Article VI.—LIST OF MAMMALS COLLECTED BY MR. CHARLES P. ROWLEY IN THE SAN JUAN REGION OF COLORADO, NEW MEXICO AND UTAH, WITH DESCRIPTIONS OF NEW SPECIES.

By J. A. ALLEN.

The collection of mammals forming the basis of the present paper was made in a triangular area at the junction of Colorado, New Mexico and Utah, in the valley of the San Juan River, by Mr. Charles P. Rowley, from March 12 to July 11, 1892, in connection with the 'Illustrated American' Exploring Expedition. The thanks of the Museum are due in this connection to the proprietors of the 'Illustrated American' magazine for inviting the Museum to send a representative to accompany its expedition, and for facilities afforded Mr. Rowley in prosecuting his work.

Mr. Rowley began work at Durango, Colorado (altitude, 6500 feet), March 12, and after spending a few days here moved south twenty miles to Aztec, New Mexico (altitude, 5900 feet), where he remained from March 17 to March 27. He reached La Plata, New Mexico (altitude, 6100 feet), twenty miles south of Aztec, March 30, and remained there two weeks. A few days (April 20–23) were spent at Nolan's Ranch, Utah (altitude, 5025 feet), sixty miles northwest of La Plata. Riverview, fifty miles further down the river, was reached April 25, where ten days were passed, when the party moved forty miles further down the San Juan to Bluff City (altitude, 4500 feet), Utah; here collecting was prosecuted till May 26. The expedition then returned to Durango, Colorado, the starting point, and disbanded. Mr. Rowley, however, remained in the field for another month, selecting Florida, La Plata Co., Colorado, eighteen miles east of Durango, and at an altitude of 7200 feet, as his field of operations.

Durango and Florida, in Colorado, and Aztec and La Plata, in New Mexico, are at about the lower border of the pine region in the mountains, while Nolan's Ranch, Riverview and Bluff City, in Utah, are in the open arid cañon country, with a very different

fauna from that met with at the points named in Colorado and New Mexico. In Utah the underlying rock is a light-colored soft sandstone, much cut by denudation into gorges, giving a whitish sandy soil, which supports the usual scanty semi-desert vegetation of cactuses, sage-brush and greasewood, and associated characteristic plants; in the more mountainous country to the eastward the soil is dark, and the vegetation is much more abundant, with pines and aspens on the higher slopes and cotton-woods and willows along the river bottoms. The Mice, Ground Squirrels and Pocket Gophers of the mountains are replaced in the open cañon country by not only very different species, but by species characterized by yellowish or bright tawny colors instead of the darker and more rufous tints of their representatives in the mountains to the eastward.

The collection obtained by Mr. Rowley numbers nearly 400 specimens, representing thirty species, while his note books refer definitely to a number of others not obtained. The collection includes two new and very distinct species of *Thomomys* (see *antea*, pp. 49–52), two new species of *Sitomys*, one of *Arvicola*, one of *Reithrodontomys*, and one of *Zapus*. The collection helps to determine the eastern limit of a number of Great Basin species, and the western limit of several of the mountain forms.

1. **Lepus sylvaticus,** subsp.?—Represented by a skull found at Aztec, N. Mex.

Mr. Rowley states that 'Cotton-tails' were not abundant, and that he saw but one, and that only two 'Jack Rabbits' were seen. The latter do not occur in the mountains, but are found lower down in the open country to the westward.

2. **Cariacus macrotis** (*Say*).—"Common at Florida in spring; pass lower down to winter" (Rowley, MS. notes). No specimens were obtained.

He also states that a few Elk (*Cervus canadensis*) still occur about Florida, and that Mountain Sheep (*Ovis canadensis* Shaw) are still taken at long intervals. "None seen or killed this year so far (July, 1892)."

3. **Erethizon epizanthus** *Brandt.*—La Plata, N. Mex., April 8, one specimen. Locally common.

