

**Article XXIV. — LIST OF MAMMALS COLLECTED BY MR. J. H. BATTY IN NEW MEXICO AND DURANGO, WITH DESCRIPTIONS OF NEW SPECIES AND SUBSPECIES.**

By J. A. ALLEN.

The present collection was made for the Museum by Mr. J. H. Batty, mostly during the present year. During December, 1902, he collected in Donna Ana County, New Mexico, near the southern border, at localities less than one hundred miles west of El Paso, Texas. Early in January he went to the northwestern corner of the State of Durango, Mexico, where he continued his work till August, 1903, exploring the arid foot-hills and plains at the eastern base of the Sierra Madre, from the southern boundary of Chihuahua southward. The localities visited are embraced within an area of about one hundred square miles, and range in altitude from 6800 to 8500 feet. The region was practically unworked, and is somewhat distant from any point where thorough collecting had previously been done. The mammalian fauna is scanty, but proves unexpectedly rich in new forms, and in respect to coloration and some other features the species present, in general, distinctive peculiarities.

In general facies the fauna of this region more closely resembles that of the southern border of Arizona than it does that of the upper Rio Grande region of Texas and New Mexico. The thoroughness with which Mr. Batty worked is attested by a collection of about 600 specimens, numbering 34 species, many of which are represented in large series. The record of specimens given under each species doubtless fairly indicates their relative abundance.

The specimens collected in New Mexico proved of great interest for comparison with those from Durango, and in every case the forms inhabiting the two regions proved readily distinguishable. It was expected that the Durango forms would in most instances prove identical with species and subspecies

inhabiting the southern border of Arizona, but careful comparison, with the aid of abundant material, shows that such reference would in most cases fail to express their true relationships.

I am indebted to the kindness of Dr. A. K. Fisher, Acting Chief of the U. S. Biological Survey, and to Mr. Gerrit S. Miller, Jr., Assistant Curator of Mammals, U. S. National Museum, for the loan of topotypes of various species for use in the present connection.

[NOTE. — The measurements taken by the collector from the fresh specimens are as follows: (1) Head and body; (2) tail vertebræ; (3) hind foot, measured to end of longest toe (after the British Museum method), and hence not including the claw; (4) ear, measured from the notch instead of from the crown, except in a few cases, as in the hares, where both are often given. For convenience in comparison the total length is here also given, made up by adding the collector's first two measurements.]

#### I. DONNA ANA COUNTY, NEW MEXICO.

The specimens here recorded, about 150 in number, were all taken during the month of December (Dec. 6–26), along the southern border of Donna Ana County, a little west of El Paso.

##### 1. *Citellus (Otospermophilus) grammurus* (Say).

One specimen, collected at Chamberino. "Not common."

##### 2. *Peromyscus tornillo* Mearns.

Ten specimens: Guadalupe Ranch, 1, Dec. 3; La Mesa, 8, Dec. 13–17; Chamberino, 1, Dec. 26.

Seven adults (4 males and 3 females) measure as follows: Total length, 169 (163–171); head and body, 93 (90–95); tail vertebræ, 75.5 (73–76); hind foot (without claws), 20.6 (19–22); ear, 18.1 (18–18.3).

##### 3. *Sigmodon hispidus berlandieri* (Baird).

Nine specimens, collected as follows: Guadalupe Ranch, 4, Dec. 13–16; La Mesa, 1, Dec. 19; Chamberino, 4, Dec. 26.

Only two are fully adult, both males, and measure, respectively: Total length, 248, 229; tail vertebræ, 102, 89; hind foot (without claws), 19, 19.

#### 4. *Neotoma mexicana* Baird.

Forty-eight specimens, taken as follows; Guadalupe Ranch, 18, Dec. 8-13; La Mesa, 28, Dec. 13-18; Chamberino, 2, Dec. 25 and 26. Nearly one half are fully adult, one is in the plumbeous pelage of the young, and the rest range from half or two thirds grown to nearly adult.

Nine adult males from the La Mesa series measure: Total length, 324 (311-337); head and body, 180 (171-191); tail vertebræ, 145 (137-152, with 1 at 121 and 1 at 165); hind foot (without claws), 32.5 (32-36); ear (from notch), 27 (25-29). Five adult males from Guadalupe Ranch: Total length, 329 (305-347); head and body, 185.3 (172-197); tail vertebræ, 133 (127-140); hind foot, 32.8 (31.5-34); ear, 27 (25.5-29). Three females from La Mesa: 312 (305-319); 172 (165-179); 140 (140-140); 32 (32-32); 27 (25.5-28.5). Four females from Guadalupe Ranch: 298 (286-311); 170 (159-184); 128 (127-130); 32 (32-32); 26.3 (25.5-29).

#### 5. *Lepus (Macrotolagus) texianus griseus* Mearns.

Represented by 17 specimens (7 males and 10 females), collected as follows: Guadalupe Ranch, 11, Dec. 6-12; La Mesa, 4, Dec. 16-20; Chamberino, 2, Dec. 27.

Ten females measure as follows: Total length, 560 (546-615); head and body, 469.5 (438-527); tail vertebræ, 82 (70-94); hind foot (without claws), 127.6 (114-145); ear from notch, 130 (124-140); ear from crown, 160 (156-162). Six males: Total length, 564 (432-626); head and body, 453 (432-528); tail vertebræ, 83 (70-98); hind foot (without claws), 131 (114-140); ear (from notch), 131 (121-138).

The specimens, all adult and in full winter pelage, vary but little in coloration; in a small percentage the back is much more strongly varied with black than the others; the gray of the upper parts is decidedly more tinged with brownish ful-

vous in some than in others, and, correlated with this, the sides are more strongly tinged with fulvous.

*Lepus texianus griseus* is very closely related to *L. t. eremicus* Allen, from the southern border of Arizona; it is a little grayer (the dorsal area less suffused with brownish), but in size and proportions there is apparently little, if any, difference.<sup>1</sup>

#### 6. *Lepus (Sylvilagus) arizonæ minor* Mearns.

Represented by 37 specimens, all adult, collected as follows: Guadalupe Ranch, 22, Dec. 6-12; La Mesa, 7, Dec. 17-20; Chamberino, 8, Dec. 25-27.

Twelve males measure: Total length, 343 (310-361); head and body, 323.5 (292-327); tail vertebræ, 40 (35-44); hind foot, 77 (70-82); ear from notch, 65.4 (63.5-70). Ten females: Total length, 347 (307-378); head and body, 324 (306-330); tail vertebræ, 41 (35-44); hind foot, 76 (70-83); ear from notch, 66 (60.5-70).

#### 7. *Lynx ruffus texensis* (Allen).

One specimen, adult female, Guadalupe Ranch, Dec. 6. Total length, 863; head and body, 711; tail vertebræ, 152; hind foot, 140.

### II. NORTHWESTERN DURANGO.

The principal localities (mostly not on ordinary maps), with the dates during which collections were made, are as follows: (1) Rosario, altitude 7500 feet, on the Rio Florida, at the terminus of the Parral branch of the Mexican Central Railroad; Jan. 21-28. (2) Mount San Gabriel, altitude 7000 to 9000 feet; Jan. 28. (3) Rio del Bocas, a dry river bottom on the Rio Florida, altitude 6800 feet; Feb. 8-13. (4) Villa Ocampo, or Ville de Campo, a few miles below Rio de Bocas, on the Rio Florida, altitude 7000 feet; Feb. 11-13. (5) La Boquilla, a pass in the San José Mountains, at 7000 feet; Feb.

