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DESCRIPTIONS

OF

APPARENTLY NEW SPECIES
AND SUBSPECIES

OF

MAMMALS

FROM

CALIFORNIA, OREGON, THE KENAI PENINSULA,
ALASKA, AND LOWER CALIFORNIA,
MEXICO.

BY

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CHICAGO, U. S. A.

April, 1903.

DESCRIPTIONS OF APPARENTLY NEW SPECIES AND SUBSPECIES
OF MAMMALS FROM CALIFORNIA, OREGON, THE KENAI
PENINSULA, ALASKA, AND LOWER CALI-
FORNIA, MEXICO.

BY D. G. ELLIOT, F. R. S. E., ETC.

The forms described in this paper, with the exception of the mink from the Kenai Peninsula, Alaska, and the mouse from St. Catalina Island, California, were obtained by Mr. Edmund Heller, Collector for the Museum, along the coasts of California and Oregon in 1901, and in the Peninsula of Lower California in 1902, both in the low lands and in the mountain ranges of Hanson Laguna and the San Pedro Martir. A complete catalogue of the collections obtained on these expeditions will be published later with Mr. Heller's notes upon the various species procured. In the troublesome genera *Thomomys*, *Microtus* and *Perognathus*, I have been assisted by Dr. Merriam, Mr. V. Bailey, and Mr. W. H. Osgood of the Biological Survey, Washington, who have kindly compared a number of my specimens with the types and examples in the great collection in Dr. Merriam's charge, and to whom I desire to express my thanks. The measurements given in this paper, except some of *Myotis milleri* and *Putorius v. melampeplus*, are those of the collector's taken in the flesh.

ORDER RODENTIA.

FAM. SCIURIDÆ.

TAMIAS.

***Tamias townsendi littoralis*.** Subsp. nov.

Type locality. Marshfield, Oregon.

Geogr. distr. Coast region of Oregon from Rogue River to the mouth of the Columbia.

Gen. char. Size large; no white or grayish dorsal streaks, five distinct black stripes on back, the intermediate ones slightly paler than color of upper parts; anteorbital face stripe distinct; face ochraceous; under parts white.

Color. Upper parts, rump and sides of body uniform, very dark ochre; tops of head and nose mixed black and ochraceous; five black dorsal stripes, the middle one running from occiput to root of tail; space between stripes slightly paler than body color; face stripes and center of nose black; sides of face ochraceous; postauricular spot grayish white, conspicuous; under parts white, plumbeous of under fur showing through; tail above dark ochraceous at base, with black hairs intermingled, rest black, the hairs tipped with white, their bases reddish ochre; beneath dark ochre at base, rest reddish ochre with black lateral band fringed externally with white; tip black, edged with white; hands and feet pale grayish buff; ears black, with broad external band including tip grayish white, external basal edge ochraceous.

Measurements. Total length, 262; tail vertebræ, 115; hind foot, 37; ear, 23. Skull: occipito-nasal length, 38; Hensel, 30; zygomatic width, 21; interorbital constriction, 8.5; length of nasals, 11; palatal length, 16; length of upper tooth row, 6; length of mandible, angle to alveolus of incisor, 16.

This form of chipmunk is allied to *T. t. ochrogenys* Merr., from Mendocino and the coast of California and Oregon to the Rogue River. The pelage described above is that of winter, and differs from that of *T. t. ochrogenys* in the absence of gray dorsal stripes, different color of the upper parts, the presence of the anteorbital face stripe, absent in *T. t. ochrogenys* at all seasons, and the absence of buff on the under parts. It agrees with the subspecies compared in having the sides of the head ochraceous. From *T. t. hindsii* it differs in being much larger, has not the reddish coloring characteristic of that form, absence of pale dorsal stripes, and the presence of the ochraceous cheeks; and from *T. townsendii* in an entirely different coloring and no gray stripes. It seems to replace *T. t. ochrogenys* on the Oregon coast, north of Goldbeach. All the specimens were taken in November and December, so I do not know what the breeding pelage would be, or if there would be any gray dorsal stripes at that season. I have before me *T. t. hindsii* at all times of the year exhibiting the different phases of pelage, and none of them agree with the specimens of this form. Dr. Merriam intimates that *T. t. ochrogenys* is never *white* on the under parts, when he says, comparing it with *T. townsendii*, that "it differs in *all pelages* by color of under parts, which is always white in *townsendii*," so I infer that these examples can not be the winter pelage of *T. t. ochrogenys*, especially as that form, both in breeding and postbreeding pelages,

before me, has the gray dorsal stripes conspicuous, and the under parts buff. Neither do these examples exhibit an intergradation between *townsendi* and *ochrogenys*, or *townsendi* and *hindsii*, which last, so far as I am aware, has not been taken beyond the boundaries of California. The present form varies somewhat in measurements, the extremes of the nineteen examples before me being: total length, 245–275; tail vertebræ, 100–124; hind foot, 36–37.5; ear, 21–24. The differences are probably caused mainly by age, although in some instances the variation in length of the tail determines the differences in the total length. In cranial characters, *hindsii* has a smaller skull, with narrower and more pointed nasals, narrower palate and rostrum. The skull of *T. t. littoralis* resembles closely that of *T. t. ochrogenys*, but is smaller with somewhat larger nasals, and is the intermediate of that subspecies and *T. t. hindsii*.

FAM. MURIDÆ.

SUBFAM. CRICETINÆ.

ONYCHOMYS.

Onychomys **macrotis*. Sp. nov.

Type locality. Head of San Antonio River, Lower California, Mexico.

Geogr. distr. From San Quentin to San Antonio River, Trinidad, and El Alamo, to about 5,000 feet elevation, San Pedro Martir mountains, Lower California, Mexico.

Gen. char. Size medium, color pale; ears and hind feet long; tail rather long, without white tip; no black spot on ear.

Color. Above ashy vinaceous, finely lined on dorsal surface and top of head with blackish brown, causing these parts to be slightly darker than the rest of upper surface; sides of body ashy vinaceous; orbital ring black; lips, cheeks, under parts, hands and feet pure white; tail dusky above, white beneath; ears pale grayish brown, outer edge blackish; tuft of white hairs at base of ears.

Measurements. Total length, 155; tail vertebræ, 55; hind foot, 21; ear, 20.5. Skull: occipito-nasal length, 26; Hensel, 20; zygomatic breadth, 13.5; interorbital constriction, 4.5; length of nasals, 7.5; palatal arch to alveolus of incisor, 10; greatest width of brain case, 11.

