SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 56, NUMBER 26

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PUBLISHED BY THE SMITHSONIAN INSTITUTION

DECEMBER 5, 1911

The Lord Galtimore Press BALTIMORE, MD., U. S. A.

FOUR NEW MAMMALS FROM THE CANADIAN ROCKIES

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A small party from the Smithsonian Institution accompanied the Alpine Club of Canada expedition to Jasper Park and the Mount Robson region, during the summer of 1911. Among the mammals collected are specimens of a new chipmunk, a new mantled ground-squirrel and two new bats.¹

EUTAMIAS LUDIBUNDUS, sp. nov.

Type from Yellowhead Lake, British Columbia; 3700 feet. Cat. No. 174225, U. S. National Museum; skin and skull, female adult. Collected August 29, 1911. N. Hollister; original No. 3987.

General characters.—A large member of the amanus group, nearest related to Eutamias luteiventris, but with sides of quite a different tint; darker and more tawny, less bright and yellowish. Underparts without the yellowish color of luteiventris; tail darker beneath.

Color of type (post-breeding pelage).—Top of head, rump, and upper surface of hind legs to heel, grizzled hair-brown. Five dark stripes on back nearly pure black; the two inner light stripes grayish; outer light stripes creamy-white, mixed with gray. Cheeks, sides, shoulders, and fore legs, dark cinnamon; feet wood brown. Ears blackish outside, brown inside; a white area at base extends to tip of ear in a broad band. Underparts whitish, without yellowish tint, but with a faint suffusion of cinnamon-tawny on sides of middle of belly. Tail above mixed black and dark buff; below with central area russet, bordered by bands of black and tawny-olive.

Skull.—Like skull of Eutamias luteiventris, but averaging slightly

larger.

Measurements of type.—Head and body, 126 mm.; tail vertebræ, 96; hind foot, 34. Skull: Greatest length, 33.7; condylobasal length, 31; zygomatic breadth, 19.6; upper tooth row, 5.5.

¹Some new species of birds collected by this expedition are described by J. H. Riley in Proc. Biol. Soc. Washington, Vol. 24, pp. 233-236, 1911.

²This is the Cowdung Lake of many maps. It lies about six miles west of the Alberta-British Columbia line, in Yellowhead Pass.

Remarks.—This chipmunk is not closely related to either Eutamias affinis or E. borealis, but is apparently a northern form of luteiventris. It bears some resemblance to Eutamias felix, but is readily distinguished from that species by its much less reddish coloration. The close similarity between the skulls of felix, ludibundus, and luteiventris, and the general type of coloration exhibited by all three, make it seem possible that series of specimens collected between the known ranges will show intergradation between these forms. At present the material does not warrant treating them as subspecies. From E. borealis, with which it does not intergrade, in this region at least, ludibundus may be easily separated by its large size, large foot, reddish, not gray, tail, and larger skull. Specimens of E. borealis were collected by our party at Prairie Creek, and at Brule Lake, Alberta. West of these points, at Henry House, Alberta, and along the British Columbia boundary line, all the chipmunks collected are of this new form. From E. affinis, this form differs conspicuously in the general color of the back and rump, showing far less clear white, and with rump, legs, and inner light stripes much darker brownish-gray; cheeks, shoulders, and sides very much darker. I am under obligations to Mr. Arthur H. Howell for pertinent criticism and assistance during my work in this most difficult genus.

A large series of specimens of this new chipmunk was collected, all from the region along the boundary line between British Columbia and Alberta, from Yellowhead Pass northward.

CALLOSPERMOPHILUS LATERALIS TESCORUM, subsp. nov.

Type from head of Moose Pass branch of the Smoky River, Alberta (near Moose Pass, B. C.), at 7000 feet. Cat. No. 174165, U. S. National Museum; skin and skull, male adult. Collected August 2, 1911. N. Hollister; original No. 3863.

General characters.—Nearest to Callospermophilus lateralis cinerascens, but larger, darker, and richer colored; mantle darker and extending further back over shoulders; under side of tail clear cinnamon color with black subterminal border to hairs (in cinerascens the under side of the tail is mixed pale buff and black); upper side of tail with less black.

Color of type.—Nose, top and sides of head, neck and shoulders, glossy Mars brown; ring around eyes, whitish; back grizzled brown-ish-gray, darkening on rump. Lateral stripes sharp and distinct, the dark ones clear black from shoulders to middle of body, the posterior half colored like back; inner black stripes short, reaching only little

past the middle of body. Shoulders and upper part of fore legs suffused with blackish. Hind legs dark brown outside to heel. Tail above black and buff mixed; below with central area clear cinnamon, border black and cinnamon-buff. Sides and underparts of body buffy-white, strongly suffused with darker buff.

