

Dimensions of the type (taken on the remade skin) :—

Head and body 435 millim.; hind foot, s. u. 90, c. u. 101.

Skull: greatest length 96·5; basilar length 70·5; zygomatic breadth 46; nasals, greatest length 36, greatest breadth 18·7; interorbital breadth 27·5; diastema 22; diagonal length of bulla 15; length of upper tooth series 17·4.

Hab. Ruatan Island, Bay of Honduras.

Type. Adult female. B.M. no. 86. 10. 8. 7. Presented by Messrs. F. D. Godman and O. Salvin. Collected by G. F. Gaumer. Three specimens examined.

This is evidently a pauperized insular representative of the continental *D. punctata*, Gray. In colour it is rather richer than the type, more strongly fulvous anteriorly and yellow posteriorly; but this is possibly merely due to the age and probable fading of Gray's type specimen.

XXXVIII.—On a Collection of Small Mammals from the Upper Nile obtained by Mr. R. M. Hawker. By OLDFIELD THOMAS, F.R.S.

MR. R. MACDONALD HAWKER, to whom the National Museum already owes many valuable mammals collected by him during his various expeditions into northern and north-eastern Africa, has now presented to the Museum the specimens obtained during his last winter's trip to the Soudan. They were mostly obtained on the White Nile between Fashoda and Khartoum, and are highly valuable both as supplementing the Museum collection, still very incomplete, from the Soudan, and as illustrating the many species described by Heuglin from specimens no longer in existence. The definite identification of these species of Heuglin's is a matter of the utmost value.

The number of species in Mr. Hawker's collection is not very large, but among them there are a new hare and a new gerbille; and I have also taken the opportunity to describe a new member of the latter group obtained by Lord Delamere in East Africa.

1. *Cercopithecus sabæus*, auctorum, nec Linn.

♂. Renk, 250 miles south of Khartoum. 13th May.

2. *Megaderma frons*, Geoff.

2 ♂. Kaka, 80 miles north of Fashoda. 23rd February.

2 ♂, 1 ♀. Goz Abu Gomer, 200 miles south of Khartoum. 17th May.

Mr. Hawker was much struck with the yellowness of the wings of this bat in life. It was on the wing by day, and looked more like a large yellow butterfly than a bat.

3. *Nycteris hispida*, Geoff.

4 ♂. Kaka. 19th March.

2 ♂. Renk. 13th May.

4. *Pipistrellus Temminckii*, Cretzschm.

♂. Khartoum. 24th January.

♂. Fashoda. 21st March.

♀. Goz Abu Gomer. 15th May.

5. *Crocidura Hedenborgiana*, Sund.

♀. Kaka. 23rd April.

This fine shrew is of particular value as being practically a toptype of Sundevall's species.

6. *Crocidura* sp. (perhaps *C. sericeus*, Sund.).

No. 5. Gebel Akhmed Aga. 21st February.

♂. Fashoda. 30th March and 2nd April.

7. *Felis maniculata*, Rüpp. (?).

Imm. ♀. Fashoda. 8th May.

Brought in by a native. Not to be distinguished from the local domestic cat.

8. *Arvicanthis variegatus*, Licht. (?).

♂. 20 miles north of Fashoda. 10th April.

♂. Kaka. 22nd April.

The relationship of this to the Lower Egyptian form and to Rüppell's *A. abyssinicus* and *lacernatus* is still uncertain.

9. *Arvicanthis testicularis*, Sund.

♂. Khartoum. 22nd January.

Yg. ♀. Duem, 110 miles south of Khartoum. 5th February.

Practically toptypes of the species.

On a closer examination I find that the Aden *Arvicanthis* referred by me to *A. variegatus** is really quite indistinguishable from *A. testicularis*. This is a striking example of the general relationship of Aden animals to Soudanese and Abyssinian, rather than to Egyptian forms.

10. *Arvicanthis zebra*, Heugl.

♂. Fashoda. 2nd April.

The posterior back of this mouse is not so rusty as is stated in the original description, but otherwise it agrees fairly well, and may be provisionally referred to Heuglin's species.

11. *Gerbillus*† *stigmonyx luteolus*, subsp. n.

♂. Duem. 23rd May.

Type. B.M. no. 1. 8. 8. 27.

* P. Z. S. 1895, p. 553.