This pale form of *Onychomys* is remarkable for the great size

*μάκρος, long; οὖς, ear.

of its ears and their uniform coloration, there being no black spot, the edges only being black. It must be rare in the San Pedro Martir mountains, as only four specimens were taken.

PEROMYSCUS.

Peromyscus **perimekurus*. Sp. nov.

Type locality. Goldbeach, Oregon.

Geogr. distr. Coast region of Oregon, extent of range not yet known.

Gen. char. Similar to *P. austerus*, but lighter in general color and larger; tail very long, 107–116. Skull with larger bullæ, wider pterygoid fossa, and somewhat narrower rostrum.

Color. Back of head and dorsal region buff, heavily lined with black; fore part of head, nose, sides of head and body, grayish buff; lateral line bright buff, more distinct in some specimens than in others; lips and entire under parts plumbeous, washed with white; hands and feet white; tail brown above, flesh color beneath, with 27 millimeters of the end blackish; ear, inside orange at base, remainder black, outside pale brown for basal half, rest blackish with white edge.

Measurements. Total length, 220; tail vertebræ, 116; hind foot, 23; ear, 19. Extreme measurements of seven specimens: total length, 206–220; tail vertebræ, 107–116; hind foot, 22–24; ear, 18.5–22. Skull: occipito-nasal length, 25.5; Hensel, 19; zygomatic width, 12; interorbital constriction, 4; palatal arch to alveolus of incisor, 9.5; width of brain case, 11.5; length of nasals, 9.5; width of rostrum, 3; length of upper tooth row, 3; length of mandible, angle to alveolus of incisor, 11.5; height at condyle, 4.5; at coronoid process, 6.

In the series of *Peromyscus* obtained by Mr. Heller of the *austerus* style there seems to be two forms, the one here described, characterized by greater size and a very much longer tail, with a general lighter colored pelage, and the typical style. Mr. Heller noticed the difference and in his notes stated that the larger form was the rarer of the two, which seems to be the fact, for out of fifty-eight specimens I can only find seven that can be assigned to the new form, the rest being *P. austerus*, all, however, being larger than Baird's type. The exceedingly long tail of the present form makes it at once conspicuous among specimens of *austerus*, the tail of which appears rarely to exceed 100 millimeters in length.

**περὶμῆκης*, very long; *οὐρά*, a tail.

Peromyscus *hemionotis. Sp. nov.

Type locality. Rosarito Divide, 5,000 feet elevation, San Pedro Martir mountains, Lower California, Mexico.

Geogr. distr. Only known from type locality.

Gen. char. Similar in color to *P. e. stephensi*, but larger, with enormous ears and very long tail.

Color. Nose and tufts in front of ears dark gray; top of head and upper parts cream buff finely lined with black; bright ochraceous lateral line from lips to root of tail; under parts pure white, base of hairs plumbeous, showing through; hands and feet white; tail above brownish black; beneath white; ears dark brown.

Measurements. Total length, 222; tail vertebræ, 126; hind foot, 22.5; ear, 25.5. Skull: occipito-nasal length, 27; Hensel, 20.3; zygomatic width, 13; interorbital constriction, 4.5; breadth of brain case, 13; palatal arch to alveoli of incisors, 10.5; length of nasals, 10; greatest breadth of rostrum, 4; length of upper tooth row, 4; length of mandible, angle to alveolus of incisor, 11.

Only two specimens of this mouse were procured, characterized by its enormous ears and very long tail. Mr. Heller writes that it seemed to be very rare, and he was unable to obtain more examples. It has a general grayish buff appearance, similar to *P. e. stephensi*, but the coloring is not so bright. It is a much larger animal, as the measurements show.

Peromyscus †gaurus.

Type locality. San Antonio, San Pedro Martir mountains, Lower California, Mexico.

Gen. char. Size moderately large, tail very long, colors pale, skull with broad brain case, nasals long, interorbital space broad.

Color. Above ochraceous buff, finely lined with black, deepest and brightest on lower back and rump, becoming grayish cream buff on upper back and top of head and nose, lined with black; cheeks, sides, thighs and upper parts of arms bright ochraceous buff; upper lip, chin, inner side of arms and legs and entire under parts pure white, the plumbeous of under fur showing through; hands and feet white; tail above dark wood brown, beneath cream color; ears blackish brown.

Measurements. Total length, 222; tail vertebræ, 122; hind foot, 22; ear, 20. Skull: occipito-nasal length, 27; Hensel, 21:

*ἡμιουός, a mule; οὐς, ὄρος, an ear.

†γᾶυρος, frisky.

zygomatic width, 14; interorbital constriction, 4; length of nasals, 9; palatal length from palatal arch to alveolus of incisor, 11; postpalatal length, 9; greatest breadth of rostrum, 4; length of mandible, angle to alveolus of incisor, 11; height at coronoid process, 7.

This species belongs to the *fraterculus* group with long tails, but is very differently colored. The tints are mostly pale except on rump and sides, which have brighter hues. It was only taken by Mr. Heller in one locality, San Antonio, on the western slope of the San Pedro Martir mountains, and seems to have been rare, as only six specimens were secured, three of which had the tails more or less shortened. Its distinctive coloration renders comparison with other members of the group, save the next species, unnecessary.

Peromyscus *homochroia. Sp. nov.

Type locality. San Quentin, Lower California, Mexico.

Gen. char. Similar in color to *P. gaurus*, but smaller, tail shorter and black above instead of wood brown; ears comparatively longer. Skull is shorter in occipito-nasal length; brain case narrower, nasals shorter and more pointed; interorbital constriction greater; pterygoid fossa and palate narrower.

Color. Above similar to *P. gaurus*; beneath white with buff patch on chest, between arms; sides ochraceous; hands and feet white; tail above black, with apical third black all round, beneath for remaining part whitish. In some specimens the tail is black all round, in others the whitish hue beneath goes to the tip. Ears brownish black.

Measurements. Total length, 185; tail vertebrae, 100; hind foot, 20; ear, 21.5. Skull: occipito-nasal length, 24.2; Hensel, 18; zygomatic width, 8; interorbital constriction, 3.8; width of brain case, 6.6; length of nasals, 6.5; palatal length, 9; postpalatal length, 8.2; greatest breadth of rostrum, 3; length of mandible, angle to alveolus of incisor, 10; height at coronoid process, 5.

