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## NEW CHINESE INSECTIVORES<sup>1</sup>

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The mammals obtained by the Asiatic Expeditions of the American Museum of Natural History, under the leadership of Mr. Roy Chapman Andrews, include over 460 specimens of Insectivora, many of them of unusual rarity, such as the genera *Neotetracus*, *Scapanulus* and *Scaptonyx*. Most important are the excellent series of skins from western and southwestern Yunnan, which afford ample basis for demonstrating that distinct representative subspecies in many groups are to be found in the extreme southwest of that Province, and that these are readily distinguishable from those of the Li-chiang highlands whose summits run to 13,000 feet and over. These in turn are in some cases represented by distinct races farther north in Szechuan. Some of the western Yunnan races have lately been described by Mr. Oldfield Thomas from collections made by Mr. George Forrest. The intensive field work of Messrs. Andrews and Heller has resulted in the discovery of additional new races in this region, while their smaller collections from eastern China, Szechuan and southeastern Mongolia have been of much help in affording comparable material of other forms. The following appear to be new.

### Talpidae

Of the long-nosed, shrew-like moles of the genus *Rhynchonax*, the collection contains a fine series of fourteen skins from Mu-cheng, on the Salween drainage, southwestern Yunnan, taken at altitudes of from 6000 to 7000 feet; and a series of eight from the Snow Mountain (Ssu-shan), Li-chiang, Yunnan, from near timber-line at 10,000 to 12,000 feet. As might be expected the former series is strikingly darker than that from the higher level, with conspicuously blackish rumps. Both series differ again from typical *R. andersoni* of Szechuan of which a series is available in the Museum of Comparative Zoölogy, some of which have been identified as of this species by Mr. Oldfield Thomas of the British Museum. The two Yunnan forms may stand as subspecies.

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***Rhynchonax andersoni atronates*, new subspecies**

TYPE.—Female, skin and skull, No. 44343, American Museum of Natural History, from Mu-cheng, Salween drainage, southwestern Yunnan, 7000 feet altitude. February 13, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—A dark form, the rump nearly unmixed slaty black; skull smaller, with less reduced third upper premolar, than in typical *andersoni*.

General color above nearly "Prout brown" (Ridgway). The pelage consists of wholly black shining hairs mixed with others that are blackish slate basally, tipped with hazel. On the rump, the latter sort of hairs are fewer or absent, giving a strikingly blackish appearance to this region. The lower surfaces of body and limbs are uniform blackish slate. Backs of feet and the entire tail, scaly, with scattered minute blackish hairs; the tail usually not paler underneath.

The skull is smaller than in typical *andersoni* of Szechuan and the teeth are smaller throughout except that the third upper premolar, which in the latter is minute, about half the crown-area of the first, and barely reaches the level of the cingulum of the two adjoining premolars, is in this Yunnan animal much larger, of about the same crown-area as the first premolar with cingulum and crown well developed, the tip of the tooth standing well above the general cingulum level. In the lower jaw, the second incisor, instead of being minute, is as large as the canine, while in all, the small second premolar ( $p_2$ ) is well developed, though slightly smaller than the canine; whereas in the Szechuan series it is either very minute or even altogether absent.

MEASUREMENTS.—The collectors' measurements are: head and body, 67 mm.; tail, 57; hind foot, 14; ear, 10; these are practically as in typical *andersoni*. The skull measures as follows (with corresponding dimensions of a Szechuan specimen in parenthesis): greatest length, 20.5 (22.0); basal length, 16.4 (17.6); palatal length, 9.2 (10.2); mastoid width, 11 (11.4); zygomatic width, 10.2 (10.6); width outside first molars, 6.0 (6.7); upper tooth row, 8.8 (10); lower tooth row, 8.0 (9.0).

REMARKS.—In addition to the series from Mu-cheng, a single skin from Pei-tai-ping, Mekong drainage, appears to be this form.

***Rhynchonax andersoni nivatus*, new subspecies**

TYPE.—Male, skin and skull, No. 44352, American Museum of Natural History, from Ssu-shan (Snow Mountain), Li-chiang, western Yunnan, 12,000 feet altitude. October 22, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—Similar to typical *andersoni* but much paler with a smaller skull and larger third upper premolar. In size and cranial characters it resembles the preceding form but is much paler, lacking the blackish rump, and the tail is indistinctly bicolor.

