The under surface of the lower breast and belly is tawny colour, while the breast-band, in contrast, consists of rufous-chestnut feathers with paler tawny tips, and above this on the lower throat a series of blackish brown spots. There is only one specimen which is a variant, and this is a result of replacement of all blackish areas, even on the inner coverts, by the same rich rufous chestnut as the remainder of the upperside. The paler edgings to the secondaries and coverts remain; the bird thus has a very rufous appearance above. Marsabit, plains, 2,000 ft.

\textit{Mirafra fischeri torrida} Shell., No. 981.

The series which I refer to this form are much more rufous below than the foregoing, and exhibit two marked phases: one dark blackish brown and one rufous. The latter is not like the Marsabit bird, because the amount of black marks on the back is almost equal to the rufous, so that the whole appearance is more a black and rufous barred one.

Such birds are found in the thorn-bush country of the Simba district, and at Fort Hall, 3,000 ft. and 3,000–4,000 ft. The dark birds are not so dark blackish as the Kisuuru bird, \textit{kavirondensis} mihi, nor are they so grey-brown as \textit{fischeri fischeri}. They appear to be the intermediate race, as they are in distribution, between the \textit{fischeri} of the coast and \textit{rufocinnamomea} of Marsabit north to Abyssinia. Although Selater unites \textit{torrida} and \textit{rufocinnamomea}, I cannot at present agree with this.

\textit{Mirafra intercedens}, No. 984 = \textit{M. (Anacorys) africanoides intercedens} Reichw.

Following Selater, I now place this bird as a race of \textit{africanoides}. I have topotypical material and, allowing for a certain degree of change in appearance
due to wearing, I now admit this race as ranging through the dry thorn-bush country from the Kilimanjaro area east and north to the Abyssinian border, and beyond, and include also the east and west sides of Lake Rudolf. The specimens now in my collection, other than those mentioned in my previous paper, are from: Ageher’s Post, Northern Guasso Nyiro, Marsabit, Lodwar, Kiu. The only marked difference between the birds taken in the northern range is the whiteness of the underside.

*Mirafra longonotensis*, No. 985 = **M.** (*Anacorys*) *africanoides longonotensis* van Som.

If we accept this bird as a race of *africanoides* as put forward by Selater, we are at once faced with the difficulty of distribution. He states that this form is found in Karamoja, at Moroto, just where I have recorded the rufous bird, *intercedens*. Additional localities from which I have records of *longonotensis* are Narok and Mara River.

*Mirafra alopex* Sharpe, No. 983.

If Selater’s statement that this species is confined to British Somaliland is correct, the birds which I have regarded as this species must belong to a new species or race. They are certainly not *intercedens*. Their song or call note is totally different.

*Mirafra africana tropicalis* Hart., No. 975.

This form extends to the Mara River on the east side of Lake Victoria.


This form is recognizeable, but birds from Ankole run it very close, and these should be considered *tropicalis*.

*Mirafr* “*africana*” *harterti*, No. 978 = **M.** (*Spilocorydon*) *harterti* Neum.

I do not quite understand what Selater means by his statement “a doubtful form.” Are we to read into this that he doubts whether this is a form or race of *africana* at all, or does he mean that, as suggested by Hartert, it is identical with *africana tropicalis*? If the former is the right interpretation of his remark, I am prepared to support it, for I very much incline to the view that it has nothing to do with the *africana* group as now arranged. I have considerable additional material, and I cannot see that it intergrades with *africana athi*, its next-door neighbour as it were. My own previous series consisted of 9 birds, then there were the few at Tring, and now I have 10 others, all most remarkably constant *inter se*, and not all like *tropicalis*.

I have young birds just out of the nest, and these also are very different from young *tropicalis* of the same or any age!

*Mirafr* *hypermetra hypermetra* (Reichw.), No. 974.

I have now 3 birds from the type locality, and others from Isiola, Meru, Moroto, and on the coast at Kipini and Mongeya. In this species we have a dark, a grey, and a rufous phase, this last from West Rudolf.
Mirafra cantillans marginata Hawker, Nos. 989 & 990.

I have no typical material, but some of my specimens have been kindly identified for me by Neumann. I must unite all the birds from the Northern Frontier of Kenya with the birds from the country east of Kilimanjaro, to the mouth of the Tana River. The localities additional to these already recorded are: Marsabit, Nyando Crater, Chanler’s Falls, Taveta, Nakuru. The birds were nesting in the Marsabit area in June and July.

Mirafra albicauda Reiehw., No. 987.

Some of my specimens have been verified by Neumann, who states that they agree with typical material. The species is somewhat plentiful in the grass veldt country from the Nairobi Plains south through Athi and Kapiti to the Lake Magadi area. The Karungu-South Kavirondo birds are not quite typical. They were breeding on the Kapiti plains in May and July.

Macronyx croceus croceus (Vieill.), No. 995.

Additional localities: Soroti, Moroto, Kapenguria Turkana, Mara River, Sienna, Kericho, Voil, Kipini, Mongeya, Rabai, Mombasa, Lamu. Birds from Uganda, 18 specimens, have wings varying from 96–106 mm., average 101 mm. Kenya coastal, 21 specimens: 90–96 mm., average 92 mm.

Macronyx aurantiigula Reiehw., No. 996.

I have examined more than 20 specimens of this species, and only in 8 do I find that the subocular pale line is yellow, in all the others it is white; in 6 specimens the supraocular line is white, as is also the subocular line. I cannot, therefore, admit the supposed race recently described by Friedmann as subspecularis, in Bost. Soc. Occas. Papers, May 1930.

Macronyx ameliae wintoni Sharpe, No. 997.

The only additional localities are: Kyambu Swamp, Stony Athi Swamp, Ngong, Thika.

Macronyx sharpei Jacks., No. 994.

A very fine series of this bird (40 specimens) shows no variation throughout its range, except that due to wearing of feathers during the breeding season. This species has nothing whatever to do with croceus in any period of age. It is a species with no known races.

Tmetothylacus tenellus (Cab.), No. 1010.

I have now a series of these beautiful Golden Pipits from the Juba River, Marsabit, Tana, Kipini, Voi, Mongeya, Tsavo, Samburu, Taveta, Simba, Rabai, Shimba Hills, and Ganda.

MOTACILLIDAE.

Motacilla aguimp, No. 1011 = M. aguimp vidua Sund.

The nominate form does not occur, the northern bird being vidua. Vide Selater, p. 336.

For the group of Yellow Wagtails, the genus Budytes should be used.
Budytes flavus cinereocapillus (Savi).  Ashy-headed Wagtail.

This race was omitted from my records by an oversight.  It has been taken at Entebbe, Kisumu, Rudolf, and Nairobi.

Budytes flavus rayi Bp., No. 1021.

Sclater does not record Kenya or Uganda within the range of winter distribution of this race.  I cannot see the slightest difference between my specimens and typical rayi.  They are not dark-headed campestris.

Anthus nicholsoni longirostris, No. 1005 = A. sordidus longirostris Neum.

The series which I now have contains specimens which link up the localities already recorded with the Abyssinian type locality, Lake Abaya, Moyale, Koroli, Marsabit, Northern Guasso Nyiro, Lodwar, West Rudolf, also Lamu.  I have adopted the classification given by Sclater, but I am not at all happy that it is correct.  In a footnote on p. 341 it is suggested that A. latistriatus Jacks., is identical with sordidus nyassae Neum.  Actually this type agrees with the young of a bird which is very like nyassae, which ranges from Kavirondo to the Buvuma Islands, and is found again in the Ankole-Kigezi country.  I referred to these birds as A. rufulus? subsp., No. 1004, in my previous paper.  If longirostris is a form of sordidus, then we cannot have the two resident forms of the same species in the Kavirondo country.  The great difficulty with regard to latistriata is as to whether it is the young of longirostris, which has distinct lateral stripes, or whether it is a young of this other very dark mottled-back bird, the young of which is very striped down the flanks.  These dark birds have the feathers of the mantle and wings with black centres bordered with brown, not tawny as in A. richardi lacuum (hitherto called rufulus cinnamomeus Auct. nee Rüpp.); the breast is a rich tawny strongly spotted with black triangular spots contrasting strongly with the almost white throat; the rest of the underside is darker than in richardi lacuum.  Gyldenstolpe has recorded r. lacuum from the Kivu region, his identifications being verified by Hartert, so these dark birds cannot be a form of richardi.  The bills are different from lacuum, longer and stronger, more as in longirostris.  I am strongly in favour of using the name latistriata Jacks., for these Kavirondo-Ankole birds.

Anthus nivescens, No. 999 = A. sordidus nivescens Reichw.

The only area in which I have taken this bird is on the Juba River.  It appears to be very restricted in distribution so far as Kenya is concerned.

Anthus campestris campestris (L.), No. 1000.

This species is a winter straggler to Kenya.  Very few specimens have been recorded.  The localities in which I have taken it are Tsavo, Simba, Northern Guasso Nyiro, and at Unsi on the Juba River.

Anthus rufulus cinnamomeus, No. 1003 = A. richardi lacuum Meinertzh.

Kenya Cinnamon Pipit.

I have before me a series of 128 birds in all stages of plumage, and from localities west to east of Uganda and throughout Kenya to the coast at Lamu
and the Juba. The only birds which do not agree with the remainder of this very long series are those from the Juba River; they are far less boldly mottled on the back.

*Anthus leucophrys goodsoni* Meinertzh., No. 1007.

During the preparation of my paper in 1919, I had recognized and described these birds as a distinct race, but I had to suppress the description, as publication was unpreventably delayed. These birds are found in the high open veldt and the more open bush country of the highlands, 4,000-7,000 ft. In part of their area they occupy the same ground as the next bird.

*Anthus leucophrys turneri* Meinertzh., No. 1006.

What exactly is the position of this bird? Meinertzhagen described it as a race of *gouldi*, keeping this as a species with many races. When I worked out these Pipits, I made it a race of *leucophrys*, while I made *goodsoni* a race of what I took to be a species, namely *vaalensis*. The reason for this action was obvious, for had it not been done, then there would have been a pale-backed bird and a dark-backed bird, both said to be races of the same species, occurring in a given locality at the same time. For both are found as residents in Nakuru, north to the Mara River, Kisii, and Kericho.

Selater makes *gouldi* a race of *leucophrys*. This is unsatisfactory. If *goodsoni* is kept as a race of *leucophrys*, and *turneri* a race of *gouldi*, the position is clear.


*Anthus melindae* Shell., No. 998.

This distinct species has now been obtained by me from the Juba River, Lamu and MkoI, Mwina and Kao on the Tana; Samburu and Maji-ya-Chumvi.

*Anthus blayneyi*, No. 1002 = *A. caffer blayneyi* van Som.

Selater places this bird as a race as above.

*Anthus cervinus* (Pall.), No. 1009.

A very common migrant. The earliest date of arrival in Nairobi is August 28, latest date April 19.

*Anthus sokokensis* van Som. Sokoke Pigmy Pipit.

This very distinct species was first taken by me in January 1921, when 5 specimens were obtained. Others were collected in the same locality in May of the same year, in December of 1923, and in January of 1924. I know of no other locality where this species occurs. As mentioned in the original description, these birds keep to the more open glades of the forest and when disturbed take to the trees.

**TIMALIIDAE.**

The genus *Turdoides* must now be used instead of *Crateropus*.

*Crateropus hindei*, No. 1293 = *Turdoides hindei* (Sharpe).

The type of this bird came from the Athi River, and was described in 1900. Very little was known of the bird, and few specimens have been taken.
collected a series of 12 skins during August, September, and October. It is a species with apparently no fixed type of plumage; the variation is great and no two birds are alike. This has probably led Sclater to suggest that \textit{hindei} is possibly the juvenile plumage of \textit{T. hypoleuca}. In this he is entirely wrong. The two species have nothing to do with each other. The young of \textit{hypoleuca} is very like the adult. I have reared \textit{hypoleuca} from nestlings to adults, and at no time are they anything like \textit{hindei}. This is a species which would well repay study by keeping examples alive and noting any change in plumage at succeeding ages. The eggs are a light blue with a strong gloss. The birds associate in flocks of 4 to 8, and appear to remain thus, even during the breeding season. Range: Mt. Kenya to South Ukambani.

\textit{Crateropus hypoleucus}, No. 1294 = \textit{Turdoides hypoleuca} (Cab.).

The range given by Sclater should be extended to include the Southern Masai country to Kenya.

\textit{Turdoides squamulata squamulata} (Shell.), No. 1295.

The typical bird ranges along the coastal belt of Kenya from Vanga to the Tana, thence to Lamu and Manda. It is deep olive-grey on mantles and rump, purer grey below; with the whole head, except for the throat, sooty black, with white or greyish tips to the feathers. I have a series of 13 typical birds.


4 birds in my collection and 3 in the Nairobi Museum from the Upper Juba River, Lugh to Serenli, differ from the typical form by being lighter olive-grey above, this colour extending up to the crown at a line with the posterior angles of the eyes; the ear-coverts are not black, but dark greyish streaked at the lower border with white; only the fore part of the head is streaked with black, this colour being limited to the centre of the feathers which are edged with olive-grey. The whole of the underside is lighter than in the nominate form. Type: male, Serenli, July 1922. In my collection. Material examined, 7 of this new form, 13 of the nominate race.

\textit{Turdoides melanops clamosa} (van Som.), No. 1300.

This is a good race, as additional material shows. The range must be extended to include the highland country round Mt. Kenya, from which locality I have material which supports this race. Two examples are even darker than Naivasha birds.

\textit{Crateropus plebeius kikuyuensis}, No. 1298 = \textit{Turdoides jardinei kikuyuensis} (Neum.).

Sclater now makes these birds a race of \textit{jardinei} and not of \textit{plebeja}, and unites them with \textit{eminii}. I am not prepared to accept this and consider \textit{kikuyuensis} to be a good race. I now have it from Mau, Loita, Narok, Naivasha, Kenya.

\textit{Turdoides jardinei kirki} (Sharpe). Coastal Spiny Babbling Thrush.

This race extends into Kenya at the coast and also at Taveta. Sclater states that it goes to Lamu, but I have no specimens from there.
Turdoïdes plebeja cinerea (Hengl.), No. 1297.

Additional localities: Moroto, Lodwar, Kiptirr, Meuressi, Turkwell east of Rudolf, and Suk.

Argya rubiginosa rubiginosa (Rüpp.), No. 1302.

According to Hartert and Selater, there are only two races in Kenya and Jubaland, the nominate form ranging from Southern Abyssinia to the Athi Plains, and the coastal form occurring along the coast. What of the intermediate zone? It is just in this area, the high thorn-bush and grass veldt land, that we get intermediates between the nominate form and the coastal bird. I have previously applied the name emini to such intermediates, but Hartert has said, judging by one specimen, that emini is confined to the Central Tanganyika area and Southern Massai. I have no material of the nominate form from the type locality, and assuming that Hartert and Selater are right that all the pale birds within Kenya and Uganda are identical with the nominate form, we have the following wing measurements: Rudolf 86–90 mm., Marsabit 82–90 mm.; 25 specimens. Inland Kenya 83–88; 16 specimens.

Selater further states that the coastal form ranges to the Juba River. Which part of the Juba River? Presumably he means the mouth of the river; for we do not get the dark coastal bird in the upper waters of the Juba, but a pale one. Hartert gives the range of the coastal form as from the Kilimanjaro area, the Kenya coast to Southern Somaliland. The whole of Southern Somaliland? So far as Kenya is concerned, all the birds south of the Tsavo River, that is, the Teita-Taveta country and the land south of the Sabaki River, are the dark coastal form, and the specimens before me show that this form extends from Dar-es-Salaam along the coast to the lower Juba River, at Kismayu.

Argya rubiginosa sharpei O.-Grant. Great Rufous Scrub Chatterer.

Selater and Praed have explained their difficulty with regard to this bird, and Hartert has put them right with regard to the whereabouts of the type. It is at Tring. Hartert states that “the type . . . is probably only an abnormally large specimen, a giant.” It is interesting to record that 8 specimens from the Upper Juba at Dolo and Unsi, at the Dana River junction, are larger than any specimens of rubiginosa. Wing measurements as follows: 91, 92, 92, 94, 95, 96, 96, 96 mm. Tails, 115, 119, 116, 118, 120, 125, 126, 126 mm. Compare these with the figures given under rubiginosa rubiginosa anteà, whose tails vary from 98–116 mm., most specimens 112 mm. I therefore uphold sharpei for the birds inhabiting the area at the angle of the Juba with the Dana River. For the purpose of these notes I have compared over 100 examples of these Rufous Chatterers.


I have specimens of this bird collected at Embu and at Barsaloi. They appear to differ from the birds of the Tsavo-Taveta area in being less rufous.

Argya aylmeri loveridgei Hart. Teita Brown Scrub Chatterer.

This race was described by Dr. Hartert on receipt of topotypical mentalis from Tanganyika Territory. I had compared my birds with specimens from
Moshi and they agreed; however, it appears that the Moshi birds were not mentalis. It is interesting to note that the darker birds were obtained at Kitui within fifty miles of the type locality of keniana, Kiambarre, or Emberre district of Kenya. I uphold the distinctness of these races for the time being, because I have a few specimens from north of Mt. Kenya which seem to support the paler character of keniana.

*Illadopsis fulvescens ugandae* (van Som.), No. 1372.

20 additional specimens support the characters of this race. Additional localities are: Mawakota and Buvuma Islands, Lake Victoria.

*Malacocinclaa minuta*, No. 1373 = *Illadopsis minuta* (van Som.).

4 additional specimens agree with the type. They are not barakae Jacks., nor pumilis Reichw., as suggested by Gyldenstolpe.

*Malacocinclaa pyrrhopterus*, No. 1375 = *Illadopsis pyrrhopterus* (Reichw. & Neum.).

Sclater places these birds in the genus *Pseudoalcippe* following Bannerman. With this I cannot agree. By all means have a new genus for atriceps and abyssinicus, but pyrrhopterus should be left out. The bird described by Sharpe as jacksoni is a synonym, as is also elgonensis Granvik. The wing measurements vary from 65–78 mm. Additional localities: Kericho and Kapenguria, Suk.

With regard to the birds from Ankole and Kigezi, which I could not separate from the nominate form, Gyldenstolpe, p. 172, has come to the conclusion that this race can be upheld. If this is a fact on a sufficiency of material, then my Kigezi birds should belong to the race kivuensis Neum.

*Lioptilus abyssinicus*, No. 1369 = *Pseudoalcippe abyssinicus abyssinicus* (Röpp.).

The series from the forests of Elgon and Elgeyu to the north of Mau, are regarded as typical, but I have no Abyssinian material for comparison. Birds from South Mau, Aberdares, and Mt. Kenya are slightly darker on the head, mantle, and underside, and in this respect agree with a series from Kilimanjaro, which have been named kilimensis, which, however, is a synonym according to Selater; I do not like the resultant range if Selater is correct.

*Lioptilus atriceps*, No. 1367 = *Pseudoalcippe atriceps* (Sharpe).

Type of the genus. So far as this paper is concerned, the species is restricted to the forests of South-west Uganda.

*Macrosphenus fluvicns ugandae* van Som., No. 1265.

It has been suggested that the race described by me as ugandae is identical with hypochondriacus (Reichw.), from the Eastern Congo. But in the review of the genus published by Bannerman in *Ibis*, 1921, pp. 120–125, it is stated that my ugandae is darker than the typical form and richer yellow below. *M. f. hypochondriacus* is brighter, more golden below, less olive, and has a slightly shorter bill. The bills of Uganda birds vary from 14–17 mm. Over 40 specimens.
Macrosphenus zenkeri, No. 1266 = M. concolor (Hartl.).

It appears that zenkeri was founded on an immature flavicans, and the name must now go to the synonymy of that species. M. concolor was described as a Camaroptera. The species is represented in my collection by 5 examples from the forests of West Uganda, Bugoma, Budongo, and Mabira.

Suaheliornis kretschmeri kretschmeri (Reichw. & Neum.). Large Olive Long-billed Warbler.

It seems to me not quite right to place these birds near Macrosphenus. In that genus we do not find a great variation in wing length between males and females, but in Suaheliornis I find that, in my series, the males are very much bigger than the females, almost to the same degree as in Argaleocichla icterinus sethsmithi, my males measuring 70–72 mm., the females 63–65 mm. Another point is the length of the tail. Localities: Taveta Forest and Moshi.

PYCNONOTIDAE.

Trichophorus calurus nudissumensis (Reichw.). No. 1023.
The only additional locality for this race is Buvuma Islands.

Bleda syndactyla woosmani O.-Grant, No. 1025.

This race has now been obtained by me in Elgon and farther south in the Kakamega Forest. The birds were breeding in the latter place in the months of April and May.

Bleda eximia ugandae van Som., No. 1024.

I have no records of this bird east of the Mabira Forest.

Atimastillas flavicollis (Swains.), No. 1026.

I have already drawn attention to the fact that the birds of Masindi and Budongo are not pallidigula. Birds from Entebbe have pale creamy yellow throats. If, as stated by Selater, the race pallidigula Sharpe can be upheld, my specimens from the forests of Uganda east to Elgon, Nandi, Kavirondo to Karungu, are pallidigula, and not flavigula as recorded, No. 1026. The Kigezi specimens should be intermediate to shelleyi Neum., if that race is sound; Gyldenstolpe, Ibis, 1918, p. 699, it would appear that the very pale-throated birds with the distinctly olive-brown mantles from Masindi are approaching the race flavigula.

Baeopogon indicator chlorosaturata (van Som.), No. 1043.
The most easterly range of this form appears to be Nandi and Kakamega, Kavirondo. The name lacuum of the race described by Reichenow from the Semliki, 1917, is stated by Selater and Gyldenstolpe to be a synonym.

Phylastrephus terrestrial suahelicus Reichw., No. 1029.

