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MURID RODENTS FROM THE ASIATIC EXPEDITIONS¹

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In previous papers, brief accounts have been given of the rodents obtained in China and Mongolia by the Museum's Asiatic Expeditions under the direction of Dr. Roy Chapman Andrews, the last (Amer. Mus. Novitates, No. 217, June 16, 1926) comprising the genus *Rattus*. The present report includes the remaining members of the Gerbillinæ and Murinæ secured during the work of the same expeditions, a collection numbering over 1300 well-prepared skins and skulls. These add considerably to present knowledge of the distribution of many species, and indicate also that much yet remains to be done toward, for example, a more precise definition of the native forms of house mice as well as a more accurate knowledge of the distribution and relations of even the introduced *Mus musculus* in China. The aberrant genera *Hapalomys* and *Chiropodomys*, climbing species with feet modified for grasping, are recorded for the first time from Chinese territory, as well as a species of *Leggada*.

Meriones auceps Thomas

Meriones auceps THOMAS, 1908, Proc. Zool. Soc. London, p. 640.

General color above sandy buff, inclining to reddish, inconspicuously lined with black; tail similar all around but slightly redder, its tip pencilled; cheeks and ear spot whitish. Below, the body and limbs are white to the roots of the hairs.

A large series was secured from various points in the Gobi Desert: Turin, Loh, Artsa Bogdo, Sair Usu, Tsagan Nor, and Iren Dabasu. It seems to be common here over a vast area, and in much the same localities as the following, from which it is said to differ in being wholly nocturnal instead of partly diurnal. Two specimens were also taken at Mai-tai-chao, east of Paotou, Shansi.

The shorter-tailed species, *M. psammophilus*, was not met with, and probably is confined to Chihli and Shansi, while *M. auceps* is chiefly an animal of the Gobi. Their ranges meet in northern Shansi as Thomas has indicated.

¹Publications of the Asiatic Expeditions of The American Museum of Natural History. Contribution No. 71.

***Meriones unguiculatus* (Milne-Edwards)**

Gerbillus unguiculatus A. MILNE-EDWARDS, 1867, Ann. des Sci. Nat., Zool., (5) VII, p. 377.

Similar to *M. auceps* but slightly darker, less clear ochraceous, the tail especially more mixed with black above. The white hairs of the lower surface are slaty at the base except on the throat.

A common and widespread species. Series were obtained in Shansi at Kweihwating, Mai-tai-chao, and in Mongolia at Loh, Sair Usu, Ussuk, Gun Burte, Artsa Bogdo, Tsagan Nor, and Iren Dabasu.

***Rhombomys opimus nigrescens* (Satunin)**

Gerbillus opimus nigrescens SATUNIN, 1902, Annuaire Mus. Zool. Acad. Sci. St. Pétersbourg, VII, p. 560.

A large sandy-buff species with a black crest on posterior half of tail; belly white, the bases of the hairs blue-gray.

A series of adults and partly grown animals from Tsagan Nor represents this race, the type of which is from Orok Nor, some fifty miles to the westward. A single skin from Iren Dabasu extends the range well to the east. Satunin points out that this Gobi race is paler than its nearest relative, *R. o. giganteus* of the Nan-shan country. The latter, as figured by Büchner, has brighter ochraceous feet and the black crest of the tail is traceable nearly to its root instead of being confined to the terminal half. Büchner refers Ala-shan specimens to typical *opimus*, but presumably they are *nigrescens*. He doubts the validity of *Rhombomys* as a genus, but it may stand for the present on the basis of (1) the second inner minute sulcus of the upper incisor, (2) the more or less well-marked division of the last upper molar into two lozenge-shaped portions by infolding of the enamel, and (3) the uninflated auditory meatus. The skull has a sharp supraorbital boundary and flattened top, while the interparietal is small and oblong or squarish in outline, unlike that of the species of *Meriones* found in the same region.

***Apodemus speciosus peninsulæ* (Thomas)**

Micromys speciosus peninsulæ THOMAS, 1907, Proc. Zool. Soc. London, p. 862.