<sup>1</sup> I take this opportunity to correct an error in the original description of *L. t. eremicus* (this Bulletin, VI, 1894, p. 348, last paragraph of the description), where, through some inadvertence not now explicable, the measurements are quite wrong. The measurements given for the type (*l. c.*, p. 347) are correct, and the correct measurements of the series of 8 specimens will be found in Vol. VII, p. 202, *op. cit.*

14-16. (6) San Gabriel, a small adobe village, seventy miles northwest of Inde, in the plains, altitude 7000 feet; Feb. 17-20. (7) Rancho Santuario, an old "Spanish Grant" ranch, on the plains, altitude 7000 feet; Feb. 17-March 11. (8) Matalotes, at the head of the Arroyo Matalotes, at the base of the Sierra Madre, altitude 8000 feet; March 20-24. (9) Cienega de las Vacas, at base of Sierra Madre, altitude 8500 feet; April 6. (10) Rio Sestin, altitude 7500 feet—one of the most fertile valleys of the region; April 9-May 4. (11) Rancho Bailon, altitude 7800, in the foot-hills of a small range of mountains overlooking the Sestin Valley from the east, May 5-14. (12) Arroyo de Bucy, altitude 7500 feet, a deep rocky cañon in the Sierra del Candella; May 22-30. Very few of the specimens collected after June 1 have as yet come to hand.

1. *Odocoileus* <sup>2</sup> *battyi*, sp. nov.

Type, No. 21277, ♂ ad., Rancho Santuario, northwestern Durango, March 10; J. H. Batty, for whom the species is named.

Similar in size and coloration to *O. couesi*, but with strongly marked cranial differences.

General color (winter coat, type specimen) of upper parts gray brown, darker on top of head and along median line to base of tail, lighter on flanks; below, middle of throat white, passing into pale grayish brown on sides of throat and cheeks and posteriorly over fore neck and chest, which is darker, most of the hairs being tipped with blackish brown; lower breast, axillæ, and inside of fore legs white to hoofs, which are encircled with a band of white; middle of ventral surface grayer and slightly suffused with pale buff, passing into clear white on lower part of abdomen, inguinal region, inside of thighs, and inside of hind leg to tarsal gland, which is white with a central disc of deep orange chestnut; a narrow band of whitish encircling the hoofs, broadest and clearer white on the posterior aspect; ears thinly haired, gray brown externally, rather darker than the back, but not edged nor tipped with blackish, and clothed thinly internally with long white hairs; sides of nose with a patch of black, often connected across the middle and forming a distinct nose band; also a blackish spot, often faintly marked, on each side of the lower lip, near the middle, the two

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<sup>2</sup> I am informed by Dr. T. S. Palmer that the generic name *Dama Zimmermann* (1777), recently adopted by me for the present group (this Bulletin, XVI, 1902, p. 19), is preoccupied through its previous use by Frisch (1775) for the *Cervus dama* of Europe.

sometimes uniting to form an indistinct band; tail basally above colored like rump, the upper surface with the hairs dark brown basally and tipped with white, the dusky basal portion showing through and giving the whole upper surface of the tail a grizzled white and brown effect; edges and lower surface clear white; posterior border of rump with a heavy fringe or ruff of white.

The above is about the average coloration of the series, but quite a number of the specimens have the gray brown of the upper parts paler, with a faint buffy tinge, decidedly apparent on the throat, lower edge of flanks, and whole pectoral region. In such specimens the upper surface of the tail is deep ochraceous, almost to the base of the hairs, the basal third of the hairs being yellowish brown. The fringe bordering the rump is mixed yellow and white, and the light inner surface of the limbs is also more or less suffused with buffy. Between these extremes there is every stage of gradation, which is especially striking in respect to the upper surface of the tail. In only a small portion of the specimens is the upper surface of the tail either dusky gray or yellowish, varying from the former through a faint tinge or mixture of yellow hairs to wholly yellow, deepening in some to orange ochraceous; nearly two thirds of the specimens have the dorsal aspect of the tail more or less conspicuously yellow.

*Measurements.* — An adult male,<sup>1</sup> total length, 1574; head and body, 1371; tail vertebræ, 216; ear, from crown, 190, from notch, 160. Five males, mostly middle-aged: Total length, 1460 (1237-1574); head and body, 1253 (1031-1371); tail vertebræ, 221 (215-229); ear from crown, 189 (178-198); ear from notch, 161 (152-168). Seven adult females: Total length, 1294 (1210-1371); head and body, 1081 (1007-1168); tail vertebræ, 208 (203-228); ear from crown, 176 (165-185); ear from notch, 157 (146-165).

*Skull.* — The skull is relatively much shorter and broader than in *O. virginianus*, with very much shorter and broader nasals, and very much smaller antorbital vacuities, but with the lachrymal pit shallow and imperforate, — not deep and perforate as in *O. couesi*. Compared with *O. couesi*, the antorbital vacuities are nearly one half smaller; the nasals are very much broader and less arched, with their greatest expansion generally at their posterior third instead of at the middle as in *O. couesi*; the walls of the posterior nares are more extended posteriorly and the narial opening is more vertical; the basisphenoid is more cuneate, through its greater expansion posteriorly; the dentition is very much heavier; the antlers bend more sharply outward and the outward curvature is nearer the skull.

The type skull, of a fine middle-aged, four-pronged buck, measures

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<sup>1</sup> The measurements of the type are not recorded in the collector's field catalogue. Also the measurements of the hind foot are not available, having been taken from the metatarsal instead of the tarsal joint.

as follows: Total length, 248; occipito-nasal length, 201; basal length of Hensel, 220; zygomatic breadth, 115; least interorbital breadth, 61.5; mastoid breadth, 85.5; greatest length of nasals, 77; greatest width of nasals, 31; length of upper premolar-molar series, 69.5; length of lower jaw (from angle to outer base of middle incisors), 192; height at condyle, 64; height at coronoid, 96; alveolar length of lower premolar-molar series, 72. The antlers have a moderate bur, are nearly smooth, even proximally; beam round and rather heavy, with the usual basal tine and two points, one a little behind the middle, the other at the beginning of the posterior fourth, which with the tip of the main beam make four points, all rather short and heavy. Length of main beam along external curvature, 353; distance from bur to top of fork of first point in straight line, 71, to second do., 179, from second to third do., 103; length of main beam beyond last point, 98; distance between burs, 56, distance between tips, 218; greatest expanse, inside measurement, 340. Four other males, somewhat younger, have horns of similar character, but of much lighter weight and less developed points.

An adult female skull: Total length, 230; basilar length of Hensel, 203; occipito-nasal length, 190; length of nasals, 72; greatest width of nasals, 21; zygomatic breadth, 96; least interorbital breadth, 56; mastoid breadth, 66.5; length of upper premolar-molar series, 65; length of lower jaw, 176; height at condyle, 57; height at coronoid 86.3; lower premolar-molar series, 71.

