Article II.—DESCRIPTIONS OF FIVE NEW AMERICAN RODENTS.

By J. A. Allen.

Lepus americanus phæonotus, subsp. nov.

Summer Pelage.—General color above pale yellowish gray varied strongly with black; top of head more strongly suffused with fulvous; an indistinct blackish median dorsal line; ventral surface white, with a yellowish brown pectoral band.

Winter Pelage.—Similar to that of *L. americanus*, except that the zone of fulvous underfur is paler and less extended, and the white tipping of the hairs is much longer.

Length, 488; tail vertebræ, 56; ear from crown, 88; hind foot, 139. (This is the largest specimen of the series, and the only one having the collector's measurements.)

Type, $\frac{4481}{8806}$, ♂ ad., Hallock, Kittson Co., Minn., Nov. 19, 1891. Collected and presented by Dr. Edgar A. Mearns.

L. americanus phæonotus differs from *L. americanus*, from Northern New Brunswick, in being somewhat smaller, and in the grayish general effect of the summer pelage, in contrast with the strong yellowish brown of *L. americanus*. In general it shows a decided deviation, in both size and coloration, towards the *Lepus bairdi* group.

This Hare is represented by 4 specimens (in changing pelage) from Kittson Co., Minnesota, collected Nov. 19–22, 1891, by Dr. E. A. Mearns; by a young specimen from Mora, Kennebec Co., Minnesota, collected June 15, 1889, by Dr. Mearns; and by 4 in winter pelage from Moore's Lake, Todd Co., Minnesota, collected in December, 1874, and January, 1875, by J. H. Batty. The Todd County specimens, from near the southern boundary of the range of this form, have the underfur less pale and the overlying white less developed than in the Kittson County examples.

Lepus bishopi, sp. nov.

Size small; ears very small; hind foot, 115, as against 130 in *L. a. phæonotus* and *L. americanus*.

Summer Pelage (somewhat worn).—Above grayish brown tinged faintly with

pale yellowish, with a well defined, rather conspicuous median longitudinal blackish stripe; sides pale buffy gray; below white, with a broad pale yellowish brown pectoral band; inner sides of hind limbs whitish; of fore limbs whitish on proximal half; outer surface of fore limbs strong yellowish brown, of hind feet yellowish brown apically, yellowish brown mixed with white proximally, with the edge of thighs fulvous; head yellowish brown, brighter than the general dorsal surface; ears externally like the head for the basal half, passing into black apically, with a narrow fringe of white on outer border.

Length (approximate from skin), 350; tail vertebræ, 45; hind foot, 115; ear from crown, 55. Skull, total length, 75; zygomatic breadth, 35; mastoid breadth, 29; interorbital breadth, 18; width of postorbital constriction, 13; length of nasals, 28.

Type, No. $\frac{1}{9}\frac{0}{0}\frac{7}{9}\frac{9}{4}\frac{6}{}$, ♂ ad., Mill Lake, Turtle Mountains, North Dakota, July 12, 1895. Collected and presented by Dr. L. B. Bishop, after whom the species is named.

Unfortunately *L. bishopi* is represented by only a single specimen, which differs so much from any form of the *L. americanus* group as to need no comparison with any of them, though most resembling *L. a. phæonotus*. In general features it more strongly recalls the *L. bairdi* group, but is darker even than the Colorado phase of *L. bairdi*, the only form of the group of which I have summer specimens. It is especially characterized by its remarkably small, narrow ears, which are smaller than in *L. mearnsi* of the Cotton-tail group.

Lepus floridanus chapmani, nom. nov.

Lepus sylvaticus bachmani ALLEN, Bull. Am. Mus. Nat. Hist. VI, 1894, 170; *ibid.* VIII, 1896, 56. Not *Lepus bachmani* Waterhouse, 1838 = *L. trowbridgei* Baird, 1855.