This in some respects is a diminutive of the previous species, but easily recognizable by its shorter and darker colored tail, and the more or less buff on under parts. The average length of tail is shorter than the measurement given of the type, probably 87 or 90 being the correct number of millimeters. This form is numerous at San Quentin and may be regarded as a

*ὁμοχροια, similarity of color.

mouse of the plains, its longer-tailed relative being a mountain species. The buff spot on the chest, mentioned in the description, is absent in some specimens, and others again have the white under parts tinged with buff. The brightly colored rump renders this form rather conspicuous. It bears also some resemblance to *P. thurberi*, but its long tail, large ears and brighter coloring would serve to distinguish it.

Peromyscus *oresterus. Sp. nov.

Type locality. Vallecitos, San Pedro Martir mountains, Lower California, Mexico, 9,000 feet elevation.

Gen. char. Color pale; tail medium length. Skull with brain case broad, rostrum heavy, nasals broad.

Color. Upper parts pinkish buff lined with black on top of head and dorsal region, making these darker than the rest; line from nose to below the eye, shoulders and upper part of sides of body pinkish buff; end of nose, lips, cheeks, lower part of sides of body and entire under parts pure white; base of fur plumbeous; tail above dusky; sides and beneath creamy white; hands and feet white; ears brownish black, with tufts of creamy buff hairs covering basal half.

Measurements. Total length, 201; tail vertebræ, 96; hind foot, 21; ear, 20.5. Skull: occipito-nasal length, 26; Hensel, 20; zygomatic width, 12; interorbital constriction, 4; length of nasals, 9; breadth of rostrum, 4; palatal length, 10; postpalatal length, 7; width of brain case, 11.

This is a pale species belonging to the *thurberi* group, but apparently very distinct from all of the described forms. Only fifteen specimens were obtained, seven at Vallecitos, the type locality, and two at Agua de las Fresas, a short distance to the north, both localities being in the very midst of the San Pedro Martir mountains, and six at Hanson Lagoon, in the Hanson Laguna range. There is a slight variation in the measurements between the examples, the tail of the type being longer than the others. The extreme dimensions of the fifteen examples are: total length, 160–201; tail vertebræ, 71–96; hind foot, 20.5–21; ear, 19–21.5. The difference in total length is mainly in the length of tail, which member often varies considerably in species of this genus. One of these specimens has a narrow line from the chest to the anal region in which the hairs are white to the roots, but this is not perceptible in the one selected for the type,

*ὄρέστερος, dwelling in the mountains.

all the hairs being plumbeous at the roots. This mouse is evidently a dweller of high elevation, Vallecitos being 9,000 feet above the sea, Agua de las Fresas 6,000 feet, and Hanson Lagoon 5,000 feet, and is easily recognized by its pale color both on body and tail.

Peromyscus catalinæ. Sp. nov.

Type locality. St. Catalina Island, off coast of California.

Gen. char. Size of *P. t. gambeli*, but with much longer tail, ears and hind feet.

Color. Upper parts grayish buff heavily lined with black, lower back darkest; rump grayish buff; cheeks, nose and sides buff; upper lip, lower side of face, entire under parts, hands and feet, pure white; tail above dusky, beneath white; ears brownish black.

Measurements. Total length, 176; tail vertebræ, 92; hind foot, 23; ear from notch, 18. Skull: occipito-nasal length, 25; Hensel, 19; zygomatic width, 13; interorbital constriction, 4; mastoid width, 10.2; length of nasals, 8; width of brain case above auditory meatus, 10; length of upper tooth row on alveolus border, 3.

This form of *Peromyscus* is a near relative of *P. t. gambeli*, but its insular habitat seems to have caused a lengthening of limbs, tail and ears. Doubtless very old individuals would exhibit a brighter pelage, as is witnessed in old adults of *P. t. gambeli*. Indeed, one example of the small series before me does show brighter color than the others. The tendency to concentrate the black on the lower back, as seen in the type, is not exhibited in all the specimens, some being a more uniform grayish buff lined with black on the upper parts.

Thirteen examples were received from Mr. J. Rowley, collected by him in February on St. Catalina Island.

SUBFAM. NEOTOMINÆ.

GENUS NEOTOMA.

Neotoma fuscus apicalis. Subsp. nov.

Type locality. Gardiner, Coos County, Oregon.

Gen. char. Size large, tail bushy, tip white. Skull long, narrow; orbital constriction considerable; rostrum long.

Color. Top of head and upper parts mixed black and yellowish, the former predominating; sides of head dark gray and yellowish; sides of body yellowish buff slightly mixed with black;

chin and patch on upper part of throat pure white, rest of throat plumbeous washed with white; inside of fore legs and narrow line across breast below the plumbeous on throat deep ochraceous; below this line on breast is a pure white patch, and another on anal region; center of abdomen buff, rest of under parts plumbeous washed with white; outer side of hind legs black to ankles, the black extending onto the back of ankles; feet and hands pure white; tail above blackish with a white tip 43 millimeters in length, beneath ochraceous at base, this color extending in a thin line on the center of the tail for half its length; rest of under surface pure white.

Measurements. Total length, 423; tail vertebræ, 202; hind foot, 47; ear, 32. Skull: occipito-nasal length, 51; Hensel, 43; zygomatic width, 27; interorbital constriction, 5; length of nasals, 20; palatal arch to the alveolus of incisor, 24; length of upper tooth row, 9.5; length of mandible, angle to alveolus of incisor, 25; height at condyle, 10.5; at coronoid process, 15.

This wood rat, while evidently a subspecies of *N. fusca*, has also some resemblance to *N. c. occidentalis*, in the pure white of a part of the under surface of the tail, but the upper surface, while brighter than that of *N. fusca*, has none of the rufous tinge seen in the tail of *N. c. occidentalis*. The pure white tip, however, makes this form conspicuously distinct from all the wood rats known to me. A series of this subspecies was secured at Gardiner.

GENUS MICROTUS.

Microtus californicus **huperuthrus*. Sp. nov.

Type locality. San Quentin, Lower California.

Geogr. distr. Sea coast in the vicinity of San Quentin up to 8,000 feet elevation, in the San Pedro Martir mountains, Lower California, Mexico.

Gen. char. Larger and usually more reddish in color than *M. californicus*, with hind foot longer and tail about equal.

Color. Upper parts dark tawny, or tawny ochraceous slightly lined with black; sides paler, more buffy; entire under parts plumbeous, faintly washed with white; hands and feet gray; tail above dusky, beneath grayish white.

Measurements. Total length, 208; tail vertebræ, 54; hind foot, 24.5; ear, 18. Skull: occipito-nasal length, 33; Hensel, 29; zygomatic width, 19; interorbital constriction, 3; length of nasals

*ὁπέροθος, reddish.