Represented by 19 specimens (6 adult and 3 young males, and 9 adult females and 1 young female), collected as follows: Rosario, 2, Jan. 27 and 28; Mt. San Gabriel, 1, Jan. 28; Rancho Santuario, 5, March 10-11; La Cienega de las Vacas, 11, March 26-April 6. There is also an additional skull, "picked up on the plains," which in shape of antlers, the very broad antorbital vacuities, and the perforated lachrymal pit, agrees with *O. couesi* and not with the rest of the series.

*Odocoileus battyi* closely resembles externally *O. couesi* but differs greatly in cranial details, as above described. All of the deer of the arid regions of Arizona, Sonora, Chihuahua, and Durango, of the *O. virginianus* style of antlers, appear to present great similarity of coloration, but are found to differ in general size, in the size and shape of the antlers, and more or less in cranial characters, when specimens from distant localities are compared. As stated by me long since (this Bulletin, VII, 1895, p. 200), *O. couesi*, as first said by Coues and Yarrow, is the *Cariacus mexicanus* of Baird (excluding his synonyms), but is not the *Cervus mexicanus* of Gmelin and

later compilers. If we admit that Lichtenstein, in adopting the "*Cervus mexicanus* Desm." ("*Cervus mexicanus* Linn. Gm." on his plate) for the deer he described from Mexico, placed the name upon a recognizable basis, as contended by Lydekker (*Deer of All Lands*, 1898, p. 263) and Osgood (*Proc. Biol. Soc. Wash.*, XV, 1902, p. 88), the name becomes applicable to the white-tailed deer of the Valley of Mexico, which has only a distant relationship to the form here described.<sup>1</sup>

According to Mr. Batty these deer are not a "timber" deer, and frequent only the high, almost treeless mountain tops, like the mountain sheep. They are not very common and are hard to approach, in consequence of the open character of the country.

## 2. *Sciurus apache* Allen.

Five specimens, all adult, collected as follows: Cienega de las Vacas, 1 male, April 3; Arroyo de Bucy, 1 male, 3 females, May 20-28. They are quite uniform in size as regards the length of the head and body, but the tail varies greatly. The five specimens measure: Total length, 566 (543-591); head and body, 276 (267-286); tail vertebræ, 292 (264-377); hind foot (without claws), 66 (64-70); ear from notch, 32.6 (32-35).

## 3. *Eutamias durangæ*, sp. nov.

Type, No. 21410, ♀ ad., Arroyo de Bucy, northwestern Durango, Mexico; J. H. Batty.

Similar to *Eutamias bulleri* from southwestern Zacatecas, but larger and paler, with the white markings on the head broader and the white postauricular patch larger; rump, basal portion of the tail, and flanks faintly suffused with a very pale tinge of buff instead of being gray as in *bulleri*; the dark dorsal stripes are similar in extent and in color, but the intervening light stripes are suffused with pale cinnamon instead of being nearly clear white as in *bulleri*, and the rufous of the flanks is much paler.

<sup>1</sup> As Mr. Osgood (*l. c.*), in his history of the case, shows the validity of the claim that the original *Cervus mexicanus* had no tangible basis, it seems more in accordance with usage in such cases to consider the name *mexicanus* as preoccupied by an indeterminate species, and to recognize the form described and figured by Lichtenstein as entitled to the new name *Odocoileus lichtensteini* which has been bestowed upon it. (*Cf.* Allen, this Bulletin, XVI, 1902, pp. 16 and 20, footnotes.)



*Measurements.* — Type, total length, 238; tail vertebræ, 98; hind foot (without claws), 32; ear from notch, 19. Nine adult topotypes (5 males and 4 females) measure as follows: Total length, 234 (222–241); head and body, 137.6 (127–140); tail vertebræ, 97.2 (95–102); hind foot, 32.1 (32–33); ear, 19.9 (19–22).

Skull: type, total length, 39; greatest zygomatic breadth, 21. Nine topotypes: Total length, 38.8 (37–40); zygomatic breadth, 20.7 (20–21). Six skulls of *E. bulleri* measure: Total length, 37.5 (37–38.2); zygomatic breadth, 20.1 (20–20.5). (No external measurements of *E. bulleri* are available for comparison, the collector omitting to take measurements before skinning.)

*Eutamias durangæ* is based on a series of 13 specimens, all adult except two, taken by Mr. Batty at Arroyo de Bucy, in the Sierra del Candella, at an altitude of about 7500 feet, May 22–30. As already noted above, it resembles *E. bulleri*, but is considerably larger, and quite different in coloration, being much lighter colored, with the gray areas faintly suffused with pale buff, and the median white dorsal stripes with a wash of pale cinnamon.

Mr. Batty informs me that this chipmunk is reported to range for some distance to the southward along the eastern base of the Sierra Madre.

#### 4. *Citellus (Otospermophilus) grammurus rupestris*, subsp. nov.

Type, No. 21231, ♀ ad., Rio Sestin, northwestern Durango, Mexico, April 13, 1903; J. H. Batty.

Front, top, and sides of head and the nape black, a few of the hairs with gray or brownish gray tips, more numerous toward the edges of the black area which is not sharply defined; nose as far back as the eyes and cheeks grayish brown, the hairs being blackish brown at base and broadly tipped with whitish; a patch of whitish above and below the eyes, giving the effect of broad white eyelids; whole upper surface of body varied or ringed with blackish brown and whitish, darkest on the anterior half and lightest on the posterior half of the dorsal region, more or less (often strongly) suffused with yellowish brown; sides lighter and grayer than the median area; underfur black or blackish, and the coarser hairs black basally and at the extreme tip, with a sub-apical broad band of white or whitish; throat, prepectoral, and axial regions ochraceous buff; rest of ventral surface paler or yellowish buff, the hairs dusky at the extreme base; fore feet yellowish gray; hind

feet more strongly yellowish; ears thinly haired, externally black, internally paler, the tips of the hairs rusty brown; tail above grizzled black and white, becoming darker towards the tip, the hairs individually alternately ringed with black and soiled whitish, there being three bands of each, and tipped broadly with clearer white; lower surface of the tail pale yellowish white, striped on each side with three longitudinal bands of black which increase in width from the inner to the outer, the outer being about twice the width of the inner.

Total length (type), 520; head and body, 279; tail vertebræ, 241; hind foot, to end of toes, 57, to end of claws, 64; ear, 25. Skull: Total length, 66; zygomatic breadth, 40; length of nasals, 23; upper tooth-row, 13.

The amount of black on the head varies greatly in different specimens, averaging about as above described, but varying from almost none whatever to specimens in which the hairs are black basally with the tips grayish, and through these to clear brownish black; the black area often extends far down over the nape, and occasionally, as a broad median band, to the shoulders, and in one specimen to the middle of the back.

Doubtless in fresh fall pelage the markings would be about as above described, but with all the tints deeper and hence with greater contrast between the light and dark rings of the individual hairs.

As already indicated, in many specimens the pelage becomes not only exceedingly worn before the post-breeding moult, but greatly faded and discolored, even the underfur, where exposed, changing from black or blackish to yellow-brown. With this moult the ventral surface changes from pale ochraceous to whitish, more or less mixed with dusky, the basal portion of the hairs being dusky with long whitish tips, through which the dusky bases are more or less visible.

Many of the specimens are in greatly worn and discolored pelage, the ends of the hairs over the posterior half of the body having been in some instances wholly worn away, leaving only the fulvous brown bases, the terminal portion bearing the alternating dark and light rings having disappeared. In most of these the moult is in progress, in some the coat having been renewed on the front half of the body.