4. Thomomys fossor *Allen.* — Florida, La Plata Co., Colorado, 5 specimens, June 21–26. (See *antea*, p. 51.)

5. Thomomys aureus *Allen.*—Bluff City, Utah, 14 specimens, May 10–24. (See *antea*, p. 49.)

6. Perognathus apache *Merriam.*—The series of 35 specimens of this species was all taken at Riverview, Utah, April 25 to May 4, where it was a common species, but apparently it was not met with at other points.

The identification has been made by direct comparison of some of the specimens with Dr. Merriam's type, which "came from the high mesa on the east side of the Painted Desert," Arizona, about 125 miles southwest of Riverview. The series presents considerable variation in color, even among the adults, the fulvous of the upper parts varying from pale to strong bright fulvous, generally much varied with black above the lateral line, but in one specimen bright fulvous predominates over the black, while generally the black greatly predominates over the fulvous. In very young specimens the fulvous is pale and limited mainly to the post-auricular patch, and the broad lateral line, the dorsal surface approaching an olivaceous gray finely and slightly varied with black. This coloration is seen in some nearly full-grown examples.

7. Perodipus ordii (*Woodhouse*).—Two specimens, male and female, Bluff City, Utah, May 16 and 17. Not common, and not met with elsewhere.

8. Zapus princeps, sp. nov.

Of the size of *Z. insignis* Miller, but with the dental formula of *Z. hudsonius*; quite different from either in coloration.

Above with the middle of the dorsal region pale yellowish brown, profusely mixed with blackish, so that sometimes the blackish color, sometimes the pale yellowish brown, predominates; sides of the body, forming a band on either side about equal to the dark dorsal band, yellowish brown slightly varied with blackish, except over a narrow lateral line adjoining the white of the lower parts which is clear strong yellowish brown; lower parts pure white to the base of the hairs, varying in some specimens to strong ochraceous; tail indistinctly bicolor—grayish white below and pale brown above, and very thinly haired; hind feet grayish white above, like the lower surface of the tail; ears narrowly edged with yellowish white.

Measurements.—Total length (from collector's measurements taken before skinning), 238 mm.; tail, 144; hind foot, 36; ear from crown (measured from skin), 12. (Average of 12 adult specimens, 7 ♂, 5 ♀.)

Skull, total length, 24.5; basilar length, 20.3; greatest cranial breadth, 11.5; least interorbital breadth, 5; length of nasals, 10.

Type, No. $\frac{52400}{41140}$, ♀ ad., Florida, La Plata Co., Colorado, June 27, 1892; coll. Charles P. Rowley.

This species about equals in size *Z. insignis*, 10 specimens of which average in total length 240 mm.; tail, 148; hind foot, 31.5; ear, 17.5. *Z. hudsonius* averages in length about 210, tail about 128, hind foot about 29.5, and ear about 14.[1] *Z. princeps* differs from both these species in its much paler coloration, and from *Z. hudsonius* in its much larger size, and from *Z. insignis* in the presence of a small upper premolar. Although this tooth, both absolutely as well as relatively, is smaller than in *Z. hudsonius*, it is uniformly present, while in *Z. insignis*, as shown by a large series of specimens, it is uniformly absent. This latter species also differs from both the others in its white-tipped tail, and the very large size of the ears.

Z. princeps is based on a series of 12 specimens, all adult, collected at Florida, La Plata Co., Colorado, June 22 to July 3, 1892, by Mr. Rowley.

The series is very uniform in coloration; some, however, are a little paler, or grayer in general effect, above than others, while one is strongly marked below with ochraceus, as is frequently the case in *Z. hudsonius*, in fresh pelage. As regards size, one (No. $\frac{52577}{41377}$, ♀ ad.) is much above the average, having a total length of 262 and the tail 168, the total length of the skull being 25.5 and the basilar length 21.

9. Arvicola (Mynomes) alticolus *Merriam.*—This species is represented by 11 specimens taken at Florida, La Plata Co., Colorado, June 17–July 4. They are nearly all adult, most of the six females being in breeding condition.

