

SCIENTIFIC RESULTS OF THE MAMMAL SURVEY.

No. XXXII.

(A.) NEW AND INTERESTING MAMMALS FROM THE MISHMI HILLS,

BY

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In a fine collection of mammals from the Mishmi Hills made for the Survey by Mr. H. W. Wells there occur the following forms worthy of special note. A full report on the collection will appear later.

Tupaia belangeri versurae, subsp. n.

Near *T. b. assamensis*, Wrought., in general colour, but the fur longer, the shoulder stripes more diffuse—in fact scarcely perceptible, and the buffy ends of the hairs of the chest and middle line of belly more strongly ochraceous. Hairs of inguinal region dull buffy with slaty bases, these hairs being wholly buffy in *assamensis*.

Skull as usual in *belangeri*.

Dimensions of the type, measured in the flesh :—

Head and body 199 mm. tail 184 mm., hindfoot 43·5 mm., ear 20 mm.

Skull, greatest length 49 mm., zygomatic breadth 25 mm.

Hab.—Mishmi Hills. Type from Dening, 2250'.

Type.—Adult male B. M. No. 21. 12. 5. 9. Original number 1629.

Collected 3rd April 1921, by H. W. Wells. Presented by the Bombay Natural History Society.

This Tree Shrew of the far North-eastern corner of British India differs from that of the rest of Assam in a curiously similar manner to that in which *Dremomys l. subflaviventris* does from *D. l. garonum*, for the buffy of the undersurface is here ochraceous as compared with yellowish exactly as in the corresponding races of the squirrel from the same two areas.

The only other form that comes in question is *T. b. chinensis*, and on the basis of our Teng-yue specimens of the latter, the Mishmi specimens are distinguishable by their much darker general colour, and their ochraceous-washed undersurface.

In working out this Tree-shrew I have again examined the form found in Sikkim, which has been long known, but has hitherto been vaguely assigned to *T. belangeri belangeri*, whose type locality is Pegu.

Now that better series are available, it is natural to find that the Sikkim form deserves a special name, and it may be called—

Tupaia belangeri lepcha, subsp. n.

Size rather less than in the average of *belangeri*. General colour olivaceous grey, paler than in *assamensis* and *versurae*, the back without any brownish or rufous tone such as is found in subspecies *belangeri*. Shoulder stripes scarcely perceptible. Chest and middle line of abdomen washed with pale buffy, about as in *assamensis*, paler than in *versurae*.

Dimensions of the type, measured in the flesh :—

Head and body 154 mm., tail 173 mm., hindfoot 40 mm., ear 16 mm.

Skull, greatest length 46 mm., condylo-basal length 44 mm., zygomatic breadth 24 mm.

Hab.—Sikkim and Bhutan. Commonly recorded also as from Nepal, but this appears to have been based on Hodgson's later specimens, which were from Darjiling and not Nepal. Type from Narbong, Darjiling, 2000'.

Type.—Adult female. B. M. No. 15.9.1.44. Original number 6467. Collected 14th March 1915 by C. A. Crump. Presented by the Bombay Natural History Society.

Hitherto always referred to *T. belangeri belangeri*, but clearly subspecifically distinguishable.

Soriculus radulus, sp. n.

A small species with large fore-claws :—

Size a little larger than in *S. caudatus*. General appearance much as in that species, though the tail is shorter. Fur fine, soft, velvety, hairs of back about 4·5 mm., in length. General colour velvety blackish; a little browner than “blackish mouse-grey”. Undersurface dark smoky brown. Hands and feet almost naked, dark grey; claws markedly elongated, fossorial, the fore-claws attaining 3·5 mm., in length, as compared with 2·0 in *S. caudatus*. Tail about the length of the body without the head, naked, black, scarcely lighter below.

Skull rather larger than that of *S. caudatus*, and proportionately broader across the braincase. Teeth much as in *caudatus*, the second incisor similarly larger than the third, not as in *nigrescens*, the other species with elongated claws. Tips of teeth with a minimum amount of brown, i^1 , i^2 , and p^1 alone being slightly darkened terminally.

Dimensions of the type, measured in the flesh :—

Head and body 70 mm., tail 50 mm., hindfoot 14 mm., ear 9 mm.

Skull, greatest length 20·6 mm.; condylo-incisive length 21·1 mm., breadth across braincase 10·5 mm., upper tooth series 9·7 mm.

Hab.—Mishmi Hills. Type from Dreyi 5,140'.

Type.—Adult female. B. M. No. 21. 12. 5. 6. Original number 1947.