*Citellus g. rupestris* is represented by 28 specimens, all adult but 3, which are about two thirds grown, collected as follows: Rio Sestin, 18, April 12-19; Rancho Bailon, 10, May 5-11. Throwing out the young examples, and two with defective tails, the remaining 23 measure as follows:

Nine males: Total length, 503 (451-540); head and body, 277 (241-298); tail vertebræ, 233 (210-248); hind foot (without claws), 56.7 (55.5-57); ear, from notch, 26.3 (25-28). Fourteen females: Total length, 499 (463-521); head and body, 272 (254-293); tail vertebræ, 227 (203-241); hind foot, 56 (54-60); ear, 26.3 (25-29).

The two extremes are both old males and measure respectively: Total length, smallest, 451, largest, 540; head and body, 241 and 298; tail vertebrae, 210 and 248; hind foot, 57 in both; ear, 25 and 28. The females average slightly smaller than the males, and present a much less range of variation, none being nearly as small as the smallest male, nor are any as large as the largest males.

This subspecies most resembles *C. grammurus*, but differs from it in being larger, in having the crown and nape (usually) black, the shoulders and sides less white, and the ventral surface deep buff. It is characterized also by a larger and much heavier skull, with heavier dentition. It is very distinct from *C. variegatus* of the Valley of Mexico and contiguous areas, which is a much darker animal throughout, and also larger, and in which the dark crown patch is only incipiently developed. It is more than probable, however, that the whole series of line-tailed spermophiles, from the Valley of Mexico northward to Colorado, will prove to be intergrading forms of the long-known *grammurus* group, as suggested by Mr. Nelson in his note on Erxleben's *Sciurus variegatus*.<sup>1</sup>

At first it seemed probable that this series of Durango specimens must represent *Spermophilus macrourus* of Bennett (P. Z. S., 1833, p. 41), although Mr. Nelson had synonymized it with *Sciurus variegatus* Erxleben, later (1830) renamed *Spermophilus buccatus* by Lichtenstein. Through the kindness of Dr. A. K. Fisher, Acting Chief of the U. S. Biological Survey, I have before me four typical examples of *Citellus variegatus*, collected by Mr. E. W. Nelson in the Valley of Mexico and the adjoining State of Puebla, and a series of exactly similar specimens from Zapotlan, southern Jalisco, collected for this Museum by Dr. Buller. Bennett's description applies much better to this form than to the Durango specimens, and it seems therefore preferable to consider Bennett's *macrourus* as a synonym of *variegatus*, as Nelson has done, or else to regard it as unidentifiable. The final settlement of the case must rest on an appeal to the type, which may still exist in the British Museum.

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<sup>1</sup> Nelson, E. W. What is *Sciurus variegatus* Erxleben? Science, N. S., VIII, No. 208, pp. 897, 898, Dec. 23, 1898.

In addition to the Durango series I find in the Museum collection a single specimen from Guadalupe y Calvo, Sierra Madre, State of Chihuahua, collected in 1893 by Dr. Lumholtz.

None of the many specimens from southern Arizona (White Mts., Chiricahua Mts., Fort Lowell, Fairbank, etc.), nor from Colonia Garcia (in the Sierra Madre of Chihuahua), shows any marked tendency toward the present form, which, doubtless, will be found to occur over a considerable area in Sonora and southern Chihuahua, as well as in Durango.

5. **Mus musculus** *Linn.*

Six specimens: Rosario, 1, Jan. 25; San Gabriel, 2, Feb. 18; La Boquilla, 2, Feb. 16; Rancho Santuario, 1, March 2.

6. **Mus rattus** *Linn.*

Two specimens, Rio del Bocas, Feb. 8.

7. **Mus alexandrinus** *Geoffroy.*

One specimen, Mt. San Gabriel, Jan. 8.

8. **Onychomys torridus** (*Coues*).

Four specimens: Rosario, 1, Jan. 24; Villa Ocampo, 1, Feb. 12; Rio Sestin, 2, April 11 and 21. They do not seem to differ appreciably from specimens from southern Arizona.

9. **Peromyscus paulus**, sp. nov.

Type, No. 21165, ♂ ad., Rio Sestin, northwestern Durango, April 17; J. H. Batty.

Smaller than either *P. musculus* or *P. m. brunneus* and different in color. Upper parts gray brown suffused with pinkish buff; under parts grayish white, the base of the hairs being plumbeous and the tips whitish; in some specimens a faint buffy tinge on the belly.

*Measurements.* — Type, total length, 108; head and body, 62; tail vertebræ, 44; hind foot, without claws, 13, with claws (from dry skin), 14; ear, from notch, 13, from crown (in dry skin), 11. Seven additional males give practically the same measurements as the type; 6 old females are slightly larger, as follows: Total length, 112 (108–117); tail vertebræ, 44.3 (38–48); hind foot, 13 (12–14); ear, 12 (11–13).

Young specimens in first pelage are gray brown, and young adults are darker and more varied with blackish and less suffused with buff than old adults.

Represented by 20 specimens, collected as follows: Rosario, 1 (young), Jan. 26; San Gabriel, 2, Feb. 18 and 20; Rancho Santuario, 2, Feb. 21 and 27; Rio Sestin, 15, April 9-17.

*Peromyscus paulus* is a northern representative of the *P. musculus* group, but is very much smaller than either *P. musculus* or *P. m. brunneus*, and differs widely from either in coloration, being lighter or grayer above suffused with pinkish buff instead of dark yellowish brown as in *brunneus* or tawny as in *musculus*. It needs no comparison, however, with *P. taylori*, which is still smaller, with smaller ears, shorter tail, and different coloration.

#### 10. *Peromyscus texanus flaccidus*, subsp. nov.

Type, No. 21064, ♂ ad., Rio Sestin (altitude, 7500 feet), northwestern Durango, April 13; J. H. Batty.

Similar to *P. t. arizonæ*, but slightly paler and rather more fulvous, and also larger with a relatively longer tail and shorter hind foot.

Adult in April, upper parts dark fawn brown, darker over the median area, which is slightly varied with blackish, and lighter, clearer fawn on the sides, defined abruptly against the white of the ventral surface without an intervening fulvous lateral line; head paler and grayer than the body, especially over the whole front of the head; underparts clear white with plumbeous underfur; fore legs white to the shoulder; dark color of body extending narrowly down hind limb to tarsal joint; ears very thinly haired, dark gray brown, slightly margined with whitish; tail bicolor, thinly haired and with no very appreciable pencil, the upper third dark brown, the rest grayish white.

Young adults are dark grayish brown without tinge of fawn; young in first pelage are ashy gray varied with black, much lighter gray than young of corresponding age of either *arizonæ* or *sonoriensis*; ears black with a fluffy whitish gray tuft at anterior base.

*Measurements.* — Type, total length, 177; head and body, 98; tail vertebræ, 79; hind foot, without claws, 19, with claws, 20; ear, from notch, 18, from crown in dry skin, 14. Twenty-one adults (13 males, 8 females) from Rio Sestin: Total length, 172.8 (159-184); head and body, 95 (83-102); tail vertebræ, 77.3 (70-89); hind foot, 19.3 (19-21); ear, 18.6 (17.5-19).