Nine adults give the following averages, based on measurements taken from the fresh specimens by the collector: Total length, 170 mm.; tail, 60; hind foot, 23.

[1] I am indebted to Mr. Gerrit S. Miller, Jr., of Cambridge, Mass., for the opportunity to examine not only the type of *Z. insignis* but also a large series of this species from Essex County, N. Y., and also a large series of *Z. hudsonius* from Massachusetts and New York, on which the preceding generalizations are mainly based.

In texture of pelage and coloration these specimens agree with two examples of *A. alticolus*, from San Francisco Mountain, Arizona, kindly loaned me for examination by Dr. Merriam, except in the color of the feet and tail, which in the Colorado specimens are slaty gray instead of brownish gray, as in the Arizona examples. The Colorado series apparently averages larger in general size, and may perhaps be subspecifically separable from *A. alticolus*.

10. Arvicola (Mynomes) aztecus, sp. nov.

Size large; pelage very full and soft; tail short; skull very narrow.

Above grayish brown with a tinge of pale buff; fur blackish plumbeous beneath the surface, tipped with pale yellowish brown, and varied with longer, projecting, black-tipped hairs; below grayish white, the fur plumbeous beneath the surface and tipped with white, giving a whitish gray effect. Feet dusky; tail dusky brown above, dull white below.

Measurements.—Total length (average of 5 specimens, from collector's measurements taken before skinning), 162 mm.; tail, 42; hind foot, 18; ear from crown (measured from skin), 7. The largest measurements are as follows: total length, 170; tail, 44; hind foot, 21.5; the smallest are respectively, 146, 35, 17.3. All the specimens are apparently fully adult.

Skull, total length, 28; basilar length, 27; greatest zygomatic breadth, 16; least interorbital breadth, 4; nasals, 8.2.

Type, No. $\frac{51770}{40550}$, ♂ ad., Aztec, New Mexico, April 23, 1892; coll. Charles P. Rowley.

This species is not only a member of the subgenus *Mynomes*, but belongs to the *riparius* section, the middle upper molar having the postero-internal loop characteristic of the *riparius* group. It is, however, somewhat larger, very different in coloration, and presents slight but obvious differences is details of cranial structure.

Arvicola aztecus is based on two specimens from Aztec, New Mexico, and three specimens from La Plata, New Mexico, collected April 20–May 9, 1892. I also refer to it a large *Arvicola* from Estes Park, Colorado, which I have before been unable to allocate. I am unable to find that it differs in any particular from the specimens from New Mexico.

The type and only positively identified specimen of Baird's *Arvicola modesta*, from Sawatch Pass, Colorado, is a very young specimen in poor condition. An examination of a series of adult

and young examples from the type locality will be necessary in order to determine its relationships to *A. alticolus* and *A. aztecus*. I am indebted to Mr. True for the opportunity of examining what remains of the type of *A. modesta*.

11. Onychomys leucogaster, subsp.?—One specimen, La Plata, N. Mex., April 4.

12. Sitomys[1] **sonoriensis** (*Le Conte*).—The Rowley Collection contains 186 specimens of *Sitomys*, 130 of which I refer to what is commonly recognized as *Sitomys sonoriensis*. These specimens were collected as follows: Durango, New Mexico, March 12 and 13, 4 specimens, all adults; Aztec, N. M., March 17–27, 14 specimens, all adults; La Plata, N. M., March 30–April 13, 52 specimens, 44 of which are adults and 8 young; Nolan's Ranch, Utah, April 20–22, 6 adults and 1 young; Riverview, Utah, April 25–May 4, 16 adults and 18 young; Florida, La Plata Co., Colorado, June 11–July 11, 9 adults and 10 young.

