

OCCASIONAL PAPERS OF THE MUSEUM OF
ZOOLOGY

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

UNIVERSITY OF MICHIGAN PRESS

NEW MAMMALS FROM TEXAS AND OKLAHOMA,
WITH REMARKS ON THE STATUS OF
THOMOMYS TEXENSIS BAILEY

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AMONG the mammals collected by the University of Michigan-Gustavus D. Pope expedition to the Davis Mountains of Texas in 1937, there are undescribed races of the pocket-gopher (*Thomomys bottae*) and of the white-throated woodrat (*Neotoma albigula*). Furthermore, among the mammals that I collected in eastern Oklahoma in 1936, there is a new race of the eastern woodrat (*Neotoma floridana*), which is represented by specimens in the University of Michigan collections and in those of the University of Kansas Museum of Birds and Mammals and of the Field Museum of Natural History.

For the loan of comparative material, I wish to thank C. D. Bunker, of the University of Kansas Museum of Birds and Mammals, H. H. T. Jackson, of the United States Bureau of Biological Survey, and C. C. Sanborn, of the Field Museum of Natural History. I am indebted to W. H. Burt for assistance and criticism particularly with the pocket-gophers and to L. R. Dice for critically reading the manuscript.

The study of the pocket-gophers from the Davis Mountains necessitated an examination of topotypes of the race *texensis* Bailey, which has heretofore been referred to the species *Thomomys bottae*. From this examination it became apparent

that *texensis*, as shown by its small, rounded skull, small size, and weak forefeet, is a race of the species *Thomomys umbrinus*. In his revision of the genus Bailey¹ stated that *texensis* has two pairs of pectoral mammae. Apparently he was influenced largely by this in assigning the race to the species *fulvus*, which later was synonymized with *bottae*.² The examination of two female paratypes of *texensis* on which the mammae may be discerned shows one with one pair of pectoral mammae and the other with two. Likewise, three topotypes of *texensis*, collected by me, show only one pair of pectoral mammae each. It is apparent from this that the number of pectoral mammae is not constant in a given species of *Thomomys* and, therefore, cannot be considered an infallible diagnostic character. The fact that one of the female paratypes of *texensis* has two pairs of pectoral mammae is not sufficient grounds for referring the race to the species *bottae*. The diagnostic morphological characters of *texensis* are those of *umbrinus* and make necessary the assignment of the race *texensis* to this species.

Thomomys bottae limpiae, new subspecies

Limpia Canyon Pocket-gopher

TYPE.—Male adult, skull and skin; U.M.M.Z. No. 79105; from Limpia Canyon, about one mile north of Fort Davis, Jeff Davis County, Texas; altitude, 4700 feet; March 22, 1937; collected by W. F. Blair; original number, 697.

GEOGRAPHIC DISTRIBUTION.—Known only from the type locality.

DIAGNOSIS.—Similar in color to *Thomomys umbrinus texensis* Bailey, from the higher elevations in the Davis Mountains, but has two instead of usually one pair of pectoral mammae and has a much more massive and angular skull. Averages darker than *Thomomys bottae guadalupensis* Goldman, from the Guadalupe Mountains, and has a more compact and more angu-

¹ Vernon Bailey, "Revision of the Pocket Gophers of the Genus *Thomomys*," *N. Amer. Fauna*, No. 39 (1915): 85.

² E. W. Nelson and E. A. Goldman, "Pocket Gophers of the Genus *Thomomys* of Mexican Mainland and Bordering Territory," *Journ. Mammalogy*, 15 (1934): 106.

lar skull. Nasals and premaxillae more flaring anteriorly. Premaxillae tend to extend farther backward beyond nasals than in *guadalupensis*. No comparison with *Thomomys bottae pervarius* Goldman is made, since Goldman³ stated that *pervarius* is much paler than *T. b. texensis*.

MEASUREMENTS OF TYPE (in mm.).—Total length, 197; tail vertebrae, 53; hind foot, 27.8; ear from notch, 6.0. Skull: basilar length of Hensel, 32.1; zygomatic breadth, 22.1; mastoid breadth, 18.8; length of nasals, 12.7; depth of rostrum in front of premolars, 12.1; interorbital constriction, 6.1; alveolar length of upper molar row, 6.9; upper diastema, 13.5. Averages of three adults, female topotypes: body measurements, 196, 53, 26.7, 5.6; skull measurements, 30.6, 21.2, 17.8, 11.8, 12.0, 6.2, 7.3, 12.2.

COLOR OF TYPE.—Upperparts Raw Umber,⁴ grading into Pinkish Cinnamon on the sides and underparts. Nose blackish. Postauricular spots black. Tail and tops of feet white.

SKULL.—Size about as in *T. b. guadalupensis*, but more angular and compact and with nasals and premaxillae more flaring anteriorly.