In 1894 (*l. c.*) I adopted, following Baird, the name *Lepus bachmani* Waterhouse for the Texas Cotton-tail, considering that the type locality was probably Texas rather than California, as doubtfully given in the original description (P. Z. S., 1838, p. 104). Mr. Oldfield Thomas has recently (Ann. and Mag. Nat. Hist. (7), II, Oct., 1898, p. 320) announced that "on an examination of the type [of *L. bachmani*] now in the British Museum, I find that it is certainly a California hare . . . for, without any room for doubt, it proves to be the species commonly known as *L. trowbridgei*, Baird." A reëxamination of Waterhouse's description shows, rather through omission of prominent features

of coloration of the Texas Cotton-tail than by the characters given, that it really better fits *L. trowbridgei* than the Texas species, especially now that we can allow full weight to the small size given by Waterhouse for *L. bachmani.*

In renaming this strongly marked form it gives me pleasure to connect with it the name of my valued colleague, Mr. Frank M. Chapman, whose Corpus Christi collection, made in 1891, contained the first specimens of this form received at this Museum. I also take as the type of *L. chapmani* specimen No. $\frac{3}{2}\frac{0}{0}\frac{0}{8}\frac{0}{3}$, ♂ ad., taken by Mr. Chapman at Corpus Christi, Texas, April 10, 1891.

Mr. Thomas having also shown (*l. c.*, p. 319) that the *Lepus sylvaticus* Bachman, 1837, is preoccupied by a *Lepus borealis sylvaticus* Nilsson, 1832, a new name for the group becomes necessary, and Mr. Thomas has suggested for it *Lepus nuttalli* Bachman, 1837, the type locality of which is "the Plains of the Columbia." As it is evident that true *nuttalli* is not a member of the '*sylvaticus*' group, as now understood, I adopt for the group, in place of *sylvaticus*, the name *floridanus* (*Lepus sylvaticus floridanus* Allen), the next in date, given in 1890 to the form from Southern Florida. The eastern Cotton-tails will therefore stand apparently as below, with the type localities as there indicated.

1. *Lepus floridanus* (Allen), 1890. Sebastian River, Brevard Co., Florida.

2. *Lepus floridanus mearnsi* (Allen), 1894. Fort Snelling, Minnesota.

3. *Lepus floridanus transitionalis* (Bangs), 1895. Liberty Hill, Conn.

4. *Lepus floridanus alacer* (Bangs), 1896. Stilwell, Indian Territory.

5. *Lepus floridanus mallurus* (Thomas), 1898. Raleigh, North Carolina. (= *Lepus sylvaticus* Bachman, 1837, preoccupied by *Lepus borealis sylvaticus* Nilsson, 1832. *Cf.* Ann. and Mag. Nat. Hist. (7), X, Oct., 1898, p. 320.)

Thomomys fulvus alticolus, subsp. nov.

Similar in size and cranial characters to *Thomomys fulvus anitæ*, but much darker and less fulvous in coloration. Above yellowish brown much varied with black, darkest along the median line. The usual dusky spot at posterior

base of ear; nose and edges of cheek pouches blackish. Below strongly washed with reddish fulvous, the hairs plumbeous for the greater part of their length; inside of cheek pouches and anal region white. Tail and upper surface of feet whitish or grayish white, the tail thinly haired.

Total length (collector's measurements) of type, 225 mm.; tail, 61; hind foot, 30. Three specimens (2 ♂ ♂, 1 ♀) measure: Total length, 216 (207–225); tail, 62 (61–63); hind foot, 30 (28–31).

Type, No. 415, collection of W. W. Price, ♂ ad. Collected by D. Coolidge, in Sierra Laguna (altitude 7000 feet), Lower California, July 10, 1896. (Type in British Museum.[1])

For the opportunity of examining these specimens I am indebted to the kindness of Mr. Oldfield Thomas, who, in sending them with other Lower California and Mexican material for determination, thus comments on their relationship to *T. fulvus anitæ:* "Presuming that all the Lower California *Thomomys* were the same I had not sorted them by localities, but on doing so for registration it comes out at once that the Sierra Laguna specimens are strikingly darker in color than the Santa Anita and San José del Cabo ones, so much darker that they must evidently be looked upon as distinct. The Sierra Laguna specimens come from an altitude of 7000 feet, the Santa Anita and San José ones from near the sea level." He adds: "I send 3 specimens, the brightest and lightest of 12. . . . No. 415 [here taken as the type] is about the average color, though several are darker, and one quite blackish. The Santa Anita specimens are all identical, and can be distinguished at a glance from those from Sierra Laguna."