A medium-sized mouse (head and body about 102 mm., tail 90), of a nearly uniform ochraceous buff above in winter pelage, finely lined with black hairs mid-dorsally, tail bicolor, feet white, belly and under side of limbs white with slaty bases. In summer the color is much darker above, the black tips of the hairs predominating, and the dorsal pelage tends to be somewhat hispid. Mammæ 4-4=8. The last upper molar has three lobes on its inner side.

The type locality of this race is Min-gyong, 110 miles southeast of Seoul, Korea, and specimens from North China are currently regarded as the same. Two skins in winter pelage from Nojido, Korea, are appreciably more cinnamon in color as compared with a series from 100 miles northeast of Peking and seem to have slightly larger hind feet. They may for the present, however, stand as *A. speciosus peninsulæ*, and specimens from Shensi (Tai Pei Shan and near Fengsiangfu) and Shansi (Taiyuanfu, He-shuin and Kweihwating) are similar. Two skins from 45 miles north of Urga, Mongolia, are not distinguishable from a large series taken in summer at the Eastern Tombs, Chihli.

***Apodemus speciosus latronum* Thomas**

Apodemus speciosus latronum THOMAS, 1911, Abstr. Proc. Zool. Soc. London, No. 100, p. 49, October 31.

A larger mouse than the preceding (head and body 105 mm., tail 117) with larger ears (20–21 mm.); tail equalling or exceeding body length. Longest hairs of the back measure about 14 mm. Dorsal area with greater admixture of black hairs than in *A. s. peninsulæ*.

This seems to be a large-eared, darker representative of *A. speciosus*, though specimens showing direct intergradation of the two forms have not been seen. The type locality is Tatsienlu, Szechwan, and Thomas has recorded it from Atuntsi, from the Lichiang range, 10,000 to 12,000 feet, and the Mekong-Salween divide, 9000 feet, all in Yunnan. It was found by Dr. Andrews on the Lichiang range up to timberline at 13,000 feet as well as at localities northward toward Chung-tien. Immature specimens lack almost altogether the strong ochraceous tint of the adults, but are instead a dark gray.

***Apodemus ilex* Thomas**

Apodemus ilex THOMAS, 1922, Ann. Mag. Nat. Hist., (9) X, p. 404.

A slender brownish mouse, tail slightly longer than head and body. Color above, dull fulvous brown darkened by black hairs medially, sides clearer buff. Ears thin, small, with a blackish basal tuft. Below whitish, the hairs with slaty bases. Usually a buffy spot is present at the throat, and in some specimens more or less of the entire under surface is suffused with the same color. The longest hair on the back is about 7 mm. in length.

In its general appearance and structure this is very similar to the common *A. sylvaticus* of Europe of which it may prove to be merely a subspecies. It agrees in tooth structure and in having 1–2 = 6 mammae as well. The nasals, however, equal or exceed the premaxillaries instead of being shorter, and the post-palatal border ends in a slight median spine instead of an even arch. Originally described from the Mekong-

Salween divide in Yunnan, it was secured in numbers by the Asiatic Expeditions at various localities in the same province at altitudes ranging from 7000 feet on the Salween River to 12,000 feet in the Lichiang region. Specimens in the Museum of Comparative Zoölogy from Szechwan and Hupeh are indistinguishable and extend its known range northward.

***Apodemus agrarius pallidior* Thomas**

Apodemus agrarius pallidior THOMAS, 1908, Proc. Zoöl. Soc. London, p. 8.

A tawny mouse, with a narrow and not very sharply defined black line from nape to tail. The color above is light ochraceous buff evenly mixed with black, but usually paler over the shoulders and on the sides than in the center of the back. Lower surfaces and feet whitish, the body hairs with dark bases. Tail indistinctly bicolor, shorter than head and body. Last upper molar with but two instead of three inner lobes.

Originally described from Shantung, this form seems to extend westward to southern Kansu and eastern Szechwan. A large series from the base of Tai Pei Shan, Tsingling Mountains, southern Shensi, is fairly uniform, and is not appreciably different from a series taken at Wanh sien in eastern Szechwan. The narrowness but usual presence of the dorsal line as well as the indefinite grayish tint of the shoulder area are distinguishing features. In a very few of the large series from Wanh sien, the black stripe is obsolescent, showing in this respect a transition toward the race *ningpoensis*.

***Apodemus agrarius mantchuricus* (Thomas)**

Mus agrarius mantchuricus THOMAS, 1898, Proc. Zoöl. Soc. London, p. 774.