† I may take this opportunity to describe

Gerbillus (*Dipodillus*) *Harwoodi*, sp. n.

A member of the *G. campestris* group, hitherto unrecorded in East Africa.

General colour dark fulvous, decidedly darker along the dorsal area, brighter and richer along the flanks, where it forms a bright fulvous line sharply contrasting with the white of the belly. Under surface pure white throughout, the hairs white to their bases. Crown of head like back; cheeks paler fulvous; postocular light marking indistinct, postauricular well defined. Ears small, their hairs dull fulvous. Front of fore limbs like body, inner side and upper surface of hands pure white. Outer side of hind limbs like body, but the ankles are darker and more mixed with slaty; inner sides and whole of feet white. Soles almost naked, a few scattered hairs present in the region of the pads, which are, as usual, six in number. Tail long, well haired, but little tufted; brown above and terminally, whitish proximally below.

Skull of the general shape characteristic of the *G. campestris* group.

Dimensions of the type (an adult female, measured in the flesh):—

Head and body 82 millim.; tail 113; hind foot 22; ear 10.

Skull: greatest length 26; basilar length 19; length of nasals 10; interorbital breadth 4.5; parietal breadth 12; interparietal 3.2 × 6.6; diastema 6.5; palatal foramina 5; length of upper molar series 3.6.

Hab. Lake Naivasha, British East Africa. Altitude 6300 feet.

Type. Female. B.M. no. O. 6. 21. 17. Original number 12. Collected 15th December, 1899, and presented by Lord Delamere.

So far as I am aware no member of this group has hitherto been described from the East-African region, all the known forms being either large gerbilles of the subgenus *Tatera* or else pigmy forms allied to *G. pusillus*, Peters.

I have named this pretty species after Mr. L. C. Harwood, the taxidermist who accompanied Lord Delamere and prepared the specimens. Mr. Harwood has been on a great number of East- and West-African collecting expeditions, and to his abilities much of the success of these expeditions has been due, at least so far as mammals and birds are concerned.

Closely allied to the typical *G. stigmatonyx*, Heugl.*, from Khartoum, but more heavily built and the colour sandy buffy throughout, very much as in *G. pæcilops*, instead of yellowish. Darker nose-mark and four white facial marks present as usual. White of throat spreading up towards the eyes on the cheeks, but not quite reaching them, a narrow line of buffy passing across.

Skull as in *stigmatonyx*, but heavier; the palatal foramina rather more open.

Dimensions of the type (measured in the flesh):—

Head and body 95 millim.; tail 110; hind foot 23; ear 12.

Skull: greatest length 28; basilar length 21; greatest breadth 14; length of nasals 10; interorbital breadth 4.8; parietal breadth 12.2; interparietal 3.5 × 7.5; palatine foramina, length 4.7; diastema 7.2; length of upper molar series 3.6.

In the Anderson collection there are two skins from the neighbourhood of Khartoum, obtained by Mr. H. F. Witherby, which Mr. de Winton thinks, and I agree with him, may be taken to represent Heuglin's *stigmatonyx*, though the description might apply to several other species †. This animal is allied to the Aden *G. pæcilops*, having somewhat similar proportions and skull-structure. The soles of the hind feet are of the *Dipodillus* type, but have a number of fine scattered hairs on them in the region of the pads, more typical *Dipodilli* having the soles entirely naked. In this respect, as in others, Mr. Hawker's gerbille agrees with the Khartoum form, and differs from the more northern *G. (D.) Bottai* and *quadrimaculatus*.

12. *Mus musculus orientalis*, Cretzschm.

♂. Khartoum. 26th January.

The local form of the house-mouse. Apparently represents *Mus pallescens*, Heugl.

13. *Mus macrolepis*, Sund.

2 ♂, 1 ♀. Kaka. 23rd April.

♀. Duem. 21st May.

4 ♂, 3 ♀. Fashoda. 28th to 30th March, 2nd April.

In working out this most difficult group of the genus these specimens, as certainly representing Sundevall's species ("ex

* Reise N.O.-Afr. ii. p. 78 (1877).

† The specimen marked *stigmatonyx* in the Stuttgart Museum does not at all agree with Heuglin's description, and cannot be the type. It is probably a member of the *Gerbillus gerbillus* group.

Sennaar"), are sure to be of the utmost value. As usual, there is considerable variation in colour among them. Heuglin's *Mus lateralis* is probably the same animal.

