

PROCEEDINGS
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TEN NEW MAMMALS FROM NEW MEXICO.

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In working out the ranges of mammals in New Mexico I find a number of forms that require specific or subspecific names. They include two chipmunks, three ground-squirrels, a jumping mouse, a cottontail, a red-backed mouse, a cony and a shrew. The types are all in the Biological Survey collection in the U. S. National Museum.

Eutamias atristriatus sp. nov.

Type from the Sacramento Mountains, New Mexico, on Penasco Creek 12 miles east of Clouderoft, alt. 7400 feet. No. 119,028, ♀ ad., U. S. National Museum, Biological Survey Collection. Collected by Vernon Bailey, September 6, 1902. Original number, 7953.

General characters.—In size and general appearance nearest to *E. operarius* but slightly larger, duller and darker colored, and with longer, narrower skull.

Color.—In post-breeding or full summer pelage (Sept. 6 and 7), back with five broad black stripes, two rusty gray and two buffy-whitish stripes; sides duller and more grayish fulvous, and belly more yellowish than in *operarius*, *quadricittatus* or *canipes* in the same pelage. Young of the year with the same excess of black above; sides dull and bellies yellowish as in adults.

Skull.—Longer and narrower than in *operarius*, smaller and relatively narrower than in *quadricittatus*, much smaller than in *canipes*.

Measurements.—Type, ♀ ad.: Total length, 220; tail vertebrae, 114; hind foot, 32. Average of three adult topotypes, 210; 95; 32. *Skull* of type: greatest length, 33.8; basal length, 28.5; nasals, 9.6; greatest zygomatic breadth, 18; mastoid breadth, 16; width of braincase, 15; alveolar length of upper molar series, 5.

Specimens examined.—Ten, all from the east slope of the Sacramento Mountains, New Mexico, where Hollister and I collected them along

Penasco Creek at various points from 6 to 12 miles east of Cloudercroft and from 7000 to 8000 feet altitude, in the yellow pine zone. Four of these are adults, and six are young of the year, nearly full grown but still in immature pelage.

Remarks.—In cranial characters this chipmunk shows so little similarity to *E. operarius*, its apparently nearest relative, that I have given it full specific rank. A thorough revision of the genus may show some other species to which it is more nearly related, but its range is widely separated from that of any other small species and it occupies the same ground with the much larger *E. canipes*.

***Eutamias cinereicollis cinereus* subsp. nov.**

Type from the Magdalena Mountains, New Mexico (alt. 8200 feet), in Copper Canyon. No. 167,029, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected by E. A. Goldman, September 1, 1909. Original number, 20,435.

General characters.—Similar to *cinereicollis* but much paler and grayer, the rufescent areas not only lighter colored but more restricted; crown, shoulders and rump clear ashy gray; white of belly clearer and more extensive; hind feet pale buffy; dorsal stripes, 3 black, 2 gray and 2 white, broad, clear and sharply defined.

Measurements of type, taken in the flesh by collector: Total length, 225; tail vertebrae, 91; hind foot, 33. Average of three other males from type locality, 224; 93; 33.6. *Skull* of type: Greatest length, 35.7; basal length, 30; nasals, 9.5; zygomatic breadth, 19.4; alveolar length of upper molar series, 5.6.

Specimens examined.—From the type locality, 5; from the San Mateo Mountains, 6.

Remarks.—Series of specimens of *cinereicollis* from the Mogollon and Mimbres Mts. show a slight tendency toward this pale gray form but are not sufficiently marked to be referred to it. From *canipes* on the east it differs more than from *cinereicollis* on the west, the feet being less gray and the general coloration far more grayish.

***Callospermophilus lateralis arizonensis* subsp. nov.**

Type from San Francisco Mts., Arizona; No. $\frac{175227}{54183}$, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected August 8, 1889, by C. Hart Merriam and Vernon Bailey. Original number, 308.

General characters.—Larger and richer colored than *C. lateralis*, with under surface of tail of adults dull gray at all seasons.

Color.—In post-breeding or late summer pelage, upperparts brownish gray with broad black and buff stripe along each side; head and shoulders suffused with golden chestnut; rump and hams with deep chestnut shading to yellowish and to buffy on feet; belly buffy or soiled whitish. Winter pelage much duller and grayer, with but a trace of vinaceous chestnut over head and rump. Tail gray, scarcely lighter below than above. *Young.*—Similar to adults but often with 2 black stripes on each

side instead of one, and lower surface of tail pale chestnut at a certain age when nearly full grown, but never light yellowish as in the same stage of *lateralis*.