81; palatal length, 17; mastoid breadth, 14; width of brain case above auditory meatus, 10.5; length of upper tooth row at alveolar border, 8.

This form of *Microtus* is allied to *M. californicus*, but is considerably larger and usually has a reddish tinge to the pelage not observable in the other, and is not so heavily lined with black. Some specimens are quite reddish, being a dark tawny on all the upper parts.

It was not found on the coast north of San Quentin, and ranges in the mountains east of that place to La Grulla and Agua de las Fresas, about 8,000 feet elevation. North of these places it was not seen.

In the series of this form procured by Mr. Heller, slight variations in color are observable among the examples, caused probably by age, and as they were taken from July to September, possibly also by the difference of season, although I should judge that this was not a very potent factor, as some specimens taken in July and September more nearly agree in color than some procured during the interval. The tails are not all colored like that of the type, some being dusky above and cream color beneath, and some specimens are paler and less red than others, and the form is not nearly so dark as *M. californicus*, of which it is a subspecies. It is a large vole and belongs to the group containing *constrictus vallicola*, *scirpensis* and the species mentioned above, and is even larger than *M. vallicola*, which up to this time exceeded in size any of the known species.

GENUS FIBER.

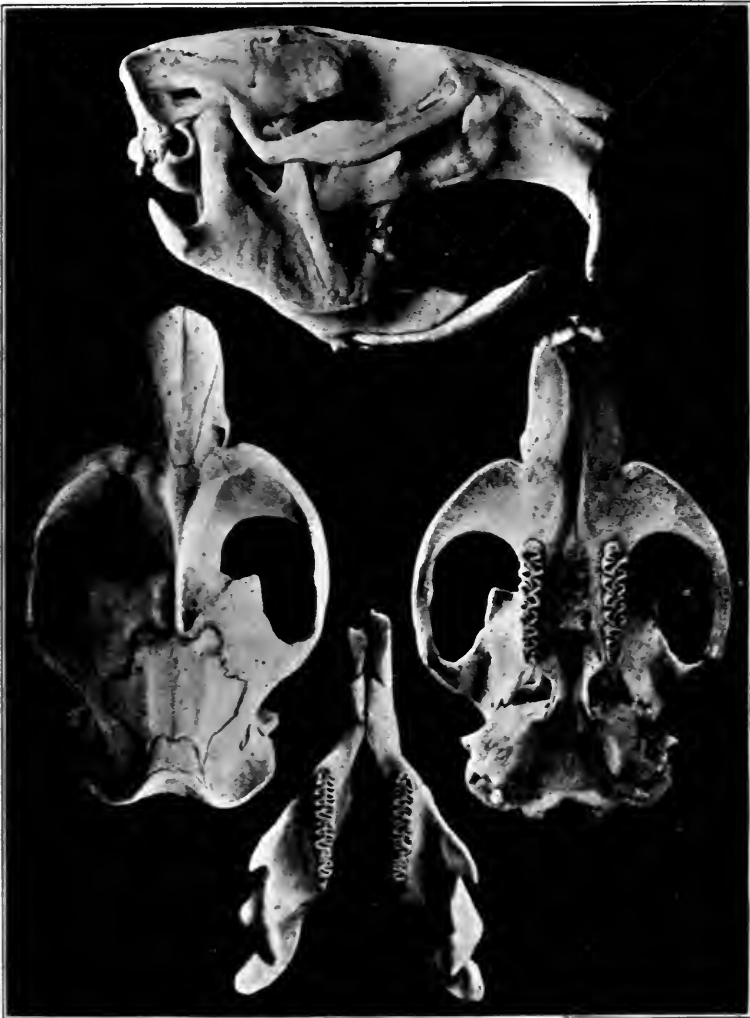
Fiber occipitalis. Sp. nov.

Type locality. Florence, Oregon.

Gen. char. Size largest of the genus. Occipital crest bowed inward at interparietal, nearly forming a half circle; interorbital constriction greatly pronounced; frontal crest marked; post-orbital processes pointing downward, acute; brain case narrow posteriorly; interparietal nearly as long as broad; parietals pointed anteriorly, very narrow posteriorly; nasals broad anteriorly, sharply contracting posteriorly; face of occipital broader in proportion to its height than that of *F. zibethicus*; coronoid process of mandible narrow, acute; condyle broad and heavy; molars smaller than those of *F. zibethicus*; incisors short, heavy.

Color. Upper parts reddish brown, lined with black hairs,

these very numerous on dorsal region, causing this to be much darker than other parts; top of head, nose and around the eyes blackish, under fur gray; lips white; throat, upper parts of chest and inner side of arms dark gray; inner side of thighs and anal region white: rest of under parts rufous, under fur plumbeous; hands and feet blackish brown: tail black.



FIBER OCCIPITALIS.

Nat. size.

Measurements. Total length, 597; tail, 295; hind foot, 85; ear, 21. Skull: occipito-nasal length, 67; Hensel, 60; zygomatic width, 43; width of brain case posteriorly, 18; mastoid breadth, 26; interorbital constriction, 6.5; across postorbital processes, 23; interorbital width anteriorly, 11.5; length of nasals, 27; width of nasals posteriorly, 2.5; width of nasals anteriorly, 8; greatest width of rostrum, 11; palatal arch to incisive foramina, 15; post-palatal length, 22; length of upper tooth row, alveolar border, 15; total length of incisors from alveolus, 15; length of mandible, angle to upper edge of alveolus of incisor, 45; height at condyle, 21, at coronoid process, 23; length of lower tooth row, alveolus border, 15.

This is apparently the largest species of muskrat known at this time. It is remarkable for the peculiar formation of the occipital region of the skull, the superior outline being greatly curved in the center, making a deep indentation at the interparietal and of the same width as that bone; the brain case is much contracted posteriorly, and the parietal is of a quite different shape from that seen in *F. zibethicus*. The nasals, while about the same length as those of the species just named, are broader at their greatest width and are rounded at both ends; the molars are smaller, and the mandible is deeper through than in *F. zibethicus*. In color there is not much difference between the present species and the common muskrat, but *F. occipitalis* is somewhat darker above and redder beneath. From *F. spatulatus* this form differs in many ways. It is much larger, has very differently shaped nasals; the parietal much wider and longer, the interparietal higher and rounded anteriorly, and the occipital outline deeply bowed in center, which feature appears entirely absent in type of *F. spatulatus*.*

GENUS RHITHRODONTOMYS.