This form is darker and much less gray than my *T. fulvus martirensis*, from the San Pedro Martir Mountains of Lower California, and also very much smaller. The question of whether these two mountain forms should not be treated as specifically distinct, not only from each other but from *T. fulvus*, must be left in abeyance, owing to the absence of proper material to show their relationships.

[1] I take this opportunity to correct an error in the introduction to my paper (this Bull., Vol. X, 1898, p. 143) published last year, in which several species were described from material kindly submitted by Mr. Oldfield Thomas for determination. In the "set of duplicates" retained by this Museum, the types of the new species were not included, as there stated, but were all returned to the British Museum.

Reithrodontomys tenuis, sp. nov.

Similar to *Reithrodontomys fulvescens*, but much smaller and not so gray, with a much less hairy tail.

Above yellowish brown, finely lined with black; sides fulvous, forming a broad lateral line, poorly defined above, very prominent on the cheeks below the eyes. Below soiled grayish white (in one specimen slightly tinged with fulvous), the hairs pale plumbeous at base. Ears dusky externally, reddish within, covered with fine short hairs, with a reddish tuft at the anterior base. Tail grayish brown, slightly darker above than on the sides and below. Feet soiled white.

Total length (collector's measurements) of type, 152 mm.; tail, 81; hind foot, 20; ear, 15. Three specimens (2 ♂ ♂, 1 ♀) measure: Total length, 160 (152–170); tail, 87 (82–90); hind foot, 20; ear, 15.

Type, No. 217, Coll. W. W. Price, ♀ ad., Rosario, Sinaloa, Mexico, March 11, 1897. Collected by P. O. Simons. (Type in British Museum.)

This species is more nearly related to my *R. fulvescens*, from Oposura, Sinaloa, Mexico, than to any other yet described. It is, however, much smaller, being intermediate in size between this species and *R. longicauda*, the total length being 160, and the length of tail 87, as against 176 and 100, respectively, in *R. fulvescens*. The general coloration is also more strongly fulvous above, particularly posteriorly, and there is a tendency to a fulvous tinge below in contrast with the clear white of the lower parts in *R. fulvescens*. It needs no comparison with any member of either the *R. mexicanus* or *R. longicauda* groups. The skull presents nothing diagnostic.

I am indebted to Mr. Oldfield Thomas for the opportunity to examine the three specimens on which this species is based.

Peromyscus texanus subarcticus, subsp. nov.

Peromyscus leucopus arcticus ALLEN, Bull. Am. Mus. Nat. Hist. VII, 1895, 268; *ibid.* VIII, 1896, 252. (Not *arcticus* of Mearns.)

Intermediate in size and coloration between *P. texanus nebrascensis* and *P. texanus arcticus* but very different from either.

Above dusky brown suffused with very pale fulvous, darker and more blackish over the middle of the back, more fulvous on the sides; feet and lower parts pure white; tail sharply bicolor, the middle third above blackish brown; sides and beneath white; ears dusky, narrowly edged with white.

Total length (of type), 165; tail vertebræ, 66; hind foot, 19. Average of three specimens from the type locality (Deerlodge Co., Montana), total length, 162; tail vertebræ, 61; hind foot, 19.2.

Type, $\frac{10107}{8411}$, ♀ ad., Aug. 13, 1894. Collected by Prof. L. L. Dyche.