Skull and teeth.—Skull averaging larger than that of C. l. ciner-

ascens, with slightly larger teeth.

Measurements.—Type: Head and body, 198 mm.; tail vertebræ, 105; hind foot, 45. Average of nineteen specimens from type region compared with average of fifteen specimens of *cinerascens* from Montana, the latter in parentheses: Head and body, 194 (178); tail vertebræ, 104 (95); hind foot, 43 (40.9). Skull of type: Greatest length, 47; condylobasal length, 44; zygomatic breadth, 29.4; nasals, 15.5; upper tooth row, 9.0.

Remarks.—Twenty-seven specimens of this new form were collected, twelve at the type locality, and fifteen at nearby points across

the line in British Columbia.

MYOTIS ALTIFRONS, sp. nov.

Type from Henry House, Alberta, at 3350 ft. altitude. Cat. No. 174133, U. S. National Museum; skin and skull, adult male (teeth considerably worn). Collected September 5, 1911. J. H. Riley;

original No. 2317.

General characters.—About the size of Myotis lucifugus, but differing widely in color and cranial characters. Upperparts very dark brown; forearm shorter than in M. lucifugus longicrus, longer than in M. yumanensis saturatus; border of interfemoral membrane without trace of fringe; wing from base of toes; tragus long and narrow. Skull with unusually inflated braincase, giving the effect of a turned up nose much as in M. capitaneus from Lower California.

Color of type.—Upperparts very dark brown; the underfur dull black, and hair tips brown; a thin border of clear burnt umber hairs between hips, around base of interfemoral membrane. Underparts

dark drab-brown. Ears and membranes blackish.

Skull and teeth.—Skull about the size of skulls of M. l. l. l on gicrus; facial concavity greater; braincase higher, the inflation of the anterior portion making it appear very much larger, compared with rostrum, than in lucifugus or any of its forms. The teeth in the type specimen are much worn, but appear to be essentially as in l on gicrus.

Measurements of type.—Head and body, 49 mm.; tail vertebræ, 39.5; hind foot, 9.5 (measured in flesh by collector); forearm, 36.5;

tibia, 17; ear from notch, 13; tragus from notch, 6.7 (from dry skin). Skull: Condylobasal length, 13.7; breadth of braincase, 8.0; interorbital breadth, 4.4; upper tooth row, including canine, 5.4.

Remarks.—This bat is immediately distinguishable from any species known from the United States and Canada by the peculiar high and inflated braincase and apparent shortness of the rostrum. The color is even slightly darker than the darkest skins of M. l. alascensis and M. y. saturatus that I have seen. It is slightly larger than M. keenii, with smaller ear and tragus. The species is based upon a single specimen.

MYOTIS PERNOX, sp. nov.

Type from Henry House, Alberta. Cat. No. 174134, U. S. National Museum; skin and skull, adult male. Collected September 6, 1911. J. H. Riley; original No. 2318.

General characters.—A dark brown Myotis, externally resembling M. lucifugus lucifugus, but with larger foot. Interfemoral membrane edged with scattering hairs. Skull differs from that of lucifugus in its larger size and more depressed braincase.

Color of type.—Upperparts uniform glossy brown, nearest to the bistre of Ridgway; underparts dark Isabella color; ears and membranes blackish.

Skull and teeth.—The skull is essentially like that of M. lucifugus lucifugus, except that the size is greater, and the braincase is much flattened. The ventral surface, including the teeth, presents much the same appearance, except for size, as does that of lucifugus.

Measurements.—Type and topotype, the latter in parentheses: Head and body, 53 mm. (54); tail vertebræ, 39 (44); hind foot, 11 (12), measured in flesh by collector. Forearm, 37.7 (38.6); tibia, 16.7 (17); ear from notch, 12.5 (12.2); tragus from notch, 7.6 (8.0), from dry skin. Skull: Condylobasal length, 14.8 (14.9); breadth of braincase, 8.0 (8.0); interorbital breadth, 4.1 (4.2); upper tooth row, including canine, 5.5 (5.7).

Remarks.—This bat might, from external examination, be readily mistaken for M. lucifugus lucifugus, but the characters of the skull will at once distinguish it. The black ears and membranes also serve to separate it; M. l. lucifugus has brown wings and interfemoral membrane. Two specimens of this species, both males, were collected the same evening.