Rhithrodontomys peninsulæ. Sp. nov.

Type locality. San Quentin, Lower California, Mexico.

Geogr. distr. Only known from type locality.

Gen. char. Tail less than half the total length; size large; pelage more red than that of *R. longicaudus*, with longer tail and hind foot and much larger ears. Skull larger, nasals longer, brain case broader; interorbital space of nearly equal width throughout, sides nearly parallel.

* See Pl. VI, Fig. 4, N. Am. Faun., No. 19, 1900.

Color. Above and on thighs reddish brown, deepest on thighs and rump, and darkest on dorsal region, which part is mixed with black; sides of head and body light reddish brown, the plumbeous under fur showing through at intervals; top of head like dorsal region, under parts white or grayish white, caused by the plumbeous under fur showing; a dark ochraceous spot on sides of chest, and a paler one on middle of chest between the arms; tail dusky brown above, white beneath; hands and feet white; ears dark brown.

Measurements. Total length, 170; tail vertebræ, 89; hind foot, 17.5; ear, 16. Skull: occipito-nasal length, 27; Hensel, 20; zygomatic breadth, 10; least interorbital breadth, 3; palatal arch to alveolus of incisor, 8.5; length of nasals, 13.5.

This harvest mouse differs from all others in Middle America in the relative length of the tail, which is less than half the total length. In its reddish hue it is easily recognizable from *R. longicaudus* as well as being larger in all its measurements. Mr. Heller found the species only about San Quentin. He says it was common near the coast in damp meadows, but disappears a few miles inland. This species is apparently separated from *R. longicaudus* by *R. l. pallidus*, which was taken by Mr. Heller near the Salado River at Trinidad and Las Eucijas.

FAM. GEOMYIDÆ.

GENUS THOMOMYS.

Thomomys helleri. Sp. nov.

Type locality. Goldbeach, mouth of Rogue River, Curry County, Oregon.

Gen. char. Size medium, nearest possibly to *T. douglasi*, but color different and tail and hind foot longer. Skull short, with brain case broad, zygomata widely spread; molars small; rostrum broad.

Color. Top of head and upper parts reddish brown, base of fur black; spot behind ears, line beneath eyes, nose, lips and margins of pouches black; cheeks buff; sides buff, black of under fur showing through; throat and under parts plumbeous washed with buff; feet yellowish white; tail above dark gray, beneath white.

Measurements. Total length, 209; tail vertebræ, 67; hind foot, 28; ear, 8. Skull: occipito-nasal length, 36; Hensel, 28;

zygomatic width, 19; interorbital constriction, 6; greatest width of brain case, 14; mastoid breadth, 13.5; length of nasals, 11; width of rostrum, 6; palatal length to anterior edge of tooth row from palatal arch, 5; length of mandible, angle to alveolus of incisor, 19; height at condyle, 7; at coronoid process, 11; length of upper tooth row at alveolar border, 7.

This gopher, while its nearest relative would seem to be *T. douglasi*, is yet apparently distinct from all the forms that have received a name up to this time. Its geographical position is peculiar, and of this Mr. Heller in his notes writes as follows: "It is isolated from *T. douglasi*. On the south its range probably connects with the Crescent City form (*T. laticeps*), which is very different; on the east it may connect with *T. leucodon*, and on the north the genus is apparently lacking until the Umpqua is reached." It therefore stands alone, surrounded by very different forms from which it is easily distinguished. I have much pleasure in bestowing Mr. Heller's name upon this and the following species, in recognition of his most capable services to this Institution, for which he is an official collector.

FAM. HETEROMYIDÆ.

SUBFAM. HETEROMYINÆ.

GENUS PEROGNATHUS.

A. CHÆTODIPUS.

Perognathus helleri. Sp. nov.

Type locality. San Quentin, Lower California, Mexico.

Geogr. distr. Type locality only.

Gen. char. Size similar to *P. p. arenarius*; color entirely different, lateral line conspicuous. Skull with shorter nasals, broader rostrum, wider interorbital space, brain case broader, mastoids less prominent, and bullæ smaller and more pointed anteriorly.

Color. Above mixed black and dark buff, giving a dark yellowish brown appearance to the upper parts, very different from the pale buffy drab of *P. p. arenarius*. Distinct bright buff lateral line from nose to rump; under parts pure white; tail above dark brown, almost dusky; beneath pure white, pencil like upper part dusky; hands and feet gray, ears dark brown.

Measurements. Total length, 159; tail vertebræ, 83; hind foot, 20.5; ear, 8. Extreme range of fifteen specimens: total length, 145-166; tail vertebræ, 76-96; hind foot, 19.5-22; ear, 6-8. Skull: occipito-nasal length, 23; Hensel, 14; zygomatic breadth, 11.5; interorbital constriction, 6; mastoid breadth, 11.5; greatest width of brain case, 10.5; palatal arch to alveoli of incisors, 8.5; length of nasals, 7.5; width of rostrum, 4; length of upper tooth row, 3.

The form nearest to *P. helleri* is probably the one with which I have compared it, *P. p. arenarius*, so supposed from San Felipe, here reduced to subspecific rank because the series in this collection from Lower California shows that *P. p. arenarius* and *P. p. angustirostris* from the same locality, San Felipe, run into one another, there being intermediate specimens. The present species and the San Felipe specimens are totally different in color and are separated from each other by the San Pedro Martir mountains 10,000 feet high, as well as the two coast ranges, and Mr. Heller obtained nothing resembling either in the intervening country. *P. p. arenarius* was only represented, up to this time, so far as I know, by a single specimen, taken in the vicinity of Comondu, seven degrees south of San Felipe, on the eastern side of the Peninsula, and over four degrees south of San Quëntin, which is on the west coast. Mr. Heller says the present species was one of the commonest mammals at San Quëntin.

***Perognathus baileyi* *rudinoris.** Subsp. nov.

Type locality. San Quëntin, Lower California, Mexico.

Geogr. distr. West coast of Lower California, west of San Pedro Martir mountains, in the vicinity of San Quëntin.

Gen. char. Similar to *P. baileyi* but darker, with very slender nasals, mastoids larger, upper incisors more slender.

Color. Upper parts and sides pale buff finely lined with black, darkest on head; sides of nose, cheeks and line above eyes pale yellowish buff lined with black; ochraceous lateral line from lips to thighs; under parts pure white; tail above and pencil dark brown, beneath yellowish white; hands and feet grayish white.