Nineteen adults of *P. t. arizonæ*, from Fairbank, Arizona, strictly comparable as to season and age, average much smaller, having a total

length of 162 (145-181, only 3 above 170) as against 173 for *flaccidus*; tail vertebræ, 72 (59-80, only 3 above 74) as against 79; hind foot, 22.4 as against 20.5.

Represented by 64 specimens, collected as follows: Rosario, 6, Jan. 24 and 25; Rio de las Bocas, 4, Feb. 8 and 9; Villa Ocampo, 3, Feb. 14; La Boquilla, 1, Feb. 16; San Gabriel, 5, Feb. 17-20; Rancho Santuario, 3, Feb. 21-25; Rio Sestin, 42, April 9-14. Among the April specimens are many young, one quarter to nearly full grown, and the January-February specimens contain a few young adults, but consist mostly of adults, showing that the young are not born till some time in March or later.

This subspecies seems to most resemble *arizonæ* of the *texanus* group, but adults are slightly paler and more fulvous, and young in first coat, as well as young adults, are decidedly paler and more ashy gray. The skulls present no distinctive features, but the differences in size, and especially the longer tail and shorter hind foot, seem noteworthy.

Although a pallid form it differs very appreciably in coloration, and also in size, from *P. t. medius* Mearns from the desert coast belt of northern Lower California.

#### 11. *Peromyscus boylii pinalis* (Miller).

Represented by 66 specimens, *all adult*, collected as follows: Mount San Gabriel, 5, Jan. 28; La Boquilla, 6, Feb. 14-16; San Gabriel, 12, Feb. 17-20; Rancho Santuario, 24, Feb. 27-March 7; Matalotes, 7, March 23 and 24; La Cienega de las Vacas, 7, March 21-31 and April 6; Arroyo de Bucy, 3, May 23; without locality, 2, and several additional skulls.

Ten adults from San Gabriel measure: Total length, 190 (181-209); head and body, 90.3 (86-98); tail vertebræ, 99.5 (95-114); hind foot (without claws), 19.4 (19-20.5); ear from notch, 19 (17.5-20.5).

These specimens do not differ appreciably from a large series from the southern border of Arizona, either in size, proportions, or coloration.

#### 12. *Sigmodon minimus* Mearns.

Twenty-four specimens, as follows: Rosario, 9, Jan. 21-29; Rio Sestin, 11, April 6-16; Rancho Bailon, 4, May 4-10.

They are mostly young adults, but include 2 middle-aged adults and 1 very old female. If these specimens are rightly referred to *S. minimus*, they show that *minimus* may, when old, attain nearly the size of *S. fulviventer*, from which, however, it differs widely in coloration. The old female and the two middle-aged specimens (male and female) measure, respectively, as follows: Total length, ♀ 269, ♂ 238, ♀ 228; tail vertebræ, 114, 95, 98; hind foot, without claws, 29, 25, 24 (with claws about 3 mm. more); ear from notch, 18, 18, 19.

The Durango series averages rather grayer, with darker (less brownish apically) underfur, than several Arizona specimens available for comparison, and may prove subspecifically separable.

### 13. *Sigmodon baileyi*, sp. nov.

Type, No. 20993, ♀ ad., La Cienega de las Vacas (altitude 8500 feet), northwestern Durango, March 27; J. H. Batty.

Pelage rather soft. General color of upper parts gray brown, nearly without fulvous suffusion, the sides faintly tinged with pale buff, the long hairs of back and sides tipped with soiled white, mixed abundantly with black-tipped hairs; underparts white, the basal portion of the hairs ashy plumbeous; *sides of nose conspicuously ochraceous buff*; region at base of tail suffused with cinnamon buff; ears rather dark gray on both surfaces; soft woolly hair at posterior base of ears pale buff; feet pale buffy gray; tail well-haired, bicolor, blackish brown above and all around for apical fourth, pale buffy gray below.

Total length (type), 198; tail, about 90 (slightly imperfect); hind foot (without claws), 25; ear (from notch), 18. Skull, total length, 31.5; basal length of Hensel, 27.3; nasals, 12.5; zygomatic breadth, 18.3; mastoid breadth, 13.3; alveolar length of upper molar series, 5.6.

Represented by 5 specimens: the type, from La Cienega de las Vacas; 3 young adults from Rancho Santuario, Feb. 26 and March 1; and 1 young adult from Arroyo de Bucy, May 30. The type is an adult female that appears to have raised young; the teeth are considerably worn and the skull has well-developed ridges.

*Sigmodon baileyi* is a very gray, conspicuously yellow-nosed form, apparently closely resembling *Sigmodon hispidus major* in general coloration, but very much smaller—at least one half smaller in general bulk. It belongs to the same group as *Sigmodon hispidus arizonæ* Mearns and *S. h. major* Bailey, which appear to be both specifically separable from true

*hispidus*, as, respectively, *Sigmodon arizonæ* and *S. a. major*, with which perhaps *S. baileyi* should be associated. Named for Mr. Vernon Bailey, who has done so much to establish order in this very puzzling group.

14. ***Reithrodontomys megalotis sestinensis***, subsp. nov.

Type, No. 21175, ♂ ad., Rio Sestin (altitude, 7500 feet), northwestern Durango, April 11; J. H. Batty.

Similar in general coloration to *R. megalotis*, but upper parts more strongly varied with black and less fulvous, and with relatively longer tail. Type, total length, 139; head and body, 70; tail vertebræ, 69; hind foot, 18; ear (from notch), 14. An adult female: 139, 69, 70, 18, 14.

Represented by 4 specimens taken as follows: Rosario, 1, Jan. 25; Rio Sestin, 3, April 11-15.

The white underparts and much smaller size distinguish this form from *R. m. obscurus* Merriam, from near Guadalupe y Calvo, Chihuahua, on the western side of the Sierra Madre. While similar in size to *R. m. deserti* Allen, from Nye County, Nevada, it differs from it in much darker coloration.

15. ***Neotoma intermedia durangæ***, subsp. nov.

Type, No. 21185, ♂ ad., San Gabriel (altitude, 7000 feet), northwestern Durango, Feb. 20; J. H. Batty.

Externally similar to *Neotoma intermedia albigula* Hartley, but averaging rather larger, with a shorter and broader skull and much heavier dentition.

*Measurements*. — Type, total length, 356; head and body, 197; tail vertebræ, 159; hind foot, without claws, 32, with claws, 33; ear, from notch, 30, from crown in dry skin, 25. Four additional males: Total length, 345 (330-356); tail vertebræ, 156.5 (152-162); hind foot, 32; ear from notch, 29.5 (29-30). Skull, total length, 45; basilar length of Hensel, 38; length of nasals, 18; zygomatic breadth, 24; width of braincase at posterior base of zygo-ma, 18.5; mastoid breadth, 18; interorbital breadth, 6; length of upper toothrow, 9.

Represented by 21 specimens, collected as follows: Mt. San Gabriel, 9, Feb. 18-20; Rancho Santuario, 6, Feb. 22-24 and March 6; La Cienega de las Vacas, 1, March 30; Rancho Bailon, 4, May 10; Arroyo de Bucy, 1, May 24.