General color above light cinnamon-brown, almost the same tone as in our *Sorex personatus*; fore legs and under parts "deep neutral gray" (Ridgway, 1912), much paler than in *andersoni* from Szechuan. In certain lights the tips of the hairs both above and below reflect the light in little glints. Tail fuscous above, pale beneath.

The skull is smaller than in the typical form, and closely resembles that of *atronates*. The third upper premolar is as large as the first, stands well in the tooth row with its cingulum on a level with those of the adjacent teeth, and is provided with a distinct crown about as high as the width of its cingulum. The second lower incisor

is larger than the canine, hence much larger than in Szechuan examples of *andersoni*.

MEASUREMENTS.—The collectors' measurements of the type are: head and body, 68 mm.; tail, 60; hind foot, 15. The skull measures: greatest length, 20; basal length, 16; palatal length, 9.7; mastoid width, 11; zygomatic width, 10; width outside first molars, 6.5; upper tooth row, 9; lower tooth row, 8.2.

REMARKS.—The series of nine skins from the Snow Mountain is very uniform in its paler brown tint, as compared with typical *andersoni* and the subspecies *atronates*. Indeed, so striking was the difference that the entire series was picked out at once in unpacking, without reference to the labels for locality. In both the Yunnan races the third upper premolar and second lower incisor are less reduced than in the Szechuan series, indicating the retention of a more primitive condition by the southern forms. The discovery of the genus in southwestern Yunnan at high altitudes is an interesting extension of its known range.

#### Soricidæ

Seventeen skins of small striped-backed shrews prove very interesting. Nine of these, from Li-chiang, Yunnan, seem to correspond closely with Milne-Edwards's description of *Sorex cylindricauda*. The dark line down the back is rather poorly defined, often amounting only to an indistinct darkening of the mid-dorsal area, as represented in Milne-Edwards's plates ('Recherches pour servir à l'Hist. Nat. des Mammifères,' 1868-74, Pl. xxxviii A, fig. 3; xxxviii B, fig. 3). The teeth also agree in that the fourth unicuspid is very little smaller than the three preceding, so that the entire four are nearly equal. In *Sorex bedfordiæ*, the three anterior unicuspid are subequal, the fourth much smaller in side view. Two specimens from Tai-pei-shan, southern Shensi, seem to be this, with much better-marked dorsal stripe. Five skins from western Yunnan, of this general type, seem to correspond with Thomas's *Sorex wardi fumeolus* (type locality Wei-chow, western Szechuan). They are much darker in color than *bedfordiæ* but with pale gray instead of brownish bellies. All these specimens were obtained at altitudes of from 10,000 to 12,000 feet. At 7000 feet on the Salween drainage, a single example was secured which is so much darker and smaller than all the rest that it evidently represents a distinct low-altitude race, probably related to *bedfordiæ* as its lower side is of the same dark color as the back instead of contrastingly pale. It may be known as follows.

#### *Sorex bedfordiæ gomphus*, new subspecies

TYPE.—Male, skin and skull, No. 44320, American Museum of Natural History, from Mu-cheng, Salween drainage, western Yunnan, 7000 feet altitude. February 11, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—A very small dark-brown shrew with black dorsal stripe.

General color above a rich dark cinnamon-brown, near Mars brown of Ridgway but clouded. A narrow blackish stripe runs from the nape to the base of the tail, its edges not sharply defined but merging gradually with the color of the back. Below, the chest and belly are washed with cinnamon-brown and the throat is clearer gray with a silvery sheen. Backs of feet and the tail all around clothed with minute dark hairs of about the same cinnamon-brown as the body.

In side view the three anterior unicuspid are subequal, the fourth decidedly smaller than the fifth, but in crown view the cross-section of the last is greater than that of the fourth, agreeing in these respects with *bedfordiæ*.

