

MAMMALOGY.—*Six new mammals from the state of San Luis Potosí, Mexico.*

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Among the many specimens acquired in the course of recent distributional studies of mammals conducted by Louisiana State University in the Mexican state of San Luis Potosí, there is material that represents a new species and five undescribed subspecies. These new forms are described here in advance of a more extensive account dealing with the mammals of San Luis Potosí as a whole. I am indebted to Hartley H. T. Jackson and Stanley P. Young, of the United States Fish and Wildlife Service, and to David H. Johnson and Henry W. Setzer, of the United States National Museum, for the loan of comparative material. Localities mentioned in the following accounts, unless otherwise specified, are in the state of San Luis Potosí; measurements are in millimeters; and capitalized color terms are from Ridgway (Color Standards and Color Nomenclature, Washington, D. C., 1912).

***Thomomys umbrinus newmani*, n. subsp.**

Type.—Adult female, skin and skull no. 4193, Louisiana State University Museum of Zoology; obtained 7 km northwest of Palma (village 12 km northwest of Salinas), San Luis Potosí, México, by Walter W. Dalquest on August 8, 1950; original number, 14537.

Range.—Known only from the desert plains near the city of Salinas in western San Luis Potosí.

Description.—A very small pocket gopher, total length 200 mm or less; condylobasal length less than 35 mm; males larger than females; skull small, smooth, relatively narrow; color pale, soft, near Sayal Brown above with the middorsal area scarcely darker, near Cinnamon-Brown; underparts pale gray to Light Pinkish Cinnamon.

Comparisons.—*Thomomys umbrinus newmani* is one of the smallest races of the species. It is distinctly smaller than *T. u. atrodorsalis* Nelson and Goldman from the mountains southeast of the city of San Luis Potosí, *T. u. zacatecae* Nelson and Goldman from southeastern Zacatecas, *T. u. supernus* Nelson and Goldman from central Guanajuato, or *T. u. enixus* Nelson and Goldman from the Sierra Moroni of southern

Zacatecas. *T. u. potosinus* Nelson and Goldman is similar to *newmani* in size but is much darker in color. All the above-mentioned races are darker than *newmani* except the large *T. u. zacatecae*, which, though richer in color, resembles *newmani* in lacking the distinct black or blackish wash in the middorsal area.

Measurements.—The arithmetic means for two adult male and three adult female topotypes are, respectively: Total length, 192, 185; length of tail, 61, 60; length of hind foot, 26, 26; height of ear from notch, 5, 5; condylobasal length (from occipital condyles to anteriormost edge of incisors), 33.6, 33.3; length of diastema, 12.4, 11.7; length of maxillary tooth row, 7.1, 6.9; zygomatic breadth, 21.6, 21.8; interorbital breadth, 6.4, 6.4; mastoid breadth, 18.3, 17.6; greatest crown breadth across upper molar rows, 6.9, 6.8.

Remarks.—This subspecies is named for Robert J. Newman, who obtained numerous specimens of mammals in the state of San Luis Potosí and who helped to obtain the specimens here listed.

Specimens examined.—Total number, 6, from: 7 km northwest of Palma, 5; Cerro Peñon Blanco, 1.

***Thomomys umbrinus arriagensis*, n. subsp.**

Type.—Adult male, skin and skull no. 5075, Louisiana State University Museum of Zoology; obtained 1 km south of Arriaga, San Luis Potosí, México, by Walter W. Dalquest on September 22, 1950; original number, 14780.

Range.—Known only from the type locality on the Plan de Arriaga, a small, high, arid plain near the Guanajuato boundary southwest of the city of San Luis Potosí.

Description.—A medium-sized pocket gopher but one of the largest of the central-Mexican races of *Thomomys umbrinus*; condylobasal length of adults more than 41 mm; skull large with flaring zygomatic arches; colors dull and ashy; middorsal area usually heavily washed with blackish; sides Sayal Brown to Cinnamon; underparts Drab.

Comparisons.—None of the subspecies of *Thomomys umbrinus* whose geographic ranges approach that of *T. u. arriagensis* is as large as *arriagensis*, has such flaring zygomatic arches, or

is as dull and ashy in color. The nearest races, geographically, are *newmani* and *potosinus*, two of the smallest races of the species. The larger forms, *atrodorsalis*, *zacatecae*, *enixus*, and *super-nus*, are all much smaller than *arriagensis*. Specimens of *T. u. crassidens* Nelson and Goldman from western Zacatecas have not been examined, but judged from the original description this race is much brighter in color than *arriagensis* though it may approach it in size.