A mouse with a broad clear line of black from the nape to base of tail; remainder of upper surfaces a uniform ochraceous buff mixed with black, paler at the sides; lower surfaces and feet white, tail bicolor.

Four adults of the striped-backed mouse from the Eastern Tombs, Chihli Province, are richer in tone than the preceding race, and three have the dorsal stripe much broader and clearer black, though in the fourth it is narrower. These are probably referable to *mantchuricus* though the belly is without the wash of tawny said to be characteristic of this race. No doubt they are somewhat transitional here between the two races.

***Apodemus agrarius ningpoensis* (Swinhoe)**

Mus ningpoensis SWINHOE, 1870, Proc. Zoöl. Soc. London, p. 637.

In the South China race, the black dorsal stripe tends to disappear and is developed chiefly on the middle of the back from shoulders to rump; the color of the body is slightly brighter, the tail slightly longer and more sharply bicolor than in *A. a. pallidior*.

A series from Yochow, Hunan Province, represents this subspecies. Of thirty-two specimens three or four have the black stripe about as well developed as in the form *pallidior*, but the majority have it very poorly marked or nearly obsolete on the lower back, while eight or ten either lack it altogether or have merely the faintest indication, discernible only on close scrutiny. This series evidently bridges the gap completely between *A. a. pallidior*, *A. a. ningpoensis*, and the form *chevrieri* which has hitherto been regarded as a separate species, but which, as Thomas has already suggested, is undoubtedly merely an upland race in which the dorsal stripe is wholly lacking.

***Apodemus agrarius chevrieri* (A. Milne-Edwards)**

Mus chevrieri A. MILNE-EDWARDS, 1868-74, 'Recherches Hist. Nat. Mammifères,' p. 288, Pl. XL, fig. 2.

Similar to *A. a. pallidior* but slightly richer, less grayish, in coloration and wholly lacking the black median dorsal line. Back darkened by an even admixture of black-tipped hairs; the sides more nearly clear ochraceous buff, a tint that is obviously brighter on the posterior part of the body.

There seems to be no doubt that *chevrieri* is after all but an upland race of *A. agrarius* in which the black dorsal stripe is lacking. A series from Yochow (Hunan), as noted, seems to bridge the gap, and elsewhere, as at Hsienshanhsien, Hupeh Province (specimen in Museum of Comparative Zoölogy) and in southern Kansu (the *Apodemus fergussoni* of Thomas), intermediate individuals seem to occur.

A very large series of this mouse was secured from various localities in western Yunnan at altitudes from 6000 feet (Taku Ferry, Yangtse River) to 12,000 feet (Lichiang). There is very little variation in color, though two skins from 7000 feet at Mucheng, Salween drainage, seem slightly brighter in tint than the average, and constitute the most south-westerly record for the species.

Six females taken October 5, 1916, at 9000 feet, near Lichiang, contained embryos, from four to seven in number.

***Leggada cookii* (Riley)**

Mus cookii RILEY, 1914, Journ. Bombay Nat. Hist. Soc., XXII, p. 664.

Size and general appearance of a house mouse but tinged with ochraceous, and lower parts whitish with slaty bases of the hairs showing through; tail slightly longer than head and body.

The characters separating the house mice (*Mus*) from the jungle mice (*Leggada*) have recently been reviewed by Thomas (1919, Journ. Bombay Nat. Hist. Soc., XXVI, p. 417), and the latter genus with its

longer muzzle is shown to be a distinct and natural group (distance from gnathion to front bottom corner of zygomatic plate exceeding breadth across molars).

Four specimens from the Namting River, near the Burma border, western Yunnan, 1700 feet, are referred to this species, the type locality of which is Gokteik, northern Shan States, Burma. In addition to the color and proportions, it is further distinguished from the other jungle mice by the skull with braincase exceeding 10 mm. in width, and with the incisive foramina extending back to the molars or very slightly between them. This is apparently the first record of the genus in Chinese territory, although Thomas has recorded *L. pahari* from near the southern border of Yunnan in Tonkin. In addition to the four from the lower levels of the Namting River, a series was also secured from higher altitudes in western Yunnan, which differs uniformly in the much grayer coloring, as described below.