Skull.—Slightly larger than in *lateralis*, with wider bullae and heavier molars but generally lighter incisors.

Measurements.—Type: Total length, 292; tail vertebrae, 102; hind foot, 44. Average of 7 adult male topotypes, 282; 99; 42. Weight of type, 10 ounces. *Skull*.—Type: Greatest length, 45.4; basal length, 40.5; nasals, 16; zygomatic width, 28.5; mastoid width, 23; alveolar length of upper molar series, 8.5.

Remarks.—This really well-marked form has been long confused with *lateralis*, owing to the lack of specimens in comparable pelage. The present series in the Biological Survey Collection represent a large number of localities and covers practically every phase of pelage in both forms.

The type is taken from an Arizona locality, but the range of the subspecies extends throughout the Mogollon Mountains of New Mexico.

***Citellus variegatus juglans* subsp. nov.**

WALNUT ROCK SQUIREL.

Type from Glenwood, New Mexico, at 5000 feet altitude on the Rio San Francisco, at the southwest base of the Mogollon Mountains. No. 148,289, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected by Vernon Bailey, November 2, 1906. Original number 8587.

General characters.—In size and general external appearance closely resembling *C. variegatus* from southern Mexico, but not so dark and with a broader skull and smaller teeth.

Color.—Upperparts dark brownish gray with considerable blackish over head and ears, back coarsely variegated with irregular black tipped white crescents or wavy crossbars. Lowerparts varying from soiled whitish to rusty ochraceous; feet plain ochraceous.

Skull.—Low and wide as in *variegatus* but with smaller molars, broader jugals, and almost quadrate instead of falcate anterior base of zygoma. Braincase wider and relatively lower than in *grammurus*.

Measurements.—Type: Total length, 500; tail vertebrae, 230; hind foot, 65. Female from near type locality, 488; 215; 60. *Skull* of type: Greatest length, 61.4; basal length, 55; nasals, 22; zygomatic breadth, 38; mastoid breadth, 27.5; alveolar length of upper molar series, 12. Weight of type, 1½ lbs.

Remarks.—From *Citellus variegatus couchi* and *rupestris* this form differs in lighter dentition and in lack of the black cap. From *C. grammurus* it differs in low, wide skull and dark coloration.

***Citellus tridecemlineatus hollisteri* subsp. nov.**

Type from the Sacramento Mountains, New Mexico (alt. 8000 feet), on the part of the Mescalero Indian Reservation known locally as Elk Valley. No. 119,025, ♀ ad., U. S. National Museum, Biological Survey

Collection. Collected by Vernon Bailey, September 11, 1902. Original number 7963.

General characters.—Smaller and darker colored than *C. pallidus*, larger and darker than *parrvus*. In general appearance much like *alleni*, but with darker brown back and crown, and with light stripes of back more continuous.

Skull.—Short and wide as in *parrvus* but decidedly larger and heavier. In size about as in *alleni* but with zygomatic arches much heavier and more spreading.

Measurements.—Type: Total length, 232; tail vertebrae, 70; hind foot, 32. *Skull* of type: Greatest length, 37; basal length, 31; nasals, 12.2; zygomatic breadth, 21.7; mastoid breadth, 17.3; alveolar length of upper molar series, 6.4.

***Zapus luteus australis* subsp. nov.**

Type from Socorro, New Mexico. No. 160,731, ♀ young adult, U. S. National Museum, Biological Survey Collection, collected by E. A. Goldman, August 23, 1909. Original number 20,402.

General characters.—Small and slender, with very narrow skull. Colors pale.

Color.—Upperparts pale buffy yellowish sparingly lined with black hairs; back slightly darker but with poorly defined dorsal area; lowerparts pure white; heels dusky; feet white.

Skull.—Small, slender and very narrow, the braincase especially narrow and rostrum slender; dentition light.

Measurements of type, measured in field by collector: Total length, 205; tail vertebrae, 124; hind foot, 29.5. *Skull* of type: Total length, 21.4; basal length, 17.5; nasals, 8; zygomatic breadth, 10.7; mastoid breadth, 9.5; alveolar length of upper molar series, 3.2.