Aside from the young specimens, which show every phase of immaturity from half-grown individuals to those which have nearly lost the 'blue' coat characteristic of immaturity, the adults vary widely in color and considerably in size, even in series taken at practically the same date. Thus in the La Plata (N. Mex.) series, the white-rimmed ears and the sharply-bicolored tail are about the only color features that are constant; there is, however, usually a more or less prominent mixture of pure white hairs at the anterior base of the ears, but they are frequently absent. An average specimen may be described as pale grayish fulvous, much varied with black along the middle of the back, with less black and more strongly fulvous on the sides. In some specimens there is a conspicuous bright golden brown lateral line at the junction of the dark dorsal pelage with the pure white of the lower parts; while in other specimens, taken at the same place and on the same day, this bright fulvous lateral line is entirely wanting. In still other specimens a bright fulvous tint suffuses the whole dorsal surface, but is stronger and less obscured by blackish along the sides of the body than along the middle of the back. In other

[1] Dr. Merriam has recently shown that the name *Vesperimus* Coues, with which I proposed to replace *Hesperomys* (see this Bulletin, III, pp. 291–294), is antedated by *Sitomys* Fitzinger (Proc. Biol. Soc. Washington, VII, p. 27, April, 1892).

cases the fulvous tint is almost entirely lacking, the whole upper surface being pale grayish buff varied with black, giving almost an olivaceous effect. In other cases the general effect is more blackish; in others there is a pale chestnut or russet effect. Taking the series as a whole, it is evident that some of these effects are due to season—to wear and bleaching; but there is still left a wide range of color variation which has no very evident relation to sex, season, or locality; though possibly dependent to some extent upon age.

The collector's measurements of 40 adults, taken in the field before skinning, give the average total length (from the nose to end of the tail-hairs) as 6.15 in. (156 mm.), and of the tail alone (including hairs), as 2.65 in. (67 mm.). Few specimens fall below 6 inches in total length, and very few below 5.85, ranging from this up to 6.62, though rarely exceeding 6.50. The tail rarely falls below 2.40, and as rarely reaches 3.00, averaging 2.65. The average for head and body is about 90 mm., and for tail vertebræ alone, 63 mm.

Two breeding females preserved in alcohol have the teats $\frac{1-2}{1-2}$ =6, 2 of which are pectoral and 4 inguinal.

This species was very common at the points visited in Colorado and New Mexico, in the partially wooded districts, but not found in the desert country about Bluff City.

13. Sitomys auripectus, sp. nov.

About the size of *Sitomys sonoriensis*, with larger and more naked ears, much longer, more heavily clothed and less sharply bicolor tail, which is conspicuously tufted at the end; general color above paler or more yellowish, and less varied with black.

Above pale yellowish brown, or golden brown, slightly varied with blackish-tipped hairs along the middle of the dorsal region; sides of the body, from the cheeks to the rump, clear strong golden brown, this color extending to the carpal and tarsal joints; below pure white, with a broad roundish pectoral patch of yellowish brown, like that of the flanks; basal half of all the hairs plumbeous; tail white below, pale brown above, darkening to blackish apically, thickly haired throughout, the hairs above very long towards the tip of the tail and terminating in a conspicuous brush or heavy pencil of blackish hairs, fully half an inch in length; ears pale brown, with a narrow whitish rim, nearly naked, being very thinly covered with very short hairs on both surfaces; a very narrow, indistinct blackish eye-ring. Proximal third of soles clothed, but less heavily than in *S. sonoriensis*.

Measurements.—Total length (collector's measurements taken before skinning), 172 mm. ; tail, 93 ; hind foot, 22 ; ear from crown (taken from skin) 16. (Average of 10 specimens.)

The skull is similar in size and general form to that of *S. sonoriensis*, and apparently affords no diagnostic characters. Total length, 24.5 ; basilar length, 21 ; greatest cranial breadth, 12.5 ; least interorbital breadth, 5 ; length of nasals, 10.5.

Type, No. $\frac{5117}{3997}$, ♀ ad., Bluff City, Utah, May 14; coll. Charles P. Rowley.