As predicted in my previous paper, I have now secured these birds in large series from Kenya, 35 specimens, from the following localities: Vanga, Ganda, Shimba Hills, Rabai, Sokoke Forest, Kipini. Some of the skins were submitted
to Selater, who determined them as *saahelicus*. They were secured in exactly the same localities as *fischeri* and *strepitans*, along the Kenya coast. Variation in wing length: male 83–93 mm., female 75–83 mm. Dr. Hartert has compared my birds with the type, and they agree.

These birds are very much like *strepitans* when seen from behind or in flight, but they keep more to the thick bush and forest than does *strepitans*.

*Phyllastrephus fischeri* Reichw., No. 1037 = (*Phyllastrephus placidus sokokensis* van Som.).

A synonym.

The type of *fischeri* came from the Juba River. I have not got any specimens from this locality, but of the bird described by me as *sokokensis* I have over 100 specimens. Selater places *fischeri* as the nominate form of the group hitherto called *placidus*, making all races of this bird. The localities from which I have secured *fischeri* are as follows: Tana River (mouth), Kipini, Mongeya, Sokoke Forest, Rabai Hills, Shimba Hills, Ganda, and Vanga; all limited to the narrow coastal strip, sea-level up to 1,000 ft. Dr. Hartert informs me that the type is slightly more "foxy" above my birds, but it has been mounted for some time and is possibly faded or soiled! A series of topotypical Juba birds is badly required.

*Phyllastrephus fischeri placidus* Shell., No. 1034.

The type of this bird is in the British Museum; it came from Kilimanjaro. I have before me a good series of topotypical material, and a series from the forests round Nairobi, also 10 from Mt. Kenya. I find that all these birds agree. I place *kenicensis* Mearns as a synonym. The characters given by Mearns for his race from Kenya, 8,500 ft., are the greenish grey upper parts and paler, less brownish, heads. Kenya birds can be matched exactly with material from Kilimanjaro and Nairobi. Wing variation 76–95 mm. On the other hand, we get a bird from the isolated mountain of Marsabit, 2,000 ft., which has the crown of the head the same colour as the mantle, and both of these areas purer olive-green than in *placidus*, the upper tail-coverts paler, not so reddish, the rectrices and remiges paler, the undersides more whitish, due to the bases of the feathers being less dark grey. 10 specimens examined. These birds will be known by the name *Phyllastrephus fischeri marsabit* van Som., *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 37, July 1931. Type: male, 14.7.23, in my collection. Limited to Mt. Marsabit, Northern Frontier of Kenya. In type of coloration, this new race is exactly intermediate between *fischeri fischeri* and *f. placidus*. Wing variation 76–90 mm.

*Phyllastrephus cabanisi hypochloris*, No. 1039 = *Ph. hypochloris* Jacks.

Selater states that this is a species and limits its range to Western Uganda and the adjacent parts of the Belgian Congo. If he had noted the localities from which I had obtained the birds, he would have seen that it extends to Eastern Uganda to the Mabira Forest; now I have it also from Busoga, and from Elgon and Kakamega!

*Phyllastrephus rabai* Hart. & van Som. Rabai Pigmy Bulbul.

I have now a series of over 50 skins of this little bird from the coastal forests, from Ganda Forest to the mouth of the Tana River. Sea-level to 1,000 ft.
Phyllastrephus cabanisi sucosus, No. 1040 = Ph. sucosus sucosus Reichw.

Ph. sucosus is now treated as a species and not a race of cabanisi, and this is probably quite right, cabanisi being only another name for A. icterina, of which a race inhabits Uganda. Sclater, in his extent of the distribution of this race, says "perhaps Elgon." I do not understand what is meant by this; does he mean to indicate that the Elgon birds are perhaps separable? I have specimens from Western Uganda and Mabira, Buvuma Islands, Mubendi, Busoga, Suk, Elgeyu, Man, Kericho, Sotik, Molo; all localities west of the Rift Valley.

Phyllastrephus strepitanus (Reichw.), Nos. 1030 & 1031.

Although placed as a species in the Systema, Sclater suggests in a footnote that "this should probably be only considered a subspecies of P. terrestris." This suggestion is, of course, wrong in view of the fact that over a considerable area occupied by this bird we get the race P. t. suahelicus (cf. above).

I have before me over 100 specimens of this bird collected from the topotypical area of P. strepitanus strepitanus, a series from the northern bend of the Juba at Dolo and Lugh, and a further series from the east and west of Rudolf. From this material it is obvious that there is a transition from typical strepitanus of the Kenya coastal areas to the South Somali form pauper, while in addition there is the form found around Rudolf. The typical birds have the throat pure white, not creamy, and in contrast to the olive wash on the breast and the sides of the lower throat. The general colour on the head and mantle is darker brown than in the Juba form. If we examine the upper Juba birds from Serenli to Dolo and the Daara River area we find that the throats are buffy to cream, not sharply differentiated from the breast, which is only a shade different and washed with brownish olive. These birds are pauper, and in the series they are obviously paler brown on the head and mantle than the coastal form. When we come to the series representing the area between Moyale, Marsabit, Northern Guasso Nyiro, Turkana, and Moroto to Suk, i.e. on either side of Southern Rudolf, we find that they are not similar to the Dolo-Juba birds, but uniformly larger and slightly paler above and below, with less olive wash on the breast and flanks. I am prepared to recognize (1) P. strepitanus strepitanus as the form along the coastal belt, inland to Kilimanjaro and the South Ukamba area, including the Tana, thus taking in the type locality of P. s. fricki Mearns, a synonym, and along the coast to the lower Juba River; (2) P. s. pauper, the upper waters of the Juba River; and (3) P. s. near pauper, the Southern Rudolf area.

The comparative wing measurements are:

- P. strepitanus strepitanus, 68–83 mm., average 77 mm.
- P. strepitanus pauper, 72–85 mm., average 78 mm.
- P. strepitanus near pauper, 73–86 mm., average 80 mm.

Phyllastrephus icterinus seth-smithi, No. 1041 = Argaleocichla icterina sethsmithi (Hart. & Neum.).

The only new localities for this bird are Mubendi and Butambara.

Chlorocichla flaviventris, Nos. 1044 & 1045.

Selater, p. 390, suggests that the birds from the coastal region of Kenya should all be referred to the race centralis Reichw., type locality Loeru, Ugogo,
Tanganyika Territory. I have very few examples from Tanganyika for comparison, but these (6) are larger than the coast birds, 105–114 mm. Reichenow himself makes centralis a synonym of occidentalis Sharpe. A critical examination of a very large series from the Kenya coastal areas (sea-level to 1,000 ft.) shows that these birds are smaller and rather more washed with olive on the breast, and the underside rather stronger yellow. 50 coast birds give a wing variation from 95–108 mm. (not including birds from Taveta, 2,000 ft.). These coast birds are mombasae Shell., No. 1044.

Birds from 2,000–7,000 ft. are large, but as richly coloured as the coastal form, and if compared with centralis, the difference is obvious. It would almost seem that we should have to utilize the name mervensis Mearns, No. 1045, for these large inland birds. Until I am able to compare a larger series of centralis, I am prepared to maintain the following for Kenya:

(1) C. fluviventer mombasae, Kenya coastal zone, from Vanga to Kismayu and up the Juba River to Waregta. Sea-level to 1,000 ft.
(2) C. f. mervensis, Kenya inland. 2,000–7,000 ft., Kilimanjaro, Kikuyu to Mt. Kenya.

Chlorocichla laetissima (Sharpe), No. 1046.

Ranges through the forests on the west of the Rift Valley from Elgon to Sotik, and then crops up again in Western Uganda, Toro, and Ankole.

Andropadus insularis insularis Hartl. Zanzibar Yellow-bellied Bulbul.

I have before me a series from Zanzibar and Dar-es-Salaam; all are clearer, brighter yellow on the abdomen than any Kenya coastal bird and all have the axillaries, under wing-coverts, and inner webs to the primaries and secondaries clear yellow. They are not the same as the Kenya bird.

Andropadus insularis subalaris Reichw., No. 1047.

Sclater, in stating that it is the island form insularis which ranges along the Kenya coast from Malindi to Pangani, is certainly wrong; for out of over 50 specimens before me from Lamu to Vanga, there is not one which has any but very dark ochre-yellow axillaries, under wing-coverts, and inner webs to the wings, nor are there any which show a clear yellow on the belly. I therefore uphold the race subalaris, which ranges from Vanga north along the coastal belt up to Lamu and Manda.

Andropadus insularis somaliensis Reichw., No. 1048.

I now have this race represented by 25 examples, taken from Dolo to Serenli on the Juba River. It is certainly duller on the lower surface than subalaris, and the colour on the underside of the wings is more ochreous napes yellow, less clear.

Arizelocichla milanjensis striifacies (Reichw. & Neum.), No. 1053. Streaky-checked Bulbul.

This bird has now been taken by me in the Taveta Forest on the Lumi River.

Arizelocichla masukuensis kakamegae (Sharpe), No. 1054.

This bird is now made a race as above.
Add to the localities already recorded: Aberdares, Mt. Kenya, Meru.

Stelgidillas gracilirostris chagivensis van Som., No. 1056.

In my opinion this race is sound, though Sclater lumps it with the nominate form. See Gyldenstolpe, K. Sv. Akad. Handl., 1921, p. 184; Granvik, Journ. f. Orn., 1923, p. 207.

Stelgidillas gracilirostris percivali (Neum.), No. 1057.

To the recorded localities add: Meru, Chuka, Mt. Kenya.

Charitillas gracilis ugandae (van Som.), No. 1058.

This race is substantiated by additional material.

Stelgidocichla latirostris engenia (Reichw.), No. 1061.

Uganda birds vary from 75-90 mm. (including females).

Stelgidocichla latirostris saturata Meams. Wing variation 81-96 mm. (including females). I support this race on account of size.

Eurillas virens (Cassin).

I have been greatly interested in working out these birds with a view to ascertain why Sclater lumps together all the virens from Cameroon and Gaboon right across Africa to Kilimanjaro and the Kenya coast. I have before me over 100 examples; 50 from Uganda, 30 from Kilimanjaro, 12 from the coastal forest of Kenya, and the rest from Kakamega. Count Gyldenstolpe has made some remarks regarding the Uganda race, named by me holochlorus, No. 1064. He admits the larger size of the Uganda birds compared with typical virens, but asks whether I had compared my birds with skins from Kilimanjaro. I have! There is a very strong difference between the two, and although the name marwitzi Reichw., from Marungu, Kilimanjaro, is sunk as a synonym of virens, I cannot agree to this for a moment.

E. v. marwitzi is altogether paler above and below than E. v. virens and holochlorus, and has a wing variation of 80-89 mm., average 83 mm. The birds found at the Kenya coastal forests are smaller than marwitzi and have the breast and flanks washed with an olive-grey tinge; wings 76-81 mm. These I have named Eurillas virens shimba van Som. Type, male, Ganda Forest, in my collection. Journ. E. Afr. & Ug. Nat. Hist. Soc., no. 37, July 1930. I therefore recognize the following as occurring in Uganda and Kenya:

(1) Eurillas virens holochlorus van Som., forests of Uganda to Elgon.

(2) E. v. marwitzi Reichw., Kilimanjaro to Usambara, extending down the chain of forests.

(3) E. v. shimba van Som., the forests at the coast of Kenya, Vanga to Rabai.

(4) E. v. virens (Cassin), Kigezi country (possibly).
The race which I have called *shimba* is alluded to by Bannerman in his "Revision of the Pycnonotidae," *Rev. Zool. Afr.*, vol. xii, 1924, p. 25, as *A. virens* subsp.


Since reviewing the Yellow-vented Bulbuls in my previous paper I have amassed a huge series from all localities with a view to elucidating the position of the numerous forms as found in Kenya and Uganda. From this material I recognize the following:

- *P. tricolor tricolor* (Hartl.), ranges into South-western Uganda.
- *P. tricolor minor* Hengl., No. 1065, ranges through the greater part of Uganda and meets the next race in the region of Elgon and Kavirondo.
- *P. tricolor fayi* Mearns, No. 1066, highlands of Kenya from south of Nairobi to Kenya and Elgon where it meets *minor*.
- *P. tricolor micrus* Oberh., No. 1067, Taveta and Kilimanjaro area south along the Usambara and Eastern Tanganyika.
- *P. tricolor littoralis* van Som. = No. 1071, coast of Kenya south of Tana.
- *P. tricolor teitensis* van Som., No. 1070, the thorn-bush country from 1,000 ft. to Ukambani, to the Northern Guasso Nyiro and Marsabit (although seen by Oberholser and reported as different, these may be peasei).
- *P. tricolor dodsoni* Sharpe, No. 1069, the Juba River south along the coast to the Tana, where it meets *littoralis*.

Apart from the colour differences, which are obvious in all these forms, the wing variation is of interest:

- *P. tricolor dodsoni*, Juba River, 80–82 mm. in males, 75–78 in females, average 79 mm. Examined 25.
- *P. tricolor dodsoni*, Tana-Sabaki, 71–82 mm., average 76 mm. 23 specimens.
- *P. tricolor dodsoni*, Marsabit, 77–87 mm., average 81 mm. 18 specimens.
- *P. tricolor dodsoni*, Teita and Tsavo, 76–88 mm., average 83 mm. 20 specimens.
- *P. tricolor dodsoni*, Mombasa, Sokoke to Vanga, 81–92 mm., average 85 mm. 38 specimens.
- *P. tricolor micrus*, Kilimanjaro and Taveta, 90–95 mm., average 91 mm. 14 specimens.
- *P. tricolor fayi*, Kenya highlands, 91–102 mm., average 94 mm. 24 specimens.
- *P. tricolor minor*, Uganda, 90–97 mm., average 94 mm. 28 specimens.

The examination of the whole series shows the gradual transition from the *tricolor* type of plumage to the mottled *dodsoni* type, the connecting birds being those I call *littoralis*, with *teitensis* leaning towards *dodsoni*, and *micrus* toward *tricolor*.

One of the prime difficulties in the Kenya birds has been to ascertain what is *micrus* Oberh. I have taken the trouble to collect birds from the exact localities mentioned by the author, and the differences between the specimens from Taveta, Marangu, Moshi, Kilimanjaro and those from Mombasa and the hinterland assumed to be *micrus* by most writers, is quite obvious. I described my *littoralis* as a race of *dodsoni* (it is united with *dodsoni* by Sclater), because it showed strong characters of *dodsoni*, but it might just as easily have been made a race of *tricolor*. 
ZOSTEROPIDAE.

Zosterops senegalensis flavilateralis Reichw., Nos. 1077 & 1078.

When working on these little Zosterops for my previous paper, I looked up the type locality of flavilateralis and found it to be merely "East Africa." I assumed the coastal bird from Lamu to be typical, as Lamu was mentioned in the distribution. I found on comparing these Lamu birds with Teita material that they were not the same; as there appeared no name for the latter I described them as massaica. According to Sclater, the type of flavilateralis came from Ndi; therefore my massaica is nothing but a synonym.

I have now obtained a series from the Juba River, and these agree with the Lamu and Manda birds south along to the Mongeya Forest. These birds are:


My material of 8 topotypical examples agrees with the very pale form found along the coast of Kenya, but the specimens certainly do not belong to the form which ranges in the country to the east of Mt. Kilimanjaro, which are flavilateralis, and it is suggested by Sclater that the form which ranges to the south of Mt. Kenya and through Fort Hall to the Northern Guasso Nyiro, which has been named fricki by Mearns, is also flavilateralis. These birds being intermediate between jubaensis and flavilateralis, I suggest that the form stands as:

Zosterops senegalensis fricki Mearns, No. 1078, type locality Thika River.


This distinct form is found on Kilimanjaro, on the foothills and in the forests surrounding: Taveta and Lumi River, whence I have a series.

Zosterops virens gargarus Mearns. Marsabit Green White-eye.

This form is also very distinct and ranges north to Marsabit. I do not now consider it the same as kaffensis Neum. My series of topotypical material and others at Tring are very constant.

Zosterops virens stuhrmanni Reichw., No. 1076.

Sclater places this bird as a race of virens. It is apparently limited to Uganda and the western side of Lake Victoria. I think that scotti of Neumann, Ruwenzori, should stand.

Zosterops virens jacksoni Neum., No. 1073.

This race is limited to the forests on the west of the Rift Valley. It does not extend beyond Nandi. Lonnberg’s bayeri is from the type locality of jacksoni and is a synonym. Sclater’s footnote to this race is not accurate in suggesting that I recognize two additional races “from this region.” The stretch between Nandi and Elgon is a wide one, and is divided by the broad valley of the Nzoia River; the country here is not forest, but park-like and with bush and thorn. It is here that we get the bird I have named.
Zosterops yalensis van Som., No. 1074.

I have before me a very long series of this bird in addition to the material collected previously. I can only repeat that this bird is not jacksoni, the dorsum being yellower, approaching stublinanni, but not so yellow as that form.

Zosterops virens elgonensis van Som., No. 1075.

The Elgon race is not jacksoni, nor yalensis from the open park country of the Yala-Nzoia valley. In elgonensis the mantle is greenish, but not so dark as in jacksoni, and is not tinged with yellow as in yalensis. The underside is paler and tinged with greenish; it has not got the large yellow ventral area, untinged with greenish, as has jacksoni.

NECTARINIIDAE.

Nectarinia famosa centralis, sub. No. 1085.

I wish to make a belated apology to Prof. Neumann for unintentionally "jumping his claim" to the authorship of this race. I had no idea that by quoting the name written on the back of a label on a specimen from Uganda, as merely part of a remark that my Uganda birds agreed with these specimens, I was trespassing. Actually, in referring to this Nectarinia under No. 1085, I quoted my Ibis reference as a synonym of N. f. acneigularis, for I did not think such slight difference as existed between the two forms worth recognition by a racial name. The footnote to page 193 of my paper, written by Dr. Hartert as editor, is thus explained.

It now appears that the Uganda birds are recognized by Sclater as a distinct race, and he makes the name vulcanorum Gyldenstolpe a synonym of centralis.

Nectarinia famosa aeneigularis Sharpe, No. 1085.

This race is particularly common on the Aberdares, along with the next species. My remarks with regard to the size of the bills in Nairobi specimens were evidently based on individual variants; the range of variation in bill length in Aberdare birds is 10 mm.

Nectarinia taczazze jacksoni Neum., No. 1082.

Sclater does not admit this race, but I am prepared to support it.

Nectarinia kilimensis filiola Hartl. Ruanda Long-tailed Bronze Sunbird.

It is of interest to note that my remarks regarding the strong purply bronze of Ruanda-Ankole specimens should be repeated independently by Count Gyldenstolpe with regard to his birds from the same area. He has utilized the name filiola Hartl. for such birds. I agree with him that these birds have straighter bills than the typical Kilimanjaro specimens, and I would add that the Kigézi females are yellower on the abdomen than typical kilimensis, of which I have a series. Sclater does not mention the name filiola, and, taken as a whole, the race is barely recognizable.
Nectarinia erythrocerca erythrocerca Hartl., No. 1097.

The nominate form ranges throughout Uganda and around the west and east borders of Lake Victoria and down into the Loita and to the Suk country. I drew attention to the Ankole and Kigezi birds as being darker red on the breast and having no purple on the upper tail-coverts. Similar observations have been made by Gyldenstolpe, who, however, refers the specimens to the nominate form. Reichenow made the same observation and gave the name adolfifriedericic to this form, overlooking kievensis Berger. Sclater admits only one race of this species, erlangeri, but I doubt if he is right in this. Although I do not propose to recognize kievensis at the moment, I always think it advisable to place on record such observations of variations as exist against such time as we may have to admit a race which at the moment may be still evolving.

Nectarinia erythrocerca nectarinoides Richm., No. 1098.

Sclater places this bird as a race of melanogastra, and admits to a certain confusion of distribution of the supposed two races in detailing the areas occupied by each. If one refers to the distribution as given for nectarinoides and melanogastra, it will at once be noticed that both forms occur "north to the Tana River and the Northern Guasso Nyiro." This is exactly what does occur, but in my opinion these birds are not races of the same species. If Sclater had suggested that this was a race of erythrocerca it would have been more to the point. If we examine a series of erythrocerca, erlangeri, and nectarinoides, we find points of very strong resemblance. N. erythrocerca has a red breast-band composed of feathers which are black at the base and red at the ends, with a blue bar in between. Above the red breast-band there is a narrow violet-blue or purple band.

N. erlangeri Reichw. is a smaller bird which has just the same red breast-band of blue, followed by a wide band of red with the median blue bar to each feather, but some of the lateral feathers of this band are slightly yellow, and in some individuals the median bar is also slightly yellow. These characters are accentuated in N. nectarinoides, which has the red band of feathers with a yellow median bar, and the upper breast-band blue; in addition the lateral feathers of the wide breast-band are almost entirely yellow. The upper surfaces of all three are very similar, but erythrocerca has the upper tail-coverts purplish or strongly bluish, and the lesser coverts are also tinged with bluish.

Now let us consider the distributions:

N. erythrocerca ranges through Uganda down both sides of Lake Victoria, to the Loita on the south-east.

N. nectarinoides ranges from the Natron Lakes (Magadi) south to the plains and thorn country around Kilimanjaro, through Southern Ukambani (Hola) north to the upper waters of the Tana River and the Northern Guasso Nyiro.

N. erlangeri ranges along the Juba River from Dolo to Serenli, across Juba-land to Wajheir and Marsabit. On the Northern Guasso Nyiro there occur intermediates between nectarinoides and erlangeri.

A further point in favour of this assemblage: If we examine the females of all three we find them identical in style of coloration, i.e. the lower surface from throat to vent is streaky, not uniform; further, the backs are matt drab-grey-brown, with the slightest tinge of olive; totally different from the females of melanogastra or pulchella.
I therefore submit the adoption of the following classification:

*Nectarinia erythrocerca erythrocerca* Hartl.
*Nectarinia erythrocerca nectarinoides* Richm.
*Nectarinia erythrocerca erlangeri* Reichw.

The only alternative would be to make the last two geographical races of one species.


I have dealt with the systematic position of this race above, and I wish to state here that I have actual specimens from the regions cited. In *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 64, I described the Juba form as *N. nectarinoides bereni*, overlooking *erlangeri*; *bereni* is a straight synonym.