Compared with a good series of topotypes of *N. intermedia albigula*, the skull of *N. i. durangæ* averages about 2 mm.



shorter and nearly 2 mm. wider, with very much heavier dentition (molars much broader), and a shorter and more strap-shaped interparietal. In coloration and external measurements the two forms are similar, but *durangæ* is less fulvous. It perhaps should be compared with *N. i. melanura* Merriam, from Ortiz, Sonora, from which, however, it appears to differ in having a larger head and body and much shorter tail, and by the absence (generally) of an antero-internal sulcus on m<sup>1</sup>. No skull measurements were given of *melanura*, but the skull is described as smaller, with narrower nasals, than *albigula*, which is not the case with *durangæ*.

16. *Thomomys sinaloæ* Merriam.

Rio Sestin, 1 specimen, April 11.

17. *Thomomys*, sp.

Two specimens: Mt. San Gabriel, 1, Jan. 28; Matalotes, 1, March 20. They differ widely in coloration and probably represent two species, but the skull of one is too much broken for use in comparison.

18. *Perodipus obscurus*, sp. nov.

Type, No. 20957, ♂ ad., Rio Sestin, northwestern Durango, April 13; J. H. Batty.

General color of dorsal area gray brown slightly suffused with fulvous, resulting in a faintly olive gray brown effect; flanks more strongly suffused with fulvous, which is here the prevailing color; lower parts, including fore limbs, lower half of cheeks and sides of neck, clear white to base of hairs; tip of nose and a narrow line running back on each side of base of whiskers black; exterior surface of ears buffy whitish, nearly white apically and at base, antero-external border and inner surface blackish; small spot above eyes, postauricular patch, and oblique band on thighs white; outside of hind limbs to the tarsal joint like the back, inside white, soles dusky brown; tail with the sides and a basal ring white, the upper and lower surfaces blackish from base to tip, the upper surface heavily crested for about the terminal third.

*Measurements.* — Type, total length, 232; head and body, 102; tail vertebrae, 130; hind foot, without claws, 32, with claws, 35; ear from notch, 12.7. Skull with a broad rostrum, as in *P. agilis*, with

which species the skull closely agrees in general form; total length, 36; greatest mastoid breadth, 23; length of nasal, 13. As regards size, out of 40 adults only 4 exceed a total length of 240 (maximum, 250), and only 6 have a tail length of 136 or above (maximum, 140). Even the maximum size falls far below the minimum for adults of *P. agilis*.

Represented by 84 specimens, collected as follows; Rosario, 28, Jan. 24-27; Mt. San Gabriel, 2, Jan. 28; Rio del Bocas, 13, Feb. 8-9; Villa Ocampo, 5, Feb. 13; Rancho Santuario, 1, Feb. 22; Rio Sestin 35, April 9-17.

Twenty adults (12 males and 8 females), from Rio Sestin, measure as follows: 12 males, total length, 234 (223-244); head and body, 101.7 (98-111); tail vertebræ, 131 (121-136, only 2 below 130); hind foot (without claws), 32.4 (32-33); ear from notch, 13.2 (13-14): 8 females, 225.5 (218-238); 101.3 (98-105); 123.4 (120-133); 32.5 (32-33); 13.7 (13-14).

Nine males from Rosario: Total length, 229.6 (222-232, with 1 additional 250); head and body, 103 (95-114, with only 1 above 105); tail vertebræ, 126.7 (121-136, with only 1 above 130); hind foot, 34.6 (34-35); ear, 13.1 (13-14).

Eleven specimens (6 males and 5 females), from Rio del Bocas: 6 males, total length, 232.5 (223-245); head and body, 103.7 (102-105); tail vertebræ, 129 (121-140); hind foot, 34.5 (32-36); ear, 13.5 (13-14); 5 females, 230 (222-245); 103.2 (102-105); 127 (120-140, only 1 above 134); 33.8 (32-36); 13.5 (13-14).

*Perodipus obscurus* is the darkest-colored species of the genus thus far known, except possibly *O. agilis*, which has, however, a very different coloration, and is nearly double the size of the present species, which about equals *O. ordi* and *O. chapmani*. From all the smaller members of the group it differs too radically in coloration to require special comparison.

#### 19. *Perognathus flavus* Baird.

Six specimens: Rancho Santuario, 1, Feb. 21; Rio Sestin, 5, April 16 and 17.

#### 20. *Perognathus nelsoni* Merriam.

Ten specimens, as follows: San Gabriel, 2, Feb. 19 and 20; Rancho Santuario, 6, Feb. 22-March 8; Rio Sestin, 2, April 11.

Seven adult males measure: Total length, 178 (162-190); head and body, 82.4 (76-89); tail vertebræ, 99 (95-102);

hind foot (without claws), 19.8 (19-22); ear from notch, 8.5 (8-9.5).

These specimens are rather grayer and paler than August topotypes of *P. nelsoni*, but the difference is probably seasonal.

## 21. *Liomys canus* Merriam.

Ten specimens, collected as follows: Rosario, 6 young adults, Jan. 21-27; Rio Sestin, 4 adults, April 9-15. The January specimens are uniform dark gray above, with a pale yellowish lateral line; the April specimens are much paler gray, some of which have a distinct lateral line, while in others the line is obsolete. Two of the April specimens are beginning to moult, in one of which the pelage of a large part of the dorsal area has been renewed; the new pelage is much darker and mixed with fulvous, and closely resembles that of September topotypes of *L. canus* from Parral, Chihuahua, which locality is only about fourteen miles north of Rosario. These specimens are therefore almost topotypes of *L. canus*, but as a series they differ so widely from late September specimens of the latter that they might readily be mistaken for a different species. The difference, however, is obviously seasonal, and emphasizes the importance, in instituting comparisons between allied forms, of using material strictly comparable as to season. Rarely, perhaps, is such a wide range of seasonal variation met with as in the present species.

Three adult males measure, respectively, as follows: Total length, 244, 248, 252; head and body, 124, 130, 130; tail vertebræ, 114, 124, 122; hind foot (without claws), 31, 31.5, 31.5; ear (from notch), 17.5-18.3.

## 22. *Lepus (Macrotolagus) texianus micropus*, subsp. nov.

Type, No. 21251, ♂ ad., Rio del Bocas, northwestern Durango (altitude, 6800 feet), Feb. 12; J. H. Batty.

Similar to *L. texianus eremicus* Allen, and *L. texianus griseus* Mearns, but more brownish gray than the latter, and larger bodied,

with shorter tail, smaller hind feet, and larger ears than either, and with less fulvous along the sides of the body; prepectoral area paler and more grayish.

*Measurements*. — Type, total length, 535; head and body, 459; tail vertebræ, 76; hind foot, 114; ear from notch, 133; ear from crown, 175.

Represented by 19 specimens (8 males and 11 females), collected as follows: Rancho Santuario, 1, Feb. 2; Rio del Bocas, 5, Feb. 9-12; Rio Sestin, 1, April 18; Rancho Bailon, 12, May 5-13. As usual in the species of *Lepus*, the males are considerably smaller than the females, as shown by the following measurements, which include the whole Durango series:

Eight males: Total length, 564 (535-587); head and body, 493 (459-514); tail vertebræ, 71 (64-83); hind foot, 116 (108-127); ear (from notch), 136.4 (133-146).