***Leggada cookii meator*, new subspecies**

TYPE.—Adult male, skin and skull, No. 43609, American Museum of Natural History, from Taipingpu, Shweli River, western Yunnan, 8000 feet. April 9, 1917. R. C. Andrews and E. Heller.

DESCRIPTION.—Dorsal surfaces of a general drab or dark mouse gray, resulting from a mixture of stronger slate-colored hairs with finer, dark-based hairs narrowly tipped with pale ochraceous. Ears thinly haired, dusky; feet white. Lower surfaces gray, not sharply marked off from the color of the sides, the hairs pale gray at base, their terminal half whitish. Tail about equalling or slightly exceeding head and body, sparsely haired, its rings evident; above dusky, below whitish.

SKULL.—The skull agrees in its general characters with those given for *cookii*. The brain case is broad, oval, with a strap-shaped interparietal, produced forward to a blunt point medially. The orbital edge is square but not conspicuously thickened, and the outer corners of the parietals project forward as a tapering process, overlapping the frontals slightly. Nasals long, extending back about a millimeter behind the level of the front edge of the orbits. The incisive foramina usually fall just short of the molar level, though rarely they may extend a minute distance between the anterior molars, and the convex front edge of the zygomatic plate is slightly behind their middle point. Teeth as in *Mus*, with the notch on the upper incisors usually well developed.

MEASUREMENTS.—The type was measured by the collectors as follows: head and body, 87 mm.; tail, 80; hind foot, 20; ear, 14. The skull measures: greatest length, 23.8 mm.; basal length, 20.5; palatal length, 11.8; diastema, 5.7; zygomatic breadth, 11.6; mastoid breadth, 10; breadth of brain case, 11.1; gnathion to front bottom corner of zygomatic plate, 5.8; greatest breadth across molars, 5.0; upper molar row, 4; lower molar row, 4.

A series of eighteen of these jungle mice from localities in the mountains of western Yunnan agree in their dull gray or drab coloration and differ markedly from the much brighter, more rufous representatives of

the species from the lower country along the Burma border (1700 feet). Specimens were taken at Homushu Pass (8000 feet); Sha-sung-shao, Mekong drainage (7500 feet); Taipingpu, Shweli River (8000 feet); Tashuitang, Salween drainage (6000 feet); and Yangpi River, Tengyueh road (5000 feet). They bear a certain superficial resemblance to *Apodemus ilex*, but may be distinguished by the shorter ear and hind foot, while a glance at the skull with its *Mus*-like teeth, incisive foramina penetrating to the molar level, and the antero-lateral projection of the parietal will at once separate the two. Their ranges meet at about the 7000-foot level, below which the *Leggada* seems to take the place of the other. The extension of this Oriental group into extreme western Yunnan is an interesting discovery.

***Micromys minutus pygmæus* (A. Milne-Edwards)**

Mus pygmæus A. MILNE-EDWARDS, 1868-74, 'Recherches Hist. Nat. des Mammifères,' p. 291, Pl. XLIII, fig. 1.

A small mouse of a dull yellowish brown above, somewhat more ruddy over the rump, the hairs of the lower surfaces dark-based, tipped with gray and more or less washed with buffy. Tail slightly longer than head and body, its extreme tip nearly or quite bare above.

A small series of the harvest mouse was secured by the Asiatic Expeditions at Wanhshien, 2500 feet, in eastern Szechwan, and at several localities in western Yunnan on the Mekong and Salween drainages, 4000 to 8000 feet. The type locality is Moupin, Szechwan. All the specimens are very uniform in coloration.

***Mus musculus* Linnæus**

Mus musculus LINNÆUS, 1758, 'Syst. Nat.,' 10th Ed., I, p. 62.

In the introduced house mouse the belly hairs are either gray throughout or gray washed with ochraceous. Specimens of the latter type from India are referred by Wroughton to *Mus dubius*. A series from Yenping, Fukien Province, China, taken by Rev. H. R. Caldwell, shows both extremes, but is regarded as *musculus*, here introduced. Cabrera has recently proposed the name *Mus musculus sinicus* for the house mouse of eastern China (type locality, Ningpo, Chekiang Province), on the ground of small size, dark color, and ochraceous wash below as compared with Indian specimens representing *Mus musculus urbanus*. The differences, however, seem likely to fall within the range of normal variation for the typical race. A single skin from Lichiang, 9000 feet, Yunnan Province, seems also to be the introduced variety.