14. *Lepus Hawkeri*, sp. n.

♂. Kaka. 2nd March.

Type. B.M. no. 1. 8. 8. 40.

Closely allied to *L. æthiopicus*, Ehr., but greyer and less sandy throughout.

Size as in the allied species. General colour above soft fawn-grey, finely lined with black. Dorsal hairs at base pale silvery slate-grey, darkening above to black on the middle third, then subterminally ringed with buffy white, the tips black. In *L. æthiopicus* the base is whiter and less slaty and takes a sandy tone below the black ring, and the subterminal light ring is a strange sandy buffy. Flanks markedly greyer and less sandy than in *L. æthiopicus*. Under surface white, the usual collar pale isabelline. Face like back, though less heavily grizzled; ante- and postorbital light markings as usual. A white frontal spot present. Anterior part of back of ears greyish isabelline, the long hairs at its edge sandy buffy for three fourths the length; tips black behind for the terminal half-inch, the marginal hairs also black, though partly hidden by the sandy hairs of the inner side of the edge. In *L. æthiopicus* there is scarcely any black behind the tip of the ear. In length the ears appear to be decidedly shorter than in *L. æthiopicus*. Nape-patch comparatively small, dull sandy, markedly smaller and less vividly sandy than in the allied species. Tail black above, edged with buffy, white on sides and below. Front of fore limbs and hind limbs to ankles pale greyish; upper surface of hind feet whitish.

Skull very much as in *L. æthiopicus*, the occipital shelf rather narrower. Enamel of upper incisors making a deep but simple V-shaped projection into the tooth.

Dimensions of the type (measured in the flesh):—

Head and body 410 millim.; tail 60; hind foot 96; ear 100.

Skull: greatest length 80; basilar length 62; greatest breadth 39; nasals 34 (diagonally) \times 17.5; interorbital breadth 17.2; diastema 22.

This hare is no doubt the southern representative of *L. æthiopicus*, Ehr., of which some excellent examples from Shendy have been recently presented to the Museum by the Hon. N. C. Rothschild. The one from the sandy country

north of Khartoum is naturally sandy in tone, while that from the more marshy region southwards is greyer.

An immature hare from Gerazi, near Khartoum, collected by Mr. H. F. Witherby, also appears to be *L. Hawkeri*, but is too young to be certainly determinable.

Heuglin's *L. microtis*, founded on a young specimen, is a still more southern form from the forest-region about 7° N. by 30° E. It is a strong-coloured forest type of hare, and has apparently nothing to do with the open-country hares of the *L. æthiopicus* and *Hawkeri* group.

XXXIX.—*A List of Lepidoptera collected by Mr. Ewart S. Grogan in Central Africa.* By EMILY MARY SHARPE.

DR. SCLATER has placed in my hands the collection of Lepidoptera formed by Mr. Ewart S. Grogan during his celebrated journey through Africa from the Cape to Cairo*.

The bulk of this collection was obtained in the Karonga district, to the north of Lake Nyasa, and on the Rusisi River, which flows into the north of Lake Tanganyika. One or two specimens were procured in the Mushari country, between Lake Kivu and the Albert Edward Nyanza, and these species are apparently undescribed.

Throughout this paper I have referred to Prof. Aurivillius's 'Rhopalocera Æthiopica,' and when the nomenclature differs from this standard work, it will be understood that the identifications have been made from the specimens in the National Collection as recently arranged by Dr. Butler, Mr. F. A. Heron, and Sir George Hampson.

Family Danaididæ.

1 *Tirumala Petiverana*.

Danaida limniace, var. *Petiverana* (Doubl.); Aurivillius, *Rhopalocera Æthiopica*, p. 33 (1898).

a, b. ♂. River Longwe, Karonga. January.

c. ♂. Volcanoes, 7000 feet. June.

2. *Amauris Grogani*, sp. n.

Allied to *A. damocles*, Beauv., as regards the situation of the white spots on the primaries, but in general appearance resembling *Amauris Ansoergei*, Sharpe.

Primaries. Ground-colour dark brownish black, relieved

* See 'Geographical Journal,' vol. xvi. 2, pp. 164-184 (1900).



Thomas, Oldfield. 1901. "XXXVIII.—On a Collection of Small Mammals from the Upper Nile obtained by Mr. R. M. Hawker." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 273–278.

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