Measurements. Type: total length, 232; tail vertebræ, 128; hind foot, 27; ear, 11.5. Extremes of nine examples: total length, 180-232; tail vertebræ, 101-128; hind foot, 23.5-27; ear, 9.5-11.5. Skull: occipito-nasal length, 31; Hensel, 22; zygomatic

*ῥῦδινός, slender; ρις, the nose.

width, 16; interorbital constriction, 6.5; width of interparietal, 6.5; length of nasals, 10; anterior width, 3; posterior width, 1.5; greatest breadth of rostrum, 4; palatal arch to alveoli of incisors, 12; greatest width of basioccipital between bullæ, 5; mastoid breadth, 15; length of upper tooth row, 4.

This subspecies while darker than typical *P. baileyi* is remarkable for its very slender nasals, which cause it to differ from any other known form. It appears to be a coast race, for, although the mountain ranges of San Pedro Martir and Hanson Laguna were thoroughly explored by Mr. Heller no specimen of this race was found among them. It was not uncommon at San Quentin.

Perognathus femoralis *mesopolius. Subsp. nov.

Type locality. Peñon, San Pedro Martir mountains, Lower California, Mexico, 5,000 feet elevation.

Geogr. distr. San Pedro Martir mountains, Lower California, Mexico.

Gen. char. Size large, ear large, hind foot and tail long, similar to *femoralis* but grayer, lacking the bistre color so characteristic of that species. Skull with greater interorbital constriction and somewhat less mastoid breadth.

Color. Above pale gray and light buff lined with black; nose and side of face pale buff lined sparingly with black; sides grayer than upper parts; lateral line light buff; under parts, hands and feet pure white; tail and pencil dusky above, white beneath; ears light brown.

Measurements. Total length, 232; tail vertebræ, 136; hind foot, 27; ear, 14. Skull: occipito-nasal length, 27; Hensel, 18; zygomatic width, 13; mastoid breadth, 13; interorbital constriction, 6; palatal arch to alveolus of incisor, 10; length of nasals, 10; posterior width of nasals, 2; anterior width of nasals, 3; greatest width of rostrum, 5.

This form while related to *P. femoralis* is easily distinguished from it by the general gray color of the pelage and the absence of bistre. It appears to be restricted to the San Pedro Martir range, which is separated from the Hanson Laguna mountains on the north by a stretch of about fifty miles of broken hills and mesas, and a strip of desert, the elevation of this tract ranging from 3,000 to 6,000 feet. In the Hanson Laguna mountains *P. femoralis* was taken.

*μεσοπολιος, half gray.

Perognathus *knekus. Sp. nov.

Type locality. Rosarito, San Pedro Martir mountains, Lower California, Mexico.

Gen. char. Size very large; color beneath deep cream buff. Skull large with very long slender nasals broadening at tip.

Color. Upper parts ochraceous buff lined with black; top of nose and whiskers blackish; spot in front of eye and broad lateral band from lip to posterior part of thigh ochraceous buff; sides above lateral line grayish buff; a pure white spot, the hairs white to the roots, on chest between arms and extending in a narrow line towards abdomen; rest of under parts, arms, legs, hands and feet dark creamy buff; tail hairy, above blackish, beneath cream buff; ears dark brown.

Measurements. Total length, 228; tail vertebræ, 126; hind foot, 28; ear, 9.5. Skull: occipito-nasal length, 32; Hensel, 22; zygomatic width, 16.5; greatest mastoid breadth, 16; greatest width of interparietal, 8; interorbital constriction, 7; median length of nasals, 13; lateral length of nasals, 14; posterior width of nasals, 2; anterior width of nasals, 3; greatest width of rostrum, 5; palatal length, 13; length of tooth row, alveolar border, 4; length of mandible, tip of angle to alveolus of incisor, 14.2.

I hesitated for a time to describe this pocket mouse, thinking that perhaps its very unusual color might be attributed to the soil; but on examination the hairs of the under parts were found to be of a uniform hue to the roots, and in the midst of the buff was the conspicuous white spot, the hairs of which were also white to the roots. If the under parts were stained by the soil it is difficult to understand why the white spot was left when all around it was a uniform buff or cream buff. Other specimens of the genus, but evidently not of this species, were taken at Rosarito, having the under parts all pure white, so the soil had not affected them. In a letter just received from Mr. Heller writing of this specimen, he says, "I believe the under parts are not stained." Beside its peculiar coloring, it seems to be among the largest members of the genus, even exceeding in the general measurements of body or skull *baileyi*, *b. rudinoris* and *saccatecus*. Only the type specimen was obtained.

*κνηκος, buff color.

ORDER CARNIVORA.

GENUS SPILOGALE.

Spilogale arizonæ martirensis. Subsp. nov.

Type locality. Vallecitos, San Pedro Martir mountains, Lower California, 9,000 feet elevation.

Gen. char. Similar to *S. arizonæ* in markings, but the white stripes from occiput and cheeks narrower and shorter, those from cheeks reaching only to just beyond shoulders; broken stripe from fore leg across lower back, broader; tail and hind foot shorter. Skull is shorter, narrower and lighter, with narrower rostrum.

Color. Entire body, legs and feet jet black, with white stripes and spots as in *S. arizonæ*, differing only as mentioned above. Tail jet black for basal half, white for the remainder. Chin white. White spot on forehead large and broad.

Measurements. Total length, male, 395; tail vertebræ, 143; hind foot, 44; ear, 25. Skull: occipito-nasal length, 49 (51); Hensel, 45.5 (50); zygomatic width, 33 (37); interorbital constriction, 12 (14); width of rostrum, 11 (12.5); length of nasals, 8 (8.5); breadth of brain case over auditory meatus, 27 (25); mastoid breadth, 30 (32); palatal length, 19 (19); post-palatal length, 26 (29); length of mandible, angle to alveolus of incisor, 30; height at condyle, 6; at coronoid process, 15. The figures in parentheses are the measurements taken from the skull of the type of *S. arizonæ*.

This seems to be a valid subspecies of *S. arizonæ*, usually regarded as a subspecies of *S. phenax*, but which should probably occupy a specific rank. The new form is a smaller, possibly a more slender animal than its relative, and differs from it in appearance and in cranial characters, as mentioned above. It will be noticed that, although the skull of *S. a. martirensis* is smaller generally than that of its relative, in its measurements, the brain case is wider above the auditory meatus.

GENUS PUTORIUS.

A. LUTREOLA.

Putorius vison melampeplus. Subsp. nov.

Type locality. Kenai Peninsula, Alaska.

*μέλαμπεπλος, with dark garments.