Measurements.—The arithmetic means for four male and six female topotypes are, respectively: Total length, 219, 202; length of tail, 65, 62; length of hind foot, 28, 27; height of ear from notch, 6, 6; condylobasal length, 41.3, 37.9; length of diastema, 15.8, 14.1; length of maxillary tooth row, 8.0, 7.7; zygomatic breadth, 26.2, 24.5; interorbital breadth, 6.7, 6.6; mastoid breadth, 20.2, 19.6; greatest crown breadth across upper molar rows, 7.7, 7.6.

Specimens examined.—Total number, 10, all from the type locality.

***Perognathus penicillatus atroodorsalis*,
n. subsp.**

Type.—Adult male, skin and skull no. 5226, Louisiana State University Museum of Zoology; obtained 7 km west of Presa de Guadalupe, San Luis Potosí, México, by Walter W. Dalquest on October 12, 1950; original number, 15109.

Range.—Desert plains of the central part of the state of San Luis Potosí from the western base of the Sierra Madre Oriental westward at least to the type locality. A related subspecies, *P. p. eremicus*, is found in northern San Luis Potosí, north and west of the city of Matehuala.

Description.—A medium-sized, slim-bodied pocket mouse with crested tail longer than head and body; lacking long, stiff spines in pelage of rump area; color of upperparts near Avellaneous mixed with black, with middorsal area, and sometimes the entire dorsal area, heavily washed with black or blackish.

Comparison.—The only subspecies of *Perognathus penicillatus* whose geographic range approaches that of *atroodorsalis* is *P. p. eremicus* Mearns. The heavy black wash on the back of *atroodorsalis*, present in all but a very few individuals, is sufficient to distinguish *atroodorsalis* from *eremicus*.

Measurements.—The arithmetic means for nine adult males and twelve adult females, all from the vicinity of the type locality, are, respectively:

Total length, 168, 163; length of tail, 92, 89; length of hind foot, 22, 22; height of ear from notch, 8, 8; greatest length of skull, 24.8, 24.6; condylobasal length, 21.1, 21.0; length of maxillary tooth row, 3.4, 3.4; zygomatic breadth, 13.1, 12.8; interorbital breadth, 6.1, 6.3; mastoid breadth, 12.3, 12.1; greatest crown breadth across upper molar rows, 4.4, 4.3.

Remarks.—Seemingly no collector of mammals has previously visited the desert plains of central San Luis Potosí where this race of *Perognathus penicillatus* is found and where the species seems to reach its southernmost limit of distribution.

Specimens examined.—Total number, 36, from: 7 km west of Presa de Guadalupe, 9; Presa de Guadalupe, 23 (10 skulls only); 7 km southeast of Presa de Guadalupe, 2; 16 km northwest of Ciudad del Maíz, 2.

***Perognathus lineatus*, n. sp.**

LINED POCKET MOUSE

Type.—Adult male, skin and skull no. 5253, Louisiana State University Museum of Zoology; obtained 1 km south of Arriaga, San Luis Potosí, México, by Walter W. Dalquest on September 21, 1950; original number, 14734.

Range.—The desert plains of western and central San Luis Potosí and, doubtlessly, adjacent parts of Guanajuato, Zacatecas, and Jalisco.

Description.—A medium-sized, slim-bodied pocket mouse, with a crested tail longer than head and body, and lacking long, stiff spines in the pelage of the rump area; color of upperparts dull gray, finely but distinctly lined with buffy, especially on head; general appearance of upperparts near Light Drab or Drab Gray; sides more grayish; underparts white separated from gray of sides by faint, indistinct line of pale buffy; tail dusky above and white beneath.

Comparisons.—*Perognathus lineatus* differs from *P. n. nelsoni* Merriam in its distinctive coloration and the absence of long, stiff spines in the pelage of the rump area, but it resembles *nelsoni* in size, proportions, and cranial characters. Among the species of pocket mice that lack spines in the rump area, *lineatus* most closely resembles *penicillatus* but differs from at least the geographically adjacent races of that species in its distinctive coloration, larger size, and larger, broader skull. *Perognathus lineatus* has been taken in the same trap lines with both *P. penicillatus* and *P. nelsoni*.