REMARKS.—The dark color of the race *limpiae* apparently is correlated with the dark color of the soil in the Davis Mountains. This form, as now known, extends up to an altitude of about five-thousand feet in the Davis Mountains. Above this altitude it is replaced by *T. u. texensis*.

SPECIMENS EXAMINED.—*T. b. limpiae*: 4 from the type locality. *T. b. guadalupensis*: McKittrick Canyon, Guadalupe Mountains, Texas, 3. *T. u. texensis*: Davis Mountains (topotypes), 12.

Neotoma albigula robusta, new subspecies

TYPE.—Male adult, skeleton and skin; U.M.M.Z. No. 79238; from Limpia Canyon, sixteen miles north of Fort Davis, Jeff

³ E. A. Goldman, "Six New Rodents from Coahuila and Texas and Notes on the Status of Several Described Forms," *Proc. Biol. Soc. Wash.*, 51 (1938): 57.

⁴ Capitalized color terms are after R. Ridgway, *Color Standards and Color Nomenclature* (Washington, D. C.: Published by the Author, 1912), 44 pp., 53 pls.

Davis County, Texas; altitude, 4300 feet; May 1, 1937; collected by W. F. Blair; original number, 936.

GEOGRAPHIC DISTRIBUTION.—Davis Mountains of southwestern Texas.

DIAGNOSIS.—Darker and more reddish than typical *albigula*, and lacks the olive tone of that race. Skull decidedly broader and heavier than in *albigula*. The basilar length of Hensel of the type is 38.7, compared with 35.7 in an old male of *albigula*, the largest specimen in a series from Tucson, Arizona. In comparison with *albigula* the nasals are longer (17.1 in *robusta*, 15.5 in *albigula*), the zygomatic breadth is greater (24.1 in *robusta*, 22.3 in *albigula*), the mastoid breadth is greater (19.4 in *robusta*, 17.7 in *albigula*), the incisors are heavier (width of upper left incisor, 2.1 in *robusta*, 1.9 in *albigula*), the alveolar length of upper molar row is shorter (8.1 in *robusta*, 8.6 in *albigula*), and the auditory bullae are more flattened. Much darker than *warreni*, which in turn is a paler-colored race than is *albigula*.

MEASUREMENTS OF TYPE (in mm.).—Total length, 340; tail vertebrae, 134; hind foot, 35.2; ear from notch, 29.5. Skeleton: basilar length of Hensel, 38.7; length of nasals, 17.1; depth of rostrum in front of infraorbital foramen, 9.3; breadth of rostrum in front of infraorbital foramen, 7.9; length of palate, 6.9; length of incisive foramina, 10.5; interorbital constriction, 6.4; zygomatic breadth, 24.1; mastoid breadth, 19.4; alveolar length of upper molar row, 8.1; width of crown of first upper molar, 2.2; width of left upper incisor, 2.1; upper diastema, 13.6; greatest diameter of auditory bulla, 7.4; greatest length of pelvis, 39.0; greatest anterior width of pelvis, 25.4; greatest width of pelvis across acetabula, 20.5; greatest length of obturator foramen, 11.8; depth of obturator foramen, 6.4; length of left femur, 34.6; length of left humerus, 26.8.

COLOR OF TYPE.—General appearance of back, Buffy Brown, lightly washed with black, grading into Pale Ochraceous-Buff, faintly washed with blackish on the sides. Face, Smoke Gray. Ears, blackish. Feet, white. Front of forelegs, Light Ochraceous-Buff, lightly sprinkled with blackish. Upper surface of

hind legs slightly more ochraceous than the back. Tail bicolor; black above, whitish below. Hairs white to base in pectoral region and in a narrow strip extending along mid-ventral line. Other hairs in abdominal region slaty gray at base and washed with Pale Ochraceous-Buff.

REMARKS.—The race *robusta* is a dark-colored form inhabiting the dark soils of the Davis Mountains. Two specimens in the collection of the United States Bureau of Biological Survey, from Marfa and Paisano, respectively, were collected in 1890 and appear to be somewhat faded. However, they agree in cranial characters with *robusta* and, therefore, are included with this form. A specimen in the Biological Survey collection labeled Kent, which is at the north base of the Davis Mountains, is intermediate in cranial characters between *robusta* and *albigula*, but is referable to the former.

SPECIMENS EXAMINED.—*N. a. robusta*: Limpia Canyon, sixteen miles north of Fort Davis, Jeff Davis County, Texas, 1; Limpia Canyon, two miles northwest of Fort Davis, Jeff Davis County, Texas, 1; Kent, Texas, 1; Marfa, Texas, 1; Paisano, Texas, 1. *N. a. albigula*: vicinity of Tucson, Pima County, Arizona, 9. *N. a. warreni*: Kenton, Cimarron County, Oklahoma, 2.