Collected 28th May 1921 by H. W. Wells. Presented by the Bombay Natural History Society. A second specimen preserved in spirit.

This little shrew is at once distinguished by its long claws from any other members of the genus except *S. nigrescens*, and that is very much larger, with differently proportioned incisors.

The collection also contains four examples of *S. caudatus*, but not any of the other Mishmi species, *S. baileyi*, described by me in 1914.

Dremomys lokriah subflaviventris, Horsf.

Most nearly allied to *D. l. bhotia*, Wrought., with which it shares the dark greyish general colour above, without fulvous suffusion. But the size is larger, the skull sometimes attaining 54 mm. in length, and the ochraceous colour of the undersurface is more nearly restricted to the median area. In *bhotia* the whole undersurface from side to side is more or less washed with ochraceous, the fulvous tinge often perceptible on the flanks. In *subflaviventris* on the other hand the ochraceous is even more vivid on the chest and middle area of the belly, but is usually only about 25-30 mm. wide, the sides of the belly being olivaceous grey like the flanks and back.

Dimensions of a Mishmi specimen, measured in the flesh :—

Head and body 201 mm., tail 125 mm., hindfoot 45 mm., ear 20 mm.

Skull, greatest length 52·5 mm.; condylo-incisive length 47 mm., zygomatic breadth 29·7 mm., upper tooth series exclusive of p^3 8·5 mm.

In connection with the determination of this animal an interesting point of nomenclature arises. The name *Sciurus subflaviventris* has always been considered as a *nomen nudum*, and it certainly has never been “properly” described. But it is now considered that any statement about a specimen, in connection with a name, renders the latter valid. Now two statements have been made about *subflaviventris*, the first of which, dating from Horsfield’s catalogue†, may be taking as stabilizing the name, with its type, B. M. No. 79.11.21.351. The statement is simply that *S. subflaviventris* “nearly resembles” *S. lokriah*, and we may therefore consider the type as having been described. A full description of the same animal was given by McClelland, P. Z. S., 1839, p. 151, but only in connection with the earlier name of *lokriah*, Hodgs.

The advantage of accepting this early statement as valid is that a still more unsatisfactory but an unescapable statement has recently been made about *sub*.

† Horsf. Cat. Mamm. Mus. E. I. C. p. 153, 1851.

flaviventris by Robinson and Kloss, Records Ind. Mus., XV., p. 236, 1918, who say of a number of specimens from different localities, covering the ranges of two quite different forms, that "these specimens, which are more ochraceous and less ferrugineous than most specimens from Nepal, have been referred to in literature as *S. subflaviventris*." That statement would again (if it had not been antedated by Horsfield's) be a valid "description" of *subflaviventris*, but would remove the name from McClelland's type, and base it on a mixture of specimens from several localities.

Now the type of "*S. subflaviventris*, McCl." Horsf., has absolutely the pectoral colour of true *lokriah*, not that of the subspecies next to be described and must therefore have been originally obtained in the North Eastern part of "Assam." And in size of skull it entirely agrees with the form of the Mishmi Hills. Persons who do not accept my extreme view of what is to be taken as a "description" would equally reject Robinson and Kloss's one as being valid, for it also was imperfect and unintentional and they should then accept the name from the present paper.

The definite identification of this troublesome name is undoubtedly an advance in clearing up the synonymy of the group.

In working out this *Dremomys*, the distinction from it of the Garo and Khasi Hills form now comes to light. The latter is clearly a separate subspecies, and may be called

Dremomys lokriah garonum, subsp. n.

Size about as in true *lokriah*, or slightly smaller. Colour above as in *D. l. bhotia*, but below instead of the yellowish wash approaching "orange ochraceous" as it does in *lokriah*, *bhotia* and *subflaviventris*, it is far paler and more yellow, nearly matching Ridgway's "orange-buff". Buffy of underside narrower below, as in *subflaviventris*, not as in *bhotia*.

Dimensions of the type, measured in the flesh:—

Head and body 190 mm., tail 153 mm., hindfoot 45 mm., ear 20 mm.

Skull, greatest length 50.5 mm., condylo-incisive length 44.2 mm., zygomatic breadth 27 mm.; upper tooth series, exclusive of p^3 8.5 mm.

Hab.—Garo and Gaintia Hills, Assam. Type from Tura, Garo Hills. Another specimen, apparently similar, from Rajapara, S. Kamrup, on the Northern side of the Brahmaputra.

Type.—Adult male. B. M. No. 21.1, 6.54 Original number 283. Collected 25th February 1920 by H. W. Wells. Presented by the Bombay Natural History Society. Five specimens.