Eleven females: Total length, 599 (559-626; only 1 below 578, and only 2 above 610); head and body, 524 (483-546); tail vertebræ, 73.7 (64-89); hind foot (without claws), 118 (108-124); ear (from notch) 137 (130-145; only 1 above 140).

This subspecies may be best compared with *L. texianus griseus* of Mearns, the type locality of which is Fort Hancock, El Paso County, Texas, inasmuch as I have a large series of this form from the southern border of New Mexico, taken near El Paso, collected and measured by Mr. Batty, and thus strictly comparable in measurements with his series of Durango specimens here under consideration. According to the same collector's measurements, 10 females of *griseus* have a head and body length of 460 as against 599 for 11 females of *micropus*; tail vertebræ 82 in *griseus* as against 74 in *micropus*; the hind foot 128 as against 118 in *micropus*; and the ear from notch 130 in *griseus* as against 137 in *micropus*.

Some of the May specimens are in worn pelage, but the coloration, in general effect, differs but little from that of the February specimens. The wearing away of the light tips to the hairs leaves the back darker, and the fulvous of the prepectoral area is duller and grayer, or less fulvous.

This form needs no comparison with *Lepus asellus* Miller, from San Luis Potosi, which belongs to the group with black at the base of the ears, of which there is no trace in the *texianus* group.

23. *Lepus (Microtolagus) gaillardi battyi*, subsp. nov.

Type, No. 21257, ♂ ad., Rancho Santuario, northwestern Durango, Mexico, Feb. 17, 1903; J. H. Batty.

Similar to *L. gaillardi* Mearns, but much smaller, the general coloration yellower and less rufescent, especially the underfur. Prepectoral collar much paler, nearly white or pale brownish white instead of buff; front of fore feet grayish white instead of buffy white, and upper surface of hind feet clearer or purer white. Extreme terminal portion (about 25 mm.) of anterior border of ear blackish in both forms.

*Measurements.* — Type, total length, 511; head and body, 451; tail vertebrae, 60; hind foot (without claws), 122; ear, from notch, 127, from crown, 140. Three adult males, same place and date, measure as follows: Total length, 501.5 (465–530); head and body, 451 (432–470); tail vertebrae, 61 (60–64); hind foot, 121 (119–124); ear from notch, 123 (115–133). The corresponding measurements of 3 specimens (1 male, 2 females) of *L. gaillardi*, as given in the original description are: Total length, 1 male, 530, 2 females (average), 567; tail vertebrae, 77, 86; hind foot (to end of claws), 131, 135; ear, from notch, 123, 127, from crown, 146, 148.

*Skull.* — Type, total length, 92; basal length, 82; zygomatic breadth, 44; greatest breadth across supraorbital processes, 31; post-orbital constriction, 11; length of nasals, 40; anterior width of nasals, 11; posterior width of nasals, 20; palatal length (including point on anterior border of palatal floor), 9; length of premolar-molar series (at alveolar border), 17. Another skull measures practically the same in all dimensions, while a third (evidently younger) is 4 mm. shorter in total length, and proportionally smaller in all other dimensions except length of toothrow.

Three adult males, collected at Rancho Santuario, northwestern Durango, Feb. 17, 1903, have been compared with two of the original topotypes of *Lepus gaillardi*, collected on the boundary line of New Mexico and Chihuahua, and while essentially similar in general features, the Durango specimens are readily distinguishable by the coloration of the dorsal area, especially as respects the underfur, and also of the prepectoral band, and the anterior surface of the fore limbs and tarsi, these parts, as indicated above, being distinctly paler; the general size is also much less, as shown in the foregoing measurements.

This species is evidently rare in northern Durango, and was met with over a very limited area.

24. *Lepus (Sylvilagus) arizonæ major* Mearns.

Seventeen specimens, all but 4 adult, collected as follows: Matalotes, 1, March 20; Rancho Bailon, 16, May 5-12.

Five males measure: Total length, 355 (346-372); head and body, 312 (298-324); tail vertebræ, 43 (32-50); hind foot (without claws), 74 (70-76); ear from notch, 69.3 (69-70); 9 females, total length, 365 (344-388); head and body, 327 (308-343); tail vertebræ, 43.7 (38-50); hind foot (without claws), 74 (70-76); ear from notch, 68 (63.5-70).

According to the measurements taken from the fresh specimens by the collector, who collected and measured both series, the Durango specimens slightly exceed those from southern New Mexico (*L. a. minor*, from near El Paso, Texas) in all the measurements except that of the hind foot, which falls a little below that of the New Mexico series. The Durango specimens are very much paler, being less varied with black, and having the brownish tint of the ground color much paler. Owing to the larger size of the Durango specimens, they are referred to Mearns's subspecies *major*. The smaller size of the hind foot is paralleled in the *Lepus texianus* series from the same two regions. The measurements may be thus tabulated for comparison:

*L. a. minor*: 12 males, total length, 343; tail vertebræ, 40; hind foot, 77; ear, 65.4.

*L. a. major*: 5 males, total length, 355; tail vertebræ, 43; hind foot, 74; ear, 69.3.

*L. a. minor*: 10 females, total length, 347; tail vertebræ, 41; hind foot, 76; ear, 66.

*L. a. major*: 9 females, total length, 365; tail vertebræ, 43.7; hind foot, 74; ear, 68.

As the *minor* series was taken in December, and the *major* series in May, it is possible that the average may be affected by the fact that the December series may contain some 'young adults' which by the following May would have increased in size; but the improbability that this is the cause of the difference in average size is shown by comparison of the maxima of the two series, which differ correspondingly with the averages.

25. *Lepus (Sylvilagus) durangæ*, sp. nov.

Type, No. 21377, ♀ ad., Rancho Bailon (altitude, 7800 feet), north-western Durango, May 12, 1903; J. H. Batty.

Size of *Lepus insolitus* Allen, from the Plains of Colima, State of Jalisco, but much less varied with black and the general coloration much paler, except the nape patch, the legs and feet, which are of the same deep rufous as in *L. insolitus*. In other respects the general coloration is not distinctly different from that of *L. arizonæ major* Mearns, collected at the same locality. From the latter it differs in being twice as large (in general bulk), and from both *L. insolitus* and *L. a. major* in important cranial characters.

*Measurements.* — Type, total length, 457 (as against 327 in *L. a. major*); head and body, 406; tail vertebræ, 51; hind foot (without claws), 95; ear (from notch), 76. The type and two paratypes measure as follows: Total length, 436 (419–457); head and body, 387.6 (356–406); tail vertebræ, 55 (51–63); hind foot, 93 (89–95); ear, 76 (73–79). Skull: Total length, 79 (as against 65 in *L. a. major*); basilar length, 60; zygomatic breadth, 36.3 (as against 32 in *L. a. major*); length of nasals, 35; width of nasals posteriorly, 16; anteriorly (= width of rostrum), 9; alveolar length of upper toothrow, 13.3; length of lower jaw, 55; height at condyle, 30; alveolar length of lower toothrow, 13.6. Skull similar in general contour to that of *L. a. major*, but very much larger, with actually smaller audital bullæ, which are hence proportionally at least one third smaller. Skull much less massive than that of *L. insolitus*, and so widely different in all details that no comparison is necessary.

Represented by three adult females, taken as follows: Rancho Bailon, 1 specimen, May 7; Arroyo de Bucy, 2 specimens, May 12 and 20.