Mus bactrianus GROUP

Small sandy-backed, white-bellied mice with the general appearance of the European house mouse seem to occur in a wild state over much of temperate and subtropical Asia. The oldest name available for these is apparently *Mus bactrianus* Blyth, 1846, the type locality of which is Kandahar, central India. Wroughton (1920, Journ. Bombay Nat. Hist. Soc., XXVI, p. 958), in summarizing the work of the Mammal Survey of India, includes but this single form of white-bellied house mouse from that country, and Thomas has suggested further that it may be found to merge with typical *Mus musculus* through such a form as *gentilis*. The American Museum of Natural History has a series from Kashmir and Ladak that corresponds entirely with the description of *bactrianus*. These are pale sandy above (a buffy gray), white below, with the bases of the hairs on the lower surfaces blue-gray; the feet are white, the tail is obviously paler below, and it is shorter than the head and body, averaging 47% of total length in a series of 16 (extremes 46 and 50%).

The work of the Asiatic Expeditions under Dr. R. C. Andrews has resulted in bringing together a large series of mice of this type from China and Mongolia, while others are available in the Museum of Comparative Zoölogy through the F. R. Wulsin Expedition. A study of the entire lot makes it clear that in western Yunnan and southeastern China the representatives of *bactrianus* are relatively longer-tailed, with tail more than 50% of the total length, while the hairs of the lower surfaces have more extensive gray bases, giving a darker effect. The specimens available from Szechwan are again different, with proportionally shorter tails and a decided buffy collar often extended as a buffy wash over the white belly. Passing northward to the dry country of Shensi and northern China there is a progressive shortening of the tail and paling of the color, until the edge of the Gobi Desert is reached with a very short-tailed mouse having a pure white belly to the roots of the hairs. The first of these races corresponds exactly with Anderson's description of *Mus kakhynensis* from Ponsee near the border of western Yunnan; to the second no name seems to have been given; while for the third, *Mus gansuensis* Satunin is available, with *Mus wagneri mongolium* Thomas as a synonym. The relationship of *Mus wagneri* Eversmann (1848) from Turkestan, to the other members of the group is apparently still in need of further elucidation.

Mus bactrianus kakhyenensis Anderson

Mus kakhyenensis ANDERSON, 1878, 'Anat. and Zool. Researches Western Yunnan,' p. 307.

Above sandy, the central area of back darkened slightly with black hairs; below, white, the hairs with obvious gray bases showing through; feet white; tail longer than head and body, distinctly white below.

Five specimens from extreme southwestern Yunnan near the Burma border (5000 feet) agree in every respect with Anderson's description of *Mus kakhyenensis*, of which they are nearly topotypes. The tail is obviously longer than head and body amounting to 53% (average of five specimens) of total length, a character which, with the more prominently gray bases of the hairs below, will distinguish the form from typical *bactrianus*. In addition to these, the collections include a large series from the island of Hainan taken by Mr. Clifford Pope and two from the adjacent mainland of Fukien, all quite similar except that the tail length averages a little less, about 51.6% of total length. Probably, therefore, this race extends across the entire southern part of China at lower levels. It is also an addition to the recorded fauna of Hainan.

Mus bactrianus tantillus, new subspecies

TYPE.—Adult female, skin and skull, No. 56413, American Museum of Natural History, from Wanhhsien, Szechwan Province, China. November 14, 1921. Third Asiatic Expedition.

DESCRIPTION.—Tail nearly or quite equalling head and body (averaging 49% of total length); hairs of the belly dark-based, tipped with white; throat buffy.

Above, the color is sandy, resulting from a mixture of buffy-tipped with black hairs, the latter more numerous over the rump, giving a slightly darker effect mid-dorsally. Sides clearer buffy. Lower surfaces with the hairs gray-based, tipped with white. Throat with a buffy collar. A suffusion of buffy may extend to most of the under surfaces. Ears dusky. Feet dusky, the toes whitish; tail indistinctly bicolor. Mammæ 3-2=10.