Readily distinguishable by the paleness of its lower surface.

Dacnomys wrough-toni, sp. n.

A larger species than *D. millardi*, of warmer coloration.

Size, as gauged by skull, decidedly larger than in *millardi*, though the feet are but little longer, their range of variation overlapping the foot-length of the single known specimen of *millardi*. General colour of upper surface a strong warm brown, near "Prout's brown," the ends of the ordinary hairs deep buffy. On the other hand *D. millardi* is a colder and more greyish or smoky brown, the light ends of the hairs inconspicuously drab. Undersurface lighter than upper but still usually of a warmer tone than in *millardi*, gular, axillary, and inguinal whitish patches usually absent, but present, quite as well developed as in the type of *millardi*, in one out of six specimens. Ears practically naked, brown. Hands brown on metacarpus, the digits lighter. Feet rather stouter than in *millardi*, similarly brown with lighter ends to the toes. Mammæ 2-2=8.

Skull similar in essential respects to that of *millardi*, but considerably larger, and the prominent supraorbital ridges heavier throughout, with the angular postorbital projections more conspicuously developed.

Hab.—Mishmi Hills. Type from Dreyi; alt. 6,000'.

Type.—Adult male. Teeth worn. B. M. No. 21. 12. 5. 84. Original number 1999.

Collected 9th June 1921 by H. W. Wells; presented by the Bombay Natural History Society.

Dimensions of the type, measured in the flesh;—

Head and body 290 mm., tail 335 mm., hindfoot 56 mm., ear 27 mm. Weight 1.25 lbs.

Skull, greatest length 62 mm., condylo-incisive length 57.7 mm., zygomatic breadth 30 mm., nasals 24×7.3 mm.; interorbital breadth 8.8 mm.; breadth across postorbital projections 19.2 mm.; zygomatic plate 5.6 mm.; palatilar length 29.3 mm.; palatal foramina 12×5 mm.; upper molar series 13.

This fine rat forms a second species of the genus *Dacnomys*, the discovery of which forms one of the most striking results of the Bombay Natural History Society's Survey. The original species having been named in honour of Mr. Millard, I have thought it suitable that the second should bear the name of his friend and partner in the carrying out of the Bombay Survey, the late Mr. R. C. Wroughton, to whose memory I am proud to pay this last tribute.

(B)

THE PORCUPINE OF ASSAM.

Among the Natural History Specimens obtained in Assam by Mr. J. P. Mills and presented by him to the Society there is a perfect and fully adult skull of a Porcupine, and I have been asked to determine its species.

It is of medium size, and certainly does not belong on the one hand to a large Crested Porcupine, such as the ordinary *Acanthion leucurus*, nor on the other to the small crestless porcupine, *A. hodgsoni*. It would however appear to be related to the intermediate group of which *A. brachyurus* is the oldest known member, a group to which also *A. klossi* and *subcristatus* belong. This group ranges from China through Siam to the Malay Peninsula, but has not hitherto been found in Assam.

The skull obtained by Mr. Mills would appear to represent a new species, which may be called—

Acanthion millsii, sp. n.

Size rather less than in *A. klossi*. General character of the skull more rounded and inflated than in *klossi*, almost as much as in *subcristatus*, the upper outline strongly bowed. Region across forehead considerably swollen, so that the outer bar of the anteorbital foramen is scarcely visible from above, while it is broadly visible in *klossi*; posterior part of interorbital region scarcely narrower than anterior. Nasals large, convex, much expanded behind, shorter but broader than those of *klossi*, and reaching well behind the lacrymal bones. Frontal suture comparatively long, just on half the length of the nasal suture, therefore longer proportionally than in the other species. Parietal region of skull rather short, not longer than the frontals, and with comparatively little occipital projection. Outer outline of zygomata more expanded at the level of the anteorbital bar, the two zygomata behind this bar more nearly parallel than in the allied species. Mesopterygoid opening broad.

Dimensions:—Upper length 131 mm.; condylo-incisive length 126 mm.; zygomatic breadth 69 mm.; nasals, length 69 mm., anterior breadth 25.5 mm., posterior breadth 39 mm.; breadth between outer corners of the anteorbital foramina 59 mm.; interorbital breadth anteriorly 51 mm., posteriorly 49 mm.; median length of frontals 33 mm., of parietals 32 mm.; palatilar length 62 mm.; breadth of mesopterygoid fossa 17 mm.; upper cheek-tooth series (crowns) 29.

Hab.—Naga Hills, Assam; type from Sangrachu, 3,500'.



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