MEASUREMENTS.—The collectors' measurements follow, with those of the type of *bedfordiæ* in parenthesis: head and body, 55 mm. (55); tail, 39 (55); hind foot, 13 (11). The skull is small and delicate; it measures: greatest length, 16.6; palatal length, 7.3; mastoid width, 8.0; width outside upper molars, 4.4; upper tooth row, 7.0; lower tooth row, 6.3.

#### ***Sorex excelsus*, new species**

TYPE.—Adult male, skin and skull, No. 44359, American Museum of Natural History, from summit of Ho-shan, Pei-tai, thirty miles south of Chung-tien, Yunnan, China, altitude 13,000 feet. November 29, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—A medium-sized shrew, of a general grayish brown above, silvery below, with sharply bicolor tail. Skull with long attenuated rostrum, anterior two unicuspid equal, the third and fourth smaller, the former slightly the larger of the two.

Entire dorsal surface of head and body nearly "Prout brown" (Ridgway, 1912), slightly grayer on the head, and faintly darker on the middle of the back. Below, silvery gray, the bases of the hairs "blackish plumbeous" but concealed by their pale tips; chin whitish. Backs of the feet clothed with short whitish hairs. Tail sharply bicolor, dusky above, whitish below, with a dark-brown pencil of longer hairs.

The skull shows no especial peculiarities except for its long slender rostrum. The teeth are conspicuously pigmented, and the upper unicuspid recall those of certain American species in that the anterior two are equal and larger than the posterior two which are nearly equal though the third is obviously larger than the fourth in side view.

MEASUREMENTS.—The collectors' measurements of the three specimens, all from the same locality, are:

No.	Head and Body	Tail	Hind Foot
44357	62	50	14
44358	60	50	13.5
44359 (Type)	60	51	13

The skull of the type measures: greatest length, 18.7 mm.; basal length, 16.2; palatal length, 8.5; breadth of brain case, 8.6; breadth outside last molars, 4.6; upper tooth row, 8.2; mandible, 10.2; lower tooth row, 7.8; depth of brain case, 5.1.

REMARKS.—This alpine shrew does not closely resemble any of the Chinese species yet described. In color and general external appearance, it is indistinguishable from *S. longicaudus* of the humid northwest coast

of America. Its skull, however, is longer, and in this respect, too, it exceeds its neighbors, *S. cylindricauda*, *S. bedfordiæ* and *S. wardi fumeolus* (the last perhaps best considered a race of *S. bedfordiæ*). These three have a more or less well-marked black dorsal line, no trace of which is present in *S. excelsus*, while their lower surfaces and the backs of their feet are darkened with a brownish wash. There is no suggestion of the tri-color pattern, with buffy sides, characteristic of the *S. araneus* group. It is not unlikely that the relationship between the new species and some of the American shrews is fairly close.

***Soriculus caudatus umbrinus*, new subspecies**

TYPE.—Adult male, skin and skull, No. 44338, American Museum of Natural History, from Mu-cheng, Yunnan Province, China, Salween River drainage, 7000 feet. February 11, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—A small subspecies, most like *S. sacratu*s Thomas, the Szechuan representative of *caudatus*, but differing in its much darker-brown coloring and in having the tail dark all around instead of bicolor.

General color above a uniform "seal brown" (Ridgway, 1912) instead of the "slate gray" of *sacratu*s; below slightly paler brown (nearly "Brussels brown") tinged with gray. Backs of the feet and the tail all around light seal brown like the back.

Skull similar to that of *sacratu*s in measurements, hence slightly smaller than that of *caudatus* of Nepal. The tips of all but the minute unicuspid and the last molar above are pigmented chestnut.

MEASUREMENTS.—The collectors' field measurements of the type are: head and body, 60 mm.; tail, 55; hind foot, 12. Average of nine specimens: head and body, 62 mm.; tail, 53.5<sup>1</sup>; foot, 12.8.

The skull measures: greatest length, 18.1 mm.; palatal length, 8.1; mastoid width, 9.0; width outside molars, 5.0; upper tooth row, 8.1; mandible (exclusive of incisors), 9.5; lower tooth row, 7.3.