This species is represented by 13 adult and 5 immature specimens, collected at Bluff City, May 8–17. The adults are very uniform in size and coloration, except that the bright yellowish breast patch is indistinct in one of the specimens, apparently quite absent in two others, and strongly developed in eleven. The young specimens are similar to the young of *S. sonoriensis* in corresponding stages except that they are somewhat grayer and paler. Two breeding females in alcohol have the teats $\frac{2}{2}$, all inguinal.

This species is not closely related to any other previously described. Its large ears, bushy tail, yellow breast spot and pale golden brown color are distinctive features. It does not, however, belong to the big-eared section of the genus, containing *S. truei*, *S. megalotis*, *S. nasutus*, etc. The proximal third or half of the soles is well clothed with short, silky, yellowish white hairs, the covered portion extending in some specimens as far as the first tubercle ; in others it is less extended.

14. Sitomys rowleyi, sp. nov.

Somewhat similar to *S. auripectus* in general characters, but much larger, less yellowish above, and without the pectoral spot ; soles wholly naked as in *S. eremicus*.

Above dull pale grayish cinnamon brown, varied slightly with blackish-tipped hairs, passing into a band of yellowish cinnamon along the sides of the body ; beneath white, the basal portion of the hairs plumbeous ; tail indistinctly bicolor—dull pale brown above and whitish below—well haired and with a conspicuous terminal pencil. The ears are large, naked, and not obviously edged with white. Teats $\frac{2}{2}$, inguinal.

Measurements.—Total length (collector's measurements taken before skinning), 201 mm. ; tail, 106 ; hind foot, 23 ; ear from crown (taken from skin), 15–18. (Average of 12 adults, 6 ♂, 6 ♀.)

Skull, total length, 27 ; basilar length, 23 ; greatest cranial breadth, 13 ; least interorbital breadth, 11 ; length of nasals, 5.5. The skull is much larger than in either *Sitomys sonoriensis* or *S. auripectus*, and differs from them in slight details of structure.

Type, No. $\frac{5070}{39550}$, ♂ ad., Nolan's Ranch, Utah, April 20, 1892 ; coll. Charles P. Rowley.

This species is based on a series of 25 specimens, of which 5 were collected at Nolan's Ranch, April 20–21, and 20 at Bluff City, May 8–24. Of this number 18 are fully adult and present little variation. A full-grown young specimen is nearly uniform mouse gray above, with an indistinct narrow lateral line of yellowish brown. Very young specimens are grayish plumbeous, lighter and more silvery than young of corresponding ages of either *S. sonoriensis* or *S. auripectus*. None of the series shows any trace of the fulvous pectoral spot of *S. auripectus*.

S. rowleyi is very distinct from any other member of the genus known to me. It has a superficial resemblance to *S. auripectus*, but it is a much larger animal and very differently colored, at all ages. It is less yellow above and wholly lacks the pectoral spot ; the tail and soles are rather less hairy.

In their large naked ears, partly naked soles, and long tails both *S. rowleyi* and *S. auripectus* would seem to belong near *S. eremicus*, which they resemble in proportions, rather than with *S. sonoriensis*, but neither is in any way very closely allied to *S. eremicus*.

Some years since a series of 14 mice was received at the Museum from Mr. W. E. D. Scott, collected in October, November and December, 1885, in Pinal County, Arizona, which were provisionally referred to *S. eremicus*. They presented, however, a wide range of variation in color, hairiness of tails and soles, and in size, which rendered them very puzzling. A re-examination of the series in the light of present material shows that only ten of them are to be referred to *S. eremicus*, the other four being apparently referable to the present species, which thus has probably quite a range to the southward.

Since the above was written the Museum has received a series of 12 specimens of *Sitomys*, collected at Bradshaw City, Arizona,

in January and February, 1890, by Mr. H. H. Keays, which are also referable to this species.

This species is named for Mr. Charles P. Rowley, whose collection here under notice has proved so rich in new forms and other valuable material.