SKULL.—The skull shows no special peculiarities. The backward extension of the incisive foramina nearly to the level of the antero-internal root of m^1 , the narrow mesopterygoid fossa with a slight median projection of the palate at its anterior end, and the forward prolongation of the parietals to a slender point on each side are characters found in other races.

MEASUREMENTS.—The type was measured by the collector as follows: head and body, 78 mm.; tail, 70; hind foot, 15; ear, 12.

The skull of the type measures: greatest length, 20 mm.; basal length, 17; palatal length, 10.3; diastema, 5; zygomatic width, 10.9; mastoid width, 9; width of braincase, 9.5; upper cheek teeth, 3.5; lower cheek teeth, 3.5.

A series of these mice from Wanhhsien, eastern Szechwan, agrees in having the tail about half the total length (average of eight, 49%), the

belly with gray bases to the hairs, the throat with a buffy collar, and the hind feet dusky. To the north, intergradation takes place with the short-tailed desert race, *gansuensis*. Thus, while specimens from Tai Pei Shan are typical, a series from 45 miles south of Fengsiangfu, Shensi, has the tail still shorter, averaging 46% of total length, the buffy collar is usually absent (present in two of six), the feet are white and the dark bases of the belly-hairs less extensive. Six in winter pelage from near Peking are fairly typical, though in one the buffy collar is reduced to a median spot. A single skin from Eastern Tombs, Chihli, has the belly and throat white to the roots of the hairs, as in the subspecies following. Specimens from eastern China have not been seen.

This is a species apparently of open and cultivated fields, but comes into the human habitations as well, with much the familiarity of the common house mouse. It seems altogether likely that some form of this Chinese mouse represents the original stock from which the tame black-and-white waltzing mouse of Japan is derived. The evidence on this point has recently been summarized by Gates (1926, Publ. Carnegie Inst. Wash., No. 337), while Fortuyn (1912) has proposed the name *Mus wagneri rotans* for the tame animal, a name which on account of the shortness of the tail-to-total-length ratio may be included in the synonymy of the race *gansuensis*.

***Mus bactrianus gansuensis* Satunin**

Mus (Leggada) gansuensis SATUNIN, 1902, Annuaire Mus. Zool. St. Pétersbourg, VII, p. 564. Kansu.

Mus wagneri mongolium THOMAS, 1908, Proc. Zool. Soc. London, p. 106.

This is a pallid, short-tailed race characteristic of the desert country from eastern Mongolia southwestward across northern Shansi to Kansu. Its relationship to *bactrianus* seems evident but specimens from Central Asia are unavailable. The dorsal coloring is a pale sandy buff, not darkened medially, the lower surfaces and feet are pure white to the roots of the hairs, and the tail is indistinctly bicolor. In three Mongolian specimens, secured by the Asiatic Expeditions at Tsagan Nor, Gun Burte, and Ula Usa respectively, the tail averages 40% of the total length, but the feet and ears are as long as in the previous race. The measurements given for the type of *gansuensis* (from Tschortentan, Kansu) indicate a tail 42% of the total length. The Museum of Comparative Zoölogy has a series of skins collected by F. R. Wulsin near Yirgo, Shansi, that is quite the same, and it seems that those described from the edge of the Mongolian plateau north of Kalgan, Chihli, as *Mus wagneri mongolium* agree in

the characters given. Such specimens as those mentioned above from Eastern Tombs and southern Shensi are clearly intermediate between this and the previous race.

***Chiropodomys fulvus*, new species**

TYPE.—Adult female, skin and skull, No. 43989, American Museum of Natural History, from Yinpankai, Mekong River, western Yunnan, China, 9000 feet altitude. December 24, 1916. R. C. Andrews and E. Heller.

DESCRIPTION.—Pelage full and almost silky. Entire dorsal surfaces except the ears and tail, but including the backs of the fore and hind feet, fulvous, very slightly darkened over the lower part of the back by scattered fine black hairs. Cheeks and flanks clear bright fulvous. Forehead and top of head slightly darkened and grayer than the back. Ears sparsely covered with short hairs, fulvous on the inner surface; on the pro-ectote, however, contrastingly blackish. Under surfaces from chin to anus, the entire forearm, and the hind leg to near the ankle, white, not very sharply marked off at the sides. The chin and throat as well as the under side of the forearms are white to the roots of the hairs, but elsewhere the hairs are slaty for their basal half and a small median fulvous spot is present on the chest. A few hairs at the tips of the toes above are silvery white. Tail sparsely haired, with a slight terminal pencil; its color uniformly dusky except on its basal half below where it is buffy. Vibrissæ long, black, reaching to the tips of the ears. Mammæ 2-2=8.

