DESCRIPTIONS OF NEW MAMMALS FROM FLORIDA AND SOUTHERN CALIFORNIA.

BY SAMUEL N. RHOADS.

1. **Atalapha borealis seminola** subsp. nov. Type, ad. ♂, No. 649, Col. of S. N. Rhoads, Tarpon Springs, Hernando Co., Florida. Col. by W. S. Dickinson, July 12, 1892.

Description.—Somewhat smaller than *A. borealis* with a relatively larger foot. Body colors above, from crown to tip of tail, including ears, feet, interfemoral membrane and hairy spaces at upper base of pollex and on proximal upper margins of the fifth metacarpal, uniform, cinnamon-brown, sparingly and minutely tipped with ash on the cervical, dorsal, and anterior interfemoral regions. Forehead, cheeks, and chin, yellowish-brown. Throat, neck, and breast, like back but more strongly tipped with ash. Abdomen like chin; hairy lower surfaces of wings cinnamon along sides of body, fading to orange-brown at the bases of metacarpals. Ear membranes dark brown, postbrachial membranes but slightly darker than in *borealis*, the antebrachial decidedly darker; interfemoral membrane nearly naked above on the distal third, the inferior hairy space at root of tail being less extensive than in *borealis*. Basal half of body hairs sooty, the light interspaces occupying one-fourth, the cinnamon band and ashy tip the remainder.

Measurements.—Total length, 95 mm.; tail vertebræ, 40; hind foot, 10:— (average of 3 adults—length, 90; tail, 43; foot, 10: average of five *A. borealis*—length, 100; tail, 50; foot, 8.5). Skull of type—Naso-occipital length, 11.2; zygomatic width, 9.2; postpalatal notch to foramen magnum, 5.8; length of mandible, 9.3.

It has long been known that specimens of the Red Bat from Florida were unusually dark colored but it was supposed that this was an inconstant variety of the northern form. Several specimens from Tarpon Springs, in my collection, all show the same peculiarities of coloration, and, in a recent paper,[1] I referred them doubtfully to *A. pfeifferi* of Cuba, not having specimens of the Cuban form for com-

[1] "Contributions to the Mammalogy of Florida," Proc. A. N. S., 1894.

parison. Since then Mr. Chapman[2] has not only stated that the Florida specimens examined by him are darker than typical *borealis* but that *pfeifferi* differs from *borealis* in its "brighter" colors. This statement removes the last objection to recognizing the Florida Red Bat as a well-marked and hitherto undefined subspecies of *Atalapha borealis*.

2. **Peromyscus insignis** sp. nov. Type, ad. ♂, No. 1,308, Col. of S. N. Rhoads, Dulzura, San Diego Co., California. Col. by Charles Marsh, Aug. 21, 1893.

Description.—Size very large, ears, feet, and whiskers of maximum size, tail very long, considerably exceeding length of head and body. Colors above light brownish-gray, strongly shaded with coarse, black hairs, grayest on head, blackest on back, brownest on rump and thighs; sides, from whiskers to hams, including upper half of forearm, washed with fawn, becoming ochraceous on forearm and along division of upper and lower body colors; under surfaces, including pes, manus, wrist, and lower (inner) surfaces of limbs and lower half of tail, a uniform, clear, grayish-white, the hair plumbeous basally; whiskers black; upper half of tail, sooty; ears nearly naked, the membrane within and without of a smoke-brown hue and equally clothed on both sides with sparse, minute, grayish hairs.

Skull—Small for the size of animal, rostrum short and slender; nasals short, their bases distinctly anterior to the posterior extension of the premaxillaries, the latter reaching behind anterior plane of orbits; frontals rounded posteriorly; audital bullæ inflated; incisive foramina short, wide at base, and much narrowed anteriorly.

Measurements (of type in millimeters).—Total length, 233; tail vertebræ, 132; hind foot, 26; ear (from crown), 23. Skull—Total length, 28.7; basilar length, 21; nasals, 10.4; zygomatic expansion, 15; interorbital constriction, 4.3; length of mandible, 14.8; width of mandible, 7.5.