REMARKS.—This small and very dark-brown *Soriculus* is interesting not only as extending the known range of the species into the middle altitudes of southwestern Yunnan, but also as offering another instance of the response of a wide-ranging species to the climatic conditions of this area through the development of a smaller and darker race as compared with the representatives farther north.

***Chodsigoa hypsibia parva*, new subspecies**

TYPE.—Male, skin and skull, No. 44390, American Museum of Natural History, from Li-chiang, Ssu-san-chong, Yunnan, 9000 feet altitude. October 12, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—A small dark representative of the more northern species, *hypsibia*.

General color a uniform "deep mouse gray" (Ridgway, 1912), scarcely lighter below, and with a faint brownish tinge in some lights. Feet pale, with scattered dark

hairs; tail dark above, pale whitish below, with minute short hairs not dense enough to obscure the scales. The general color is nearly the same as that of *Blarinella wardi*, an associated species.

MEASUREMENTS.—The smaller size of this little shrew is its most notable feature. The collectors' measurements of the four specimens are (compare with head and body, 84 mm., tail, 65, foot, 15 of *C. hypsibia*):

No.	Head and Body	Tail	Hind Foot
44390 (Type)	54	44	11.5
44391	55	43	11
44395	56	45	11
44396	55	45	11

The skulls of all four were badly crushed in the traps. None of the molars is pigmented, and the other teeth have merely the tip chestnut. The rostrum of the type has a width outside second molars of 4.2 mm. (6.1); length of upper tooth row, 6.6; of lower tooth row, 6.1; tip of lower incisor to condyle of jaw, 9.1 (12.3); to angle, 9 (11.5) (dimensions in parenthesis are of the type of *C. hypsibia*).

REMARKS.—Of this genus of shrews characterized by  $\frac{2}{3}$  = 28 teeth, four specimens were captured at Li-chiang, which is apparently the most southern locality yet recorded for it. It is probably best considered a geographical variety of *C. hypsibia* of Szechuan, from which it differs in its notably smaller size and darker color. It is the smallest of the forms yet discovered.

#### ***Chodsigoa smithii parca*, new subspecies**

TYPE.—Male, skin and skull, No. 44409, American Museum of Natural History, from Ho-mu-shu Pass, western Yunnan, China, 8000 feet. April 6, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—A long-tailed species with nearly the external dimensions of *C. smithii* but with a much smaller skull and less attenuate rostrum. The ears and feet are slightly smaller and the latter are brownish instead of whitish.

General color above and below a "dark mouse gray" (Ridgway, 1912) with a slight brownish wash; the color is darkest on the rump, palest on the belly. Tail dusky brown above, scarcely lighter below, clothed with minute dark-brown hairs which do not exceed the scaly rings. Backs of the feet distinctly brownish, digits whitish.

The skull, though nearly the size of that of *C. hypsibia* and much less than that of *C. smithii*, is very different from either in having the rostrum relatively shorter and more gradually tapering from brain case to tip instead of having the premaxillary region abruptly narrowed. The teeth are smaller and more slender than in either.

MEASUREMENTS.—The tail is decidedly longer than head and body, more so than in typical *smithii*, but not so long as in the long-tailed *salenskii*. The collectors' measurements of the type follow, with those of a *C. smithii* from southern Shensi in parenthesis: head and body, 70 mm. (80); tail, 91 (83), foot, 17.5 (18). The skull measurements follow with those of *C. smithii* in parenthesis: greatest length, 19.3 mm. (22.5); palatal length, 9.0 (10); greatest width, 9.0 (10); width outside molars, 5.6

(6.6); upper tooth row, 8.5 (10); mandible, 12 (13); lower tooth row, 7.6 (9). Upper unicuspid subequal. In the type the tips of the large anterior incisors alone are pigmented, though in the other specimens the tips of the five anterior teeth are chestnut.

REMARKS.—Notwithstanding the peculiar formation of the rostrum and the slightly greater proportionate length of tail, it seems best to consider these Yunnan shrews a race of the larger species, *smithii*, of which the collection contains two specimens from 10,000 feet in Tai-peishan, in the Tsing-ling Range of southern Shensi. A large series of *C. hypsibia* from the base of the same mountain has also been useful for comparison. The nearly equal size of the three upper unicuspid seems to be a character allying the new race to *smithii* rather than to *hypsibia*, in which the anteriormost seems to be the largest. In addition to the type and a second specimen from the same locality, the collection contains two other examples from Ssu-shan-chong, Li-chiang, Yunnan, 9000 feet, which are practically identical with them.