SKULL.—The rostrum, as in other members of this genus, is relatively short (slightly more than one-fourth the length of the skull), and there is practically no antorbital notch. Anterior edge of zygomatic plate is slightly concave. The braincase is broad and somewhat flattened, the jugals are very slender, and the nasals, which extend back to the level of the zygomatic arch, are exceeded by the ascending branch of the premaxillaries. Very striking is the median groove or depression beginning at about the anterior third of the nasals and extending back to the border of the parietals. This depression is widest posteriorly and is bounded in the interorbital region by a rounded ridge on either side of the frontals. In ventral view, the incisive foramina just reach the level of the anterior molars, while posteriorly the interpterygoid fossa just about reaches the level of the hindmost molars. The first upper molar, as usual, shows three transverse rows of three tubercles each, with a postero-external accessory cusp. The second molar is similar except that the anterior row is so reduced that its median tubercle has disappeared. In its somewhat worn condition the last upper molar appears to consist of two transverse plates. In the lower jaw the coronoid process is as usual small. The first lower molar consists of an anterior trefoil followed by two transverse rows of three cusps each. The second molar consists of three transverse rows, each of three cusps, but the outer cusps are reduced in size, and the posteriormost row is so narrowed that it appears hardly more than a crescent-shaped ridge with a minute outer cusp.

MEASUREMENTS.—The collector's measurements are: head and body, 75 mm.; tail, 133; hind foot, 18.5; ear, 17. The skull measures: greatest length, 22.3 mm.; basal length, 18.5; palatal length, 10.6; length of nasals, 6.7; zygomatic width, 11.7; mastoid width, 9.5; upper molar row, 3.3; lower molar row, 3.8.

The single specimen of this small, bright-colored mouse with long tail agrees with *Chiropodomys* in having flat nails on the pollex and hallux only, and in having the latter opposable to the rest of the hind foot. The number of mammæ in the genus is said to be $0.2 = 4$, but in the present specimen is very clearly $2.2 = 8$. Its more slender proportions and the dark bases of the belly fur are obvious points of difference in comparison with other known members of the genus, of which this appears to be the first Chinese record.

***Hapalomys marmosa*, new species**

TYPE.—Adult female, skin only, No. 59046, American Museum of Natural History, from near Nodda, island of Hainan, China. December 27, 1922. Clifford Pope, collector; Third Asiatic Expedition.

DESCRIPTION.—General form rat-like, but with the hallux opposable, its terminal joint broad and provided with a flat nail. Other digits with compressed short claws, hardly exceeding the terminal pads. Tail slightly longer than head and body, scaly, nearly naked, its sparse short hairs hardly longer than the width of a scale-row except near the tip where they form a slight pencil and are about the length of four scale rows. Vibrissæ prominent, black, slightly longer than head. The otherwise nearly naked ears are remarkable for the long stiff hairs projecting out from the inner surface of the conch and there is a tuft of similar hairs at their anterior base.

The pelage is soft and fine in texture, about 12 mm. long mid-dorsally, of a nearly uniform dull reddish gray (near cinnamon, Ridgway, 1912) only slightly admixed with scattered blackish hairs. The sides are paler, the feet and limbs buffy gray. The entire under surface including fore legs, and the hind legs to below the knee, is pure white to the roots of the hairs. Ankles below, and tail with its short hairs, dusky.

SKULL.—The specimen is unfortunately unaccompanied by a skull so that a description of the cranial characters must await the collection of additional specimens.

MEASUREMENTS.—The type was measured by the collector as follows: head and body, 130 mm.; tail, 138; hind foot, 21; ear, 12.

The discovery of this genus in Hainan constitutes an addition not only to the known fauna of that island but to the fauna of China as well. It is a shorter-tailed animal than the Indian *H. longicaudatus*, with conspicuously hairy ears (a trait noticeable also in the arboreal octodont *Diplomys* of America). Like the other members of the genus it is doubtless a tree-liver, its grasping hind foot recalling that of an opossum.