

MAMMALOGY.—*Two new kangaroo rats from Arizona.* E. A. GOLDMAN, Biological Survey.

Among the results of recent field work in northern Arizona have been the discovery of two undescribed kangaroo rats of the genus *Dipodomys*. These are characterized as follows:

***Dipodomys microps celsus*, subsp. nov.**

Virgin Valley Kangaroo Rat.

Type from 6 miles north of Wolf Hole, Arizona (altitude 3,500 feet). No. 243101, ♂ adult, U. S. National Museum (Biological Survey Collection) collected by E. A. Goldman, October 16, 1922. Original number 23411.

General characters.—Closely allied to *Dipodomys microps levipes*, but size usually larger and color slightly darker, the back more obscured by dusky hairs; skull differing most noticeably in larger size of mastoid bullae; hind foot with five toes as usual in the species. Decidedly larger than *D. m. microps* and differing otherwise as from *D. m. levipes*.

Color.—*Type* (fresh pelage): Upper parts in general near pinkish buff, moderately mixed with black, the buffy element purest and most intense along sides of body, becoming lighter buffy on head and face; under parts, postauricular spots, fore limbs, hind feet above, usual hip stripes, and tail at extreme base all around pure white; tail beyond extreme base blackish along upper and lower median stripes to near tip where the lengthening hairs become dusky all around, the sides white to subterminal area mentioned; pencilled tip of tail inconspicuously dusky, the dark points of hairs only partially concealing the white under color; hind legs immediately above ankles blackish, except a white line along inner side; soles of hind feet black to toes, which are white; usual dark facial markings broad and distinct.

Skull.—Similar to that of *D. m. levipes*, but broader, more massive; mastoid bullae decidedly larger; maxillary arches slightly broader; dentition about the same. Compared with that of *D. m. microps* the skull is decidedly larger and differs in other respects as from that of *D. m. levipes*.

Measurements.—*Type*: Total length, 284; tail vertebrae, 170; hind foot, 44. Average and extremes of 10 adults, including type, from type locality: 285.6 (277–298); 171.3 (164–182); 43.4 (42.5–44). *Skull* (type): Greatest length on median line, 36; greatest breadth (between outer sides of audital bullae), 25.3, breadth across maxillary arches, 20; least width of suproccipital (near interparietal), 1.2; maxillary toothrow, 5.

Remarks.—While closely allied to the widely ranging subspecies *D. m. levipes*, this kangaroo rat is readily distinguished by the cranial characters indicated. Its geographic range appears to be the upper part of the Virgin River Valley and adjacent parts of the plateau region in Utah and Arizona.

Specimens examined.—Total number, 20, from localities as follows:

ARIZONA: Wolf Hole (type locality 6 miles north, 12; Kanab Wash (near southern boundary Kaibab Indian Reservation), 1.

UTAH: Saint George, 7.

***Dipodomys ordii cupidineus*, subsp. nov.**

Kaibab Kangaroo Rat.

Type from Kanab Wash, at southern boundary of Kaibab Indian Reservation, Arizona. No. 243093, ♂ adult, U. S. National Museum (Biological Survey Collection), collected by E. A. Goldman, October 12, 1922. Original number 23384.

General characters.—Closely allied to *Dipodomys ordii utahensis*, but general color of upper parts much brighter and richer, near cinnamon-buff instead of dull clay color; hind foot with five toes. Externally resembling *D. o. longipes* and *D. o. richardsoni*, but cranial characters widely different.

Color.—*Type* (fresh pelage): Upper parts in general near cinnamon-buff of Ridgway, this color purest along sides and on hind legs, becoming paler on the face and over top of head and back evenly but rather inconspicuously lined with dusky hairs; under parts, forelimbs, hind feet above, supraorbital and postauricular spots, hip stripes and tail at base all around pure white as usual in the group; inner sides of ears clothed with blackish hair; tail beyond extreme base blackish along upper median stripe to tip and along lower median stripe which narrows gradually until interrupted subterminally by a white area continuous with white lateral stripes; soles of hind feet and small isolated spots just above heels on outer sides blackish.

Skull.—Essentially like that of *D. o. utahensis*. Compared with that of *D. o. longipes*, the skull is smaller with shorter rostrum, the mastoid and auditory bullae are relatively decidedly smaller, and the supraoccipital and interparietal are broader, more widely separating mastoid bullae.

Measurements.—*Type*: Total length, 257; tail vertebrae, 150; hind foot, 41. *Skull* (type): Greatest length on median line, 36.4; greatest breadth (between outer sides of auditory bullae), 24.9; breadth across maxillary arches, 21.1; least width of supraoccipital (near interparietal), 2.5; maxillary toothrow, 4.7.

Remarks.—The geographic range of *D. o. cupidineus* is the Kaibab plateau region of northern Arizona, and adjacent parts of southern Utah. In color this subspecies closely resembles *D. o. longipes* which inhabits similar territory south of the Colorado River, but differs widely in cranial characters as already indicated. The Colorado River and its great canyon evidently form an effective barrier separating the ranges of the two forms.

Specimens examined.—Total number, 26, as follows:

ARIZONA: Cane, Houserock Valley, 2; Diamond Butte, 1; Fredonia, 2; Houserock, Houserock Valley, 2; Hurricane Ledge (6 miles north of Mount Trumbull, 1; Kanab Wash (type locality), 1; North Canyon (at edge of juniper belt), 4; Trumbull Mountains (5 miles south of Trumbull Spring), 1.

UTAH: Kanab, 11; Pipe Spring, 1.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

THE GEOLOGICAL SOCIETY

387TH MEETING

The 387th meeting was held in the Auditorium of the Department of the Interior on Wednesday, January 9, 1924, President Wright presiding, and 53 persons present.

Informal communication: FRANK L. HESS.—*Corundum crystals from Bandalierkopf, Transvaal.* Discussed by F. E. WRIGHT.

Program: L. H. ADAMS.—*Behavior of rocks under pressure.* Discussed by Messrs. RICE and BOWIE.

S. R. CAPPS.—*An early Tertiary placer deposit in Alaska.* In the Cache Creek gold placer mining district, in the basin of Yentna River, a western tributary of the Susitna, recent mining developments have disclosed a heavy