This is a member of the *Sylvilagus* group, distinguished by large size and important cranial characters, especially the greatly reduced audital bullæ. It is recorded by the collector in his field notes as 'Mountain Rabbit,' the smaller *L. a. major*, found with it, being called 'Mesquit Rabbit.' It is about the size of *L. aztecus* Allen from Tehuantepec, which has a much broader rostrum, and still smaller bullæ, and is otherwise quite different in cranial details. It is also rather smaller and much darker in coloration. It is, perhaps, more closely allied to this species than to *L. insolitus*.

26. *Canis impavidus*, sp. nov.

Type, No. 21266, ♂ ad., Rio del Bocas (altitude, 7000 feet), north-western Durango, Mexico, Feb. 13, 1903; J. H. Batty.

[November, 1903.]

Similar in coloration to *C. cagottis* (Ham. Smith), but much larger, and the upper carnassial with a prominent protocone; in size and dental characters similar to *C. mearnsi*, but much paler, the throat and ventral region only slightly suffused with pale fulvous instead of buffy ochraceous, and fore and hind legs and feet not "bright orange fulvous all around," but fore legs posteriorly and hind legs and feet anteriorly pale fulvous, or pale yellowish white, as in *cagottis*.

*Measurements.*— Type, total length, 1143; head and body, 838; tail vertebræ, 305; hind foot (in dry skin), 178. Skull, total length, 190; basilar length of Hensel, 163; palatal length, 89; zygomatic breadth, 93; mastoid breadth, 59; length of crown of upper carnassial, 19.3.

The collector's external measurements of 7 adults are as follows: 3 males, total length, 1189 (1130, 1143, 1295); head and body, 855 (800, 838, 927); tail vertebræ, 334 (330, 305, 368); hind foot, 178 (given for one specimen only); ear from crown, 152 (1 specimen): 4 females, total length, 1123 (1105–1181); head and body, 806 (787–826); tail vertebræ, 341 (305–368); hind foot (not given); ear from crown, 138 (127–146).

Skull measurements of 4 males and 4 females: 4 males, total length, 195.6 (190–202); basilar length of Hensel, 170 (163–173); palatal length, 91.6 (89–93); zygomatic breadth, 93.5 (93–94); 2, the two largest being imperfect); mastoid breadth, 60.7 (59–62); length of crown of upper carnassial tooth, 19.7 (18.6–20.5): 4 females, total length, 190.5 (189–193); basilar length of Hensel, 166.3 (164.3–169); palatal length, 91.5 (90–94); zygomatic breadth, 95 (92–97); mastoid breadth, 59.4 (58–60.5); length of crown of upper carnassial, 18.3 (17.3–19.5). Six of the specimens are middle-aged adults; the other two (a male and female) are old adults with greatly worn teeth. In each case these two specimens are, respectively, the largest of the two series.<sup>1</sup>

The young specimens (so young that the eyelids remain tightly closed in the skins, even after the process of skinning) have the front of the head as far back as the eyes, including sides of nose and chin, blackish brown; the rest of the head and body dark buffy brown, nearly black along the median line of the back, lighter on the sides of the body and beneath, with a large white pectoral area, varying in size, shape, and in the purity of the white in different individuals; limbs and tail blackish, like the nose.

<sup>1</sup> The old male skull is especially interesting pathologically, on account of an accident, received apparently in early life, to the right side of the skull, resulting in a fracture of the zygomatic arch and serious injury to the right ramus. The broken parts of the arch became displaced and failed to unite, resulting in their partial atrophy and a marked asymmetry of the skull, including an axial curvature to the left. The axis of the right ramus is also curved inward instead of outward, and, with the loss of the last two pre-molars, has undergone more or less atrophy. Yet the specimen, in both external and cranial measurements, is the largest of the series. Externally the head shows no sign of injury.



Represented by 8 adults (7 skins and an additional skull) and 7 newly born young, collected as follows: Villa Ocampo, 2 males, Feb. 13; La Boquilla, 1 female, Feb. 14; Rio Sestin, 1 male and 2 females, April 16-19; Rancho Bailon, 1 female and 7 young (a few days old), May 8 and 14. The February specimens are in good pelage; the April and May ones are somewhat worn and faded.

It is with much hesitation that I add a new name in a group so imperfectly known as the Coyotes, but the present series of specimens from northwestern Durango are clearly not the *C. cagottis* of eastern Mexico, nor are they referable to *C. mearnsi* from southern Arizona. In some respects they combine the characters of both, but not in an intermediate sense.

In the valley of the Rio Sestin, says Mr. Batty in his notes, "the coyotes greatly annoy the ranchmen in the winter months. They are very bold, often entering corrals in the daytime, killing calves, sheep, and goats. I have known them to take small pigs from the steps of the squatters' huts." He also refers to a night attack on his camp by a pack of about twenty coyotes, who dragged away five deer skins from within twenty feet of where he was lying. Three paid the penalty with their lives and form part of the specimens above enumerated.

27. ***Mephitis macroura milleri* Mearns.**

Two specimens, females, collected, respectively, at Rio Sestin, April 17 (with *M. estor*), and at Rancho Bailon, May 4.

28. ***Mephitis estor* Merriam.**

Three specimens, 2 males and 1 female, collected as follows: La Cienega de las Vacas, 1 male, April 1; Rio Sestin, 2 (male and female), April 17.

29. ***Procyon lotor hernandezii* (Wagler).**

A single skull, "found on the prairie," at Rancho Santuario.

30. ***Myotis incautus* (F. A. Allen).**

Sixteen specimens: Rio Sestin, 2 (skins), April 16; San Gabriel, 14 (in formalin), June 16.

31. *Myotis californicus durangæ*, subsp. nov.

Type, No. 21459, ♀ ad., Rio Sestin, northwestern Durango, April 15; J. H. Batty.

Like *M. c. ciliolabrum* except in color. Upper parts pale fawn brown (between drab and ecru drab of Ridgway); under parts grayish white; fur at base everywhere dark plumbeous; ear brownish black, much paler than in *ciliolabrum*; muzzle blackish.

*Measurements*. — Type, total length, 76; tail vertebræ, 33; forearm, 33; longest finger, 54; tibia, 15; foot, 7; ears from meatus, 13.5. Five other specimens, collected at the same time and locality, vary but slightly from the above, the extremes varying only 4 mm. in total length and 2 mm. in the length of the forearm.

Represented by 6 skins and skulls taken at Rio Sestin, April 15, and 6 in formalin collected at San Gabriel, June 16.

This subspecies presents a very distinct type of coloration in the *Myotis californicus* group, intermediate between that of *M. c. mexicanus* and *M. c. ciliolabrum*, but very different from either. It agrees in size very closely with *ciliolabrum*.

32. *Vespertilio fuscus* (*Beauvois*).

Two specimens, Arroyo de Bucy, May 22 and 24. Expanse, 318 and 320. Not appreciably different from Arizona specimens.

33. *Antrozous pallidus* (*Leconte*).

- One specimen, adult male, Rio Sestin, April 13. Expanse, 362; total length, 102. Paler, and whiter below than Arizona and Texas specimens.

34. *Nyctinomus mohavensis* *Merriam*.

Three specimens, Rio Sestin, April 13 and 16. Provisionally referred to *mohavensis*.