case 14·3; palatine foramina 10; palatal bridge 2; antero-posterior length of bulla 9·5; upper tooth-series (alveoli) 6·7.

*Hab.* W. Sze-chwan. Type from Shu-o-lo (Tschuwo), Nia-nong, N.W. of Ta-chien-lu. Alt. 13,000′.

*Type.* Adult male. B.M. no. 13. 9. 13. 16. Collector's number 246. Harvard number 7601. Collected 20th August, 1908, by W. R. Zappey. Received in exchange from the Museum of Comparative Zoology, Harvard.

The light nape-patches are no doubt less developed in winter, but, as I have had for comparison an August specimen of *thibetana* collected by Mr. Anderson, I have been able to see that they are certainly more conspicuous in *zappeyi* than they are in *thibetana*.

This species was named *O. hodgsoni* in Mr. Glover Allen's admirable paper on Sze-chwan mammals, he, like other people, having been deceived by the confusion which has surrounded the determination of these small Pikas, and espe cially by the mistaken identification of the somewhat similar Sikim species with *O. hodgsoni* by Bonhote. I have named it after Mr. Zappey, who made the fine collection in which it occurs.

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## XIX.—*Some Notes on Ferret-Badgers.*

By Oldfield Thomas.

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Owing to their extreme external resemblance to one another, all the ferret-badgers have usually been considered as of one genus, though sorted into groups according to the sizes of their teeth. The differences in the teeth, however, are so great that I consider that the large-toothed forms (*Melogale*) and the small-toothed forms (*Helictis*) should be generically distinguished, especially as the characters of the baculum both confirm the division and indicate a reason for the separation of a third genus for the N.-Bornean species *Helictis everetti*. Merely going by the teeth, the position of this species had been somewhat doubtful and a cause of hesitation in the frank separation of the groups.

So far as appears, *H. everetti* would appear to be annectant

to the other two groups and more or less near some common ancestor of theirs *.

The following synopsis gives a brief indication of the characters by which the three genera may be distinguished :—

A. Outer edge of $p^4$ distinctly convex.
  *a.* Teeth large and heavy. $P_2$ disproportionally larger than $p_1$. Baculum bifid, the terminal prongs much thickened, and one of them forming a curved crest..... 1. *Melogale.*
    *Range.* Mainland area from Nepal to Cochin China, and Java.
    Genotype. *Melogale personata*, Geoff.
  *b.* Teeth small. $P_2$ not disproportionally larger than $p_1$. Baculum bifid, but the prongs simple, scarcely thickened, and not crested. 2. *Nesictis*, gen. nov.
    *Range.* North Borneo.
    Genotype. *N. everetti* (*Helictis everetti*, Thos.).

B. Outer edge of $p^4$ straight or faintly concave mesially.
  *c.* Teeth small. $P_2$ not disproportionally larger than $p_1$. Baculum trifid, with three slightly thickened terminal prongs set in a triangle..... 3. *Helictis.*
    *Range.* Assam, China from Canton to Shanghai, Hainan, Formosa.
    Genotype. *Helictis moschata*, Gray.

Three new forms of the group appear to need description :—

*Melogale personata laotum*, subsp. n.

Size averaging a little less than in true *personata* of Pegu. General colour slightly greyer, less brown, and with more grey suffusion on the sides of the lower surface.

Teeth smaller, the molar especially smaller than in *personata*. In three specimens of *personata* the carnassial has a greatest diameter of 10·3, 10·2, 9·3 mm., while in five of *laotum* this dimension is 9·2, 9·0, 9·0, 9·0, 8·6. The difference is more marked in the molar, its greatest diameter in *personata* 9·0, 8·9, 8·7, and in *laotum* 8·2, 8·2, 8·1, 8·1, 7·7, with its internal antero-posterior diameter 5·5, 5·5, 5·2, as

* A specimen of *M. personata* from Rangoon, which lived in the Zoological Gardens, and has been kindly lent to me by Mr. Pocock, presents the difficulty that its baculum is almost exactly like that of *Nesictis everetti*. But the specimen is immature, with its bones and teeth in poor condition, and the penis-bone itself not of the hard glossy substance that is usual in well-grown bacula. I believe that this is a case of arrested development due to confinement and immaturity, the arrest having taken place at the same stage of growth as that shown in the adult by the annectant and perhaps ancestral *Nesictis*.

compared with 4·6, 4·5, 4·5, 4·4, 4·2 in the new form, the antero-internal flange of this tooth almost obsolete.