*Nectarinia pulchella lucidipectus* Hart., No. 1086.

I am prepared to support this race. It ranges from the Kigezi-Ankole through Uganda to Rudolf and Baringo north to Marsabit. I place *melanogastra* as a race of *pulchella*. Certain of my males from Suk have very little green on the sides, therefore there is an increase in the black area of the abdomen, and this points to a relationship with *melanogastra*.

In addition to the localities already recorded add: Lodwar, Kamakun, Turkana.

*Nectarinia pulchella melanogastra* Fisch. & Reichw., No. 1087.

If one considers the distribution of this race and takes into account the variation of the abdominal colour found in the *pulchella lucidipectus* from the intermediate range, and, further, keeps before one the character of the type of plumage in the females of *lucidipectus* and *melanogastra*, there can be little doubt that both are forms of the same species. This also supports my reasoning that *nectarinoides* should not come into this group at all, and allows *melanogastra* over a large area where both occur. The only new localities for this race are: Upper Tana, Fort Hall.

*Drepanorhynchus reichenowi* Fisch., No. 1093.

I consider *alinderi* Laubm. to be a synonym, as Elgon birds agree with Naivasha and Aberdare specimens. To the localities add: Mt. Kenya and Meru.

*Hedydipna platira karamojoensis* van Som., No. 1094.

Although Sclater does not admit this race, I am satisfied that it is sound. The females are even more distinctive than the males, and for this reason alone the race is valid.

*Cinnyris superbus superbus* (Shaw), No. 1109.

When working at these birds at Tring, in 1919, I recognized that there were at least two if not three races of this Sunbird. In my MS. I differentiated the form found in Sierra Leone and Southern Nigeria; this form has since been named by Banerman *ashantiensis*. At the same time I drew attention to the
fact that Uganda birds are larger than the typical form. The measurements I gave were: males 80–81 mm., females 73–76 mm. I have since obtained birds from the Buvuma Island which gives males 83 mm. Bannerman gives the length of wing in typical males as 72–79 mm. The Uganda race is recognizable and I name it *C. superbus buvuma* subsp. nov., type ♂, Buvuma Island, 1922, in my collection.

*Cinnyris cupreus cupreus* (Shaw), No. 1108.

The additional localities for this race are: Suk, Turkwell River, Turkana, and Moroto.

*Cinnyris cupreus chalceus* (Hartl.). *Angola Coppery Sunbird.*

This is the form which ranges into the Kigezi and South Ankole district of Uganda (cf. Gyldenstolpe, *op. cit.*, p. 88).

*Cinnyris habessinicus turkanae* van Som., No. 1110.

This race is in my opinion based on reliable data. I have a series of over 15 males and 12 females. Selcer makes it a synonym of the nominate form.

*Cinnyris bifasciatus microrhynchus* Shell., No. 1102.

The type came from Dar-es-Salaam; the race extends from Lamu and Manda along the coastal belt of Kenya and does not extend into the dry thorn-bush country of the Taru; in this latter area is found the race which I have described as *tsavoensis*. Selcer admits *tsavoensis*, but he does not allow *microrhynchus* to go as far north as Lamu. He states that there the race *chalcomelas* Reichw. is found. According to Selcer *chalcomelas* is a race of *bifasciatus*, and if this is so, the birds which I referred to this name, and kept separate as a species because they occur in the area of *bifasciatus* *tsavoensis*, are not referable to *chalcomelas* at all, but are a distinct species.

There is the name *sheppardii* Jacks., type from Lamu, placed by Selcer as a synonym of *chalcomelas*. The type of *sheppardii* is in the British Museum, so I suppose Selcer inspected it before sinking the name as a synonym of *chalcomelas* (cf. below, under *C. chalcomelas*).

*Cinnyris bifasciatus tsavoensis* van Som., No. 1103.

This is the form which ranges through the dry thorn-bush country from the Taru to Ukambani and to the Loita and Mara River, whence I have specimens. In the *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 65, I have recorded birds from the Juba River at Sereni as this form. They agree well. So the distribution will be extended in a north-easterly direction to take in the Upper and Mid-Juba River.

*Cinnyris chalcomelas* Reichw., No. 1101.

In the notes on the two previous birds I have made reference to this species. Selcer places it as a race of *bifasciatus*, which it cannot be, as it ranges over the same ground as *C. b. tsavoensis* and part of *C. b. microrhynchus*. This bird was described from Kismayu, near the mouth of the Juba River. The description
is not a very good one, and the only character which induces me to refer my birds to this species is the size. Reichenow states that *chalcomelas* is decidedly larger than *microrhynchus* and gives the wings as 60 mm., the bill as 17–18 mm., tarsus as 14–15 mm. My series gives 59–63 mm., 17–18 mm., 15 mm., thus agreeing well in size. The bills, besides being longer, are heavier and straighter. In *microrhynchus* the wings are 53–57 mm., bill 14–15 mm. My North Juba birds are small, and are not *chalcomelas*, but *C. b. tsavoensis*.

*Cinnyris mariquensis osiris* (Finsch), No. 1100.

Add the following localities: Weiwei River, Kapenguria, South-west Rudolf, Meru, and Archer’s Post.

*Cinnyris mariquensis suahelicus* Reichw., No. 1099.

Add: Kampala and the Mara River.

*Cinnyris venustus* and races, Nos. 1114–1116.

I have been interested in this group of little Sunbirds because of the diversity of opinion with regard to the status of *albiventris* in relation to the *venustus* group. With the material now before me, I am inclined to support the arrangement advocated by Mearns, *Proc. U.S. Nat. Mus.*, 1915, p. 386. My reasons for this are that my series of various forms show the gradation from *venustus falkensteini* to *albiventris*. In other words, there are certain birds which one can place either as a race of *albiventris* or of *venustus*. I refer to the birds which Mearns has called *blicki* and which both Bannerman and Sclater say are identical with *fazoqlensis*. Now, if I had been shown both male and female *albiventris* and male and female *blicki*, and was satisfied that the distribution area of the one did not overlap that of the other, I would at once suggest that *blicki* was a race of *albiventris*. If, however, *blicki* is identical with *fazoqlensis*, and this is a race of *venustus*, it would appear reasonable to say that *albiventris* is a race of *venustus* also. When I wrote my manuscript in 1919, I had birds from the Kerio and Turkwell Rivers which I referred to *blicki* on the description and on geographical grounds. These birds are apparently not *blicki*, but a further connecting link between *blicki* and *venustus*, and they stand in just such a position as *blicki* does to *albiventris*. When Mearns described *blicki* he had *fazoqlensis* before him. I have not obtained *albiventris* in any locality where *falkensteini* occurs, and it would be of interest to ascertain whether anyone ever has! I have submitted a series of these birds to Bannerman, birds found in the area of the Northern Frontier of Kenya, i.e. the area between the Southern Abyssinian border and the Northern Guasso Nyiro, and he reports: “We have nothing like this.” Now, I take these birds to be *C. venustus blicki* Mearns. They are very near *C. albiventris*, but both male and female have a light wash of pale lemon-yellow on the breast and flanks, thus undoubtedly showing their relationship to *albiventris* and *venustus falkensteini*, and to my mind indicating that we must regard *albiventris* as a race of *venustus*.

If we consider the next series, birds which I had formerly identified as *blicki* (and placed as such with a query by Bannerman), we find that they occur in the intermediate region between true *blicki* and *venustus igneiventris*, Uganda to Elgon—that is, the area south and south-west of Lake Rudolf. They exhibit
intermediate characters just as one would expect, and as described by Bannerman: "lemon to white, tinged or splashed with orange." Such birds are not blicki, and may in future be known as C. venustus sukensis subsp. nov., type in my collection, Turkwell River, January 1931, male, adult. There is only one other form which presents any difficulty, and that is a variation of venustus falkensteini in which the lower breast and abdomen are not so rich an orange-yellow as in typical falkensteini. Such birds are the result of the approximation of the two forms blicki and falkensteini, but they do not occur in any defined intermediate area as far as my material shows, and they cannot be considered as a geographical race.

The race faszogensis of Southern Abyssinia is in my opinion a richer coloured bird than blicki, and could quite well have been derived from it, or vice versa. The gradual increase in coloration of the breast, from the white of albiventris from Southern Somaliland to the orange-red of igniveventris of Toro-Ankole, is a striking example of colour change which is evidenced to a lesser degree, though along parallel lines, in other species of East African birds.

**Cinnyris venustus albiventris** Strickl., No. 1113.

The distribution given by Selater for this bird is rather vague so far as Kenya is concerned. His range is almost identical with that given by Reichenow, *Vog. Afr.*, vol. iii, p. 472. As far as my series shows, the bird extends from the Juba River, Serenli, Neboi, Mandaira, south to Lamu Manda, Kipini, Mongeya, and through Ukambani south to Tsavo, Mbuyuni to Taveta east.

**Cinnyris chloropygius orphoquester** Reichw., No. 1117.

There are no records of this species from Kenya, though it is fairly plentiful in Uganda.

**Cinnyris reichenowi reichenowi** Sharpe, No. 1120.

The type locality of this nominate form is Sotik, whence I have a series. The wing length of the males in the nominate form ranges from 54-58 mm. (Sotik), females 47-50 mm. This race is confined to the west of the Great Rift Valley, and also to the Ankole-Kigezi area. 16 specimens.

**Cinnyris reichenowi kikuyensis** Mearns, No. 1121.

This is the form which is found on the east of the Rift Valley, and is distinguished by its darker coloration of the belly and its smaller size. Wings 50-53 mm. 14 specimens.

**Cinnyris reichenowi stuhlmanni** Reichw. Ruwenzori Olive-bellied Sunbird.

This race is confined to the higher altitudes of Ruwenzori.

**Cinnyris mediocris mediocris** Shell. Kilimanjaro Olive-bellied Sunbird.

Confined to Kilimanjaro, whence I have a typical series. The males have dark olive bellies, the females are more washed with yellowish green below and lack the greyish throat. 12 males, 4 females.
Cinnyris mediocris keniensis Mearns, No. 1118.

With the nominate form before me, I am prepared to support this form. The males are paler below on the belly, and the females have the throat tinged with greyish. 18 males, 10 females. Males with the palest olive bellies are found on the Aberdares.

In my list in Nov. Zool., 1922, the following sunbirds were placed in Cinnyris instead of Chalcomitra.

Chalcomitra amethystina kulekreuthi Cab., No. 1107 partim.

The type of this race came from Mombasa, so that all the coastal birds must now be known by this name. They are characterized by the metallic feathers of the crown being bluish green; the throat patch rather restricted and of a strong pinkish violet. The general body colour a deep brown-black with a violet sheen when fresh. In size they are smaller than the upcountry birds: the wing variation in males 60–65 mm., average 63 mm. 40 specimens. The females are greyish above with a slight olive wash below, more lightly tinged with yellowish green than the inland birds. Range, Vanga to Lamu along the coastal belt. Not inland.

Chalcomitra amethystina kirkii (Shell.), No. 1107 partim.

This form, in its typical plumage, only just reaches to the Kenya-Tanganyika border north of the Pangani River. The crown is yellowish green and the throat patch is more bluish than in kulekreuthi.

Chalcomitra amethystina doggetti (Sharpe), No. 1107 partim.

In my previous report I drew attention to the larger size of the birds found in the highland area of Kenya. The name doggetti (Sharpe) is available for them, and has been used by Sclater in his Systema. They are large, having a wing length of 65–71 mm., average 67 mm. The bills are longer and heavier. This form ranges from Kilimanjaro to the highlands of Kikuyu, Kenya, Marsabit, Aberdares, and Sotik to Elgon and Karamoja, but apparently not into Uganda proper. The females are strongly washed with greenish yellow above and below.

Chalcomitra amethystina subsp. Juba River Purple-throated Sunbird.

I wish here to draw attention to the race of this Sunbird which extends up the Juba from Serenli to Dolo. I can find no record of any race of amethystina from this area. The males are very small, wings 58–63 mm.; and the females are very much greyer above than in the coast form kulekreuthi, with the lower surface but very lightly mottled, in some specimens only on the breast. More material may prove this to be a distinct form.

Chalcomitra hunteri (Shell.), No. 1123.

I have before me a very large series from the Juba River to Kilimanjaro and from the west of Rudolf. The wing measurements are as follows: Juba River, Waregta to Dolo, males 65–70 mm., average 67 mm.; females 60–62 mm., average 62 mm. Teita and South Ukambani to Kitui, males 70–73 mm., average 71.5 mm.; females 63–66 mm., average 66 mm. Rudolf, Moroto to Marsabit and Northern Guasso, males 71–74 mm., average 72 mm.; females average 66 mm.
It will be seen that the Juba birds are rather smaller; moreover, the females are not only smaller but paler on the back and underside. Gyllenstolpe states, *op. cit.*, p. 95, that there is in this group no bunch of metallic feathers on the side of the neck near the bend of the wing. In this he is wrong, for all my males have it, especially so in the Juba birds. It is advisable to state here that a very large number of birds from the Juba River area are smaller than Kenya races. This would make an interesting ecological study.

*Chalcomitra senegalensis aequatorialis* (Reichw.), No. 1125.

This form ranges through Uganda, except for the northern area, and extends into Kenya to the Mau. The wing measurements are as follows: Buvuma Island 71–73 mm., Masindi to Kampala 70–75 mm., Moroto and Turkwell 69–72 mm., Kisumu and South Kavirondo 72–77 mm., average 71 mm.

*Cinnyris senegalensis atra*, No. 1126 = *Chalcomitra senegalensis lamperti* (Reichw.).

I have now been able to examine a series from Kilimanjaro, and I am satisfied that the name *atra*, given by Mearns to birds from Thika, is a synonym. Sclater states that *lamperti* is hardly separable from *aequatorialis*, but to this I cannot agree. Though the males do not differ in coloration, yet they are larger, average 74 mm., variation 72–79 mm., and the females are not so dark olive-washed below. This form ranges from south of the Northern Guasso through the highlands east of the Rift Valley, south to Kilimanjaro, and on the Tana to Lamu. I therefore treat the next bird as a race of *gutturalis*.

*Chalcomitra gutturalis inaequimata* Hart., No. 1124.

My series contains birds from Dar-es-Salaam (type locality), along the coast to Lamu, and inland to the South Ukamba area. Gyllenstolpe, *op. cit.*, p. 98, states that he has typical *gutturalis* from Juja, just east of Nairobi! I suggest that they are *inaestima*. He also states, on the authority of Gröte, that *gutturalis* and *aequatorialis* interbreed on Ukerewe Island, Lake Victoria. I wonder if this is so? Are the offspring fertile?

*Chalcomitra veroxii fischeri* (Reichw.), No. 1133.

I have a specimen with the primary coverts on both wings pure white, a mutant. Limited to the coastal belt as far as Kismayu.

The three following Sunbirds are now placed into *Cyanomitra*.

*Cyanomitra verticalis viridisplendens* (Reichw.), No. 1128.

A comparison of the wing measurements of representatives from various localities is interesting. Birds from Western Uganda are the smallest, males 66–67 mm. (16 males), and females 63 mm.; birds from Elgon and the forests west of the Rift Valley (Mau, Sotik, Kericho, Marquet, and Molo) are the largest: Elgon, males 70–71 mm., females 63 mm.; Kericho, males 70–72 mm. (14 males), females 67 mm.

I cannot find any difference between the birds from Mt. Kenya and those from Uganda; they are constantly smaller than the Kericho birds, the wings of males measuring 65–70 mm., females 60 mm.

To the localities recorded previously add: Kericho, Sotik, Embu, and Mt. Kenya; Ankole and Kigezi, Uganda, Kapenguria, Suk.
Cyanomitra alinae vulcanorum (Hart.).

My specimens from the Kigezi area should belong to this form, but they are very near to the nominate race. This bird must be kept as a species, as I have obtained both this and verticalis together in Ankole and Kigezi.

Cyanomitra cyanaolaema (Jard.), No. 1127.

I am convinced that the Uganda birds are not the same as those from Fernando Po. Wings 73–75 mm. To the published localities add: Buvuma Islands.

Anthreptes yokanae Hart. Yokana's Blue-throated Sunbird.

I have now a very long series of this little Sunbird taken from various localities along the coast of Kenya. It is not so uncommon as I at one time supposed. The species was described for me by Dr. Hartert from a series of 5; I now have 18 males and 14 females. They show little variation. The known distribution is from the Forests of Ganda and Dalgube north to Shimba Hills, Rabai, and Sokoke–Arabuko Forest.

Anthreptes axillaris (Reichw.), No. 1142.

Add to the localities given: Buvuma Island; Elgon.

Anthreptes tephroplaema elgonensis van Som., No. 1137.

This race extends to the forests of Sotik, whence I have obtained specimens.

Anthreptes longuemarei subsp. ? No. 1134.

Sclater does not record any of the Violet-backed Sunbirds from Uganda other than neglectus and orientalis, which latter is a species distinct from the longuemarei group.

Anthreptes orientalis orientalis Hartl., No. 1135.

I cannot agree that this is a race of A. longuemarei, for both species occupy a very large area together. My typical orientalis range from Eastern Rudolf to the Northern Guasso Nyiro. They have wings of 62–70 mm. Birds from the thorn-bush country of Ukambani to Teita vary from 60–70 mm., average 65 mm.

Anthreptes orientalis neumanni Zedl., No. 1136.

I have now obtained a very long series of these birds from the Juba River. They are smaller than A. o. orientalis, having a wing variation from 51–64 mm., average 54 mm. 15 specimens.

Anthreptes collaris elachior Mearns, No. 1138.

This race is limited to the coastal strip from sea-level to about 1,000 ft., ranging from Vanga to Lamu and Manda. It is characterised by its small size and pale coloration; the females are very pale yellow below, but with a greyish tinge on the throat.
Anthreptes collaris jubaensis van Som. Juba Yellow-bellied Sunbird.

This race is nearest to elachior of Mearns, but differs from that race in being much clearer yellow below in both sexes, with only the very slightest trace of olive wash on the flanks in the males. In the female the whole of the underside canary-yellow, with no greyish tinge on the throat. Type male, Hellesheid, Juba River, July 1922, in my collection. 3 males, 4 females.

Anthreptes collaris teitensis van Som., No. 1139.

Sclater does not admit this, but makes it a synonym of elachior. He is entirely wrong. Additional material shows this race to be constant and darker than elachior. Ukamba, Teita, and Kilimanjaro.

Anthreptes collaris gargueus Mearns = A. c. uraquess, No. 1140.

I have now obtained a series from Marsabit and the type locality of this race; it is darker than my ugandae especially on the flanks, and the females have a greyish throat, whereas in ugandae the throat is washed with olive.

Hylia prasina (Cass.), No. 1267.

Bannerman and Bates suggest that this little bird should be considered as allied to the Nectariniidae. The Elgon-Nandi birds have wings of 75 mm. in the males. An examination of large series is desirable, to fix the degree of geographical variation in the species.

CERTHIIDAE.

S. emini ?, No. 1143 partim = Salpornis spilonota salvadori (Boc.).

According to Sclater’s arrangement the race which is found in the region of Mt. Elgon should belong to this form. The birds from Northern Uganda belong to the race emini, No. 1143 partim.

PARIDAE.

Parus thruppi barakae, No. 1150 = Parus afer barakae Jacks.

These Tits are spread over the thorn-bush country from Kilimanjaro to the Juba River and north to Marsabit and the west of Rudolf, in Karamoja. The only difference that I can find in the North Juba birds is the slight decrease in size. Teita and Tsavo birds give 62-71 mm., Northern Guasso 66-70 mm., Juba River 60-63 mm., Turkana 60-68 mm.

Parus niger and races, Nos. 1152-1154.

Sclater only admits one form to occur in Kenya and Uganda, namely purpurascens mihi, but as stated before, the form from Ankole is insignis; the Rudolf birds are lacuum.
Parus funereus nigricinereus, No. 1155 = Parus funereus funereus (Verr.).

Parus albiventris albiventris Shell., No. 1156 partim.

Found throughout the highlands of Kenya north to Karamoja in Eastern Uganda and to Marsabit. The coastal birds are smaller, as stated by me in my previous paper, and they have since been separated by Friedmann as:

Parus albiventris curtus Friedm.

The distribution of this race is limited to the forests of the coastal belt from Vanga to Lamu and inland to Teita. It is very much smaller than the highland bird.

Anthoscopus roccatii taruensis van Som., No. 1147.

Ranges along the coastal belt of Kenya and inland to the thorn-bush country of the Taru. I have obtained its nest and young in the Mongeya district in June.

Anthoscopus roccatii roccatii Salvad., No. 1146.

Ranges through Uganda from Toro district to Mt. Elgon.

Anthoscopus caroli rothschildi Neum., No. 1145.

I have now obtained a series of this race which shows very distinctly the difference from sharpei. It ranges over the thorn-bush country of Ukambani to the Upper Tana River. Simba, Kiu, Kitui, Fort Hall, Thika.

Anthoscopus caroli sharpei Hart., No. 1144.

Selater places birds from the Athi River as sylvicola and states that sharpei is a synonym. Athi birds belong to the race rothschildi Neum. I support the race sharpei as distinct from the birds from the North of Lake Nyassa, and so far as Kenya is concerned this form ranges from east of Lake Victoria to the Loita. They differ from rothschildi in being darker on the belly, but lighter on the throat and frontal area, and clearer grey on the back.

Anthoscopus musculus musculus (Hartl.), No. 1148 partim.

The distribution given by Selater for this species is too wide, and I suggest that at least two races are lumped. I have a series from West Rudolf, south to Loita and Teita, which do not agree with the types of musculus, which I have examined; and there is a further series of specimens from the Northern Guasso Nyiro which are distinct from the first series. The wings of the first series vary from 47–51 mm., and those of the second series from 43–47 mm. These latter lack the slight though distinct olive tinge to the mantle. The bills are smaller. The localities for series 1 are as given in my previous paper, with the additional locality of Moroto, Lopurr, West Rudolf, 12 specimens. The localities for series are: Northern Guasso Nyiro, Archer's Post, Langaia, Marsabit; Wajhier, 9 specimens. These I name A. musculus guasso subsp. nov.

