

interorbital region; snout projecting beyond lower jaw; eye 7 to 9 times in length of head, 2 to  $2\frac{1}{2}$  times in interorbital width; head-shields all paired; suboperculum a little smaller than eye. Dorsal with VII-VIII spines, anterior widely separated when folded. Anal 12-13. Pectoral widely separated from first dorsal spine. 56-59 scales in a longitudinal series, 30-33 between occiput and first dorsal spine, 36-38 round middle of body. Dark olive above, yellow beneath, back and sides spotted or marbled with blackish; no large black spot on the muscular part of the pectoral fin.

Four specimens, measuring from 137 to 223 mm., were obtained by Mr. Willoughby P. Lowe at Nanna Kru, Liberian coast, in January 1911.

*P. lowei* is intermediate between *P. palmas*, Ayres (*buettikoferi*, Stdr.), and *P. retropinnis*, Vaill. It is readily distinguished from the first by the smaller eye and the higher number of scales between occiput and dorsal fin (30-33 instead of 23-26), from the second by the lower number of these scales and by the absence of a large black spot on the muscular part of the pectoral fin. Besides, the snout of this fish is broader than in either of the two species with which it should be compared.

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#### XLIV.—On new African Muridæ.

By OLDFIELD THOMAS.

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##### *Enomys ornatus*, sp. n.

A small species, with a maximum development of the bright coloration typical of the genus.

Size only about two-thirds that of *Æ. hypoxanthus*. Fur of medium texture; hairs of back about 11 mm., the longer bristles attaining 16 mm. General style of coloration like that of *hypoxanthus*, but the yellowish and reddish markings especially bright. Upper surface of body "raw umber," paling on sides to near "tawny olive." Under surface white (to roots of hairs) on throat, chest, and inguinal region; belly washed with clear buff; a broad line of bright "buff" edging the body-colour on sides. Muzzle, including eye-rings, "tawny ochraceous." Ears deep tawny. Hands and feet tawny ochraceous; wrists, lower legs, and ankles rich buff or



ochraceous buff in continuation with the buffy line on the sides. Hairs round base of tail with bright buffy ends. Tail practically naked, dark brown, scarcely lighter below.

Skull conspicuously smaller than that of *Æ. hypoxanthus*. Cranial ridges less strongly developed. Supraorbital ridges more divergent posteriorly. Palatal foramina broad in front, strongly narrowed behind. Palate between molars very narrow. Teeth essentially as in *Æ. hypoxanthus*.

Dimensions of the type (measured in flesh):—

Head and body 112 mm.; tail 157; hind foot 29; ear 17.

Skull: greatest length 30.5; basilar length 23.6; greatest breadth 15.3; nasals 11.6; interorbital breadth 4.8; palatal length 13; palatal foramina 5.1; breadth of palate between  $m^1$  1.8; upper molar series 6.6.

*Hab.* Bibianaha, near Dunkwa, Gold Coast. Alt. 700'.

*Type.* Young adult female. B.M. no. 11. 2. 14. 9. Original number 58. Collected 12th Jan., 1911, and presented by Dr. H. G. F. Spurrell. Two young specimens also sent.

This beautiful species presents the extreme of a type of colouring found in several different parts of the world—for instance, in S. America, in *Peromys (scalops &c.)* and in *Akodon (bacchante &c.)*. In Africa all the members of *Enomys* show something of it, the different subspecies being characterized by its degree of intensity.

The young specimens of *Æ. ornatus* are even more vividly coloured than the adult, the ears especially standing out in marked contrast to the rest of the head.

As a species *Æ. ornatus* is at once separable from the Western *Æ. hypoxanthus*, and in a less degree from the Eastern *Æ. bacchante*, by its much smaller skull and teeth, though the hind foot is of nearly equal length to that of the latter.

The opposite extreme of the *Enomys* coloration is presented by the following:—

*Enomys bacchante mœrens*, subsp. n.

An *Enomys* almost without buffy markings, the belly suffused with slaty.

Size and other essential characters as in *bacchante*. Colour throughout much darker and less ornamented. Upper surface dark, between "olive" and "bistre," the rump and legs with an almost imperceptible suffusion of clay-colour. Under surface lighter than the upper, the hairs dark slaty proximally, dull clay-colour terminally, no lateral line of



demarcation perceptible; inconspicuous patches of whitish on chin and sides of chest between fore limbs. Head rather greyer than back. Sides of muzzle suffused with dull inconspicuous tawny, barely extending back to the eyes. Ears dark brown. Hands and feet brown, not buffy. Tail dark brown, scarcely lighter below.

