

PRELIMINARY DIAGNOSES OF NEW MAMMALS FROM THE
MEXICAN BORDER OF THE UNITED STATES.

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THIS is the fourth of a series of papers giving preliminary descriptions of the new mammals collected on the recent survey of the Mexican boundary.¹

In explanation of the meaning of the term *Tract* as used in these papers, it should be stated that it has been found necessary, for the purposes of the report on the Mexican boundary collections, to divide the boundary strip geographically as well as faunally. *Faunally*, this line across the continent gives a section through the several altitudinal zones from the Tropical to the Boreal, though almost all of it lies within the Sonoran or Austral. *Geographically*, I have subdivided it into (1) five principal tracts, and (2) others which are subsidiary—prolongations or irregular extensions of areas which are not fairly bisected by the Mexican boundary line; and to these we may as well add the insular tracts at either extremity of the boundary parallel. These tracts might well be styled "mammal variation tracts," for they are based solely on the geographical variation of mammals, though geologists inform me that they mark very distinct geographic if not geologic regions. Briefly, these geographical subdivisions of the boundary line are as follows:

A. PRINCIPAL TRACTS.

1. Comanche or Middle Texas Tract.
2. Chihuahua or Eastern Desert Tract.
3. Apache or Elevated Central Tract.
4. Yuma or Western Desert Tract.
5. San Diego or Pacific Coast Tract.

B. MINOR TRACTS.

1. Tamaulipan Tropical Tract (=Rio Grande Embayment).
2. Sierra Madré Tract.
3. Yaqui Basin Tract.
4. Lower Californian Tropical or Palm Tract.

C. INSULAR TRACTS.

1. Padré Island Tract (Gulf of Mexico).
2. Santa Barbara Island Tract (Pacific Ocean).

¹See Proc. U. S. Nat. Mus., XVII, pp. 129-130; XVIII, pp. 443-447; XVIII, No. 1081.

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NOTE.—The advance sheets of this paper were issued as belonging to Vol. XVIII, 1895, but it was found impossible to include it in that volume, and hence its insertion at this place.—EDITOR.]

PEROMYSCUS MERRIAMI, new species.

SONOYTA DESERT MOUSE.

Type.—No. 59234, U.S.N.M., skin and skull (Coll. International Boundary Commission). Adult female, from the village of Sonoyta, on the Sonoyta River, Sonora, Mexico. Collected by Edgar A. Mearns and F. X. Holzner, January 21, 1894. Original number, 2815.

Description of type.—Very similar in appearance to *Peromyscus eremicus*, with which it agrees in having the soles of the feet entirely bare, the ears nearly naked, and the tail long, tapering, and scantily haired, without a terminal pencil. In coloration the two are identical except that the light cinnamon extends down the outer side of the fore limbs to the hand; and there is a large pectoral patch of cinnamon. Length, 217 mm.; tail vertebrae, 113; ear from crown, 20; length of hind foot and claw, 23. Body stout and heavy as compared with *P. eremicus*. The skull most resembles that of *P. eremicus*. It has the same posteriorly truncate nasals and general conformation, but differs notably in having the rostral portion relatively longer, the zygomatic arches wider anteriorly, and the brain-case more highly arched. Its larger size serves to identify the skull of this species at a glance, the two anterior molar teeth about equaling the lateral tooth-row of *P. eremicus*. *Peromyscus merriami* and *P. eremicus* occur together at Sonoyta and Quitoquito, on the Mexican line.

PEROMYSCUS EREMICUS ARENARIUS, new subspecies.

EASTERN DESERT MOUSE.

Type.—No. $\frac{20018}{35113}$, U.S.N.M. (Coll. International Boundary Commission). Adult male, from the Rio Grande, about six miles from El Paso, Texas. Collected by Edgar A. Mearns and F. X. Holzner, February 25, 1892. Original number, 1513.

Description of type.—Above pale ochraceous drab finely mixed with black, without a darker median area; sides and rump pale ochraceous buff; ears almost naked, but with a scant pubescence on the margin and anterior band; tail, dusky drab above, mixed with hoary, pure white below; under parts and feet pure white. The head is somewhat grayish, and there is a dusky orbital ring. The outer border of the first and second upper molars have but three salient and two re-entrant loops or enamel folds, as is usual in the group of desert mice. Length, 198 mm.; tail vertebrae, 106 (to end of hairs, 111); ear, from crown, 15 (from notch, 18); distance between eyes, 9; diameter of eye, 4; length of longest whisker, 42; distance from tip of nose to eye, 13.5; to center of pupil, 16; to ear, 23; to tip of ear, 44; to occiput, 29; to end of outstretched hinder extremity, 138; fore limb, from olecranon process to end of longest claw, 25; length of fore foot, 12; longest claw of fore foot, 1.8; hind limb, from knee-joint to end of longest claw, 42; length of hind foot, 21.5, longest claw of hind foot, 1.8. Skull, 25 by 12.7 mm.

PEROMYSCUS BOYLIИ PENICILLATUS, new subspecies.

BAREFOOTED BRUSH MOUSE.

Type.—No. $\frac{20024}{35426}$, U.S.N.M. (Coll. International Boundary Commission). Adult female, from the foothills of the Franklin Mountains, near El Paso, Texas. Collected by Edgar A. Mearns and F. X. Holzner, February 19, 1892. Original number, 1463.