Type, male, Archer's Post, 14.6.23, in my collection; No. 1148 partim.
SYLVIIDAE.

*Parisoma böhmi böhmi* Reichw., No. 1160.

The typical bird ranges from the Ugogo country to Kenya in the Kilimanjaro area and from Ukambani to the lower Tana. This race is grey on the back and has a well-developed breast-band and rich tawny flanks and under tail-coverts. I drew attention to the fact that the Somali birds would have to be recognized as a distinct race, and at the time of making that note I pointed out to Dr. Hartert the obvious differences between the two forms. He, however, advised me not to separate them. Friedmann has since done so, comparing his Somali birds with those from the Northern Guasso, which are pale birds and not true *böhmi*. He states that the Somali birds are "more tawny fulvous on the abdomen, flanks, and sides." This is certainly the case when compared with North Guasso birds, but had he compared Somali material with, say, Tsavo birds, he would have found that in this particular both forms are very nearly identical. It is in the breast-band that the greater difference is found. This band being very liable to distortion and alteration in preserving skins, Dr. Hartert stayed my hand in proposing a new race. However, the race has now been described and I consider it sound. The Somali birds will be known as *Parisoma böhmi somalicum* Friedm.

We come now to the birds from the Northern Guasso, north to Marsabit. Friedmann has noted the paleness of these birds with regard to the tawny colour on the underside, including the tail-coverts. I have a considerable series from this region and they are all much paler in this respect than birds from south of Kenya. Sclater admits *somalicum* and adds "birds from Northern Kenya are intermediate or perhaps may be separated." I have already noted these differences in *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 35, p. 66. As additional material shows the characters to be constant in birds from this area I have proposed the name *Parisoma böhmi marsabit*, *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 37, July 1931. Type, male, 4.8.24, Lasanim-Marsabit Rd., in my collection. Characters as mentioned above.

*Parisoma jacksoni*, No. 1161 = *Parisoma lugens jacksoni* Sharpe.

Additional locality: Kericho, where it is plentiful.

*Parisoma plumbeum plumbeum* (Hartl.), No. 1162.

Sclater includes Uganda in the range of the nominate form; but I still maintain that the Uganda birds will prove to be different.

The species hitherto placed in the genus *Cryptolopha* must now be known as *Seicercus*, and, according to Sclater, p. 505, should be placed in the *Sylviidae*. Of the species which concern us the following should be changed to conform to this alteration.

*Cryptolopha budongoensis*, No. 561 = *Seicercus budongoensis* (Seth-Smith).

*Cryptolopha mackenziana*, No. 562 = *Seicercus umbrovirens mackenzianus* (Sharpe).

*Cryptolopha alpina*, No. 563 = *Seicercus umbrovirens alpinus* (O.-Grant).
Cryptolophia laeta, No. 564 = Seicercus laetus (Sharpe).

The birds of the genus Chloropeta Smith have always been placed with the Muscicapidae. I have always considered this erroneous, and I now note that Bates, Birds of West Africa, has transferred them to the Sylviidae, with which I agree.

Chloropeta massaica umbriniceps (nee Neum.), No. 566 partim = C. natalensis batesi Sharpe.

Birds from Kigezi and Ankole.

Chloropeta natalensis kenyai, No. 567 = Chloropeta natalensis similis Richm.

Specimens from Mt. Kenya and the highlands of Kenya do not appear to differ from material from Kilimanjaro, which I now have.

Cisticola.—I am here following the arrangement advocated by Lynes.

Cisticola cisticola uropygialis, No. 1171 = C. juncidis perennia Lynes.

This race ranges from the west of Uganda to Rudolf, extends down the east of Lake Victoria to the Loita and apparently to Lamu. I suggest that this distribution wants looking into more carefully!

Cisticola lavendulae, No. 1170 partim = C. aridula tanganyika Lynes.

The birds of this species occurring in Kenya are for the most part referable to the race described by Lynes. They range over the whole of the south-east and southern districts of Kenya, but when we go north to the Northern Guasso Nyiro and Marsabit to the Juba River, we get a form which is intermediate, but strongly inclining to lavendulae. These birds in my opinion should be called: Cisticola aridula lavendulae O.-Grant & Reid.

Cisticola terrestris mauensis, No. 1168 = C. ayresii mauensis van Som.

Inhabits the high plateau country from the Trans-Nzoia to Mt. Kenya and reaches to about Nairobi.

Cisticola ayresii entebbe Lynes.

Very like mauensis, but smaller and paler. It extends into the Kavirondo country, where it occupies part of the same territory as C. brunnescens nakuruensis.

Cisticola terrestris nakuruensis, No. 1167 = C. brunnescens nakuruensis van Som.

Ranges through the grass lands of the Rift Valley from Nairobi to Kavirondo.

Cisticola terrestris hindii, No. 1166 = C. brunnescens hindii Sharpe.

Ranges through the dryer parts of South Kenya, Ukamba, and South Masai country.

Cisticola terrestris ugandae, No. 1169 = C. eximia eximia Heugl.

Very like the race of ayresii found in Uganda. Certainly very scarce in Uganda proper.
Cisticola troglodytes ferruginea, No. 1174 = C. troglodytes troglodytes (Ant.).

I am not satisfied that the birds from Suk, Turkana, and Northern Kavirondo are really the typical form. According to Lynes’s arrangement they should belong to that race.

Cisticola calamoherpe, No. 1175 = C. brachytera katonae Mad.

Reichenow’s calamoherpe is antedated by katonae Mad. Lynes admits that the highland birds run bigger than those found in the type locality, as already pointed out by me in 1919-1922. They will eventually be recognized as a large local race!

Cisticola rufa subsp., No. 1176 = C. brachyptera ankole Lynes.

I drew attention to the Ankole birds differing from the specimens from Uganda and farther east, and Lynes has now given them a name. The Angolan birds, of which I stated that they represented a further distinct form, are now known as loanda Lynes.

Cisticola rufa hypoxantha, No. 1177 = C. brachyptera hypoxantha Hartl.

The range of this form is as given previously. My observations on this race are entirely corroborated by Lynes.

Cisticola brachyptera kericho Lynes. Kericho Black-striped Warbler.

For a full account of this bird readers are referred to Lynes’s monograph in the Ibis. My 5 birds are the only ones known.

Cisticola reichenowi, No. 1178 = C. brachyptera reichenowi Mearns.

This is the coastal form, which merges into katonae in the South Ukamban area.

Cisticola fischeri (nee Reichw.), No. 1179 = C. chiniana victoria Lynes.

These birds were hitherto united with the birds from Tabora, but are now recognized as a distinct race. The type locality, Amala River, is stated by Lynes to be in the Mwanza district; this is incorrect, the Amala River being south-west of Sotik; the name is usually spelt Amara or Mara! These birds have a somewhat restricted range, being found over the east shore of Lake Victoria through Kissi country to Kavirondo. They meet the race humilis in the upper Trans-Nzoia area, and with the same race in the Loita.

Cisticola aequatorialis, No. 1180 = C. chiniana humilis Mad.

The name aequatorialis, founded on a specimen from Naivasha, is antedated by humilis Mad. from the North end of the Aberdares. Localities as previously given.

Cisticola semifasciata (nee Reichw.), No. 1181 = C. chiniana ukamba Lynes.

Distribution limited to the dry country from Teita through Ukambani to the upper Tana River, and up the Southern Masai Reserve, where it meets with humilis in the Southern Loita area.
Cisticola cantans (nec Heugl.), No. 1183 = C. chiniana bodessa ≥ humilis.

These intermediate forms have a very wide range and should be recognized as a race. They occupy the area between the upper Tana and the Northern Frontier area of Kenya.

Cisticola chiniana simplex Heugl. Nile Rattler Warbler.

This race comes into the Uganda country along the east shore of Lake Albert and the northern districts of Uganda to the Karamoja country and Turkana, Moroto.

Cisticola heterophrys, No. 1188 = C. chiniana heterophrys Oberh.

The type is from Mombasa. The race is confined to the coastal belt from Dar-es-Salaam north to the mouth of the Juba River. I have adopted Lynes's arrangement for this bird and placed it as a race of chiniana, but I am not at all happy about it. The plainest-backed bird runs parallel with the most contrastingly marked race, said to be races of one species, yet I have failed, as everyone else, to find intermediates.

Cisticola spec. ? No. 1184 = C. ruficeps mongala Lynes.

These specimens have been identified by Lynes as above. The Karamoja-Turkana region appears to be about the southern limit of the range of this form.

Cisticola natalensis pachyrhynchus, No. 1185 = C. natalensis valida Heugl.

The birds from Uganda to Kavirondo may be considered typical of this form. According to Lynes, this race extends right through Tanganyika Territory and comes into Kenya again along the coastal strip, i.e. birds from this coastal area are said to be identical with the Uganda bird, the type of which came from the Bahr-el-Ghazal. It seems very strange that these coastal birds, which have a perennial dress, should be the same as a race in which there are two types of plumages. I cannot accept this. How do they pass the Usambara range? So far as I know, they are not found on that range of mountains. To my mind these coastal birds represent a distinct race. It is of interest to note that Sclater does not include the Kenya coast at all within the distribution of valida; in fact, apart from Uganda, he limits the southward distribution to Northern Tanganyika Territory. Lynes's arrangement requires modification.

Cisticola natalensis strangei (Fraser).

According to the classification adopted by Sclater, this form ranges into the north-eastern districts of Uganda; it meets there with the race valida.

Cisticola natalensis kapitensis, No. 1186 = C. natalensis kapitensis Mearns.

This is a well-marked race which inhabits the dryer parts of Kenya, where the main features of the plant life consist of open grasslands and thorn-bush and acacias. It occupies that area of considerable extent which lies between the highland forest country on the north-west, the Tana River on the north-east, and the coastal strip on the south-east; in other words, the Ukamba Province and the greater part of the Southern Masai Reserve to Kilimanjaro. It is of interest to
note here that, although I have collected in the country between this race and the coast form, I have not succeeded in obtaining any birds which could be placed as intermediates.

*Cisticola* sp. ? No. 1195 = *C. robusta aberdare* Lynes.

This curious mountain form was noted by me as distinct in 1919, but owing to very few specimens only being known it remained undescribed. It is apparently confined to the top of the Aberdare range.

*Cisticola robusta nuchalis*, No. 1196 = *C. robusta nuchalis* Reichw.

This race is found in the districts adjacent to Lake Victoria, and on the east its distribution is contiguous with that of *ambigua*; intermediate forms are found in the Sotik and Elgon areas.

*Cisticola robusta tana*, No. 1198 = *C. natalensis kapitensis* Mearns, No. 1186.

The linking of these two is on the authority of Lynes, *op. cit.*, p. 21.

*Cisticola hunteri hunteri* Shell., No. 1199.

I have examined a large series of this race from Kilimanjaro, and am satisfied that it differs from the bird of Kenya highlands. Limited to Kilimanjaro at considerable heights and on the lower slopes merging into the phase *kilimensis*.

*Cisticola hunteri prinoides* Neum., No. 1200.

I support this race, which ranges over the area included in the localities cited under No. 1200.

*Cisticola hunteri neumanni* Hart., No. 1201.

Although Lynes has united this bird with *prinoides* from Mau, I consider it as a distinct race. Lynes states "judged to be near . . . *prinoides*, though not separable under a 75 per cent. convention."

Now the series before me does give a 75 per cent. difference, and I link with the Kenya birds those of the Aberdares and the Jombeni, Matthews Range to the north-east of Kenya, between the upper Tana and the Northern Guasso Nyiro.

*Cisticola hunteri immaculata*, No. 1202 = *C. hunteri masaba* Lynes.

This race must be known by the substitute names given by Lynes, as *immaculata* is preoccupied.

*Cisticola distincta* Lynes. *Speckled Long-tailed Warbler.*

The type of this species came from Kedong-Kijabe. It is the bird which I took to be the full-plumaged dress of *aequatorialis* Mearns, No. 1180, which is united by Lynes with *humilis* Mad., a race of *chiniana*. If the distribution of this bird be compared with *C. chiniana humilis*, it will be seen that the two coincide in a remarkable way, and partly for this reason it is kept as a species. It has hitherto been accepted by me as a plumage variation of *humilis*. My friend the Admiral is convinced of its distinctness.
Cisticola laguvbris marginata, No. 1189 = C. galactotes marginata Heugl.

Admiral Lynes has shown that the nominate form of this group of Cisticolas must be galactotes, and where the name laguvbris occurs in my previous paper, galactotes should be substituted. This race reaches the western side of Rudolf, whence I have specimens from Moroto, Kamalinga, Lobur.


The birds which come into Kenya are at the eastern limit of their range, i.e. in the country round the base of Kilimanjaro to Taveta. It is probable that this form is contiguous with haematocephala in the Teita region, for some of the specimens from Voi can be referred to either race.

Cisticola laguvbris haematocephala, No. 1190 = C. galactotes haematocephala Cab.

Lynes states that this form ranges from the mouth of the Juba, or its lower reaches, all along the coast to Tanganyika Territory. Such specimens as I have from the lower Juba agree with birds from Mombasa type locality; but material from the upper Juba are much redder on the head, and the mantle is not so greyish, but more boldly marked; they appear to approach the form laguvbris. It is probable that birds from north of Serenli will have to be considered as a distinct race when more material is forthcoming.

Cisticola carruthersi O.-Grant, No. 1192.

Lynes compares this bird with C. galactotes nyanzae; doubtless this is satisfactory when comparing skins, but personally I think it looks in the field much more like C. cantans belli, differing when seen at a distance mainly in being mottled on the back. The type of carruthersi came from Western Uganda, Lake George, and a few examples have been obtained in other parts of Uganda, my own material being taken in the Sezibwa River area. I obtained other specimens from Kisumu, which, to me, are not typical carruthersi, and these I named C. c. kavirondensis, No. 1193. Lynes unites them with the nominate form, but I am still doubtful. They are recorded by Lynes as having been collected at Kisumu by N. van Someren in 1912; this is an error, as my brother N. did not come to Kenya until 1920. They were taken by me and shot as they left the nest.

Cisticola pictipennis, No. 1206 = C. cantans pictipennis Mad.

Cisticola pictipennis ? belli, No. 1206a = C. cantans belli O.-Grant.

Cisticola teitensis, No. 1206b, = C. emini teitensis van Som.

Cisticola rufopileata emini (nee Reichw.), No. 1205 = C. woosnami woosnami O.-Grant. Brown-backed Triller.

Owing to the misidentification of specimens in the Tring and other Museums, these birds have hitherto been referred to emini. Admiral Lynes has shown that emini is a distinct species and that these birds had already been separated by O.-Grant as woosnami, type locality Mokia, Western Uganda. The nominate form ranges through Uganda to Elgon, but I have not got any records from Kenya. The localities recorded by me under emini refer to this species.

This race, described from the Uluguru Mts., Tanganyika Territory, ranges to the country around Kilimanjaro, whence I have 3 specimens.

Cisticola lateralis ugandensis, No. 1203 = C. lateralis antinorii (Heugl.).

Lynes unites the Uganda birds with those from the Bahr-el-Ghazal; if recognized as distinct, the name proposed by me is antated by elgonensis Mad.

Cisticola erythrops subspp., No. 1207 = C. erythrops sylvia Reichw.

Prinia mistacea immutabilis van Som., No. 1209.

Count Gyldenstolpe has cast some doubt on the validity of this race, suggesting that it is the same as tenella, from the coast of Kenya, terra typica Mombasa. His remarks are unfortunate inasmuch as he admits that he had no Mombasa birds for comparison with his Ituri material. His material was probably graueri Hart. There is not the slightest difficulty in separating the coast bird from the inland form; the two are vastly different in colour, size, and in song. Moreover, the eggs are different.

Prinia somalica intermedia, No. 1211 = P. somalica erlangeri Reichw.

I have referred my previous specimens to intermedia Jacks., but as suggested, they appeared to be identical with erlangeri. Sclater unites them, and gives as the distribution Southern Somaliland, South-western Abyssinia, Northern Guasso, and Western Rudolf. He thus omits any reference to the birds from Eastern Kilimanjaro area. Is this because these Tsavo birds are possibly distinct?

Prinia leucopogon reichenowi (Hartl.), No. 1212.

To the recorded localities add: Kericho, Sotik, and Mau.

Dryodromus rufifrons and races, Nos. 1215–1217.

Sclater states that erlangeri Reichw., from Southern Somaliland, and turkanae mihi, No. 1217, from Meuressi, Turkwell, are both identical with smithi, No. 1216, from the Webi Shebeli, Somaliland. I have now obtained specimens from the Juba River and these are erlangeri. They are certainly different from my West Rudolf birds, being smaller, and having more rufous on the crown and more distinct white margins to the wing-feathers. If Juba birds are identical with Somali ones, then my Rudolf specimens cannot also be the same race. Then we have a larger bird from the region between Marsabit and the upper Tana River, including the Northern Guasso Nyiro; these do not agree with either the West Rudolf birds or with the Juba ones.

A large series of Somaliland birds is required. The form rufidorsalis, No. 1215, ranging from East Kilimanjaro north to the Loita and through the Ukamba country, is quite different from the Northern Guasso birds and does not appear to go beyond the Tana River.
Cisticola angusticauda, No. 1173 = Apalis angusticauda (Reichw.).

Sclater, p. 528, places this bird in the genus Apalis, but notes that it probably belongs to another genus. With this I thoroughly agree. Knowing the bird in the field, it would never have crossed my mind that it should be placed in Apalis.

Apalis pulchra Sharpe, No. 1218.

To the recorded localities add : Embu, Meru, Chuka, Kericho, Sotik, Cherangani, Suk.

Apalis flavida, Nos. 1228–1230, and A. flavocincta, No. 1227.

Sclater unites the short-tailed birds with the long-tailed ones, and if we accept this we are at once up against the fact that in certain localities we get both forms. The flavocincta Sharpe is a large (in comparison) bird, with a very long tail which has the outer feathers entirely or almost entirely yellow, with a gradually reduced amount of this colour on the next two pairs. The head is never entirely grey, but the hind part is always washed with green. Such birds are found from Marsabit, south to Mt. Kenya, through the highland forests to Elgeyu, Mau, Kericho, Sotik, Mara River, Loita, the Masai Reserve, Athi River, Ukamba country and Eastern Kilimanjaro, to Teita, Tsavo, Tana River; also Lamu and Manda islands. These localities embrace practically the whole of Kenya, except the eastern shore of Victoria Nyanza, and the coastal strip from Vanga to Malindi.

Fischer and Reichenow described golzi from Arusha, of which form the outer tail feathers are described as almost uniform pale yellow. Sclater keeps this bird distinct from flavocincta, as I have done, but other authors have united the two. If we take the range of golzi as given by Reichenow, we find that he includes a big range of country in which flavocincta undoubtedly exists in numbers. If the coastal birds are to be considered as golzi, then I suggest that the Kenya birds said by Reichenow to belong to this form are not of this race, but flavocincta, and as golzi is described as a bird with the outer tail-feathers yellow, the coast birds should not be golzi, because they have the tail-feathers short, olive-green for their entire length except for a small yellow tip. However, if we look up Reichenow's description of flavocincta in D.O.A., p. 224, i.e. the bird subsequently described as golzi, we find that the description states "outer tail-feathers with pale yellow ends," thus agreeing with the smaller bird, wings 50 mm. The aequatorialis Neum., described from the Mau foothills, is united with golzi by Reichenow, but all my birds from that area are undoubtedly flavocincta. Either we have two distinct species, very like each other, or golzi is a synonym of flavocincta, and aequatorialis likewise. I have before me 3 series of birds:
(a) from Uganda to Kisumu, (b) coastal zone of Kenya and to Dar-es-Salaam, (c) Morogoro-Dodoma. All these are characterized by having the entire head grey to the nape, without the slightest trace of olive wash, the grey of the head being sharply defined from the green of the mantle; the tails are short, the outer tail-feathers are coloured as the remainder (central rectrices excepted), being olive-green with just the tip yellow.

A further series (d), from Lumbo, are of this type. Then I have the large series of flavocincta with a range as given previously, and with characters as stated above.
The problem would, of course, be straightened out if one could examine the types of *golzi* and *aequatorialis*. At present the ranges of the various forms overlap too much, if all are to be considered races of *flavida*.

The following details of wing and tail measurements may be of interest:

1. *flavocincta*, wings 53-57 mm., average 55 mm.; tails 52-60 mm.
2. *flavida* (Uganda), 50-55 mm., average 51 mm.; tails 35-45 mm.
3. *flavida* (coast), 45-50 mm., average 48 mm.; tails 38-46 mm.
4. *flavida* (Kilimanjaro-Teita), 47-53 mm., average 49 mm.; tails 52-60 mm.

It will be seen from the above that series (1) and (4) are almost alike, whereas (2) and (3) differ from them. For the time being, and until I can compare the types of *golzi* and *aequatorialis*, I prefer to maintain the grouping as given in my previous paper, and cannot support Selater in making all these birds races of *flavida*.

**Apalis melanocephala melanocephala** (Fisch. & Reichw.). Coastal Black-headed Forest Warbler.

Owing to an oversight, a page of MS. dealing with this species was omitted from my previous paper. I discussed therein the possibility of there being two races of this bird, a coastal form and a highland one, the upcountry birds being very much larger than the coastal ones. I unfortunately had no typical material for comparison at the time. My friend Granvik obtained a single male from the Kiambu forest, and on this he has founded the race *nigrodorsalis*. The nominate form is a small bird whose range extends along the coastal forests from Pangani (type locality) to the Tana River, and apparently South Somaliland. Granvik gives measurements supplied to him by Neumann, and my series from Vanga to the mouth of the Tana gives the following: Wings, males 47-49 mm., average 47 mm.; tails, 57-62 mm., average 60 mm., which figures agree with those given by Neumann.