During a recent cursory examination of a series of thirty or more White-footed Mice from the West Cascade region of California south of San Francisco Bay, which had long laid in my collection as undoubted specimens of the "Parasitic Mouse" of Cooper, described in 1848, by Gambel, from a Monterey specimen under the name *Mus californicus*, I was surprised to find those from San Diego County uniformly of a grayer (less brown) color above and lacking the

[2] Bull. Amer. Mus. Nat. Hist., 1894, 343.

brown vent and fulvous suffusion of throat and breast characteristic of more northern specimens. A comparison of the skulls of these soon showed constant and specific peculiarities, the most striking being the posterior rounding of the frontal bones of San Diego County specimens contrasted with the peculiar right-angled aspect of the fronto-parietal sutures in typical *Peromyscus californicus*.

The ears of the southern species are much larger even than those of *californicus* and the size of the animal in length measurements considerably exceeds its rival.

The two have been confounded in previous descriptions and the southern form is probably responsible for the apparently exaggerated statements of the dimensions of typical *californicus*.

I am at a loss to account for the conditions described by Dr. J. A. Allen[3] regarding certain specimens of *Peromyscus* of the *californicus* type from Santa Ysabel and Dulzura being darker and smaller than those from Santa Clara County, my own series showing exactly reversed characters.

I may also state in this connection that none of my specimens from either locality have white-tipped tails.

3. **Thomomys altivallis** sp. nov. Type, ad. ♀, No. 1,927, Col. of S. N. Rhoads, San Bernardino Mts., California (alt. 5,000 ft.). Col. by R. B. Herron, Aug. 10, 1894.

Description.—Size medium, smaller than *T. toltecus* Allen, but larger than *T. monticolus* Allen. Above dull chestnut-brown, becoming darker dorsally and along upper sides of head, the middle crown and median line of back nearly black, the sides washed with fulvous. Nose, chops, and ears, dusky, the latter being bordered anteriorly by a narrow line, and beneath and behind by a broad patch of sooty black reaching nearly to occiput. Beneath plumbeous-gray, washed with rusty (the plumbeous in worn specimens strongly predominating). Throat, feet, and legs normally of the same color as rest of under parts; tail grayish. In the type there are albinistic white patches across throat, on forelegs, and at root of tail.

Skull long and narrow, the zygomæ tapering toward the rostrum, which is relatively long and wide. Interparietal narrow and (in the type) longer than wide; nasals rather long and acutely pointed on

[3] Bull. Amer. Mus. N. Hist., 1893, 187.

the outer posterior corners, the latter coming far short of the nasal prolongations of the premaxillaries. Upper and lower incisors unusually wide and strong, the upper inner sulcus scarcely noticeable without a glass. Molar dentition likewise unusually massive. The coronoid process of mandible is more erect than usually seen in the genus and terminates in a sharp point.

Measurements (of type in millimeters).—Total length, 228; tail vertebræ, 74; hind foot, 29; arc of middle fore-claw, 11.5. Skull—Total length, 39.7; basilar length, 34; greatest zygomatic width, 23.2; interorbital constriction, 7; length of nasals, 13; terminal width of upper pair of incisors, 4.6.

Three specimens of this gopher, taken at varying elevations of from 5,000 to 7,000 feet in the San Bernardino Mountains by Mr. Herron, form the basis of the foregoing description.

Though somewhat affected by albinism, as stated in the description, I have chosen the type as being the most typical of the three specimens, the other two being less fully developed in cranial characters and are in more worn pelage. The type may be considered representative of the maximum development of the species, the others averaging considerably less in body and cranial measurements. This species may be compared to three described forms. From *T. toltecus* it differs in a smaller body, longer tail, and much smaller and more elongate skull, also in the darker upper and very much darker lower body colors; from *T. monticolus* the San Bernardino gopher differs radically in the small size and narrowness of the interparietal, in the marked prolongation and acuteness of the fronto-intermaxillary suture beyond the nasals, in its wide mastoid and zygomatic development, and in the diminution of the inner ridges of the faces of the upper incisors. In color, *altivallis* differs from *monticolus* in a less marked degree, but in the same respects as already described in its separation from *toltecus*. In some respects *altivallis* resembles *bottæ* from Nicasio, California. It may be distinguished therefrom by its more fulvous shade above, by the dark dorsal stripe, black nose, and sooty under parts, and by the greater size of manus and strength of fore claws. Cranially *bottæ* is more massive, with a slender rostrum and weaker dentition, narrower interparietal and wide zygomæ. In *altivallis* there are no parietal ridges which are so characteristic of *bottæ* of same age.