Skull essentially like that of *bacchante*, the bullæ a little smaller. Teeth small, as in all the Eastern forms, though still decidedly larger than in the far Western *Æ. ornatus*.

Dimensions of the type (measured in flesh) :—

Head and body 137 mm.; tail 165; hind foot 31; ear 19.5.

Skull: greatest length 37.4; basilar length 29.4; palatal foramina 7; upper molar series 7.

*Hab.* Solai, western slope of Mt. Kenya, B.E.A. Alt. 8000'.

*Type.* Adult female. Original number 1561. Collected by Robin Kemp. Presented by C. D. Rudd, Esq. Six specimens.

This Kenya *Ænomys* differs from all the known forms of the genus by the slaty bases to its belly-hairs.

#### *Ænomys oris*, sp. n.

As in *Æ. bacchante*, but size larger.

Size about as great as in the Western *hypoxanthus*, therefore markedly larger than in *Æ. bacchante*. Colour quite as in the latter. Feet pale brown.

Skull shaped as in *Æ. bacchante*, but larger throughout. Interorbital region narrower than in *hypoxanthus*. Bullæ large.

Teeth large and heavy, quite equalling those of Cameroon examples of *Æ. hypoxanthus*.

Dimensions of the type (measured in flesh) :—

Head and body 179 mm.; tail 184; hind foot 32.5; ear 22.

Skull: greatest length 41; basilar length 33; greatest breadth 20; interorbital breadth 5.3; breadth of brain-case 15.7; palatilar length 18.4; palatal foramina 8.2; upper molar series 7.8.

*Hab.* Mt. Kinangop, Aberdare Range, British East Africa. Alt. 11,000'.

*Type.* Old male. B.M. no. 10. 5. 3. 154. Original number 696. Collected 25th February, 1910, by Robin Kemp. Presented by C. D. Rudd, Esq.

The ordinary E.-African *Æ. bacchante* was found by Mr. Kemp well up on the Aberdare Range, but the subject of the present description differs from all the other specimens



from the range by its materially larger size, longer skull, and heavier teeth, in which respects it equals Cameroon specimens of *Æ. hypoxanthus*.

*Lophuromys naso*, sp. n.

Size and other characters of *L. nudicaudus*, Hell., but teeth peculiarly cuspidate.

External appearance about as in *L. nudicaudus*, the colour above rather paler brown and below duller (between ochraceous tawny and clay-colour). Tail rather longer.

Skull with a peculiar slender low muzzle, its upper profile flattened, even concave at a point above the front end of the palatal foramina. Anterior zygoma-root as in *L. nudicaudus*.

Incisors apparently a little more thrown forwards than in *L. nudicaudus*. Molars narrow;  $m^1$  with the small outer accessory cusps very unusually developed, the one between the first and second laminæ about as long as it ever is in ordinary *Lophuromys*, while that between the second and third laminæ is produced into a high upstanding cusp almost rivalling in height the main outer cusp just behind it.

Dimensions of the type (measured in skin):—

Head and body (probably shrunk) 95 mm.; tail 63; hind foot 19; ear 15.

Skull: tip of nasals to anterior corner of interparietal 24.5; nasals 11.7; interorbital breadth 6; breadth of brain-case 12.5; palatilar length 11.5; palatal foramina 5.5; upper molar series 4.7.

*Hab.* Gaboon.

*Type.* Adult. B.M. no. 7. 1. 1. 85. Tomes Collection. Obtained from Messrs. Verreaux about 1855.

The great development of the accessory cusps of  $m^1$  and the peculiar shape of the muzzle will distinguish this species from any *Lophuromys* hitherto described.

This specimen, from Mr. Tomes's collection, belongs to a small set of skins from the Gaboon which are labelled as having been described by J. and E. Verreaux in the 'Revue et Magasin de Zoologie,' 1855, under various names, all unknown to naturalists, but apparently the paper was never published. Had it been, Peters's name *Lophuromys* for the genus would have been antedated by that proposed by the brothers Verreaux.

*Thamnomys buntingi*, sp. n.

A Western species of the *ibeanus* and *macmillani* group.