Description of type.—Above drab-gray, tinged with ochraceous buff on sides and rump. Ears nearly naked, with a scant hoary pubescence. Tail dusky drab above, pure white below, penicillate, and rather hairy throughout. Feet and under parts pure white. Length, 202 mm.; tail vertebra, 115; ear from crown, 14 (from orifice, 18); distance between eyes, 12; diameter of eye, 4; length of longest whisker, 47; from tip of nose to eye, 16; to center of pupil, 19.5; to ear, 28; to end of outstretched hind limb, 143; to occiput, 31; fore limb, measured from olecranon process to end of claws, 24; length of manus, 11; longest claw of manus, 2; hind limb, measured from knee-joint to end of claws, 45; length of hind foot with claw, 22; longest claw of hind foot, 2.5. Skull, 28 by 14 mm.

Cranial and dental characters.—The skull is elongated, with the lengthened and depressed rostrum of *P. boyliи* and *P. boyliи pinalis*, but differs from them in having the nasal bones truncate posteriorly and ending considerably in front of the posterior extremities of the nasal branches of the premaxillaries, instead of terminating in a point well behind them. The dentition is very different from that of the *eremicus* group, and agrees with the members of the *P. leucopus* group in having a subsidiary loop or fold of enamel between the two principal loops at the outer side of the first and second upper molars.

The species to which this Brush Mouse belongs (*Peromyscus boyliи*, Baird) is evidently the connectant between the wood mice (*P. leucopus* group) of the East and the desert mice (*P. eremicus* group) of the West. The subspecies *penicillatus* has the tail as long and soles as bare as those of *P. eremicus arcuarius* of the same region; its coloration is almost identical; and it has the same posteriorly-truncate nasals and large, nearly naked ears. It agrees with *P. leucopus* in having a hairy tail and the more complicated enamel folds in the first and second upper molar teeth described above. The western forms of the Brush Mouse (*P. boyliи*, *P. b. rowleyi*, and *P. b. pinalis*) have pointed nasals—much as in *Onychomys*—and hairy heels.

ONYCHOMYS TORRIDUS ARENICOLA, new subspecies.

EL PASO GRASSHOPPER MOUSE.

Type.—No. $\frac{20023}{35423}$, U.S.N.M. (Coll. International Boundary Commission). Adult male, from the Rio Grande, about six miles above the town of El Paso, Texas. Collected by Edgar A. Mearns and F. X. Holzner, February 29, 1892. Original number, 1528.

Description of type.—Similar to *Onychomys torridus*, but slightly smaller, with relatively smaller ears, and a very much paler coloration.

Above drab-gray, inclining to fawn color on sides; dorsal area with very little admixture of black-ringed or black-tipped hairs; with a conspicuous tuft of white hairs at anterior base of ear; dark spot on anterior band of ear, drab (not black); whiskers more white than black; under parts, feet, and end of tail, white; basal two-thirds of upper side of tail, drab, some of the hairs with hoary tips. Length, 137 mm.; tail vertebrae, 53 (to end of pencil, 57); ear from crown, 14; ear from notch, 17; distance between eyes, 10; diameter of eye, 4; longest whisker, 38; from tip of nose to eye, 13; to center of pupil, 15; to ear, 21.5; to tip of ear, 40; to occiput, 29; to end of outstretched hinder extremity, 133; fore limb, measured from olecranon process to end of longest claw, 28; length of fore foot, 13.4; longest claw of fore foot (chord), 3; hind limb, measured from knee-joint to end of longest claw, 41; length of hind foot, 21; longest claw of hind foot, 2.7. Skull, 25.5 by 13.5 mm.

Geographic range.—This is the counterpart and miniature of *Onychomys pallescens*, Merriam. The two are almost indistinguishable in color; and their ranges are probably coincident. We found it only on the Rio Grande near El Paso; but there is a specimen in the United States National Museum (No. $\frac{1582}{41}$), formerly included by Secretary Baird in his "list of specimens" of "*Hesperomys texanus*," which was collected by Dr. Kennerly, between the Pecos River and the Rio Grande. The specimens of this species of *Onychomys*, taken by us west of the Rio Grande, for the first hundred miles, are small-eared, but otherwise closely resemble typical *torridus*, to which subspecies they are unhesitatingly referred.

ONYCHOMYS TORRIDUS PERPALLIDUS, new subspecies.

YUMA GRASSHOPPER MOUSE.

Type.—No. 60174, U.S.N.M. (Coll. International Boundary Commission). Skin and skull. Adult female, from the left bank of the Colorado River, at Monument No. 204, Mexican boundary line. Collected by Edgar A. Mearns and F. X. Holzner, March 27, 1894. Original number, 3301. (Has suckled young.)

Description of type.—Larger than *Onychomys torridus* (typica), with relatively larger ears, longer tail, and a much paler coloration. Color above, drab-gray, becoming more cinereous anteriorly; sides and rump barely tinged with fawn color; dusky line on basal three-fourths of tail much obscured by whitish hairs—nearly obsolete; ears less densely clothed than in the remaining forms of *Onychomys torridus*, and without a well-defined, dusky spot; whiskers mostly white or colorless; under parts, feet, and end of tail, white. Length, 157 mm.; tail vertebrae, 57; ear from crown, 16; length of hind foot, 22. Skull, 26 by 13.7 mm.

Geographic range.—This subspecies was first found on the lower Gila River, at Gila City, on the east side of the Yuma Desert. Its range extends thence westward across the Yuma and Colorado deserts to the Coast Range of mountains. In the direction of the San Bernardino Valley, of California, it intergrades with the dark-colored Pacific Coast form which Mr. Rhoads has named *ramona*.