P. t. subarcticus differs from *P. t. arcticus* in the general effect of the color of the upper parts being dusky brown instead of blackish brown, in the much more heavily clothed tail, and smaller size (in the average of specimens referable to this form). It differs from *P. t. nebrascensis* in being dusky brown above instead of cinnamon brown.

I refer to this form not only the Black Hills (South Dakota) specimens formerly referred by me (*l. c.*) to *arcticus*, but also a series of six specimens collected at Osler, Saskatchewan (received in exchange from Mr. O. Bangs). The latter agree exactly in color with the Montana series of *subarcticus*, but not at all well with the series from the Upper Liard River region in the Stone collection (see above, p. 8), which are fresh, unfaded specimens of true *arcticus*. The Black Hills specimens are not all typical, some of them decidedly approaching *P. t. nebrascensis*, while others are quite like the Montana and Saskatchewan examples. To *subarcticus* must also be referred the specimens from Colorado, Wyoming, and Utah, formerly placed by me under *arcticus* (*l.c.*).

Sciurus chapmani, sp. nov.

Sciurus æstuans hoffmanni ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, 209; *ibid.* IX, 1897, 17. (Not of Peters, 1864.)

Similar to *Sciurus hoffmanni* (Peters) but smaller and differing in color and in cranial characters.

Above nearly uniform dull yellowish brown finely varied with black, the hairs individually plumbeous at base, and annulated on the apical half with pale fulvous and black, with the tip usually black; the sides of the body are uniform with the back, there being no tendency to a darker median band. Below reddish fulvous, varying in different individuals from pale orange to deep reddish orange, lighter on chin and throat. Outer surface of limbs and feet like the dorsal surface; inner surface of same like the ventral surface. Tail dark brown above, the hairs tipped and the edges of the tail fringed broadly with dark chestnut red; the hairs individually are ringed with two bands of pale fulvous alternating with two of black, besides the red tipping, the two outer bands being broader than the two inner; these bands are hidden on the dorsal aspect by the red tips of the hairs, but below are plainly visible.

Total length (collector's measurements) of type, to end of tail vertebræ, 370 mm.; tail vertebræ, 162; hind foot (with claws), 46; ear, 19. A series of 7 adults (2 ♂ ♂, 5 ♀ ♀) measure as follows: total length, 376 (367–390); tail vertebræ, 174 (162–192); hind foot, 46 (44–48); ear, 19 (18–20).

Skull, total length, 49; width behind postorbital processes, 17.6 (average of 5 adult skulls).

Type, No. $\frac{7888}{6880}$, ♂ ad., Caparo, Trinidad, March 19, 1894. Collected by Frank M. Chapman.

This species differs from *Sciurus hoffmanni* (Peters) in being less dark above, in the rather brighter tint of the under parts, and in the red of the tail being of a much darker shade,—chestnut red instead of orange red. It is also somewhat smaller. In *S. chapmani* the rostral portion of the skull is narrower, and the fronto-parietal suture is transverse or a little concave anteriorly, while in *S. hoffmanni* there is a sharp convexity backward at the median line.

Both *S. hoffmanni* and *S. chapmani* differ very strongly from the Brazilian *S. æstuans* in much larger size and much deeper colors, particularly of the underparts and the tail.

The series of Trinidad Squirrels on which the present species is based were referred provisionally in 1893 (*l. c.*) to *Sciurus æstuans hoffmanni* Peters, with the remark that these ten specimens "prove to be much nearer subspecies *hoffmanni* from Costa Rica, both in size and coloration, than to the true *æstuans* of Brazil, although clearly intermediate between the two, as respects both size and coloration." While this statement is true, an examination since of considerable additional material from Costa Rica, Colombia, and Brazil, renders it evident that the Trinidad form is sufficiently distinct to warrant recognition as an insular form of the group. It is furthermore evident that true *æstuans* and *hoffmanni* should be recognized as distinct species. At least I have seen no specimens that connect the two forms.

This species is named for my colleague, Mr. Frank M. Chapman, in recognition of his important contribution to our knowledge of Trinidad mammals and birds.