***Crocidura ilensis phaeopus*, new subspecies**

TYPE.—Adult female, skin and skull, No. 56013, American Museum of Natural History, from Wanh sien, Szechuan Province, China. November 2, 1921. Third Asiatic Expedition.

DESCRIPTION.—A very small, dark-brown species of the *ilensis* group, distinguished by its dark-brown instead of whitish feet.

The entire dorsal surface of the body, the backs of the fore and hind feet, and the upper surface of the tail are dark brown, nearly "mummy brown" (Ridgway, 1912). At the lateral border the under side of chin, throat, forearms and belly becomes rather abruptly whitish, the hairs except at the chin white-tipped with "dark gull gray" bases. The base of the tail is gray beneath but terminally is much the same on both surfaces. The long bristles are scattered evenly throughout its length.

The skull has about the same dimensions as in its neighbors *shantungensis* and *coreæ*. It is small and delicately formed, the rostrum not especially elongated. The first upper unicuspid is double the height of the rounded posterior cusp of the anterior incisor. The second and third unicuspid are practically equal in height and cross-section, and reach the level of the anterior cusp (paracone) of the carnassial. The lacrymal foramen is exactly over the point of contact between first and second molars.

MEASUREMENTS.—The collectors' measurements of the type are: head and body, 62 mm.; tail, 37; foot, 12; ear, 9. The skull measures: greatest length, 16.9 mm.; basal length, 15; palatal length, 7.6; width of brain case, 7.6; occipital depth, 4.0; mandible, 10.7; upper tooth row, 7.3; width outside molars, 5.0; lower tooth row, 6.6.

REMARKS.—This very small brown species seems to be widely spread in Asia from Corea (*coreæ*) to Palestine (*portali*). From the typical subspecies, *ilensis*, and from the lowland form of eastern China, apparently identical with *shantungensis*, the race from the Szechuan highlands

differs conspicuously in its dark feet and tail. The Third Asiatic Expedition secured a fine series at Wanhshien and a single specimen at the base of Tai-pei-shan, Tsing-ling Mountains, on the southern border of Shensi, which are very uniform in this respect. A skin from Weihshien, in Shantung, and another from Shensi, 45 miles south of Fengsiangfu are paler with obviously whitish feet and lower side of tail. They evidently represent the race *shantungensis*, from which *coreæ* is apparently not very different. A skin from Ichang, which I had provisionally referred to *coreæ* (Mem. Mus. Comp. Zoöl., XL, p. 242, 1912), is, as might be expected, somewhat intermediate between the Shantung and Szechuan races, but on the whole, with its paler feet, is best referred to the lowland race (*shantungensis*). This species is not listed among the many small mammals secured for the British Museum by Anderson and other collectors in Szechuan and may be of local or rare occurrence.

***Crociodura vorax*, new species**

TYPE.—Adult male, skin and skull, No. 44383, American Museum of Natural History, from Li-chiang, Yunnan, China, taken in timber-line forest on Ssu-shan (Snow Mountain), 12,000 feet altitude. October 15, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—A medium-sized, pale-brownish species, apparently allied to the *C. russula* group.

Color of head and body above a very pale grayish brown, nearly "wood brown" of Ridgway, and very closely like that of *Sorex personatus*, with a similar pepper-and-salt appearance, due to the presence of a narrow gray band below the brown tips of the hairs. This color gradually pales into the gray of the belly, with a faint wash of buffy on the chest. The bases of the hairs everywhere are slaty, becoming paler, almost "slate gray" below, where they show through slightly. Tail distinctly bicolor, darker than the back above (near "clove brown"); clear gray below. The hair of the tail is thick enough to conceal the scales, while the long bristle-like hairs are rather scattered, and are more numerous near the base of the tail. Ear thin and rather small, less conspicuous than usual, but not entirely concealed.