Gen. char. Size rather large but smaller than *P. v. ingens*; color dark, without any reddish tint so characteristic of *P. v. energumenus*. Skull smaller than *P. v. ingens* and, as compared with *P. v. energumenus*, has the audital bullæ flatter and broader and a broader palate posteriorly; pterygoid fossa broader and relatively shorter, considering the size of skull. Rostrum wider and heavier; interorbital constriction greater, as is also the width at the postorbital processes; interorbital length shorter; palate wider at alveoli of incisors, and last upper molar smaller and narrower. Well developed sagittal and occipital crests.

Color. Entire upper parts, legs and feet, dark chocolate without any red tints; under parts slightly paler with a white spot on chin, and in some specimens a small one on chest; tail bushy, blackish, slightly paler at base.

Measurements. Total length, 710; tail, 180; hind foot, 65 (skin). Skull: occipito-nasal length, 59; Hensel, 60; zygomatic width, 40; interorbital constriction, 10; mastoid width, 32; width of brain case, 30; palatal length, 28; length of bullæ, 15; breadth of rostrum, 15; length of nasals about 9 (bones of rostrum ankylosed); width at postorbital processes, 18; from postorbital process to anterior margin of frontals, 18 (diagonally); mandible from angle to alveolus of incisor, 35; height at angle, 6; at coronoid process, 19.

This is a very dark mink, easily distinguished from *P. v. energuminus* in color by the total absence of any red tint, and by the various cranial differences stated above. In color it resembles more nearly examples of *P. vison* from eastern North America, but is larger than that species, though possibly specimens of *P. v. lutrecephalus* from the Atlantic coast might equal it in size. From *P. v. ingens* it differs in being smaller (the skull described, though that of an old male, being much less in all its measurements), and also in its very dark coloring, *P. v. ingens* being a pale form. Several specimens were received from the type locality, all about alike in color; if any difference was perceptible it was that some were even darker than the type. Mr. Bangs kindly compared my specimens with his series of *P. v. energuminus*, and his conclusions were in accord with mine expressed above. His examples were in both worn and full pelage, while the *P. v. energuminus* in the collection of this Institution are not in full coat, having been taken on the 30th September. The Kenai specimens are in full winter pelage.

ORDER INSECTIVORA.

GENUS SOREX.

Sorex *oreinus. Sp. nov.

Type locality. Aguaje de las Fresas, San Pedro Martir mountains, Lower California, Mexico, 6,000 feet elevation.

Gen. char. Similar to *S. vagrans*, but darker and without any of the russet coloring of that species, and darker on under parts. Skull has the rostrum shorter, the brain case flatter, occipital region lower and teeth smaller.

Color. Upper parts sepia, beneath dark gray (in one specimen blackish); hands and feet whitish; ears sepia.

Measurements. Type: total length, 103; tail vertebræ, 43; hind foot, 12; ear, 6. Extremes of four specimens: total length, 103-110; tail vertebræ, 37-43; hind foot, 11.5-12; ear, 6-8.5. Skull: occipito-nasal length, 15 (16); Hensel, 14 (14.5); inter-orbital constriction, 3 (3); length of rostrum, 9.5 (10.2); palatal length, 6 (7).

This shrew while nearly allied to *S. vagrans* has sufficient differences to separate it from that species, which belongs to the northwestern coast region and British Columbia. It is a much darker animal than *vagrans*, but about the same size, with a smaller skull and smaller teeth. The skull measurements in parentheses are those of *S. vagrans*.

ORDER CHIROPTERA.

GENUS MYOTIS.

Myotis milleri. Sp. nov.

Type locality. La Grulla, San Pedro Martir mountains, Lower California, Mexico, 8,000 feet elevation.

Gen. char. Fur long; calcar like that of *M. evotis*, of which species this one is an ally; ears very large, reaching beyond end of nose and rather pointed at tip; wings from base of foot; color very pale. Skull: forehead rising gradually from rostrum; occiput rounded; rostrum broad; no occipital crest.

Color. Upper parts broccoli brown with a tinge of russet; under parts whitish or creamy white, the base of all the hairs on the body being blackish, and this hue is conspicuously shown

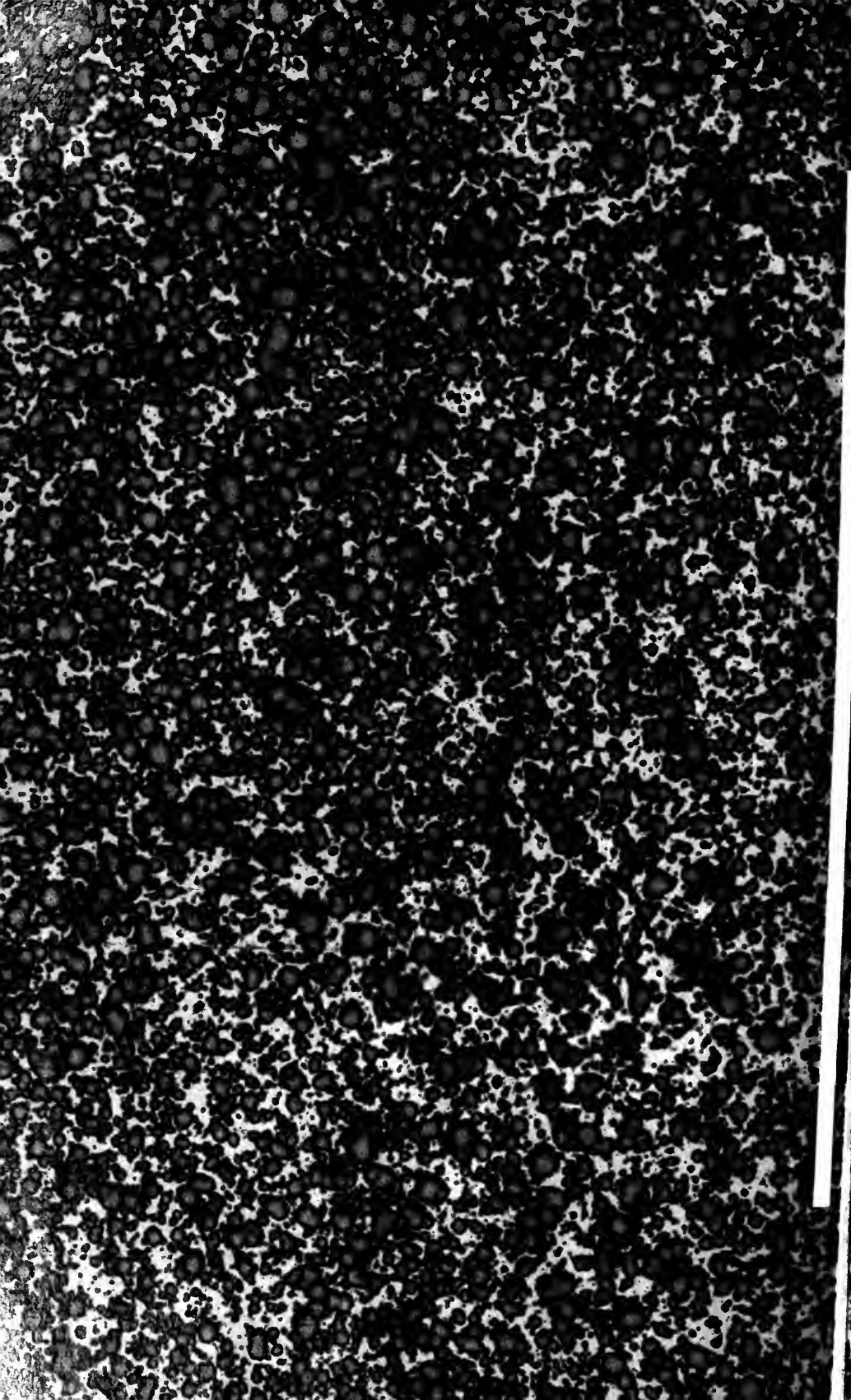
*ὄρεινος, mountaineer.