Measurements.—The arithmetic means for eight males and seven females are, respectively: Total length, 174, 174; length of tail, 95, 98; length of hind foot, 23, 23; height of ear from notch, 8, 8; greatest length of skull, 25.4, 25.4; condylobasal length, 21.8, 21.5; length of maxillary tooth row, 3.6, 3.8; zygomatic breadth, 13.1, 13.1; interorbital breadth, 6.3, 6.3; mastoid breadth, 12.7, 12.5; greatest crown breadth across upper molar rows, 4.6, 4.6.

Specimens examined.—Total number, 29, from: Cerro Peñon Blanco, 6; 6 km south of Matehuala, 1; 1 km south of Arriaga, 13; Bledos, 8 (1 skull only); 10 km northwest of Villar, 1.

***Oryzomys alfaroi huastecae*, n. subsp.**

Type.—Adult male, skin and skull no. 5436, Louisiana State University Museum of Zoology; obtained 10 km east of Platanito, San Luis Potosí, México, by Walter W. Dalquest on November 13, 1950; original number, 15643.

Range.—The tropical, eastern slopes of the Sierra Madre Oriental in eastern San Luis Potosí.

Description.—A small, slim-bodied, long-tailed, dark-colored rice rat; total length about 200 mm; tail slim and nearly naked; claws of hind feet nearly concealed by long, white bristles; color of upperparts Bister to Snuff Brown; sides slightly paler than back; ears black; underparts whitish or pale gray; tail dusky above and only slightly paler beneath.

Comparisons.—This subspecies is similar in size to *Oryzomys alfaroi chapmani* Thomas but is paler and browner in color. Young animals especially are less blackish than the young of other races of *Oryzomys alfaroi*. Compared with its nearest geographic neighbor, *O. a. dilutior* Merriam, *huastecae* is smaller and has a smaller, relatively narrower skull.

Measurements.—The arithmetic means for four adult males and two adult females are, respectively: Total length, 196, 202; length of tail, 101, 110; length of hind foot, 26, 25; height of ear from notch, 17, 17; greatest length of skull, 26.9, 27.0; condylobasal length, 23.6, 23.8; length of maxillary tooth row, 4.1, 3.7; length of palatal bridge, 4.9, 5.2; zygomatic breadth, 13.7, 13.6; interorbital breadth, 4.6, 4.6; mastoid breadth, 11.1, 10.7; greatest crown breadth across upper molar rows, 5.0, 5.1.

Remarks.—The discovery of this race of *Oryzomys alfaroi* extends the known range of the species northward from Huachinango, in central

Puebla, to eastern San Luis Potosí. It doubtlessly extends northward also into Tamaulipas, for specimens were taken a few miles from the boundary of that state.

Specimens examined.—Total number, 14, from: 10 km east of Platanito, 9 (2 skulls only); Xilitla, 2; Cerro Miramar (near Xilitla), 1; Cerro San Antonio (near Xilitla), 2.

***Neotoma ferruginea griseoverter*, n. subsp.**

Type.—Adult female, skin and skull no. 3194, Louisiana State University Museum of Zoology; obtained at Xilitla, San Luis Potosí, México, by Marcella Newman on June 27, 1947; original number, M 29.

Range.—Known only from El Salto and Xilitla on the tropical, eastern slopes of the Sierra Madre Oriental in San Luis Potosí.

Description.—A large, coarsely-furred wood rat; first upper molar with anterointernal re-entrant angle deep, reaching more than half way across anterior lobe; fur of underparts plumbeous with only faint wash of white and entirely lacking white at the bases of the hairs; color of upperparts in fresh pelage dark brown, Prout's Brown on sides and near Sepia on back; underparts Drab Gray with nearly complete pectoral band of dull Pinkish Cinnamon; feet silvery white; tail sharply bicolored, blackish above and white beneath.

Comparisons.—*Neotoma f. griseoverter* resembles *N. f. torquata* Ward but is larger, with larger skull and darker color, especially beneath. It most closely resembles *N. f. distincta* Bangs, from the tropical slopes of the Sierra Madre Oriental in Veracruz, but has smaller molar teeth, a more slender rostrum, and is less reddish in color. The gray underparts of *N. f. griseoverter* seem to be unique in this genus.

Measurements.—External measurements of the type, an adult female, are: Total length, 392; length of tail, 175; length of hind foot, 42; height of ear from notch (dry), 26. Cranial measurements of a male from El Salto, a male from Xilitla, and the type, are, respectively: greatest length of skull, 48.3, 47.6, 46.6; condylobasal length, 44.9, 45.9, 43.7; basilar length, 37.7, 40.3, 37.5; length of maxillary tooth row, 9.1, 9.5, 9.8; length of nasals, 17.4, 18.2, 17.5; length of incisive foramina, 10.5, 10.5, 8.9; zygomatic breadth, 24.1, 25.0, 22.6; interorbital breadth, 5.7, 5.5, 5.9; mastoid breadth, 18.6, 19.2, 17.4; rostral breadth, 7.7, 7.6, 8.0.