**Apalis melanocephala nigrodorsalis** Granvik. Highland Black-headed Forest Warbler.

I have a long series of this bird, some 30-odd specimens, and I agree with Granvik that this is a sound race. Although his statement that this race is blacker than the coastal form is not correct, many of my nominate form being even blacker than the highland form, yet we must admit the race on account of size. Wing and tail measurements: wings, males 50-53 mm., and females 47-50 mm.; tails 70-75 mm., average 72 mm., and females 60-66 mm., average 63 mm.

A common bird in the forests from Kikuyu to Kenya, usually seen in small parties of 4 or more individuals or in company with a “mixed working” party that is hunting systematically through the tree tops. The nest is in shape like a purse-bag with the opening slightly to one side of the top, constructed almost entirely of tree-mosses and lichen bound together with cobwebs. The eggs, three in number, are pale bluish with liver-red spots.

The form which is found on Kilimanjaro, *A. m. moschi* van Som., is intermediate between the nominate form and *nigrodorsalis* (Moshi, Marangu) ; cf. *Journ. E. Afr. & Ug. Nat. Hist. Soc.*, no. 37, July 1931.
**Euprinnodes nigrescens**, No. 1231 = *Apalis nigrescens* Jacks.

Sclater follows O.-Grant in making this a race of *rufigularis*, and *denti* a synonym of *nigrescens*, based on a female. I am not at all happy about this, and prefer to treat *nigrescens* and *denti* as distinct species, and not sexes of one species. If these two are the same, it is very strange that in the numerous collections I have made in Uganda I should have obtained very few *nigrescens*, both sexes, but a larger number of *denti*. The total number of the former is only 6, and of the latter 14 (males and females).

**Euprinnodes cinerea**, No. 1232 = *Apalis cinerea cinerea* (Sharpe).

The nominate form of this bird came from Mt. Elgon, whence I have a good series. It extends throughout the forests of Kenya to Mt. Kenya, and to Marsabit. Granvik separated the Nairobi birds under the name *minor*, stating that these were smaller than Elgon birds. He had only one Elgon example, and one Kiambu bird. Grote has pointed out, *Orn. Mon.*, vol. xxxv, p. 23, 1927, that the name *minor* is preoccupied and proposed the substitute name *granviki*. In comparing my typical material with Kiambu specimens I find that the wing variation is as follows: 10 Elgon and district 51–58 mm.; 7 Nairobi 49–57 mm.; 8 Marsabit 50–54 mm.

To the localities already recorded add: Kericho, Sotik, Meru, Kenya, and Marsabit.

**Eremomela eleganselgonensis**, No. 1236 = *Eremomela pusilla elgonensis* van Som.

To the recorded localities add: Sak, Turkwell, Soroti, Kericho. The range given by Sclater should be extended to take in the Mau to Sotik.

**Eremomela scotops citriniceps** (Reichw.), No. 1238.

The range outlined by Sclater should be extended to take in the eastern shore of Lake Victoria, whence I have specimens.

**Eremomela scotops occipitalis** (Fisch. & Reichw.), No. 1237.

I have now obtained a fine series from the coast from Vanga to Sokoke and Mongeya. The series is very uniform and shows quite plainly what I suspected, namely, that the up-country birds are a distinct race. The coastal birds have wing measurements of 51–56 mm., tails 34–40 mm. Highland birds, wings 60–66 mm., tails 46–48 mm. Bills 2–3 mm. longer than in the nominate form. These up-country birds I have named;

**Eremomela scotops kikuyuensis** van Som.


Type, male, 23.11.16, Nairobi, breeding, in my collection. Material: 10 of this new form, 8 of the nominate form.

**Eremomela griseoflava** and races.

According to Sclater all these little Eremomelas belong to one species, and within Kenya and Uganda we are supposed to get at least four races. My difficulty in accepting this classification is that *flavicrissalis* Sharpe ranges
right through the north of Kenya from the Juba River to the Guasso Nyiro and Marsabit, passing south of Rudolf to Turkwell and Moroto, and thus occupying a larger area in which we find also abdominalis and karamojensis, for I have this form from Northern Guasso Nyiro, Marsabit, Suk, Turkwell, and Moroto (the last under the name of griseoflava, No. 1241, in my previous paper).

Within the boundaries dealt with in this paper I admit the following:

E. g. crawfardi S. Clarke, No. 1243. A large bird, wings 57-62 mm.; dark ash grey above and on the sides of the breast; yellow of abdomen rather restricted and pale. Range: The Southern Masai Reserve from Southern Guasso Nyiro to Kisii, in Southern Kavirondo.

E. g. abdominalis Reichw., No. 1242. A medium-sized bird, wings 51-57 mm. (birds from Meru and Northern Guasso Nyiro 55-57 mm., Ukamba, 51-55 mm.); paler, purer grey above with yellowish green rump, abdomen entirely pale yellow. Range: southern area of Masai Reserve, country around Kilimanjaro, Ukambani, north to Upper Tana, Northern Guasso Nyiro, and Marsabit.

E. g. karamojensis Stoneh. (placed by me under griseoflava, No. 1241). A medium-sized bird, wings 50-55 mm.; pale ash grey above, pale lemon-yellow below on abdomen; breast greyish white; rump slightly tinged with greenish. Range: Moroto, Meurressi, Turkwell, Lopur, Suk.

E. flavicrissalis Sharpe, No. 1240. A small bird, wings 47-54 mm., average 50 mm. Paler ash grey above; no greenish tinge on the rump; yellow very pale indeed, and limited to the vent. I have placed these birds as flavicrissalis, though they do not agree with specimens from Lugh on the Juba River, which should be typical of this race. The Juba birds are stronger yellow and have this colour extending from the under tail-coverts to mid-abdomen, whereas the Marsabit ones have the very pale yellow limited to the vent; a subspecies? Sclater places them as flavicrissalis. Range: From the Juba River, east through the dry northern parts of Kenya, including the Northern Guasso Nyiro, Marsabit, Kerio, Turkwell, and Moroto.

Sylvietta leucophrys leucophrys Sharpe, No. 1245.

In my previous paper I stated that I was not in a position to criticize the suggested race keniensis Mearns, owing to lack of material from Mt. Kenya. I have now a small series, and find that these birds differ in no way from those of Elgon and Nandi to Man and Aberdares.

Sylviatta isabellina macrorhynchos van Som., No. 1251.

If Sclater is right in uniting erlangeri Reichw. with the nominate form, and as my Juba birds belong to this race, I am more than satisfied that the race macrorhynchos described by me from Tsavo is a sound form, because my Juba birds are not the same as the Tsavo-Teita ones. Wings 50-55 mm. It is a large bird with wings varying from 58-64 mm., average 60 mm. 14 specimens.

Sylvietta brachyura leucopsis and intermediates, Nos. 1248 & 1249.

To the localities of typical leucopsis add: Northern Guasso at Archer's Post, Marsabit; also Neboi, Juba River.

To those of the intermediate form add: Lokitang, Ariangong, Turkana.
Sylvietta whytii Shell. and races, Nos. 1252-1254.

I have before me 8 examples of typical whytii from Lambo, Portug., E.A., and have no hesitation in considering fischeri Reichw. as distinct from these. The Kenya coastal bird, type locality Malindi, is a very much paler bird, less strongly tinged with sandy buff below and without the greyish wash to the breast.

The next race is an intermediate form between fischeri and jacksoni, which has been called loringi by Mearns. Selater does not admit this form, but one cannot unite it with jacksoni.

I recognize the following forms:

S. w. fischeri Reichw., No. 1254, type locality Malindi. A very pale form which is paler yellow below than the nominate race, and any other in Kenya. It is almost as pale as S. i. macrorhyncha. Wings 51–55 mm., average 52 mm. 11 specimens. Range: Coast of Kenya, Vanga to Lower Juba, sea-level to 1,000 ft.

S. w. loringi Mearns, No. 1253. A larger form, intermediate in colour between whytii and jacksoni, but not nearly so rich as the latter. Type locality Fort Hall. Wings 57–60 in female, 60–65 in male. Range: This form ranges from the thorn-bush area from 1,500 ft. to Teita and Taveta, north through the Ukamba country to 3,000 ft., the Northern Guasso Nyiro. 15 specimens.

S. w. jacksoni Sharpe, No. 1252, type locality Kamassia. A large rich rufescent form with wings 61–67 mm., average 65 mm. Range: This is a highland form inhabiting the country from Nairobi, Kikuyu, Kenya, through Aberdares, Man to Elgon and Sotik, to east shore of Victoria Nyanza. 4,000–8,000 ft. 29 specimens.

It will be seen from the above that I maintain the classification adopted in my previous paper, from which I see no reason to depart.

Camaroptera brevicaudata and races, Nos. 1257–1260.

First of all I should like to discuss the forms allowed by Selater. According to this authority we are supposed to have one race extending from Abyssinia south to Nairobi and west through Uganda, C. b. abyssinica Zedl. I have before me two series which come nearest to Abyssinia geographically, namely, one from Marsabit, the other from Karamoja. In coloration the two are exceedingly alike; the top of the head, ear-coverts, mantle, tail, and upper tail-coverts are olive-brown, slightly more greyish on the rump; chin grey, as is also the breast, the latter slightly tinged with brown; flanks greyish; centre of abdomen whitish; the whole underside with a mottled appearance due to indistinct grey barring. The undersides of the Marsabit series with more white below. As regards size, we meet at once with a distinct difference: the Karamoja birds being 57–65 mm. (8 specimens), the Marsabit birds 50–57 mm. I cannot admit that they are the same. The next series is from Uganda, Ankole to Busoga. They are at once distinguishable from the Karamoja birds in being much darker on the head and mantle, more sooty, less brownish; flanks darker grey; wings 52–57 mm. (24 specimens). They do not agree with either of the above. The fourth series is from the highland area of Kenya. In size they agree with the Karamoja birds, having wings of 57–64 mm., majority 62 mm.; but they differ from them in being much darker on the upperside, darker and more greyish mottled below.
I therefore am not prepared to subscribe to the "lumping" put forward by Selater. I understand that Granvik is naming the Elgon birds as a race. If the Kenya and Uganda birds agree with *abyssinica*, how is it we get different birds in between? I will now deal with the race described by Sharpe as

*Camaroptera griseigula* = *C. brevicaudata griseigula* Sharpe, No. 1259.

I have before me a long series of birds from the district around Kilimanjaro, Teita, Voi, Mbuyuni, Maungu, and south Ukambani. This series embraces the country around the type locality of *griseigula*, so we can take it that they are typical of this form. Selater gives the following distribution for this race: "the coastal districts of Kenya Colony from the country round Kilimanjaro to Southern Somaliland." I challenge this distribution. The Kenya coastal birds are not of this form. *C. b. griseigula* differs only slightly on the upperside from the highland form, but it is much whiter below, retaining, however, the greyish colour to the throat and upper breast, and also the mottled character of the underside. They are, as I mentioned in my previous paper, the intermediate aggregate between the highland form and the coast bird. The coastal birds are characterized by being smaller, 46–57 mm., average 50 mm., with a uniform lightish grey head, mantle, rump, and upper tail-coverts, only slightly darker on the head. The under surface without any sign of the mottling, almost pure white, with just a slight wash of pale grey on the sides of the chest. These birds I misplaced in my last paper, as *pileata*, which is a race of *brachyura*, with the mantle and tail green (see below). The name which appears available for this distinct coastal race is *erlangeri* Reichw. (from Umfulu), as the birds which I have from the lower Juba agree. The range of this race is from Vanga to Lamu and the lower Juba, sea-level to 1,000 ft. Therefore

*Camaroptera brevicaudata pileata*, No. 1260 = *C. brevicaudata erlangeri* Reichw.


Ranges from the coast of Kenya at Vanga and Dalguba south to Dar-es-Salaam and Zanzibar. 2 specimens, Dalgube.

*Calamonomastes simplex simplex* (Cab.), No. 1261.

To the recorded localities add: Marsabit, Archer’s Post, North Guasso Nyiro, Lodwar, Turkana, Juba River, Serenli, Lugh. These latter birds would be *hilgerti* Zeill., but the only difference that I can find is the slightly smaller size. There is no colour difference.

*Calamonomastes simplex undosus* (Reichw.), No. 1262.

Occurs sparingly throughout the Amala-Loita district, meeting *C. simplex simplex* in the region of Magadi, though I have not seen any specimens which could be placed as intermediates.

*Schoenicola apicalis*, No. 1268 = *Sch. brevirostris* (Sund.).

Selater has shown that the priority name for this bird is *brevirostris*. The nominate form is a Natal bird, and although Selater admits that the Uganda birds differ from these South African ones in being darker, he refrains from assigning a
name to them. As I have no material to decide which of the two names cited by Sclater should be applied to the Northern birds, I leave them under the above designation. The species is very common in Kenya and in the eastern parts of Uganda, being found amongst long rank grass, sometimes quite a distance from water. In the Nairobi area they frequent swamps in association with *Bradypterus*.

*Bradypterus altumi altumi* van Som., No. 1269.

I have now secured a small series of this bird from the type locality Molo, and from the Aberdares and Mt. Kenya, from near Meru. These latter agree with the nominate form. I have also obtained a much darker bird from Moshi and the Lumi River, Taveta, which agrees with *altumi* in all except colour. For this race I have proposed the name

*Bradypterus altumi mitoni* van Som.


Similar in size and general characters to *altumi* from Molo and Mt. Kenya, but considerably darker above and below. Type, male, Lumi River, 10.7.20, in my collection. 3 specimens.

*Bradypterus cinnamomeus* Rüpp. and races, Nos. 1270–1272.

Sclater is prepared to lump all the birds of this group as suggested by Count Gyldenstolpe. I do not agree. The birds from 10,000 ft. on Kilimanjaro are quite different from those from Kenya and the Aberdares; the name *rufosflavidus* Reichw. & Neum., although founded on an immature specimen, should be applied to these Kilimanjaro birds. I cannot admit that the Ankole Kigezi birds are identical with Elgon material. It seems to me that we here have an almost parallel case to *Cisticola prinoides*; variation in plumage due to different ecological factors, at varying altitudes, producing either a paleness or intensity of coloration, not bound by geographical distribution in its usually accepted sense.

*Bradypterus brachypterus centralis* Neum., No. 1273.

Sclater limits the application of this name to the Kivu-Congo race, ignoring the fact that the Kikuyu Escarpment bird was linked by Neumann with the Kivu bird. The reason for the omission perhaps is that he recognizes the Kenya bird as distinct. The birds which I tentatively placed under *centralis* will now be known as

*Bradypterus brachypterus fraterculus* Mearns.

Type locality Escarpment. This is the common *Bradypterus* of the Kenya highlands, being particularly common in the swamps round Nairobi. I have had a series of over 25 specimens from the localities mentioned in my previous paper.

*Calamornis* Sclater.—The mainland birds hitherto placed in the genus *Calamocichla* are now transferred to the new genus created by W. Sclater. All the species and races mentioned by me in my previous report come into this genus.
Calamornis nilotica Neum., No. 1275.
Additional localities: Buvuma Islands, Jinja.

Calamornis leptorhyncha leptorhyncha (Reichw.).
I now have specimens of this race from the coastal swamp north of Mombasa, and from Malindi. I consider it quite distinct from the highland form, parva, which I have previously recorded, No. 1277.

Acrocephalus arundinaceus arundinaceus (Linn.), No. 1278.
Additional localities: Buvuma Islands, and Busoga, Uganda, March.

Acrocephalus arundinaceus zarudnyi (Hart.). Eastern Great Reed-Warbler.
2 specimens taken on the Juba River, March, belong to this race.

Acrocephalus griseldis (Hartl.), No. 1279.
I have now obtained two specimens of this rather scarce migrant, from the Northern Guasso Nyiro, in December.

Acrocephalus baeticatus, No. 1282 = A. baeticatus cinnamomeus Reichw.
I have taken this species on Lake Naivasha, as well as at Kisumu.

Hippolais olivetorum (Strickl.), No. 1284.
During 1920 several of this species were taken on the Northern Guasso Nyiro, at Chanler’s Falls, during November and December. It was also taken on the Turkwell in January of that year.

Hippolais pallida claecia (Lindem.), No. 1286.
Further specimens of this bird have been collected at Dalgube and Changamwe on the Kenya coast in March and April, and on the Juba in November and December.

Hippolais icterina (Vieill.).
The Icterine Warbler has been recorded from Uganda and Kenya according to Sclater, but I have not taken it myself; I mention it here so that ornithologists in the two countries might look out for it.

Agrobates galactotes syriacus (Hempr. & Ehr.). Red-tailed Warbler.
By an unfortunate oversight my MS. on these birds was omitted from the published Report, although I collected numbers of this bird during 1916–1919. 26 examples are recorded from: Lake Jipe, Tsavo, Teita, Bura, Northern Guasso, Kobua, Rudolf, Maungu, Voi, Juba River, the dates being November, October, February, March, April, January.
I left a certain number of these birds with Dr. Hartert at Tring, who has verified my identification.
Agrobates galactotes familiaris (Ménétr.). Grey-backed Red-tailed Warbler.

For the verification of the identification of these birds I am indebted to Dr. Hartert. I recorded specimens in the Journ. E. Afr. & Ug. Nat. Hist. Soc., no. 16, p. 27, as A. g. minor, and Meinertzhagen in Ibis, 1922, p. 10, suggests that my specimens were syriacus. In order to clear the matter up, I sent the specimens to Dr. Hartert, who has stated that they are certainly familiaris, a race which has not been recorded from Kenya. In going over the material that I have, it is obvious that this bird must be a regular visitor during the winter, as it has been taken in varying years during the months of January, February, March, April, and one specimen in June! I have often wondered why these Agrobates were kept apart from Erythropygia, or vice versa, and my wonder has been duly increased as the result of the identification of what I took to be very small Agrobates with wings of 68–70 mm. being returned to me by Dr. Hartert as hamertoni, which is an Erythropygia.

Sylvia nisoria (Bechst.), No. 1291.

Additional localities: Juba River, April.

TURDIDAE.

Luscinia luscinia (Linn.), No. 1327.

Two additional localities are here recorded: Northern Guasso Nyiro, November and December; Juba River, Serenli, in March.

Luscinia megarhynchos megarhynchos Brehm, No. 1328.

Additional locality: Lodwar on the Turkwell, January 1931.

Luscinia megarhynchos golzii Cab. Turkestan Nightingale.

This race has now been obtained by me in the Sokoke Forest in January and February. Identification verified by Dr. Hartert.

Irania gutturalis (Guér.), No. 1329.

Additional localities: Archer’s Post, Northern Guasso Nyiro, November; Nairobi, March.

Phoenicrurus phoenicrurus phoenicrurus (Linn.). Restart.

This species is a rare migrant to Kenya, and so far I have only two records of its being captured. Turkwell, and Juba River, April.

Pogonocichla stellata guttifera (Reichw. & Neum.).

The type came from Kilimanjaro. I have a series of this bird from that mountain, and I cannot unite with them the birds from Mt. Kenya and Aberdares, and Nairobi area. The Kilimanjaro birds are very much darker on the head, almost black, and darker on the mantle also. There is a further point of difference in the young: those from the Kilimanjaro Mountain are very much darker and more boldly marked. I therefore admit the Kenya race as
Pagonoichla stellata keniensis Mearns = P. cucullata keniensis, No. 1361.

Distribution as given in my previous paper.

Erythropygia hartlaubi hartlaubi Reichw., No. 1315.

This bird, described from Semliki, is represented in my collection from Ankole-Kigezi through Uganda to Kisumu.

Erythropygia hartlaubi kenia van Som.


Differs from the nominate form in being darker above and in the breast spots being larger and more distinct; the amount of red in the tail is greater.

Type, male, Mt. Kenya, February 1919, in my collection. 10 specimens.


This form was referred to me under No. 1314 ? subsp. Selater gives the range as Uganda to Kavirondo and the Bahr-el-Ghazal.


Described from Arusha, this race extends to the coast belt of Kenya from Vanga to the mouth of the Tana River, frequenting the scrub and the edges of the forests.


The birds which I have collected from the Juba River from Dolo to Serenli, and west to El Wak, belong to the nominate form.

A series from the Northern Guasso Nyiro shows a tendency toward the race *vulpina*, whereas the Rudolf and Karamoja examples are nearer the nominate race. For the other races supported by me I refer readers to my previous paper.

Erythropygia barbata quadriririgata (Reichw.),

Extends along the coastal belt from Vanga to Lamu and inland to the Teita country.


I have a small series from the Juba River which belongs to this race. It must meet the other form about Lamu and Manda.

Erythropygia hamertonii O.-Grant.

This bird has been referred to under *Agrobates*; the identification was made by Dr. Hartert. It is the first specimen obtained from Jubaland, extending the range southward for a very considerable way.
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Cichladusa guttata guttata (Heugl.), No. 1307.

According to Sclater, the whole of the inland birds are of the nominate form; but I am certain there is an intermediate form in Central Kenya, as outlined in my previous paper under No. 1308.

Cichladusa guttata rufipennis Sharpe, No. 1306.

The type of this race came from Lamu. I have a long series from the Juba River from Kismayu to Dolo.

A. poliocephala kikuyensis Jacks., No. 1365 = Alethe poliocephala akeleyae Dearb.

I placed my previous specimens under the name kikuyensis Jacks, pending an examination of a series from Mt. Kenya. I have now a good series of Kenya birds, and admit that the two names refer to the same race. The range is from the forests of Mt. Kenya, the Aberdares and Mau, and the Kikuyu Forests.

Callene = Sheppardia Haagner.

Sheppardia cyornithopsis arquatorialis (Jacks.), No. 1341.

A very common bird throughout the forests from Elgon to Mau. I have not met with it east of the Rift Valley.

Sheppardia sokokensis (van Som.). Coastal Yellow-breasted Pigmy Cossypha.

I have now obtained a fine series of this bird. The range is apparently limited to the coastal forests of Rabai and the Sokoke-Arabuku forest.

Cossypha somereni, No. 1333 = C. polioptera polioptera Reichw.