4. **Thomomys bottæ pallescens** subsp. nov. Type, ad. ♂, No. 1,932, Col. of S. N. Rhoads, Grapelands, San Bernardino Valley, California. Col. by R. B. Herron, March 22, 1894.

Description.—Size large, feet, relatively, of medium size, with short, thick claws. Color above, dull, tawny-brown, lightest on rump, browner on nape, with blackish shade on head. Ears, hind-ear patch and chops, sooty; feet and lower surfaces of limbs, ash; breast, belly, vent and lower margin of sides, tawny-ash. Skull massive, angular; dentition relatively weak; interparietal longer than wide.

Measurements.—Total length, 260 mm.; tail vertebræ, 89; hind foot, 33.5; middle claw of manus, 9.2. Skull—Total length, 39; greatest zygomatic breadth, 24.4; basilar length, 35.5; length of nasals, 11.9; interorbital constriction, 6.9; length of mandible, 25.

A series of nine specimens from two localities in the San Bernardino Valley and two from Banning, California, show constant and easily recognized color differences from typical specimens of *bottæ* from Nicasio. The tail of type specimen is much longer than the average, which is about the same as in *bottæ*. The heavily ossified, angular skull, in all its characters, is similar to that of *bottæ*. What *Pallescens* is to *bottæ*, both geographically and anatomically, *Neotoma fuscipes dispar* is to *Neotoma fuscipes*.

5. **Thomomys fulvus nigricans** subsp. nov. Type, ad. ♂, No. 2,007, Col. of S. N. Rhoads, Witch Creek, San Diego Co., California. Col. by F. Stephens, Dec. 22, 1893.

Description.—Size small; tail rather short and well haired; pelage full and long. Color above, uniform blackish-brown, becoming fulvous on the sides and along the upper line of belly, then grayish on limbs and feet and lower belly line, then strong fulvous on median line of breast and abdomen and ventral region. The lips, cheek-pouches, and ears are sooty, and the hairs of under parts are basally of the same color, imparting an unusually dark aspect to slightly worn specimens.

Skull—Of the slender build, wide interparietal and relatively massive dentition of the *fulvus* type.

Measurements.—Total length, 215 mm.; tail vertebræ, 72; hind foot, 28. Skull—Total length, 37; basilar length, 33; greatest zygomatic breadth, 23; length of nasals, 13; interorbital constriction, 6; length of mandible, 23.

Eleven examples of this form, recently forwarded by Mr. Stephens,

have been compared with a series of *fulvus* loaned by the American Museum of Natural History through the courtesy of Dr. J. A. Allen. Specimens of same age and season from southern Arizona show that the San Diego County animal is uniformly blacker and less fulvous, but the close resemblance in cranial characters of the two series will not justify their separation as full species. Two specimens from the San Jacinto and Cuyamaca Mountains, respectively, taken at altitudes of five to six thousand feet, are identical with those from Witch Creek.

Note on Thomomys perpallidus.

A large series of beautifully prepared specimens of *T. perpallidus* have incidentally been examined in my studies of the southern California forms. The cranial characters of these specimens compared with those of *fulvus* of similar age and size, show considerable agreement. Of these may be specially noted the broad interparietal, wide, heavy incisors and molars, and the slenderness of the bones of the zygomatic arch. Correlated with their cranial likeness it may be noted that darker summer specimens of *perpallidus* form a close intergrade of color with lighter examples of *fulvus*, connecting, in an unexpected manner, the extreme light phase of the former with the darker phase of the latter species. Not having specimens from any locality between Agua Caliente, California, and the San Francisco Mts., Arizona, I am unable to do more than conjecture whether an uninterrupted series would not justify naming the Mojave Desert Gopher *Thomomys fulvus perpallidus*. So far as the evidence goes, however, the relationship of the two animals is quite close.

Through the kindness of Dr. J. A. Allen, I was able to secure a loan from the American Museum of Natural History of typical specimens of several species of *Thomomys* from upper and Lower California and Arizona, without which the conclusions arrived at in this paper would have been of little value.