General external appearance as in other members of the



group, in fact quite like Elgon specimens referred to *T. ibeanus* except that the ears are smaller. Head and anterior half of body lined olive-grey, posterior half passing into dull tawny ochraceous. Under surface sharply defined pure white, a very narrow buffy edging along the posterior part of the line of demarcation. Ears rather small, coloured like the head. Hands and feet pale buffy. Tail as usual long, well-haired, and slightly pencilled terminally, brown above and at the end, inconspicuously lighter below proximally, where the hairs are dull buffy except along the centre, where they form a slightly darker median line.

Skull rather longer than that of *macmillani*, but with even smaller bullæ. Anterior palatine foramina comparatively short, not reaching back even to the level of the front of the root of  $m^1$ . Teeth very small.

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

Head and body 108 mm.; tail 170; hind foot 23·5; ear 15.

Skull: greatest length 29·3; condylo-incisive length 27; zygomatic breadth 14·2; nasals 11; interorbital breadth 4·5; brain-case breadth 12·8; palatilar length 12; diastema 7·5; palatal foramina 6·1; upper molar series 4·3.

*Hab.* Gonyon, Bassa, Liberia.

*Type.* Old male. Original number 36. Collected 29th November, 1910, by R. H. Bunting.

This *Thamnomys* is readily distinguishable from other members of the genus by its size, small teeth, small bullæ, and short palatal foramina. It is the first of this group of *Thamnomys* to be discovered in West Africa, the previously known species ranging from Abyssinia to the Cape.

I have named it after Mr. R. H. Bunting, its captor, in whose collection there are several interesting Liberian species not previously possessed by the Museum, such as "*Mus*" *trivirgatus*, Temm., *Epimys defua*, Mill., *Dasymys rufulus*, Mill., and *Malacomys edwardsi*, Rochebr.

#### TYPOMYS, gen. nov.

External characters as in *Hybomys*, except for the three-striped instead of one-striped pattern of coloration. Mammæ 0—2=4, these varying in *Hybomys* from 0—2=4 to 1—2=6.

Skull less broad than in *Hybomys*. Brain-case smaller, muzzle longer. Anterior zygoma-root with the upper bridge over the foramen, the hinder edge of the zygomatic plate, and the front half of  $m^1$  all in one straight vertical line (in *Hybomys* the bridge is decidedly anterior to the hinder edge of



the plate, and the latter, again, is opposite the extreme front edge of  $m^1$ ). Front edge of zygomatic plate slanted, little curved, not subangularly projected forward. Palatal foramina shorter, barely equalling the length of the molar series.

Molars not so simple and *Epimys*-like as in *Hybomys*, but more tending to the character of those of *Mylomys* as compared to *Pelomys* \*, although not so extreme.

The middle cusp of each lamina is, as in *Mylomys*, highly developed, beak-like, directed backwards, the laminae are similarly curved round, and complicated by the development of connecting-ridges between the laminae, notably between the first and second laminae of  $m^1$ .

*Type.* *Typomys trivirgatus* (*Mus trivirgatus*, Temm.).

The character of the molars of this animal is one common to several African genera—e. g., *Mylomys*, *Ænomys*, and *Desmomys*,—but as to whether it is an independent development in each case or shows any community of origin I am not at present prepared to express an opinion. *Hybomys*, otherwise not widely different from *Typomys*, has quite normally constructed molars.

Six specimens of *Typomys trivirgatus* were obtained by Mr. Bunting in Liberia.

#### XLV.—*A new Vole from Eastern Asia.*

By OLDFIELD THOMAS.

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##### *Microtus pelliceus*, sp. n.

A large vole allied to *M. calamorum*, Thos.

Size large as compared with ordinary voles, about as in *M. calamorum*. Fur long, soft, very sleek and fine; hairs of back about 15 mm. in length, the long bristle-hairs attaining 20 mm. or more. General colour above sepia-brown, formed of mixed black and dull buffy, the resulting mixture very heavily and coarsely lined. Under surface soiled greyish white, the bases of the hairs slaty, the ends dull whitish. Ears rather short, dull greyish brown. Hands and feet brown on metapodials, whitish on digits; soles with only 5 pads. Tail long, well-haired, the hairs quite hiding the scales; sharply bicolor, deep brown above, white below.

\* Cf. Ann. & Mag. Nat. Hist. (7) xviii. p. 224 (1906).



Thomas, Oldfield. 1911. "XLIV. — On new African Muridæ." *The Annals and magazine of natural history; zoology, botany, and geology* 7, 378–383.

<https://doi.org/10.1080/00222931108692953>.

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