C. somereni was founded by Hartert on specimens from Kyetume which were submitted to Berlin for report; they were said to differ from the nominate form. Selater states that they are the same, but I have no Bukoba material to check this. They range from Kyetume in Chagwe east to Elgon, Kakamega and the Mau to Sotik.

Cossypha cyanocamptera bartelotii Shell., No. 1331.

In giving the range of this bird, Selater omits entirely the forests of Central Uganda, east to Elgon, Kakamega, and Nandi, in all of which places I have obtained series.

Cossypha natalensis Smith, No. 1330.

To the recorded localities add: Moshi, Rabai, Sokoke, Mongeya, Lamu, Juba River, from Kismayu to Serenli. Although there is considerable variation in colour and size in my series of over 50 birds, the differences are not referable to geography or altitude.

Cossypha niveicapilla melanopata Cab., No. 1335.

I have followed Sclater in adopting niveicapilla for the nominate form in place of verticalis used hitherto. To the recorded localities add: Lumbwa, Kericho, and the Mau. I am still of opinion that the Mau-Nandi birds will eventually prove to be a distinct race.
Cossypha cahra ilema Reichw., No. 1332.

I am still unable to verify or dispute mauensis Neum., as I have only 3 Kilimanjaro birds; these are rather paler than Kenya highland ones.

Cossypha heuglini and races, Nos. 1336-1338.

Sclater does not admit occidentalis Reichw., but I am satisfied that it is a good race. In the distribution given for the nominate form we find that, as far as Kenya is concerned, the range is said to be "western half." I have before me 8 adults from Mt. Marsabit which are absolutely alike in density of colour both above and below, and considerably darker than a series from Uganda, Elgon, and Man, being in fact as dark as intermedia, but much bigger. If the birds from "Western Kenya" are to be considered as typical of the nominate form, these Marsabit birds cannot be so, and I suggest that in these we have a recognizable race.

Cossypha heuglini intermedia Cab., No. 1337.

I have now obtained a series from the Juba River from Serenli, and these agree with the coastal birds in size, but are rather darker. To the recorded localities add: Juba River, Serenli-Jebeir; Kipini, Momgeya, Sokoke, Rabai, Ganda, all on the coastal belt of Kenya. Friedmann has just described a race from Lumbo as euronata, Occ. Papers Boston Soc., September 1930. We have skins from Lumbo taken at the same time as Friedmann's type! These were submitted to Prof. Neumann, his identification being C. h. intermedia. The difference in the colour of the mantle referred to by Friedmann is a sexual one, being found in females; males are grey on the back.

Thamnolaea subrufipennis, No. 1355 = Th. cinnamomeiventris subrufipennis Reichw.

Cercomela scotocerca turkana van Som., No. 1351.

Additional material from the type locality agrees with the type and cotype. The range appears to extend from Karamoja to the Northern Guasso Nyiro. There is a further bird, which ranges from the Koroli mountains to Kulal and south to the Northern Guasso Nyiro and is not turkana. It is a very dark ashy chocolate-brown, with paler edges to the wing-feathers and rusty buff edges to the rectrices. The lower surface is greyish buff, with a strong vinous tinge on the breast, flanks, and throat. The under tail-coverts are blackish brown with rusty buff edges. I have 12 birds of this form. They are slightly larger than turkana, wings 74-81 against 70-76 mm. A larger series of turkana from the type locality is required to clear up the relationship of the two.

Oenanthe familiaris near omoensis, No. 1344 = Cercomela familiaris falkensteini (Cab.).

The generic position of this bird is uncertain.

Oenanthe vittata (Hempr. & Ehrenb.).

Sclater states that this is a mutant of O. leucomela. I procured a specimen on the Juba River at Mandaira and another at Jebeir.
O. leucomela pleschanka, No. 1350 = Oenanthe leucomela leucomela (Pall.).

According to Sclater, this name must be used instead of pleschanka.

Monticola rufocinerea and races, No. 1343.

Apparently Sclater has ignored my remarks regarding my specimens of this bird. Naturally I had before me the material on which Hartert based his race sclateri. Yet the range of the nominate form is given by Sclater as including all the birds from Kenya and Eastern Uganda.

It is of interest to note that Friedmann has just described a race from Lolololuki, Northern Guasso Nyiro, as tenuis, Occ. Papers Boston Soc., September 1930, pp. 325-6. The coloration of the rectrices is stated to be similar to sclateri, as in my Naivasha birds, and the real difference is the paleness of the breast and abdomen. Whether we accept tenuis or not, there still remains much to be done in the revision of this species.

Geokichla: the East African species and races.

There are two distinct species of Geokichla on Mt. Kenya, as shown by my specimens from that mountain. If we consult Sclater's Systema, p. 444, it will be seen that he allows one only, viz. G. gurneyi keniensis Mearns. In fact, all forms are made races of G. gurneyi, Sclater not recognizing piaggiae as a species distinct from gurneyi. Mearns recognizes two species, and describes keniensis as a race of G. piaggiae, not of G. gurneyi. On the other hand, he describes raineyi as a race of G. gurneyi. This would support my statement that there are two Geokichla in Kenya, not counting the coastal fischeri.

Geokichla piaggiae piaggiae (Bouv.), No. 1318 (as Turdus).

A rufous-faced bird, which ranges from Ruwenzori to Elgon.

Geokichla piaggiae keniensis Mearns, No. 1317 (as Turdus).

A richer race than the typical, form ranging from Mt. Kenya to the Aberdares.

Geokichla gurneyi chuka van Som.


A large bird with the crown only slightly darker greyish than the rest of the dark olive mantle; with greyish ear-coverts crossed by oblique buff line; a white ring round the eye interrupted by a black mark on the upper lid and a corresponding mark on the lower lid; a slight black moustachial streak; a narrow rufous preocular line; throat and breast and flanks light orange with slight olive tinge on sides of breast; abdomen, vent, and under tail-coverts pure white. These birds have very much longer and stronger bills than G. piaggiae keniensis. Type, male, Chuka, Mt. Kenya, 15.1.21, in my collection.

Turdus libonyanus centralis Reichw., No. 1325.

The above name should be used instead of pelios. It is a variable race, if we include the whole range as given in the Systema.

T. libonyanus tephronotus, No. 1326 = Turdus tephronotus Cab.

Additional localities: Juba River from Kismayu to Dolo and Dana River.
Turdus olivaceus elgonensis Sharpe, No. 1321.

Found throughout the forest and bush country from Mt. Elgon, Nandi, Mau, Aberdares to Mt. Kenya. It does not extend to Marsabit.

Turdus olivaceus polius Mearns, No. 1322.

I have now obtained a series from Marsabit, and am satisfied that they are not the same as elgonensis as suggested by Sclater. They are paler above and below, and we actually get the intermediates on the Northern Guasso. My series from Marsabit Mt., some 11 skins, is remarkably uniform, and all show the characters on which I support this race.

Turdus olivaceous deckeni Cab. Kilimanjaro Rufous-bellied Thrush.

This very dark race extends from Kilimanjaro to the Pare Mts. It must meet roehli somewhere along the continuation of this range into the Usambaras.

PLATE III.

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PARNASSIER DER KELLEY-ROOSEVELT EXPEDITION, 1929.
VON FELIX BRYK.

Unter den von Mr. Harold Stevens auf der Kelley-Roosevelt Expedition gesammelten Lepidopteren befinden sich 30 Exemplare von Parnassius Latr., die sich auf 6 Spezies verteilen und an den folgenden Lokalitäten in Szechwan (= Sze-Chwan) erbeutet wurden:

1. Auf dem Marsch von Hadja-tungoo, 13,000 ft., über Hadja-la, 15,300 ft., nach Patya, 13,200 ft., 2. Juni;
2. Yulongkong-Wali, 11,200–12,000 ft., 2. Juli;
4. Ta-tsin-lu, 9,150 ft., 11. Juli; und
5. Tailing, 12,600 ft., 25. Juli.

Diese kleine Sammlung ist für die Kenntnis der Parnassier von einer gewissen Bedeutung, nicht nur weil darin eine interessante neue Art vorhanden ist, sondern auch weil durch sie endlich die viel umstrittenen Beziehungen von P. przewalskii Alph. zu P. acco Gray und P. szechynyi Friv. geklärt werden können.

1. Parnassius imperator imperator Oberth.  

Ta-tsin-lu, 1 ♀ (jungfräulich); Tailing, 1 ♂ mit zerknülltem linken Vorderflügel.

2. Parnassius cephalus elwesi Leech.  
P. delphius var. elwesi Leech, Entomol. xxvi, Supplem, p. 104 (1893) (Ta-tsin-lu).

Hadja, 3 ♀♂, 1 ♀.—Die ♀♂ unterscheiden sich von dem bei Leech, Butterfl. China, Japan und Corea Tab. 33, Fig. 4 (1893), abgebildeten Typus durch den längern Mittelzellenfleck, und in einem der ♀♂ greift die Hinterrandschwärze des Hinterflügels hakenförmig bis über R₃( + M₁) hinüber und sind die Augenflecke weissgekernt.

Da das ♀ von P. c. elwesi bisher nicht bekannt war, ist eine Beschreibung angebracht: Verderfflügel mehr oval; Glasband auch am Hinterrandswinkel breiter und nicht sichelförmig verjüngt wie beim ♂; Submarginalbinde mager, zwischen dem Glasband eine sehr schmale Grundbinde freilassend; Hinterrandsflleck, der beim ♀ nur in der obern Hälfte komma-artig als Abschluss der Fasciata-binde vorhanden, länger als beim ♂, mit dem breiten Kostalbandchen durch graue Bestäubung, die fast bis zur Mittelzellrippe reicht, verbunden. Die Medianzelle des Hinterflügels weissgekernt; Saum glasiggrau; Hinterrandswärze wie beim ♂, aber mehr graphitgrau.—Erwähnenswert ist, dass R₃ mit R₁ an einer Stelle verwächst (symplecti) und dass merkwürdigerweise M₁ bei allen 3 ♀♂ einseitig rechts R₄( + R₅) genähert ist oder sogar mit ihr verwächst, während beim ♀ diese Rippe beiderseits frei aus der Zellecke entspringt (Tadumia).
3. *Parnassius rothschildianus* spec. nov.

Hadja, 5 ♀♂, 5 ♀♀.

Palpen gelblich weiss, vorn schwarz behaart. Im Vorderflügel verwächst R₂ mit R₃, zweigt sich aber vor dem Apex ab; M₁ mit R₄ + R₅ wie bei *Parnassius* Latr. an der vorderen Zellecke verwachsen. Antennen braunschwarz, mit gelben Schuppen beringt; Kolbe braunschwarz, an der Spitze mit länglichen gelben Schuppen bedeckt. Abdomen des ♀ schwarz, mit gelblichen Haaren bekleidet, wodurch es schmutzig grau erscheint; beim ♂ das Abdomen schwarz, kurz schütter grau behaart, unten am Bauch schmutzig gelblich behaart, letztes Tergit schwarz lackiert, weil nackt, die einzelnen Segmenten lateral aufgeheilt; Sterigma länglich kanalisiert; die wachswieße Sphragis umklammert bei unbeschädigten Stücken mit ihrem Distalseiten den Hinterleib ringförmig, dort einen dorsalen Höcker bildend; ähnlich der Sphragis von *P. acco* Gray, doch ist der Sphragisring von *P. acco* bedeutend breiter, sodass bei dieser Art nur noch die Hinterleibsspitze und der Ovipositor freigelegt bleiben. Der Hauptunterschied der Sphragis beider Spezies ist, dass der unter dem Ovipositor direct anschliessende Teil bei *P. acco* einen bedeutend längern Abstand zeigt als bei *P. rothschildianus.*

Nahe mit *P. przewalskii* verwandt. Flügel gestreckter, mit der für *P. przewalskii* typischen Blankernung der Randflecke.

♀. Beide Flügel oberseits umbrabraun umsäumt, unterseits ockergelb. Die Fransen des Vorderflügels gelblich weiss, an den Rippenenden breit schwarz unterbrochen, bisweilen diese Schwärze derart ausgedehnt, dass die gelblich weisse Färbung fast ganz unterdrückt ist und daher das Stück schwarz befranzt erscheint. Fransen des Hinterflügels nicht gescheckt; sondern gelblich weiss. Vorderflügelgrund gelblich weiss; das durchsichtig graue Glasband mässig breit, bei M₂ etwas erweitert, bis zum Hinterrand; die etwas dunklere Submarginale parallel zum Glasbande schliesst 8 rundliche Flecke ein; das Subkostalbändchen und der Hinterrandfleck, der nicht rot gekernt ist, etwas dunkler, nur beim Typus trägt das Subkostalbändchen drei deutliche blass karminrote Kerne, bei den zwei andern ♀♀ ist die Kernung ganz unansehnlich; das Feld zwischen dem Subkostalbändchen und dem Hinterrandfleck mehr oder weniger stark glasig-grau, oft in die Submarginale übergehend; die beiden Zellflecke kräftig schwarz, der innere wurzelwärts konvex; die parallel zu ihm verlaufende Wurzelschwärze lässt einen hellen halbmondförmigen Fleck frei.——Hinterflügel von einer schmalen Glasbinde umsäumt, die sich nach hinten stark verjüngt; die Submarginale in den vordersten zwei Elementen glasig verbreitert, in den zwei weiteren strichförmig gebogen, die zwei letzten isoliert als mehr oder weniger blaugekernte Randflecke; die Oellen, in der Grösse variabel, dick schwarz umrahmt, ohne weisse Kerne, die vordere viereckig, die hintere fünfeckig, ihre Farbe variabel, im Typus prächtig karminrot, mit einer grauen Überpudierung zwischen den Oellen; alle drei Analflecke vorhanden; das Schwarz der Wurzel fällt den halben Diskus aus, setzt sich beiderseits fort, sich zwischen die Kostalozelle und den stets roten Wurzelfleck einrückend; auch die andere Hälfte des Diskus ist verrusst und mit der Hinterrandsschwärze verbunden; der im Diskus freibleibende, nicht verrusste, schmale Strich sichelförmig.

1 *P. przewalskii* für eine Form von *P. acco* anzusehen, wie es Avinoff und Bang-Hans tun, ist nicht gerechtfertigt. Die Antennen, Fransen und Sphragis sind verschieden und vor allem kommt bei keiner Form von *P. acco* eine delphius-ähnliche Blankernung der Randflecke vor.
Unterseits sind bei oberseitiger Rotkernung die Kostalflecke des Vorderflügels sehr schwach gekernt; der Hinterrandsfleck fehlt; wie bei allen Parnassiiern sind die beiden Mittelzellenflecke unterseits stark reduziert. Die Wurzel des Hinterflügels trägt drei mehr oder weniger deutliche rote Flecke; die Ozellen trüb weiss gekernt, bisweilen auch die beiden letzten Analflecke; die beiden Randungen kaum bläulich aufgeheilt.

Es ist noch zu erwähnen, dass bei dem Typ (♂) die Fransen am Apex unterseits sowie die Beschuppung der Tibien rötlich ist. Das ♀ etwas heller, weil die Verbindung zwischen dem Kostalband und dem Hinterrandsfleck kaum überpudert ist. Dimorph: zwei Exemplare haben den Diskus des Hinterflügels wie beim ♀ verrusst; bei den drei andern ♀ trägt der Diskus einen hellen rundlichen Mondfleck. Ich möchte diesen letzteren Zustand als den normalen betrachten, weil ihn drei der 5 ♀ zeigen und weil bei P. przewalskii, nach der Abbildung in Mém. Lép. Romanoff V. Tab. 4, Fig. 1, sogar das ♀ in diesem Habitus auftritt.

Unterseits unterscheiden sich die ♀ von den ♂ durch die weissliche, an P. szechyi erinnernde Bestaubung der Rippen des Hinterflügels und der Prachtflecke, die infolge dessen rosafarben erscheinen.

Vorderflüglänge: ♂ 30–33 mm., ♀ 30–34 mm.

Lord Rothschild zu Ehren benannt. P. rothschildianus ist grösser als P. przewalskii, dunkler, hat den Hinterandsfleck nicht gerötet, besitzt nur 2 statt 3 (oder 4) blaue Randungen und weicht in der Ausdehnung der Diskalschwarze stark ab.¹

4. Parnassius szechyi germanae Aust.


Hadja, 1 ♀, abgeflogen.

5. Parnassius orleans orleans Oberth.

P. orleans Oberthür, Descr. Esp. Nouv. Lép. (1890) (zwischen Litang und Ta-tsien-lu),

Yulongkong-Wahi, 7 ♂ ♀, 2 ♀♀; Hadja, 1 ♀; Cheta Pass, 2 ♂ ♀.—Vom typischen P. orleans nicht zu unterscheiden. Nur 1 ♂ erinnert durch die helle Einsäumung des Glasbandes an die Rasse aus Kunkala–Shan.

6. Parnassius epaphus poeta Oberth.

P. poeta Oberthür, Étud. d'Entom. xvi, p. 2, tab. 2, Fig. 6 (1892) (Ta-tsien-lu).

Cheto Pass, ein sehr helles ♀.

¹ Herr F. Bryk hielt zuerst P. rothschildianus für eine Unterart des P. przewalskii; aber er stimmt mir jetzt zu, dass es sich um eine ganz gute Art handelt.—R.
A REVISION OF THE TYPES OF BIRDS DESCRIBED BY JAPANESE AUTHORS DURING THE YEARS 1923 TO 1931.

BY NAGAMICHI KURODA, D.Sc.

Secretary of the Ornithological Society of Japan.

For the celebration of the twentieth anniversary of its foundation, the Ornithological Society of Japan formed the plan to publish a revised new list of the Japanese Birds and appointed a Committee for that purpose. This Committee has held over thirty meetings since December 1929 at the residences of Prince Takatsukasa, Marquis Yamashina and myself, and has carried out, with care and exactitude, an extensive comparison of all the species and subspecies of the Japanese Bird fauna.

Over 120 forms of birds, enumerated in the list here following, have been made public as new from 1923 to 1931 by the Japanese ornithologists Prince Takatsukasa, Marquis Yamashina, The Hon. M. Hachisuka, Messrs. T. Mori, T. Momiyama, S. Kumagai, T. Ishizawa and myself. Very few of these forms appear to be contained in European and American collections; in fact, most of them are not represented anywhere except in Japan. As Secretary of our Society, I think it is our duty to publish such a revised and annotated list, which, I hope, will greatly facilitate for all ornithologists further research in the Japanese ornis.

All Japanese ornithologists regret very much that the forms described as new by Mr. Momiyama, over 100, are mostly the result of much unwarranted splitting, the great majority of them not being recognizable as different, their names, with very few exceptions, therefore becoming synonyms.

I have here omitted what I have already published in The Ibis, 1927, pp. 691–723, and list only the new names, whether synonyms or not. The list contains the references to the original descriptions and gives the localities, dates of collecting, names of the collectors and other detail.

Family Corvidae.

1. Corvus coronoides borealis Momiyama = C. coronoides japonensis Bonaparte.

1927.—Journ. Chosen Nat. Hist. Soc. no. 5, p. 3 (Sisuka, S. Sakhalin). (In Japanese.)


Hub. Sakhalin, Kuriles and Hokkaido.

2. Corvus coronoides hondoensis Momiyama = C. c. hondoensis.


Similar to C. c. japonensis of Hokkaido, but the length of bill and wing is on an average shorter. Exposed culmen 59–69 mm., instead of 64–71 mm.;
wing 318–374 mm, instead of 330–385 mm.; height of upper mandible at nostril 17–20, height of both mandibles at nostril 24.5–28.5 mm. (very rarely 29 mm.) instead of 25.5–29.5 mm. as in *Corvus japonensis*.

16 ♂♂, 17 ♀♀ and 3 ♀♀ juv., from Hondo, Shikoku and the Seven Islands of Izu, were measured by Momiyama.

We have compared a large series from Sakhalien, the Kuriles, Hokkaido, Hondo, Shikoku and Kiusiu, and have come to the conclusion that in a series the skins from the former three localities are on an average slightly, but not constantly, larger than those from the latter three localities. The coloration, however, seems to be slightly glossy greenish in the northern and typical form. The Hondo form, therefore, stands as a very poorly characterized one.

**Hab.** Hondo, Seven Is. of Izu, Bonin Is. (extinct). Shikoku, Kiusiu, Tanegashima and Yakushima.


**Hab.** Tsushima, Korea, Quelpart I. and ? Dagelet I.


Type: Not selected by Momiyama, but only two specimens (♂ and ♀) were collected by M. Namiye and U. Tsuchida on Tsushima, 23.ii.1891. Sci. Coll. Museum, Tokyo, nos. 1811 and 1812.


Type: ♂ ad., Randomari, Maoka-gun, S. Sakhalin. x or xi.1925. Kumagai coll., no. 729.

**Hab.** Sakhalin and Siberia.


**Hab.** Europe. Kuriles, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Iki, Tsushima, Quelpart I. and Korea.

Not distinguishable from European specimens.
1928.—Annot. Orn. Orient. i. 2, p. 152, pl. v, fig. 1 (Hoihow, Hainan).
Type: ♂ ad., Hoihow, N. Hainan, 10. xii. 1903. Momiyama registered no. 63.0001.
Hab. N. Kiusiu, Korea, Formosa, China, Hainan, etc.

Types: ♂ ad. and ♀ ad., Kuroiwa-mura, Takaoka-gun, Prov. Tosa, Shikoku, 17. i. 1927. K. Nakaoka don. Momiyama registered nos. 27.0068 and 27.0070.
Hab. Hondo, Shikoku and N. Kiusiu.

10. Garrulus japonicus kakes Momiyama = G. g. japonicus.
Type: ♂, Mizusawa-machi, Prov. Rikuchu, Hondo, middle of March, 1927.
D. Terui coll. Momiyama registered no. 27.0058.

11. Garrulus japonicus hiugaensis Momiyama = G. g. hiugaensis.
Hab. Hondo (Shimoda), S. Kiusiu (Kumamoto, Hiuga and Kagoshima).