15. Sitomys truei (*Shufeldt*).

Hesperomys truei SHUFELDT, Proc. U. S. Nat. Mus. VIII, p. 407, pl. xxi, Sept. 1885. (Fort Wingate, N. Mex.)

? Hesperomys megalotis MERRIAM, N. Am. Fauna, No. 3, p. 64, pll. iii and iv, Sept. 11, 1890. (Black Tank, Little Colorado Desert, Arizona.)

Eight specimens collected as follows: 2, Aztec, New Mexico, March 20; 6, La Plata, N. Mex., April 2–8.

Aztec is only a few miles south of the northern boundary of New Mexico; La Plata is about thirty miles south of Aztec, and both are near the Arizona line. Fort Wingate is about one hundred miles (probably a little less) south of La Plata, and about one hundred miles or so east of the type locality of *H. megalotis* Merriam, who refers to "specimens of the same or a closely-related form" from Moccasin Springs, Arizona, near the boundary line of Utah and Arizona.

Through Dr. Merriam's kindness I have two of his original specimens (Nat. Mus. Nos. $\frac{17922}{2483}$ and $\frac{17944}{2485}$) for comparison with the Rowley series, which I am unable to distinguish as in any way different. The Rowley series is from near the type locality of *H. truei*, and is practically identical with the type, with which, through the kindness of Mr. True, I have been able to compare them.

Vesperimus nasutus Allen, from Estes Park, Colorado, is evidently nearly related to *S. truei*, as already pointed out (this Bulletin, III, p. 300).

Hesperomys crinitus Merriam, from Shoshone Falls, Idaho, proves to be apparently the same as *S. nasutus*, the latter name, however, having a few weeks priority, the two names being published nearly simultaneously. This shows that the big-eared *truei* group of *Sitomys* has a wide geographical range, although everywhere apparently affecting similar situations—cañons or rocky gorges.

16. Reithrodontomys[1] megalotis (*Baird*).

Reithrodon megalotis BAIRD, Mam. N. Am. 1857, p. 451 ; Zoöl. Mex. Bound. Sur., Mam. 1859, p. 43, pl. vii, fig. 4, feet and ear, pl. xxiv, fig. 4, skull. (Between Janos, Sonora, and San Luis Springs, N. Mex.)

I refer provisionally 13 specimens to this species, taken as follows: La Plata, N. Mex., 7 specimens (including three in alcohol), March 30—April 11 ; Aztec, N. Mex., 2 specimens, March 19 and 20 ; Riverview, Utah, 1 specimen, April 25 ; Bluff City, Utah, 1 specimen, May 18.

Through the kindness of Mr. True I have the skull of Baird's type for comparison with the present series, and I am unable to perceive any differences other than smaller size. Unfortunately the skin of the type, Mr. True writes me, has been mislaid, and thus is not available in this connection. The series of specimens mentioned above seems to agree closely with Baird's description of his *R. megalotis*, so far as proportions and coloration is concerned, but the measurements taken by the collector from the fresh specimens considerably exceed those given by Baird. The subjoined description was drawn up some time since, under the impression that *R. megalotis* would prove more different from the Rowley specimens that seems to be the case.

As the type locality of *R. megalotis* is near Janos, not far from the boundary line between Sonora and New Mexico, some four hundred miles south of La Plata and Aztec, and in a zöologically quite different region, I have thought best to append the following, in view of the probability that the two forms will prove at least subspecifically separable.

Reithrodontomys aztecus *Allen* MS.

Color above almost exactly like that of an average fully adult house mouse (*Mus musculus*), but with the pelage softer and fuller, and rather more yellowish on the flanks ; below clear grayish white, the fur plumbeous at base and white apically ; tail indistinctly bicolor, pale brown above, grayish white below ; ears concolor with the general tint of the dorsal surface, very scantily haired externally, nearly naked within. Feet dull whitish ; hind feet with the soles well clothed posteriorly, naked anteriorly.