Remarks.—*Neotoma ferruginea* has an extensive

geographic range over the southern part of the Mexican Plateau, and in some areas it has extended its range over the lip of the plateau and into the upper edge of the tropical zone on the slopes of the Sierra Madre. Populations in the Tropics have become isolated and have evolved into strongly differentiated races. *Neotoma f. griseoventer* would seem to represent another such race were it not for the fact that no wood rats of the *ferruginea* type have been reported from the Mexican Plateau of San Luis Potosí or from the lowlands to the east. Presumably *ferruginea* once occurred in the desert ranges of western San Luis Potosí. The known distribution of

griseoventer suggests that it was derived from a population of those wood rats that extended their range over the Sierra Madre and into the tropics. It is highly unlikely that the tropical rats of San Luis Potosí are directly connected with the tropical rats of Veracruz (*N. f. distincta*) along the entire length of the Sierra Madre Oriental. The wood rats of the Sierra Madre of San Luis Potosí seem to be a relic population isolated far to the north of the remainder of the range of the species.

Specimens examined.—Total number, 3, from: El Salto, 1; Xilitla, 2.

ORNITHOLOGY.—*The systematic relationships of the fox sparrows* (*Passerella iliaca*) *of the Wasatch Mountains, Utah, and the Great Basin*. WILLIAM H. BEHLE and ROBERT K. SELANDER, Museum of Zoology, University of Utah. (Communicated by Herbert Friedmann.)

While discussing the subspecies *Passerella iliaca schistacea* in his revision of the genus, Swarth (Univ. California Publ. Zool. 21: 155.1920) commented that the race, even as he restricted it, probably covered a composite of two or more recognizable subspecies. This remark was probably prompted by differences that he detected between examples from Canada and northern Nevada. He did not have representatives from Utah. In 1941, the late Max M. Peet acquired a single specimen of fox sparrow taken 2 miles north of Mount Pleasant, Sanpete County, Utah, on March 17, which, upon comparison with the material in the Dickey Collection, caused the late A. J. van Rossem to express the opinion that it probably represented an undescribed race. Dr. Peet thereupon attempted to assemble specimens from the Utah area so as to work out the problem in collaboration with George M. Sutton, but material in museums was still too scarce to allow them to do so. During the last two years we have succeeded in obtaining considerable material from northern Utah. Following Dr. Peet's death, inquiry was made as to the status of the research. The ornithologists at the University of Michigan Museum graciously told us to go ahead with the problem and sent their comparative material for our use. We are indebted to Drs. J. Van Tyne, Robert W. Storer, and George M. Sutton for this courtesy, and to a number of

others as follows for the loan of comparative material: Alden H. Miller, Museum of Vertebrate Zoology; Herbert Friedmann, U. S. National Museum; Robert T. Orr, California Academy of Sciences; Thomas R. Howell, Dickey Collections, University of California at Los Angeles; Kenneth C. Parkes, Cornell University Laboratory of Ornithology; C. Lynn Hayward, Brigham Young University; and Howard Knight, Weber College.

Swarth (Proc. Biol. Soc. Washington 13: 163.1918), in describing *P. i. canescens*, stressed the gray dorsal color of the birds from the White Mountain region of eastern California in contrast to the brown color of *schistacea*. Now it is disclosed that the birds from Utah are still grayer, so much so that *canescens* looks brown in comparison. Since this is the situation with birds from several locations in the northern part of the state, we feel this extreme gray population is of racial stature and so propose the name

***Passerella iliaca swarthi*, n. subsp.**

Type.—Adult ♂, no. 11451, University of Utah Museum of Zoology, North Fork Ogden River, 5,200 feet, 2 miles west of Eden, Weber County, Utah; April 20, 1951; collected by Robert K. Selander and William H. Behle, original number 1018 (R.K.S.); testes 10 mm.

Subspecific characters.—Distinguished from *P. i. schistacea* by having a decided gray color to the head and back instead of brown; streaking on



Dalquest, Walter Woelber. 1951. "Six new mammals from the state of San Luis Potosi, Mexico." *Journal of the Washington Academy of Sciences* 41, 361–364.

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