The skull is of about the same size as in *C. russula* of Europe, and has a low but well-defined sagittal ridge and more prominent lambdoid ridges. The first upper unicuspid is about twice the height of the cusp of the first incisor. The second and third unicuspid are practically equal in both vertical extent and cross-section; their tips are practically on the same line as the tip of the anterior cusp (paracone) of the succeeding (carnassial) tooth (instead of exceeding it as in *russula*). The height of the paracone of the carnassial above the anterior root is about equal to one-half the height of the main cusp, and equals the distance from the tip of the anterior cusp to the summit of the main cusp along the front face (in *russula* it is much less). The profile of the posterior edge of the carnassial is a wide, backwardly directed crescent, and the summit of the main cusp is about over the center of the base (a much longer tooth than in *russula*). The main cusp of the anterior incisor is slender and turned strongly downward.



MEASUREMENTS.—The collectors' measurements of the type are: head and body, 72 mm.; tail, 51; foot, 13. Five other specimens from the type locality average: head and body, 64.2 mm.; tail, 40.6.

The skull of the type measures: greatest length, 19.8 mm.; basal length, 17.4; palatal length, 8.6; greatest width of brain case, 9.0; width outside molars, 5.7; mandible (excluding incisor), 10.4; upper tooth row, 8.3; lower tooth row, 7.6.

REMARKS.—Its rather long fur, brownish coloration and thin small ears combine to give this mountain shrew much the appearance of a *Sorex*. The collectors' note states that the type specimen was seen devouring a mouse (*Apodemus*) in a trap. Two additional examples from lower altitudes to the eastward (Yangtse River, at Chih-tien and Taku Ferry, 6400 and 6000 feet respectively) are similar but differ slightly in having the paracone of the carnassial shorter than the unicusps adjoining it.

What is obviously a representative of this same shrew farther southward and at a lower altitude is a single skin from the Mekong River. It is so very much richer in its brown coloration that it cannot be included with the Li-chiang specimens, and in common with other southern representatives of more northern species in this part of Yunnan seems worthy of distinction. It may be known as follows.

### ***Crocidura rapax*, new species**

TYPE.—Adult male, skin and skull, No. 44321, American Museum of Natural History, from Ying-pan-kai, Mekong River, southern Yunnan, at 9000 feet. December 25, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—In size and proportions resembling *C. vorax* but the entire dorsal surface a richer brown, nearly "bister" of Ridgway (1912), slightly peppered with gray on the head and shoulders. Below a light "mouse gray." Feet clothed with minute gray hairs; tail bicolor like the body, the bristle-hairs rather few and scattered.

Skull like that of *C. vorax* but very slightly more delicate.

MEASUREMENTS.—The collectors' measurements are: head and body, 64 mm.; tail, 42; foot, 12.5. The skull measures: greatest length, 18 mm.; basal length, 16.3; palatal length, 8; greatest width, 8.2; mandible, 11.4; upper tooth row, 8; width outside molars, 5.3; lower tooth row, 7.4.

REMARKS.—This and the previous species are of about the same size apparently as *C. indochinensis* of Siam and I have referred to the latter a single specimen from Ho-mu-shu Pass, Yunnan, which agrees closely with the description given by Robinson and Kloss in its slaty under parts and dark mouse-gray instead of brown color above. Although treated as distinct species, it is likely that the two new forms are but geographical representatives of a single species.

A handsome series of twenty-two skins of *Anourosorex* proves to be very interesting, as it represents the two species *squamipes* and *assamensis*. Two skins from Tai-pei-shan, Tsing-ling range, Shensi, are apparently typical of *squamipes*, and extend its known range to this Province. They were caught at an altitude of 10,000 feet. Thirteen other specimens from various localities in southern Yunnan appear to represent a smaller geographic race, here described as new. A third lot from the Salween drainage, southwestern Yunnan, is again quite different, with larger, heavier skulls, less shiny fur, a greenish wash below, and brownish rumps. They are evidently referable to *assamensis*, but differ from it in size and color sufficiently to be worthy of recognition as an eastern form. The dentition in the two species is very similar, but in *squamipes* there is usually a shallow notch on the anterior edge of the second upper incisor, whereas in *assamensis* this is usually lacking. The descriptions follow.