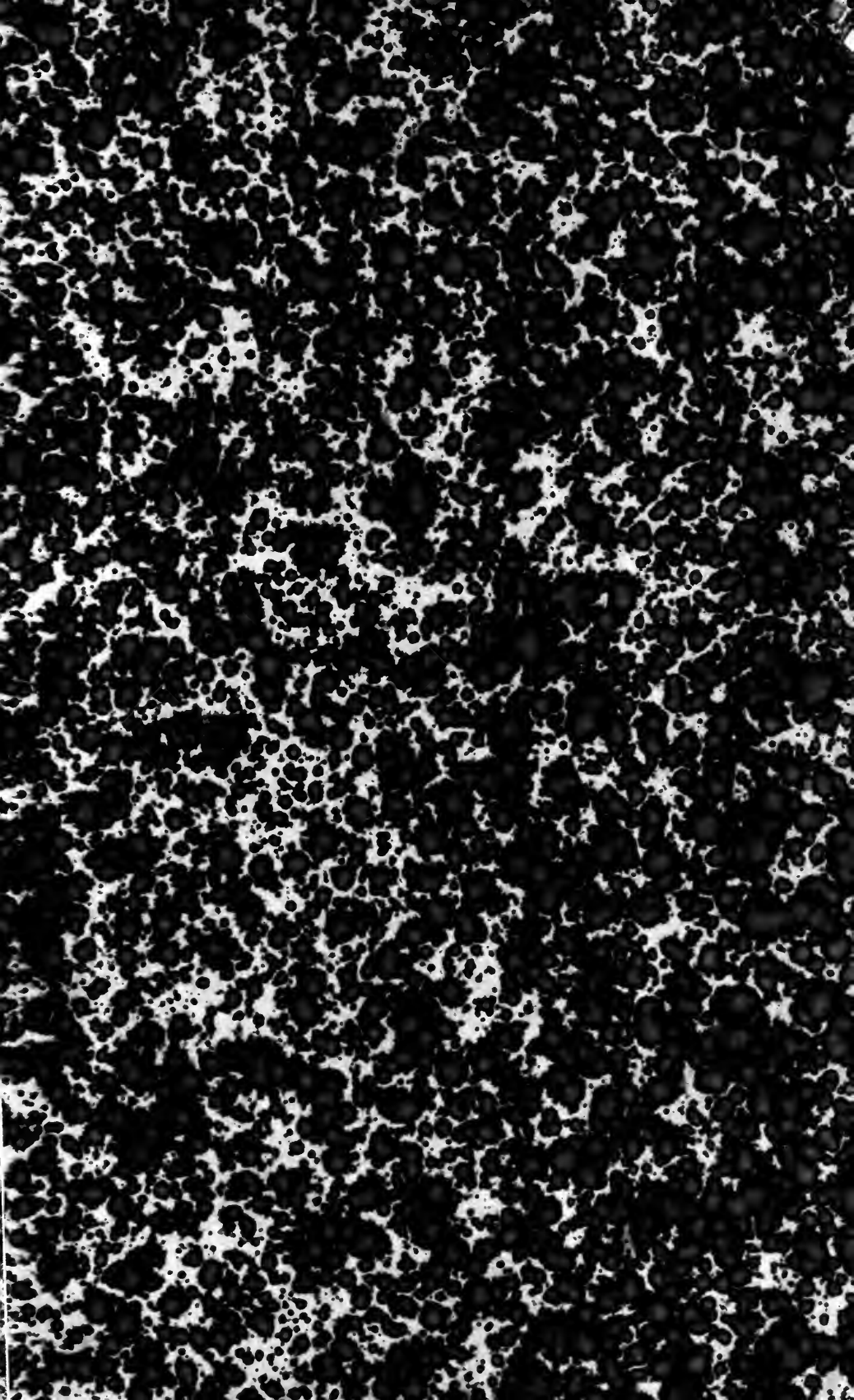
amid the fur; ears black with an indication of a purple shade; sides of face pale brown; wing and interfemoral membranes purplish brown; feet black.

Measurements. Total length, 87; tail vertebræ, 40; tibia, 21; foot, 8.5 (coll. meas.); ear, length from meatus, 19; width of ear, 10.5; tragus, 9 (dried skin); fore arm? (heads of both fore arms gone); thumb, 5.2; longest finger, 1st phalanx, 27; 2d phalanx, 9; 3d phalanx, 10; 4th phalanx, 6. Skull: occipito-nasal length, 13; Hensel, 11; zygomatic width, 8; interorbital constriction, 4; width of rostrum, 5; width of brain case, 6.5; palatal length, 5; length of upper tooth row, alveolar border, 4.

I have much pleasure in giving to this very distinct species the name of my friend, Mr. G. S. Miller, Jr., Assistant Curator of the Department of Mammals in the National Museum, who is our greatest authority on the Chiroptera.

From *M. evotis*, to which it is probably nearest allied, it is at once distinguishable by its different coloration and larger ears. This bat seems to have been scarce, for Mr. Heller only secured two specimens, both at La Grulla.





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