[1] As pointed out by Dr. Merriam *Reithrodontomys* Giglioli (1873) antedates *Ochetodon* Coues (1874). (*Cf.* Merriam, Proc. Biol. Soc. Washington, VII, p. 26 (footnote), April, 1892.)

Measurements (average of 7 adults, from collector's measurements taken before skinning).—Total length, 135 mm. ; tail, 65 ; hind foot, 18 ; ear from crown (average from skin), 12.

Skull, total length, 21 ; basilar length, 19 ; greatest cranial breadth, 11 ; least interorbital breadth, 4 ; length of nasals, 8.

Type, No. $\frac{5162}{4042}$, ♂ ad., La Plata, N. Mex., April 11, 1892 ; coll. C. P. Rowley.

From Dr. Coues's scanty material he was led to assume (Mon. N. Am. Roden., 1877, pp. 125, 126) that "the *Reithrodon megalotis* is the same as *O. humilis*," and on this account apparently gave the habitat of the latter as extending from the "Gulf States into Sonora." They prove, however, to be as unlike in both size and coloration as two congeneric species can well be expected to be ; and I have seen no evidence that *R. humilis* extends even into Texas.

NOTE ON **Reithrodontomys montanus** (BAIRD).—Through the kindness of Mr. True, I have the skin of the type specimen of Baird's *Reithrodon montanus;* the skull, however, is at present unavailable for examination. Although probably not fully mature, it is evident that it represents a species quite unlike either *R. humilis* of the East or *R. megalotis*. Dr. Coues was led to suspect (Mon. N. Am. Roden., p. 130) that the specimen had been immersed in alcohol, and it certainly has that appearance, though not so stated by Baird. The underparts, described originally as "dull whitish," are now yellowish, as though stained either by alcohol or insect powder. The specimen was taken on Capt. Beckwith's Expedition, from what is now eastern Kansas up the Arkansas River and across the divide between the headwaters of the Arkansas and the Grand Rivers, and thence westward. The locality given for the type of *R. montanus* is simply "Rocky Mountains, Lat. 38°." Evidently the type locality was not known, even to Baird, and may have been east of the Rocky Mountains. This seems not improbable from the fact that a species of *Reithrodontomys*, entirely different from either *R. humilis* or *R. megalotis*, occurs in both Kansas and Colorado; it greatly resembles Baird's *R. montanus*, as shown

by actual comparison of specimens. In comparison with all of the other known species of the genus, the ears are small and thickly covered with short coarse hair, and the anterior third of the outer surface is occupied by a well-defined blackish spot, conspicuously in contrast with the rest of the outer surface of the ear, which is yellowish brown. This spot is less strongly marked in Baird's type than in other specimens from both Kansas and Colorado, and is not mentioned in Baird's description. I have therefore no hesitation in recognizing *Reithrodontomys montanus* (Baird) as a well-marked, valid species, which will probably be found to range from the eastern base of the Rocky Mountains eastward to middle Kansas.

17. Neotoma mexicana *Baird.*—One specimen, La Plata, N. Mex., April 4.

18. Mus musculus *Linn.*—Florida, La Plata Co., Col., 13 specimens, June 11–July 1.

19. Castor canadensis *Kuhl.*—No specimens taken, but Mr. Rowley reports them (MS. notes) as occurring in numbers along the Florida, Animas, Mancos, and San Juan Rivers.

20. Arctomys flaviventer *Aud. & Bachm.*—An adult female, Florida, La Plata Co., Col., June 16, is provisionally referred to this species. It is, however, very unlike Sierra Nevada specimens commonly referred to this species. "Woodchucks scarce, the only one found was up near timber line. They keep very high up." (Rowley, MS. notes.)

21. Cynomys gunnisoni *Baird.*—Two specimens, Cortez, Col., and Aztec, N. Mex. Also a weathered skull from Aztec. These were the only specimens seen, no villages being met with throughout the journey of nearly 400 miles.

22. Spermophilus grammurus (*Say*).—The six specimens in the collection all belong to one family, consisting of an adult male and female and four young, collected at Florida, La Plata Co., Col., June 25–29. No others were seen, and the species was unknown to the ranchmen of the region.