12. Garrulus brandtii okai Momiyama = G. g. taczanow skulli Lännberg.
Type: ♂ ad., Koryo, C. Korea, 7. iii. 1926. E. Takahashi coll. Momiyama coll., no. "D."
Hab. Sakhalin, Ussuri, Korea, etc.

Type: ♂ ad., Uenai, Yufutsu-gun, Prov. Iburi, Hokkaido, 22. xi. 1925.
Hab. Hokkaido.

**Family ORIOIDAE.**

1928.—Annot. Orn. Orient. i, 2, p. 156 (Formosa). (In Japanese and English.)
Type: ♂ ad., Heito, Prov. Takao, Formosa, 29. iv. 1923. S. Maki coll. Maki coll., no. 15. (Preserved in the Science College, Kyōto Imperial Univ., Japan.)
Hab. Tsushima, Korea, Formosa, China, etc.
Family Fringillidae.

15. Chloris sinica sitchitoensis Momiyama = C. s. sitchitoensis. 1923.—Dōtsu nagaku Zasahi,” xxxv, p. 413 (Hachijo). (In Japanese.)

Type: ♂ ad., Ohgago-mura, Hachijo, Seven Is. of Izu. G. Okuyama coll. Momiyama coll., no. 480. Wing 85 mm.

Very similar to C. s. minor of Hondo, but the bill is thicker and the wing is on an average longer (♂ 79–85.5 and ♀ 78–79.5 mm., instead of ♂ 75–83.5 and ♀ 75–80 mm. as in minor). Size intermediate between minor and kawarabits.

Momiyama gives some characters in the coloration of sitchitoensis, but these are not constant, though slightly paler brown on back and flanks ?.

A series of specimens in Momiyama’s paper (1923) seems all to belong to the typical minor, but the type (no. 480) from Hachijo is distinct, and this type specimen is not separable from the specimens taken in the Island of Saghalien in summer (C. c. lönbergi Momiyama, 1928). The latter name, however, unfortunately has been published five years later than sitchitoensis (1923), which is no doubt a winter visitor from Saghalien and Hokkaido to Hondo and Seven Islands of Izu (Hachijo).

Hab. Sakhalin and Hokkaido; winters in Hondo and Seven Is. of Izu (Hachijo).


Hab. Hokkaido (†), Hondo, Shikoku, Kiusiu, Seven Is. of Izu (Ōshima and Hachijo), Tsushima and Quelpart I.


Type: ♂ ad., Ishino-mura, Kita-Iwoto (San Alessandro I.), Volcano Is., 17.iii.1926. I. Furniechi coll. Momiyama registered no. 261.0777.

Hab. Volcano Is. (San Alessandro I. and Sulphur I.).


Hab. Sakhalin, Kuriles, Hokkaido, Hondo, Shikoku, Kiusiu, Dagelet I., Korea, Quelpart I. and Amami-Oshima.
20. **Emberiza coides namiyei** Momiyama = *E. coides ciopsis* Bonaparte.
1923.—" *Tori,*" iii, no. 14, p. 210 (Ōshima, Seven Is. of Izu). (In Japanese.)

Type: ♂ ad., Moto-mura, Ōshima, Seven Is. of Izu, 7. xii. 1921. K. Tsuchiya coll. Momiyama coll., no. 1859.

Hab. Kuriles, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Goto Is., Tanegashima and Yakushima.

21. **Emberiza coides tametomo** Momiyama = *E. c. ciopsis.*
1923.—" Dōhatsugaku Zasshi," xxxv, p. 412 (Hachijo, Seven Is. of Izu). (In Japanese.)


22. **Emberiza coides tyoosenica** Momiyama = *E. c. castaneiceps* Moore.

Type: ♂ subad., Hieizan, Yamashiro, Hondo, 23. xii. 1926. Momiyama registered no. 27.5335. (A smaller variety of *variabilis*.)

Hab. Sakhalin, Kuriles, Hokkaido, Hondo, Seven Is. of Izu (Ōshima), Shikoku, Kiusiu, Riu Kiu Is.

23. **Tisa variabilis kurodai** Momiyama = *E. variabilis* Temminck.

Type: ♂ subad., Heizan, Yamashiro, Hondo, 23. xii. 1926. Momiyama registered no. 27.5335. (A smaller variety of *variabilis*.)

Hab. Sakhalin; winters in Hondo, Seven Is. of Izu (Ōshima), Shikoku, Kiusiu and Korea.

24. **Cynchramus yessoensis minamijatschi** Kumagai = *C. yessoensis ? yessoensis*.


Hab. Kuriles, Hokkaido and Hondo.

**Family ALAUDIDAE.**

25. **Alauda arvensis lomibergi** Hachisuka = *A. a. lomibergi.*
1926.—*Bull. B.O. Club.* xlvi, p. 23 (Chepisani, Sakhalien).

Type: Sex not mentioned. Chepisani, Sakhalin, 1.x.1906. Preserved in the Royal Natural History Museum of Stockholm (specimen number not mentioned).

Hab. Sakhalin; winters in Hondo, Seven Is. of Izu (Hachijo), Kiusiu and Korea.

A series from the type locality and others examined.

26. **Alauda arvensis quelpartae** Momiyama = *A. a. japonica* Temminck & Schlegel.


Hab. Sakhalin, Kuriles, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Tanegashima, Makenoshima, Yakushima, Amami-Ōshima and Quelpart I.
**FAMILY ZOSTEROPIDAE.**


   **Type:** ♂ ad., Omura, Chichi-shima, Bonin Is., 13. xii. 1924. T. Momiyama coll. Momiyama coll., no. 1266.

   **Hab.** Bonin Is.

   The two forms, _stejnegeri_ of Seven Is. of Izu and _alani_ of Volcano Is. were introduced into Bonin Is.


   **Type:** ♀ ad., Moto-mura, Ōshima, Seven Is. of Izu, 17. xii. 1927. G. Okuyama coll. Momiyama registered no. 27.6477.

   **Hab.** Seven Is. of Izu and Bonin Is. (introduced).


   **Type:** ♀ ad., Dodo, Nan-men, Dagelet I., 16. iv. 1920. E. Takahashi coll. Preserved in the Seoul Higher Common School (number of specimens not mentioned).

   **Hab.** Northern coasts of Kiūsiu, Iki, Tsushima, Quelpart I., S. Korea and Dagelet I.


   **Type:** ♂, Nanto Distr., Central Formosa, March, 1908. A. Moltrecht coll. British Museum registered no. 1909.10.29.11.

   **Hab.** Formosa.


   **Type:** Not selected. Possibly preserved in Momiyama collection.


   **Type:** ♀ (?), Botel Tobago or Kotosho, January 1909. Y. Kikuchi coll. Momiyama coll., no. ?

   **Hab.** Kashoto and Botel Tobago near Formosa; Batan Is. in N. Philippines.

**FAMILY CERTHIIDAE.**


   **Type:** ♂ ad., Chinominoji, Kunashiri, S. Kuriles, 11. x. 1907. Momiyama registered no. 07.0034.

   **Hab.** Sakhalin, Kuriles, Hokkaido, Korea, etc.; Europe.
34. **Certhia familiaris kawamurai** Momiyama = *C. f. familiaris*.


**Family PARIDAE.**

35. **Parus major takahashii** Momiyama = *P. m. takahashii*.
1927.—*Annot. Orn. Orient*, i, 1, p. 28 (Korean Peninsula—nom. nud. !).
1928.—B. o. 2, p. 191 (Koryo near Seoul, Korea). (In English.)


_Hab._ Korea.

36. **Parus major ogawai** Momiyama = *P. m. quelpartensis* Kuroda = *P. m. minor* Temminck & Schlegel.
1923.—*Tori*, iii, no. 14, p. 207 (March 1923) (Oshima, Seven Is. of Izu). (In Japanese.)

Type: ♂ ad., Moto-mura, Oshima, Seven Is. of Izu, 15. xi. 1921. K. Tsuchiya coll. Momiyama coll., no. 1812.

_Hab._ Sakhalin, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Oki, N. Kiusiu, Iki, Tsushima and Quelpart I.

37. **Parus major chimae** Momiyama = *P. m. minor*.
1923.—*Dōgenkaku Zasshi*, xxxv, p. 410 (Dec. 18, 1923—Hachijo, Seven Is. of Izu). (In Japanese.)

Type: ♂ ad. and ♀ ad., Ōgago-mura, Hachijo, Seven Is. of Izu, 10 and 19. x. 1922. Momiyama coll. Momiyama coll., nos. 223 (♂ ad.) and 253 (♀ ad.).

38. **Parus major tatibanai** Momiyama = *P. m. minor*.

Types: ♂ ad. aest. and ♀ ad. aest., Konuma, Toyokita-mura, Toyohara-gun, S. Sakhalin, M. Tachibana coll. Coll. nos. 120 and 121 (preserved in Momiyama coll.).

39. **Parus major sidsinkai-a** Momiyama = *P. m. minor*.

Type: Not selected.

40. **Parus major makii** Momiyama = *P. m. fohawkenson* La Touche (1923).


_Hab._ Fohkien, E. Kwangtung (resident) (La Touche); Formosa (straggler?).

Very similar to _gothensis_ Kleinschmidt (1922) which is a synonym of _kagoshimaec_ Takatsukasa (1919) from S. Kiusiu.
41. *Poecile palustris orii* Yamashina = *Parus p. orii*.


Colour as in *Poecile palustris brevirostris*, but it differs in having the entire culmen longer, 10–10.5 mm. (8.3–8.9 mm. as in *brevirostris*, after Hartert); and the tail is shorter, 51–56–60.5 mm. (♀♀) and 57–62 mm. (♂♂) (67–69 mm. (?) as in *brevirostris*, after Hartert). It also differs from *crassirostris* in the coloration of the upper- and underparts, which are very much paler, nearly without a brownish wash, and the bill is slightly longer.

7 ♀♂: wing 63–70 mm. (Measured by Yamashina).

Hab. Sakhalin.

42. *Periparus ater tyoosenensis* Momiyama = *Parus ater amurenensis* Buturlin.

1927.—"Annot. Orn. Orient," i, 1, p. 31 (C. Korea). (In Japanese.)


Hab. Sakhalin, Korea; Amur and Ussuri.


Hab. Kuriles, Hokkaido, Hondo, Seven Is. of Izu (Ōshima), Shikoku, Kinsiu, Quelpart I., Yakushima and Riu Kiu Is.

44. *Aegithalos caudata enaga* Momiyama = *A. caudatus trivirgatus* (Temminck & Schlegel).


Type: Not selected.

Hab. Hondo and Quelpart I.

45. *Aegithalos caudata tarihoae* Momiyama = *A. caudatus trivirgatus*.


**Family Pycnonotidae.**

46. *Apalopteron familiaris hahasima* Yamashina = *A. f. hahasima*.

1927.—"Tori," vi, no. 30, p. 330 (Seimon-yama, Haha-shima, Bonin Is.).


Hab. Bonin Is. (Hahashima, Mukōjima (not Mukoshima) and Meishima in Baily group).

1930.—“*Tori,*” vi, no. 29, pp. 270, 271 (Ishigaki, S. Riu Kiu Is.).


_Hab._ S. Riu Kiu Islands (Ishigaki (straggler ?) and Yunakuni); probably also in N.W. Fohkien, China.

I cannot distinguish stresemanni from my orii, and my kobayashii is also not entirely distinct from some of the specimens of stresemanni.


1927.—*Annot. Orn. Orient.* i, 1, pp. 118, 126, 130, 140 (descr.) (Quelpart I.). (In English.)

_type:_ ♂, Sinsa-men, Quelpart I., 4. i. 1927. K. Shigeta coll. Momiyama registered no. 27.0369.

_Hab._ Hondo, Seven Is. of Izu (Ōshima and Miyake), Shikoku, Kiusiu, Iki, Tsushima, Quelpart I.; winters in Amami-Ōshima and Okinawa.

49. *Microscelis amaurotis matchie* Momiyama = _M. a. matchie._

1923.—“*Dōbutsugaku Zasshi,*” xxxv, p. 401 (Hachijo). (In Japanese.)


Very similar to _M. a. amaurotis_ of Hondo, but the wing shorter, 123–133 in males, 116.5–123.5 mm. in females (♂ 130–137, ♀ 120–128 mm. in _amaurotis_); the exposed culmen is rather longer, 25.5–28 in males, 24–26 in females (♂ 25–27, ♀ 22–24.5 mm. in _amaurotis_). In coloration, it is darker slaty on the mantle and nearly without an olive wash; the chest is also darker and the chestnut patch on the car-coverts is slightly paler.

The breeding birds on Tanegashima and Yakushima are also identical with those of Hachijo in colour and measurements. It is a poor subspecies.

_Hab._ Seven Is. of Izu (Hachijo), Tanegashima and Yakushima.

_FAMILY MUSCICAPIDAE._

50. *Terpsiphone atrocaudata tadai* Momiyama = _Terpsiphone nigra McGregor = Tchitrea atrocaudata periophthalmica_ (Ogilvie-Grant).

1930.—“*Amoeba,*” ii, no. 1, p. 25 (Botel Tobago—nom. nud. i).

1931.—_Op. cit._ iii, nos. 1–2, p. 67 (Botel Tobago). (In Japanese.)

_Type:_ Not selected, but described from adult ♂ ♀ from Botel Tobago. Probably the type preserved in Momiyama’s collection.

_Hab._ Botel Tobago and Philippines (Batan I. and Luzon).

51. *Dendrobistes hyperythrus taivanicus* Hachisuka = _D. hyperythrus innexus_ (Swinhoe).


_Hab._ Formosa.
52. **Cyanoptila caeruleiceps** Momiyama = *C. cyanomelana cyanomelana* (Temminck).

1928.—*Annot. Orn. Orient.*, i, 3, p. 319 (deser.). i, 4, pl. xvi (Hachijo). (In English.)

Type: ♂ ad., Mitsune-mura, Hachijo, Seven Is. of Izu, 19.x.1923. G. Okuyama coll.  Momiyama registered no. 23.0181.

*Hab.* Kuriles, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Korea, Quelpart I., Riu Kiu Is. and Formosa; recorded from China, Malay Archipelago, etc.

Momiyama's *caeruleiceps* is merely an example of spotted-backed male, which is not infrequently found in series from Hondo.

**Family SYLVIIDAE.**

53. **Horornis cantans sakhalinensis** Yamashina = *Homochlamiys cantans sakhalinensis*.

1927.—"*Dōntsugaku Zasshi,*," xxxix, p. 281 (Nayori, Sakhalin). (In Japanese.)


Very similar to *H. c. cantans*, but the coloration of the upper parts ashy olive instead of olive with a rusty wash; wings and tail are also paler and with less rusty wash; and the bill is on an average slightly longer. It differs from *H. c. ijimae* by the plumage being less stained with rusty, and in having the bill narrower at base.

Wing (measured by Yamashina): 4 ♂♂ 55.5, 64, 68, 68 mm. (size as in the Hondo form).

*Hab.* Sakhalin, Kuriles (Etrop); Hokkaido in autumn; winters in Hondo (Echigo) and Kiusiu.

54. **Horornis cantans medius** Momiyama = *Homochlamiys c. ijimae* (Kuroda) (1922).

1923.—"*Dōntsugaku Zasshi,*," xxxv, p. 408 (Hachijo). (In Japanese.)

Type: ♂ ad., Ogago-mura, Hachijo, Seven Is. of Izu, 21.iii.1923. G. Okuyama coll.  Momiyama coll., no. 469.

*Hab.* Seven Is. of Izu (Niijima to Hachijo) and Tanegashima.

55. **Horornis cantans panafidinicus** Momiyama = *Homochlamiys c. panafidinicus*.

1930.—*Bull. Biogeogr. Soc. Japan*, i, no. 3, p. 175, footnote (Torishima, Seven Is.).

Type: ♂ ad., Torishima, Seven Is. of Izu, 25.i.1930. G. Okuyama coll.  Momiyama registered no. 30.0160.

*Hab.* Torishima in the Seven Is. of Izu.

56. **Horornis cantans takahashii** Momiyama = *Homochlamiys c. takahashii*.


Very similar to *H. c. cantans* of Hondo and Kiusiu, but the coloration of upperparts, especially in front, and greater wing-coverts, washed with brownish
olive; pale brownish olive edges to the feathers on underparts conspicuous; but very different in the general tone of coloration from that of the *H. canturians* group.

*Hab.* Quelpart I.

57. **Horornis canturians taivanorum** Hachisuka = *Homochlamys cantans borealis* (Campbell).

1926.—*Bull. B.O. Club*, xlvi, p. 33 ("Hills near Tamsui, N. Formosa ").


*Hab.* Korea and Formosa (winter visitor!); breeds in Ussuri and Manchuria; recorded also from Foochow, Shaweishan (migrant) (La Touche) and Chefoo (Hartert).

I cannot find any summer specimens among a series obtained in Formosa, all are winter specimens. La Touche (*Birds of Eastern China*, pt. iii, 1926, p. 263, and pt. v, 1930, p. 484) is quite right to consider that the form breeds in the north and winters in the south.

58. **Horornis diphone iwootoensis** Momiyama = *Homochlamys diphone iwootoensis*.

1927.—*Bull. B.O. Club*, xlvii, p. 146 (Motoyama, Sulphur I., Volcano Is.).


*Hab.* Sulphur I. in Volcano Is.

59. **Cisticola cisticola djadja** Momiyama = *C. juncidis brunniceps* (Temminck & (Schlegel).

1923.—*"Dômitsugaku Zasshi,"* xxxv, p. 408 (Hachijo). (In Japanese.)


*Hab.* Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Quelpart I., and Riu Kiu Is.

60. **Cisticola juncidis minuta** Momiyama = *C. j. brunniceps*.


61. **Cisticola juncidis lynesi** Momiyama = *C. j. brunniceps*.

1928.—*Annal. Orn. Orient*, i, 4, p. 419 (Quelpart I.—nom. nud.).

Type: Not mentioned.

62. **Cisticola juncidis huberti** Momiyama = *C. j. brunniceps*.


Type: Umen, Quelpart I.
Family TURDIDAE.

63. Turdus chrysolaus orii Yamashina = T. c. orii.
1929.—“Torii,” vi, no. 28, p. 155 (Paramushir I., N. Kuriles).

Marquis Yamashina coll., no. 3383.

Hab. Kurile Is. (Etrop, Paramushir).

64. Merula celaenops kurodai Momiyama = Turdus c. celaenops Stejneger.
1929.—“Dōbutisugaku Zasshi,” xxxv, p. 404 (Hachijo). (In Japanese.)


Hab. Hondo (Izu straggler) and Seven Is. of Izu.

65. Turdus eunomus ni Momiyama = T. eunomus Temminck.
1929.—Annot. Orn. Orient, i, 1, pp. 116, 125, 141 (descr.) (Shimosa, Hondo).

Provisional no. ccc, 246 in Momiyama coll.

Hab. Europe, Asia, Sakhalin, Hondo, Korea, Formosa, etc.

Momiyama’s ni is a variety of the common eunomus, very frequently found among the ordinary form.

66. Monticola philippensis taivanensis Momiyama = M. p. philippensis
(P. L. S. Müller).

Type: ♂ ad., Shinhisho, Takao District, S. Formosa, 2. iv. 1929. Z. Suzuki coll.

Hab. Borodino Is.; S. Riu Kiu Is. (Yonakuni); Formosa; Riu Kiu Sho; Botel Tobago Philippines, Micronesia (Pelew Is.); etc.

67. Erithacus akahige spectatoris (misprint for spectatoris) Momiyama = Luscinia akahige tanensis (Kuroda) (March 5, 1923).


Hab. Seven Is. of Izu (Hachijo and Miyake) and Tanegashima.

Family TROGLODYTIDAE.

1927.—Annot. Orn. Orient, i, 1, p. 45 (Sisuka, S. Sakhalin). (In Japanese.)


Hab. Sakhalin; probably also in Transbaikalia.

I have no specimen of daviricus for comparison; Momiyama also has not compared his lœnbergi with typical daviricus.

1927.—*Annot. Orn. Orient.* i, 1, p. 48 (Dagelet I.). (In Japanese.)


_Hab._ Korea, Dagelet I., and Quelpart I. Also recorded from Amur. Described by Momiyama without any specimen!

70. *Troglodytes troglodytes isizawai* Momiyama = *T. t. fumigatus* Temminck.

1927.—*Annot. Orn. Orient.* i, 1, p. 46 (Sapporo in Hokkaido). (In Japanese.)

Type: *♂* ad., near Sapporo, Hokkaido, February 1926. Preserved in T. Ishizawa collection. (Specimen number not mentioned.)

_Hab._ S. Kuriles, Hokkaido, Hondo, Seven Is. of Izu (Oshima), and Shikoku.

71. *Troglodytes troglodytes ikomai* Momiyama = *T. t. fumigatus (?)*.  

1927.—*Annot. Orn. Orient.* i, 1, p. 48 (Tottori, Inaba). (In Japanese.)

Type: *♂* ad., Tottori City, Inaba, S.W. Hondo, 12. ii. 1927. Y. Ikoma don. Momiyama coll., no. 1. 62.

Only one specimen is known.

72. *Troglodytes troglodytes mosukei* Momiyama = *T. t. mosukei*.

1923.—" _Dōtsugaku Zasshi_," xxxv, p. 492 (Hachijo). (In Japanese.)

Types: *♂* juv. and *♀* juv., Nishiyama, Hachijo, 21. vi. 1922. Mosuke Sato don. Momiyama coll., nos. 96 and 97.

Description (young): Much darker on both sides of body, especially on head and throat, as compared with the same stage of young of *T. t. fumigata* (= _fumigatus_).

This is a good form, I think.

_Hab._ Hachijo in Seven Is. of Izu.

I have examined the types as well as a small series of adults and am satisfied about the validity of the subspecies.


1927.—*Annot. Orn. Orient.* i, 1, p. 49 (Hiuga, S. Kiusiu). (In Japanese.)

Type: Sex (?), Shiiba-mura, Usuki-gun, Prov. Hiuga, S. Kiusiu, 5. i. 1924. M. Kawaguchi coll. Science College, Kyoto Imperial Univ. coll. no. 72.