***Anourosorex squamipes capnias*, new subspecies**

TYPE.—Male, skin and skull, No. 44506, American Museum of Natural History, from To-mu-lang, Chung-tien district, Yunnan, 10,000 feet altitude. December 3, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—Similar to typical *squamipes* but smaller, the fur slightly grayer and less shining.

Entire upper surface a "dark mouse gray" with a finely peppered appearance on close inspection; lower surface of body with a light wash of "tawny olive." The entire pelage in certain lights is silvery, but less so than in typical *squamipes*. Both fore and hind feet are smaller and more delicate.

The skull is shorter and of slightly smaller proportions than in the latter, with which it shares the character of having a slight notch on the anterior border of the second upper incisors.

MEASUREMENTS.—The corresponding dimensions of a typical *squamipes* from Szechuan are given in parenthesis following those of the type. Length, 90 mm. (100); tail, 14 (14); hind foot, 13 (16). Skull: greatest length, 23 mm. (25); basal length, 20.8 (23); palatal length, 11.5 (12.5); upper tooth row, 11 (12); mastoid width, 11.6 (13); mandible, 11 (12.2); lower tooth row, 10 (11).

REMARKS.—In addition to the type, specimens were taken at the following localities in southwestern Yunnan: Mekong River, Siao-ke-la, 8000 feet; Mekong drainage, Chiang-wei, 8000 feet; Mekong River, Yin-pan, 9000 feet; Mekong River, La-chu-mi, 9000 feet; Ha-pa, 20 miles north of Taku, 10,000 feet; Peh-tai Mountain, 30 miles south of Chung-tien, 10,000 feet. It will be seen that all these places are at elevations of 8000 feet or over. The range of *A. assamensis* appears to be at a lower altitude, for the series from Mu-cheng, Salween drainage, was secured at elevations between 6000 and 7000 feet. The rarity of this

species in collections (the type has apparently remained unique) seems to have caused some doubt as to its distinctness from *squamipes*, and Wroughton has even proposed that the two be considered inseparable. But Anderson's figures and measurements, as well as his careful description, seem to leave no doubt that *assamensis* is a distinct species, with skull proportionally very much larger than in *squamipes*, equaling one-half the length of the vertebral column to the end of the sacrum. That of his type specimen is relatively enormous, much larger than any of the Mu-cheng series, which again are larger and heavier than those of *squamipes*. The skins have a peculiar greenish wash on the belly, quite different from any coloration found in the latter. The lack of a notch on the anterior edge of the second upper incisor seems also to be distinctive of *assamensis*. The type locality of *assamensis* is Assam, between Sebsaugor and Jeypur. The western Yunnan race may be described as follows.

**Anourosorex assamensis capito**, new subspecies

TYPE.—Adult male, skin and skull, No. 44510, American Museum of Natural History, from Mu-cheng, Salween drainage, Yunnan, 7000 feet altitude. February 10, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—Size less than in typical *assamensis*, the skull smaller; belly with a distinct greenish or yellowish-gray wash.

The dorsal surface of body is a dark mouse gray, a little darker than in the above race of *squamipes*, with a minutely peppered appearance. The long hairs on the rump just above the root of the tail are rusty-tipped, apparently the result of staining through the effect of some glandular secretion. Chin, throat, chest and belly gray tinged with greenish or yellowish. Pelage both above and below silvery when viewed from in front. Hind feet longer than tail.

MEASUREMENTS.—The type measured by the collectors: length, 93 mm.; tail, 16; hind foot, 16.5. The skull measures: greatest length, 25.8 mm.; basal length, 23; palatal length, 12.5; upper tooth row, 11.7; mastoid width, 13.4; mandible, 13; lower tooth row, 10.8.

REMARKS.—Compared with *A. squamipes capnias* the striking difference in color of the under surface, the larger size of the feet and skull, and the unnotched second upper incisor separate this form easily. The skull especially is more massive, with a much more prominent sagittal ridge. The seven specimens from the type locality are very uniform in the characters described.