23. Tamias lateralis (*Say*).—A series of 36 specimens from Florida, La Plata Co., Colorado, collected June 11 to July 11, including all sizes and conditions from quarter-grown young to adults, in pre- and post-breeding pelage. The pre-breeding pelage is shown by a female, taken while still nursing young, which is in faded, much worn coat, with no traces of the new coat. It is very pale throughout, in strong contrast with the freshly-molted examples, in which the whole upper parts are much darker—blackish, finely varied with rusty gray, especially anteriorly; the lateral stripes and sides of the belly are grayish white instead of yellowish white; the sides of the shoulders are only slightly washed with yellowish instead of being deep reddish orange, resulting in a very different and strongly contrasting general effect. Others present a patchy condition, in which the new coat is more or less irregularly displacing the old. Most of the July specimens have fully acquired the new coat. The young in first pelage have a much thinner, softer, paler coat than the post-breeding adults.

Very common about Florida, but less numerous than *T. quadrivittatus.*

24. Tamias leucurus cinnamomeus *Merriam.*—A series of 14 specimens from Bluff City, Utah, May 9–25. They are mostly in worn, patchy, transition pelage, and show both the pre- and post-breeding pelages. One has nearly completed the molt, and one is a quarter-grown young one.

Compared with a series of true *T. leucurus* from San Diego Co., Cal., the difference in color between the two forms is very striking, as pointed out by Dr. Merriam in his description of *T. l. cinnamomeus.* (*Cf.* N. Am. Fauna, No. 3, 1890, p. 52.)

Reported as met with only in the open cañon country about Bluff City.

25. Tamias quadrivittatus gracilis *Allen.*—Bluff City, Utah, 9 specimens, May 9–21. They are mostly in worn, transition pelage, showing a mixture of both pre- and post-breeding coats. One has nearly completed the new coat.

These specimens agree very closely with the San Pedro, N. Mex., series on which this very striking form was originally based (this Bull., III, pp. 99–101).

26. Tamias quadrivittatus (*Say*).—A series of 49 specimens, collected at Florida, La Plata Co., Colorado, seem to be typically referable to true *T. quadrivittatus*. It consists of both young and adults, the latter in molt.

Very common in the pine belt about Florida, among rocks and in the ground, but readily took to trees when pursued. (Rowley, MS. notes.)

27. Sciurus aberti *Woodhouse*.—One specimen, ♀ ad., Florida, La Plata Co., Colorado, June 21. Very rare. This was the only specimen seen, and the species was not known to the residents of the region.

28. Antrozous pallidus (*Le Conte*).—Two specimens, Bluff City, May 18 and 25.

29. Vesperus fuscus (*Beauvois*).—Two specimens, Bluff City, Utah; one specimen, Florida, La Plata Co., Col.

30. Vesperugo hesperus (*H. Allen*).—Three specimens, Riverview, Utah, May 25.

31. Vesperugo (Lasionycteris) noctivagans *Le Conte*.—Two specimens, Florida, La Plata Co., Col., June 30.

32. Vespertilio lucifugus *Le Conte*. — Three specimens, provisionally referred to this species, Bluff City, May 11 and 16.

33. Lutreola vison (*Schreber*).—One specimen, La Plata, N. Mex. "Minks are quite plentiful on all the streams of this region, but I was only lucky enough to catch one, on the La Plata River" (Rowley, MS. notes).

34. Felis concolor *Linn.*—"Scarce about here (Florida); one was killed at the head of Florida Creek in February, 1892" (Rowley, MS. notes).

In addition to the foregoing Mr. Rowley refers in his notes to the occurrence of other species he was unable to obtain, as Badgers, which he trapped for unsuccessfully, and Lynxes ("scarce in the mountains about Florida"), Gray Foxes, and Skunks. He reports "Cinnamon Bears," in the mountains about Florida, but "no Grizzlies."