_Hab._ Kiusiu, Iki, Tsushima, Tanegashima and Yakushima.

74. *Cinclus pallasii hondoensis* Momiyama = *C. p. hondoensis*.

1927.—*Annot. Orn. Orient.* i, 1, p. 52 (Shimotsuke, Hondo). (In Japanese.)

Type: *♂* ad., near Imaichi, Prov. Shimotsuke, Hondo, 14. i. 1925. Momiyama coll., no. "ci. 11."

Very similar to *C. p. pallasii* of Eastern Siberia, but the general coloration of the upper parts paler and washed with chocolate-brown, instead of darker
sepia as in *pallasii*; from lower back to upper tail-coverts nearly without a smoky colour; wing rather short.

Wing: ♀♂ 95–102.5 mm. (99–106 in *pallasii*).
♀♀ 89–94 mm, (91.5–98 in *pallasii*).

All measured by Momiyama.

_Hab._ Hondo, Shikoku, Kiusiu and Yakushima.

75. _Cinclus pallasii itooi_ Momiyama = _C. p. hondoensis._

1927.—*Annot. Orn. Orient.* i, 1, p. 54 (Tosa, Shikoku). (In Japanese.)

_Type:_ ♀♂ ad., Kawaguchi, Kagami-ura, Prov. Tosa, Shikoku, 14.ii.1927.

76. _Cinclus pallasii hiugaensis_ Momiyama = _C. p. hondoensis._


_Type:_ ♀♂ ad., Koyu-gun. Prov. Hiuga, Kiusiu, 2.i.1926. T. Tanaka coll.
Momiyama coll., no. "ci, 25."

**Family MICROPODIDAE.**

77. _Hirundapus caudacutus _var._ _uchidai_ Ishizawa = _Chaetura c. caudacuta_ (Latham).


_Type:_ ♀♂ ? ad., Nikko, Prov. Shimotsuke, Hondo, end of October 1925.
T. Ishizawa coll. Type in Ishizawa coll. (specimen’s number not mentioned).

_Hab._ Sakhalin, Kuriles, Hokkaido, Hondo and Korea. Also recorded from E. Siberia, Mongolia, China, etc., and in winter Australia.

**Family ALCEDINIDAE.**

78. _Ceryle lugubris pallida_ Momiyama = _C. l. pallida._

1927.—*Annot. Orn. Orient.* i, 1, p. 70 (Ishikari, Hokkaido). (In Japanese.)

_Type:_ ♀♂ ad., Nopporo, Prov. Ishikari, Hokkaido, end of January 1926. Momiyama coll., no. "c, 10."

_Resembles C. l. jamaeemi (_= C. l. lugubris_), but the dark cross bands on crown, back, rump and inner webs of quills are narrower; lineal black spots on malar region and chest less distinct and more sparsely dotted. The rusty patches on chest of ♀ much paler, yellowish rufous, and also sparsely developed. Bill and tarsus seem to be slightly shorter._

_This is a very good form and we have accepted the above name, pallida, as valid._

_Hab._ Hokkaido.

79. _Ceryle lugubris sikokiana_ Momiyama = _C. l. lugubris_ (Temminck).

1927.—*Annot. Orn. Orient.* i, 1, p. 67 (Tosa, Shikoku). (In Japanese.)


_Hab._ Hondo, Shikoku, Kiusiu and Korea.
80. **Ceryle lugubris jamasemi** Momiyama = *C. l. lugubris* (Temminck).
1927.—Annot. Orn. Orient. i, 1, p. 69 (Echigo, Hondo). (In Japanese.)

Type: ♂ ad., Kami-kaifu-mura, Iwafune-gun, Prov. Echigo, Hondo,

**FAMILY PICIDAE.**

81. **Picus awokera etigo** Momiyama = *P. a. awokera* Temminck.
1927.—Annot. Orn. Orient. i, 1, p. 56 (Echigo, Hondo). (In Japanese.)

Type: ♂ ad., Shionomauchi-mura, Iwafune-gun, Prov. Echigo, Hondo,

*Hab.* Hondo.

82. **Picus awokera tosa** Momiyama = *P. a. horii* Taka-Tsukasa.
1927.—Annot. Orn. Orient. i, 1, p. 58 (Tosa, Shikoku). (In Japanese.)

Type: ♀ ad., Sakawa-machi, Takaoka-gun, Prov. Tosa, Shikoku, 14.i.1923.

*Hab.* Shikoku (Tosa) and Kiinsiu.

83. **Dryobates major tusimensis** Momiyama = *D. m. hondoensis* Kuroda.
1927.—Annot. Orn. Orient. i, 1, p. 60 (Shimo-shima, Taushima). (In Japanese.)

Type: ♂ ad., Shimo-shima (Shimo-agata-gun) in Tsushima, autumn of 1925.
Momiyama coll., no. “d, 16.”

*Hab.* Hondo (northern and central parts), Tsushima (rare), and Korea
(central and southern parts: Seoul to Moppo).

*D. m. seoulensis* Kuroda & Mori (1922, Seoul, Korea) becomes a synonym of
*japonicus* (Seebohm) of Hokkaido.

84. **Dryobates leucotos saghalinensis** Yamashina = *D. l. saghalinensis*.

Type: ♂ ad., Omotamari, southern parts of Saghalin, 16.xii.1926. H. Orii

Marquis Yamashina has published it in English as follows:

Diagnosis: Comparing with *D. l. uralensis*, *D. l. clarkii* or *D. l. subeirris*,
white colour on the side of head, the forehead and the underparts is purer;
the black streaks on the flanks are smaller; the white patches on the quills are
larger.

Measurements. 3 ♀ ♂: Wing 146–151, tail 86–5–92, culmen 37–41 mm.


*Hab.* Sakhalin.

85. **Dryobates leucotos tookaidonis** Momiyama = *D. l. kurodai* Götz (1926).
1927.—Annot. Orn. Orient. i, 1, p. 66 (Pacific side of Middle Hondo. New name for *D. l. intermedius*
Kuroda).

Type: Not mentioned.

*Hab.* Pacific side of Hondo (Sagami, Suruga, Yamashiro, Yamato and Kii) and Shikoku (Iyo).
86. *Dryobates leucotos uchidai* Momiyama = *D. l. namigeyi* Stejneger.


Hab. S.W. Hondo (Yamato), Shikoku (Tosa) and Kiusiu (Hiuga).

87. *Xylocopus minor yamashinai* Momiyama = *D. minor minutillus* Buturlin = *D. m. amurensis* Buturlin.


Type: Not selected.

Hab. Sakhalin and Hokkaido; also known from Amur and Ussuri.

88. *Dryobates minor nojidoensis* Yamashina = *D. m. nojidoensis*.

1930.—*Tori,* vi, no. 29, p. 254 (Nojido, Mt. Hakutó, N.E. Korea).


Hab. N. E. Korea (Mt. Hakutó).

89. *Yungipicus kizuki saisiuensis* Momiyama = *D. kizuki nippon* (Kuroda).


Hab. Hondo (northern and central parts), Korea and Quelpart I.

*Tungipicus kizuki ijimae* Taka-Tsukasa (1922, Salihalin) becomes a synonym of *seebohmi* of Hokkaido.

90. *Yungipicus kizuki siragiensis* Momiyama = *D. k. nippon* (Kuroda).


91. *Yungipicus kizuki toohokuensis* Kunagai = *D. k. nippon*.


Type: ♂ ad., Ooka-mura, Kurihara-gun, Prefect, Miyagi, north-eastern Hondo, 15.xii.1926. S. Kunagai coll. Preserved in Kunagai collection (without number of the type).

It is intermediate between *seebohmi* and *nippon*, but some specimens I cannot distinguish from typical *nippon* of Mt. Fuji.


Hab. Seven Is. of Izu (Miyakeshima) and Yakushima.
93. *Picoides tridactylus kurodai* Yamashina = *P. t. kurodai*.  

Type: ♂ ad., Nójido, eastern slope of Mt. Hakutó, N.E. Korea, 2.ix.1929.  
*Hub.* N.E. Korea (Nójido, Mt. Hakutó).

94. **Dryocopus martius sakhalinensis** Momiyama = *D. m. morii* Kuroda (1921) = *D. m. silvisfragus* Riley (1915) = *D. m. reichenowi* Kothe (1906) = *D. m. martius* (Linn.).  

*Hub.* Sakhalin, Hokkaido, and Korea; also in Europe and Siberia.

**FAMILY STRIGIDAE.**

95. **Bubo bubo yamashinai** Momiyama = *B. b. tenuipes* Clark.  
1930.—"*Dobutsugaiku Zasshi,*" xlii, p. 329 (Obihiro, S. Hokkaido). (Pale phase !) (In English.)

Momiyama registered no. 29.0958.  
*Hub.* S. Kuriles (Etrop), Hokkaido (Tokachi), Goto Is., Korea and Amami-Ōshima.

96. **Bubo blakistoni karafulonis** Kuroda = *B. b. karafutonis*.  
1931.—"*Tori,*" vii, no. 31, p. 41 (Sakhalin).

*Hub.* Sakhalin (rare).

97. **Otus bakkamoena hatchizionis** Momiyama = *O. b. pryeri* (Gurney).  
1923.—"*Dobutsugaiku Zasshi,*" xxxv, p. 400 (Hachijo). (In Japanese.)

E. Kida and T. Momiyama coll. Momiyama coll., nos. 69 (♀) and 75 (♀).  
*Hub.* Seven Is. of Izu (Hachijo) and C. Riu Kiu Is. (Ōkinawa).

98. **Otus sunia botelensis** Kuroda = *O. scop s. botelensis*.  
1928.—"*Tori,*" v, no. 25, English column, p. 26 (Botel Tobago, south of Formosa).

Type: Unsexed ad. (♀ ?), Kotosho or Botel Tobago, south of Formosa, June 1926.  
*Hub.* Botel Tobago.

99. **Ctenoglaux scutulata totogo** Momiyama = *Ninox s. scutulata* (Raffles)?  
1930.—"*Amoeba,*" ii, no. 1, p. 26 (Botel Tobago—nom, nud, !).  
1931.—*Ninox scutulata totogo* Momiyama, *op cit.* iii, nos. 1–2, p. 68 (deser.) (Botel Tobago). (In Japanese.)

Type: Not mentioned.  
*Hub.* Hondo, Seven Is. of Izu, Shikoku, Kinsiu, Korea (central and southern parts, Riu Kiu Is., Formosa and Botel Tobago; Malay Archipelago in winter.
100. *Strix uralensis tatibanai* Momiyama = *S. u. tatibanai*.  
1927.—*Bull, B.O. Club*, xlviii, p. 21 (Sisuka, S. Sakhalin).  
_Hab._ Sakhalin.

101. *Strix uralensis coreensis* Momiyama = *S. u. japonica* (Clark).  
(In Japanese.)  
_Hab._ Kuriles (Etrop), Hokkaido and Korea; also in S. Manchuria.

102. *Strix uralensis morii* Momiyama = *S. u. coreensis* = *S. u. japonica*.  

103. *Strix uralensis jingkou* Momiyama = *S. u. morii* = *coreensis* = *japonica*.  
1928.—*Auk*, p. 182 (Yingkou, S. Manchuria).  

104. *Strix uralensis momiyamae* Taka-Tsukasa = *S. u. momiyamae*.  
Type: ♂, Prov. Shinano, Hondo, 2. xi. 1911. Prince Taka-Tsukasa coll., no. 212.  
_Hab._ Hondo (Echizen, Ecchu, Wakasa, Inaba, Yamashiro, Shinano, northern parts of Kazusa, Suruga, Mikawa and Totomi).

Type: ♀, Ohsumi, S. Kiusiu, spring in 1924. Purchased. Provisional no. "Ix, 39" in Momiyama collection.  
_Hab._ Hondo (southern parts of Kazusa, Suntógun in Suruga, Izu and Aki), Awaji (Fukura), Shikoku and Kiusiu.  
Momiyama's _nigra_ is merely a melanistic form of _fuscescens_!

106. *Strix uralensis media* Momiyama = *S. u. pacifica* Kuroda = *S. u. fuscescens*.  
1928.—*Auk*, p. 183 (Kimitsu-gun, Kazusa, Hondo).  
**Family Falconidae.**


1927.—*Annot. Orn. Orient*, i, 1, p. 71 (Kita-Ilwojima, Volcano Is.). (In Japanese.)


Resembles *F. p. calidus*, but the general coloration darker. Head nearly black; mantle dark slaty colour; nearly without a pale frontal band; a malar stripe darker and reaching far backwards; naked parts round eye bright yellow and distinct; pale bands on inner webs of primaries narrower and paler brown; tail also generally darker; chin, throat and breast tinged with pale rufous; this colour is much darkened on the lower parts; bands on flanks broader; centre of abdomen spotted. Wing, on an average shorter, ♀♂ 316–319 mm., ♀♀ 356–367.5 mm.

We have considered *fruitii* as a valid form. It is more nearly related to *F. p. pealei* rather than to *calidus*, as Dr. Hartert has already pointed out (Vög. pal. Fauna, ii, p. 1048).

**Hab.** Volcano Is.


1927.—*Annot. Orn. Orient*, i, 1, p. 73 (Hahashima, Bonin Is.). (In Japanese.)

**Type:** ♀ ad., Oki-mura, Hahashima, Bonin Is., 9. II. 1925. T. Momiyama coll. Momiyama coll., no. 1428.

**Hab.** Sakhalin, Kuriles, Hokkaido, Hondo, Seven Is. of Izu, Bonin Is., Shikoku, Kiusiu, Tsushima, Korea, Dagelet I. (?), Quelpart I., Amami-Ôshima and Formosa; also distributed in E. Siberia, Manchuria, etc., and winters in S. China, Hainan, Burma, India, etc.

The older name "*Falco" buteo japonicus* Temminck & Schlegel (1844) is preoccupied by *Falco japonicus* Vieillot (1823), so that the next name *burmanicus* of Oates should be used.

**Family Podicipidae.**


1927.—*Ibis*, p. 722 (Minami-Daitojima, Borodino Is.).


**Hab.** Amami-Ôshima (?), Ishigaki (?), Borodino Is. (Minami-Daitôjima) and Formosa.

**Family Columbidae.**

110. *Spilopelia chinensis formosa* Kuroda = *Streptopelia c. formosa.*

1927.—*Ibis*, p. 723 (Gyochi, Nanto Distr., C. Formosa).

**Type:** ♀ ad., Gyochi, Nanto Distr., C. Formosa, 2. V. 1916. Y. Kikuchi coll. N. Kuroda coll., no. 5010.

**Hab.** Formosa and Botel Tobago.
111. Macropygia tenuirostris septentriionalis Hachisuka = M. t. phaeo McGregor (1). 1930.—Contribution B. Phil., no. 2, p. 151 (Botel Tobago).

Type: ♂, Botel Tobago, 29.v.1907, Bureau of Science, Manila coll., no. 6371.

Hab. Botel Tobago; Philippines (Batanes and Calayan).

**Family SCOLOPACIDAE.**

112. Arquatella maritima kurilensis Yamashina = A. m. kurilensis. 1929.—"Tori," vi, no. 27, p. 89 (Paramushir, N. Kuriles).


Hab. N. Kuriles (Paramushir).


Hab. Sakhalin, Hokkaido, Hondo, Seven Is. of Izu, Shikoku, Kiusiu, Korea, Quelpart I., Tanegashima, Yakushima, Amami-Ōshima, Riu Kiu Is., Rasa I., and Formosa. Also widely distributed in Europe and Asia.

Note.—Momiyama’s iamasigi is entirely similar to the European specimens in dimensions of wing length (according to Mr. Hachisuka). In our opinion, a resident bird on Amami-Ōshima (mira of Hartert) seems to be specifically distinct from rusticola.

**Family RALLIDAE.**

114. Rallina suzukii Momiyama = R. fasciata (Raffles). 1930.—"Amoeba," ii, no. 1, p. 26 (Botel Tobago—nom, nud.!).

Type: Not mentioned.

Hab. Botel Tobago; Philippines, Malay Peninsula and Archipelago, Burma and Micronesia.


**Family TETRAONIDAE.**


Type: ♂ ad. hiem., Nairo, Sisuka-gun, S. Sakhalin, 22.xii.1926. M. Taehibana coll. Local no. 480 in Momiyama collection.

Hab. Sakhalin: also distributes from Scandinavia, Russia, Siberia, Kamtschatka to Amur.

Hartert recorded lagopus from Kuriles, but that seems to be an error.


Type: Not mentioned. *Cf. "Tori," ii, p. 103 (1918).*
117. *Lyrurus tetrix coreensis* Mori = *L. t. ussuriensis* (Kohts).
1929.—"*Tori,*" vi, no. 27, pl. ii (coreensis), p. 100 (koreensis [sic]) (Mt. Hakutō, N. Kankyōdo, Korea), 107.

Type: ♂ ad., Nōjido, eastern side of Mt. Hakutō, N. Kankyōdo, Korea, 24.x.1927. S. Katsura coll. Preserved in Katsura coll. in Kyō-jō, N. Kankyōdo, Korea. (Specimen’s number not mentioned.)

_Hab._ N.E. Korea (N. Kankyōdo and S. Kankyōdo).

118. *Falcipennis falcipennis* _muratai_ Momiyama = *F. falcipennis* (Hartlaub).

Type: ♂ ad., Sisuka-mura, S. Sakhalin, November 1927. Tachibana coll. Momiyama registered no. 28,0485.

_Hab._ Sakhalin, Amur, Stanovoi Range, and eastern Transbaikalia.


_Hab._ Sakhalin and Hokkaido.

_Family PHASIANIDAE._

120. *Phasianus torquatus quelpartis* Momiyama = *P. colchicus karpowi* Buturlin.
1926.—"*Tori,*" v, no. 22, p. 103 (U-men, Quelpart I.). (In Japanese.)


_Hab._ Korea, Quelpart I. and Tsushima (probably introduced); also found in S. Manchuria.

121. *Phasianus versicolor versicolor* Vieillot, mut. _kuro_ Momiyama & Kumagai = *P. v. versicolor._

Type: ♀, North-eastern Hondo, 11.i.1927. Preserved in Momiyama coll. (Number of specimens not mentioned.)

_Hab._ Hondo.

This mutant nearly entirely agrees with the coloration and markings of Hachisuka’s *P. colchicus* mut. _tenebrosus_ from England (Bull. B.O. Club, xlvii, pp. 51 and 142).

Momiyama’s *P. v. tohkaidi* (1922, Prov. Ise), _maedaius_ (1922, Prov. Tamba) and _mankaidi_ (1922, Prov. Tosa, Shikoku) are all synonymous with typical _versicolor_, as already mentioned in my _Monograph of the Pheasants of Japan_. *P. v. affinis* Momiy. (1922) is a synonym of _tanensis_ Kur. (1919).

1923.—"*Tori,*" iii, no. 14, p. 238 (North-eastern, North-western, and Central Hondo). (Incomplete description in Japanese.)

Type: Not mentioned.

_Hab._ Hondo (north of about 35° 10’ N. lat.).
123. **Graphophasianus scintillans inabaensis** Momiyama = *S. soem. intermedius* (Kuroda).


1931.—*Graphophastanus scintillans inabaensis* in *Ibis*, p. 381 (misprint for *inabaensis*).

Type: ♂ ad., near Tottori, Prov. Inaba, Hondo, 12.iii.1928. Y. Ikoma coll., no. 171 (preserved in Momiyama coll.).

*Hub.* Hondo (south-western parts: Chūgoku) and Shikoku.
OBITUARY.

The death of Arthur T. Goodson, who passed away in his 58th year on the 5th October, 1931, deprived Lord Rothschild's Zoological Museum of a most reliable assistant. His health had been poor on and off during the winter 1930-31, and in May he had to take leave of absence, which we all hoped would be only temporary. However, the jaundice from which he was suffering became severe, and an operation showed the pancreas so seriously affected by cancerous swellings that effective surgical intervention was considered to be impossible. The strength of the patient gradually ebbed away, and with it the hope of recovery. Towards the end of the summer it became clear that the life of the sufferer could not be saved and that medical science could do no more for him than alleviate the pain as much as possible.

Arthur Thomas Goodson was born at Tring on the 11th September, 1873, and came to the Museum in July 1893. Though he had had no training in biology, he showed great interest in his work and started to make a collection of British Lepidoptera for himself, collecting assiduously around Tring and, during his holidays, in the south of England, carefully labelling the specimens. The Museum was then in its beginning, and A. Goodson had to work as an attendant both in the ornithological and the entomological departments. After his brother had joined the staff in 1896, the work was so divided between the brothers that A. Goodson became my assistant in the bird-room, where he faithfully and diligently attended to his duties until the fatal illness cut his life short. He proved himself an intelligent assistant, who quickly acquired a general knowledge of bird-systematics, and not only remembered the names of genera, species, and subspecies, but also learned to distinguish one form from the other. I was then arranging the bird-collection according to Sharpe's Handlist, in which task A. Goodson assisted me. He was so efficient that after a while I could confidently leave to him the arranging of the remaining families. With the exception of the Struthionidae and the Humming-birds, nearly the entire collection passed through his hands, and he thus became intimately acquainted with as many species and subspecies as any ornithologist. It was astonishing to notice how well he learned to consult the literature, not only the books written in his native language, but also German and French ornithological publications. He had not been taught any foreign language at school, but with the help of a friend acquired a considerable knowledge of German. His acquaintance with the ornithological literature and his knowledge of the birds made him a very valuable assistant, and the numerous ornithologists who came to Tring to study birds, and whom he was always most willing to help in their researches, will, like ourselves, hold in grateful remembrance "faithful Arthur," as we affectionately used to call him. When new collections came in, I frequently, for lack of time or on account of my absence abroad, left it to Arthur Goodson to compare the new material, among which he often was the first to discover new species and subspecies; and so it came about that he described with me as joint author a number of new pigeons, and that I named several new birds after him, his name thus being perpetuated in Ornithology, a science to which he was so deeply devoted.

Ernst Hartert.
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