Dimensions of the type (measured in flesh) :—

Head and body 378 mm.; tail 161; hind foot 62; ear 31.

Skull: greatest length 80; condylo-basal length 77·3; zygomatic breadth 46; interorbital breadth 19·3; breadth across cranial ridges 14; mastoid breadth 37; palatal length 40; front of canine to back of $m^1$ 27·3.

*Hab.* North-eastern Siam; type from Nan, alt. 200 m.

*Type.* Adult male. B.M. no. 1. 11. 8. 5. Original number 125. Collected 7th November, 1900, and presented by Th. H. Lyle, Esq. Five specimens.

Judging from an imperfect specimen sent by Dr. Vassal, this small-toothed form apparently passes down into Annam, while in Camboja and Cochin China the genus is represented by *M. pierrei*, Bonhote.

Another ferret-badger from Tonkin has still smaller teeth :—

*Melogale tonquinia*, sp. n.

Size doubtful, but the single immature skull is already rather longer than in adult female *N. p. laotum*. General colour brown rather than grey. White head-markings at a maximum, the white nape-band expanded on the crown to within half an inch of the pre-aural light stripe, which is connected behind the eyes with the frontal patch. Dark eye-rings narrow. Ears completely whitish, inside and out. Light colour of cheeks, throat, chest, and inguinal region strongly suffused with yellow—though this is probably an individual peculiarity. Forearms and hind limbs brown, hands and tips of toes white.

Teeth decidedly smaller than in other species, the greatest diameter of $p^4$ only 8·0 mm., the transverse diameter of $m^1$ 6·7, and the internal antero-posterior diameter of the latter only 3·8 mm.; similarly, below the carnassial is only 7·6 × 3·7 mm.

Dimensions of type :—

Head and body 350 mm.; hind foot 58.

Skull: greatest length 79. Teeth as above.

*Hab.* Ton-kin. Type from Yen-bay, Song-koi River.

*Type.* Immature female. B.M. no. 12. 4. 21. 4. Collected 12th September, 1911, by H. Orii. Purchased of Alan Owston.

Although the coloration of this animal has a certain

amount of peculiarity, the real reason for its distinction lies in the comparatively small size of the teeth, by which it is distinguished from the other species of *Melogale*. The teeth of the type are unworn and quite perfect.

*Helictis subaurantiaca modesta*, subsp. n.

Essential characters of true *subaurantiaca*, this species differing from the continental *H. moschata* by its smaller size. General colour as in the typical form, except that the white head-markings are greatly reduced. The usual frontal white patch between eyes almost obsolete, a few odd hairs alone white. White of cheeks not rising up to eye, the brown bar below the eye over 5 mm. in breadth. Broad white band between eye and ear reduced to a narrow line, between which and the ear there is a broad area of brown continuous with the general brown of the upper surface. Back of ears brown, the edges only white. Nape-line much reduced, interrupted on the neck, and only reaching to the withers.

Skull as in *subaurantiaca*.

Dimensions of the type (measured on skin):—

Head and body 338 mm.; tail 148; hind foot 53.

Skull: median length 79·5; zygomatic breadth 45; interorbital breadth 20; mastoid breadth 38; front of canine to back of $m^1$ 24; combined length of $p^4$ and $m^1$ 10.

*Hab.* Mountains of Central Formosa. Type from Bankoro.

*Type.* Adult male. B.M. no. 8.4.1.53. Original number 70. Collected 30th March, 1907, for Mr. A. Owston. Purchased.

Distinguished from *subaurantiaca* in very much the same way as true *moschata* is from *ferreogrisea*—that is, by the lesser amount of the white head-markings. Both the latter are larger than the Formosan forms.

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## XX.—*On the Systematic Arrangement of the Marmosets.*

By Oldfield Thomas.

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The necessity for relabelling the Museum collection of Marmosets has caused an examination into the question as to how many genera of these animals should be recognized,