***Sigmodon minimus goldmani* subsp. nov.**

Type from 7 miles north of Palomas, New Mexico (alt. 4200 feet). No. 167,625, ♀ young adult, U. S. National Museum, Biological Survey Collection. Collected October 28, 1909, by E. A. Goldman. Original number 20,695.

General characters.—Closely related to *S. minimus* and of about the same size, but darker and richer colored.

Color.—Upperparts coarsely grizzled with white, buff and black; ears and tail almost entirely black; feet very dark and belly dark rich fulvous.

Skull.—Very similar to that of *S. minimus*, but with longer and narrower andital bullae.

Measurements.—Type, measured in the field by collector: Total length, 256; tail vertebrae, 107; hind foot, 31. Young adult ♂ topotype, 238; 98; 31. *Skull* of type: Total length, 33; basal length, 29.5; nasals, 11.3; zygomatic breadth, 19.2; mastoid breadth, 15; alveolar length of upper molar series, 6.2.

Evotomys limitis sp. nov.

Type from the Mogollon Mountains, New Mexico (altitude 8500 feet), on Willow Creek, a branch of the Gilita. No. 148,335, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected by Vernon Bailey, October 27, 1906. Original No. 8572.

General characters.—Size slightly larger than *E. galei*; colors duller, grayer and less buffy; skull and dentition heavier.

Color.—*Winter pelage* with chestnut dorsal area less extensive than in *galei*; general color less yellowish and more mixed with gray; sides, face, and feet clear gray; belly whitish; tail bicolor; whitish below, dark gray above; pencil blackish.

Summer pelage: Much darker chestnut than *galei* with dark gray sides and face.

Skull.—Larger, heavier and conspicuously more ridged than in *galei*; bullae large and especially deep; dentition heavy throughout.

Measurements.—*Type*: total length, 162; tail vertebrae, 42; hind foot, 20. Average of four males from type locality: 142; 39.5; 20; of three females, 132; 35; 19.6. *Skull* of type: basal length, 24.5; nasals, 8; zygomatic breadth, 14.7; mastoid breadth, 12; alveolar length of upper molar series, 5.3.

Ochotona nigrescens sp. nov.

Type from the Jemez Mts., New Mexico (alt. 10,000 feet). No. 147,976, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected by Vernon Bailey, August 28, 1906. Original number, 8447.

General characters.—Size medium, colors very dark, with the brown heavily washed with black.

Color.—Upperparts in post breeding pelage, cinnamon brown, much darkened by the black tips of the long hairs. External surface of ear black, inner surface dark gray with a black band near tip. Throat and median part of belly rich cinnamon brown; top of feet soiled whitish, soles of hind feet blackish.

Skull.—Slightly smaller than that of *O. savatilis* from Colorado, more arched, narrower, and with slenderer nasals and narrower prepalatal vaneity.

Measurements.—*Type specimen*, ♂ ad., measured in the flesh by collector: Total length, 200; hind foot, 30. The measurements of two topotypes, ♂ and ♀, were exactly the same. *Skull* of type: Total length, 43; basal length, 38; nasals, 14; zygomatic breadth, 21; mastoid breadth, 20.5; alveolar length of upper molar series, 8.

Specimens examined.—Three, all from the type locality.

Sorex obscurus neomexicanus subsp. nov.

Type from Clondercroft, New Mexico (alt. 9000 feet), in the Sacramento Mountains. No. 100,440, ♂ ad., U. S. National Museum, Biological Survey Collection. Collected by Vernon Bailey, May 29, 1900. Original number, 7383.

General characters.—Resembling *S. obscurus* but considerably larger and with slightly darker coloration.

Color.—Upperparts dull sepia brown with less reddish than in *obscurus*; lower parts with brownish suffusion quite strongly contrasted with the gray belly of *obscurus*.

Skull.—Conspicuously larger and heavier than in *obscurus* with relatively smaller third premolar.

Measurements.—Type: total length, 118; tail vertebrae, 45; hind foot, 15. Adult ♀ topotype: 106; 42; 14; another ♀: 115; 45; 14. *Skull* of type: greatest length, 18.4; basal length, 16.5; greatest width of braincase, 8.8; length of tooth row, 8; greatest width across molars, 5. Same measurements of an adult ♀: 18.5; 16.4; 8.5; 7.8; 5.