Neotoma floridana osagensis, new subspecies

Osage Woodrat

TYPE.—Male adult, skeleton and skin; U.M.M.Z. No. 76070, from Okesa, Osage County, Oklahoma; August 2, 1936; collected by W. F. Blair; original number, 493.

GEOGRAPHIC DISTRIBUTION.—Eastern Kansas; eastern Oklahoma, west to Dewey County; probably also adjoining parts of Missouri, Arkansas, and Texas.

DIAGNOSIS.—Differs markedly from *illinoensis* in shorter broader skull and shorter rostrum and nasals; tail shorter, less than 175 mm. (about 200 mm. in *illinoensis*). Less black dorsally in winter pelage than *illinoensis*. Distinguished from *attwateri* by longer molar tooth row (average of five female topotypes, 9.2, compared with average of 8.8 in two female

topotypes of *attwateri*), heavier molars and incisors, relatively shorter, heavier mandible (ratio of greatest depth to greatest length of mandible 54 per cent in *osagensis*, 50 per cent in *attwateri*), and darker coloration. Skull approaches that of *baileyi*, but with more of a tendency for the interparietal to be pentagonal rather than quadrate, skull slightly more rounded, less angular. Zygomata slightly more spreading anteriorly than in *baileyi*. Differs from *baileyi* chiefly in darker and more reddish coloration, and shorter, coarser winter pelage. Much darker than *campestris*. No comparison is made with *rubida* which is said by Goldman⁵ to have a nearly unicolor tail, and which is shown by his measurements to have a tail decidedly longer than *osagensis* (average of six adults, 195).

MEASUREMENTS OF TYPE (in mm.).—Total length, 363; tail vertebrae, 162; hind foot, 39.0; ear from notch, 25.3. Skeleton: basilar length of Hensel, 38.4; zygomatic breadth, 25.5; length of nasals, 18.8; depth of rostrum, 10.1; interorbital constriction, 6.4; length of incisive foramina, 9.2; greatest diameter of auditory bulla, 7.2; upper diastema, 12.8; alveolar length of upper molar row, 9.2; width of crown of first upper molar, 2.3; width of left upper incisor, 1.8; length of mandible, 27.0; greatest depth of mandible, 14.1; length of left femur, 38.2; length of left tibia, 38.3; length of left humerus, 30.1; length of left radius, 27.8; length of left ulna, 33.9; length of obturator foramen, 12.3; depth of obturator foramen, 6.1; greatest length of pelvis, 42.6; anterior width of pelvis, 24.1; greatest width of pelvis across acetabula, 21.8.

COLOR OF TYPE.—Sides Sayal Brown, darkening in middorsal line to Snuff Brown moderately washed with black. Ventral surface white; hairs white to bases in pectoral and anal regions, slaty gray at base in abdominal region. Feet white above; hind feet slaty gray mixed with white below. Tail sharply bicolor; blackish above, white below.

Winter pelage. No dorsal stripe; dorsal surface generally Sayal Brown, less strongly washed with black than in summer

⁵ E. A. Goldman, "Revision of the Wood Rats of the Genus *Neotoma*," *N. Amer. Fauna*, No. 31 (1910): 23.

pelage. A more or less distinct Pinkish Cinnamon lateral line usually distinguishable. Ventral surface white; hairs in abdominal region generally slaty gray at base. Feet white above, hind feet mixed white and slaty gray below. Tail sharply bicolor; blackish above, white below.

REMARKS.—This race is more closely related to *baileyi*, as indicated by the similarity of the short tail and of the skulls, than to any of the other subspecies of the group. It differs principally from *baileyi* in that it is darker and more reddish.

The name *osagensis* is given to this race because its geographic range corresponds approximately to that occupied at one time by the Osage Indians.

SPECIMENS EXAMINED.—*N. f. osagensis*: Oklahoma, Catoosa, Rogers County, 1; Dougherty, Murray County, 6; Garnett, Rogers County, 7; five miles south of Kansas, Adair County, 6; Noble, Cleveland County, 4; Norman, Cleveland County, 2; Okesa, Osage County, 10; three miles south of Perkins, Lincoln County, 2; Salt Creek Canyon, Blaine County, 1; Stillwater, Payne County, 7; seven miles west of Stilwell, Adair County, 1; Sulphur, Murray County, 2; Tecumseh, Pottawatomie County, 2. Kansas, eight miles southwest of Toronto, Greenwood County, 3; ten miles southwest of Lawrence, Douglas County, 2. *N. f. illinoensis*: Wolf Lake, Illinois, 4. *N. f. baileyi*: Valentine, Cherry County, Nebraska, 6. *N. f. attwateri*: Turtle Creek, Kerr County, Texas, 6. *N. f. campestris*: Pendennis, Lane County, Kansas, 5.

