

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Dipodomys spectabilis baileyi*
COMMON NAME: New Mexico Banner-tailed Kangaroo Rat
SYNONYMS: *D. s. clarencei*
FAMILY: Heteromyidae

AUTHOR, PLACE OF PUBLICATION: Goldman, 1923, Proc. Bio. Soc. Wash., 36:140.

TYPE LOCALITY: 40 miles west of Roswell, Chaves County, New Mexico. Goldman (1923) may have incorrectly reported the type locality. The type was collected by Vernon Bailey, which he reported as collected "40 miles northwest of Roswell, New Mexico." (Bailey 1931:259). Bailey's distribution map (Bailey 1931:249, Fig. 44) also placed the type northwest of Roswell. (BISON 2000).

TYPE SPECIMEN: USNM 97185 (Holotype), V. Bailey, 1899. Original number 6961.

TAXONOMIC UNIQUENESS: In North America, the species *spectabilis* is 1 of 16 in the genus *Dipodomys*, and 1 of 5 that occur in Arizona. *D. s. baileyi* is 1 of 3 subspecies of *spectabilis* that occurs in the State, the others include *D. s. spectabilis*, and *D. s. perblandus*.

DESCRIPTION: Banner-tails are large kangaroo rats, with head and body length of 5-6 inches (12.7-15.2 cm); tail 7-9 in (17.8-22.9 cm); hind foot long 1.88-2.0 in (4.7-5.1 cm) with 4 toes, front feet small; weight 3.37-6.2 oz (98-176 g). They are dark buff above and white below, with a long tail that has a prominent white tip preceded by a black band; narrow white side stripes extend only two-thirds the length of the tail. The upper and lower stripes are grayish black to dusky. They have 20 teeth, and the skull is more massive with more expanded zygomatic arches than other subspecies of *D. spectabilis*. Cheek pouches and 6 mammae (2 pairs inguinal, 1 pair pectoral) present. Ears are wide with large auditory openings and hooded tips to keep out the dirt.

AIDS TO IDENTIFICATION: The Banner-tailed is likely only confused with Desert kangaroo rat (*D. deserti*), in which the bottom tail stripe is absent or pale. Ord's (*D. ordii*) and Merriam's (*D. merriami*) kangaroo rats are much smaller, with no white tip on tail.

ILLUSTRATIONS:

Color photo (Whitaker, Jr., 1996: plate 109).

Color drawing (Burt and Grossenheider, 1980: plate 14).

B&W photo (Hoffmeister, 1986:307).

Color photo (Texas Parks and Wildlife, 1994).

TOTAL RANGE: Northeast Arizona, New Mexico, west Texas.

RANGE WITHIN ARIZONA: Apache County, in northeast Arizona.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Banner-tail sign includes large, conspicuous mounds of earth and vegetation up to 4 feet (1.2 m) high and 15 feet (4.5 m) wide (although sometimes only 6 in/15.0 cm high and 5 ft/1.5 m wide), with several entrances opening to burrow systems and trails leading from them. Mound entrances are 4-6 inches in diameter, with occupied tunnel entrances closed during the day. Usually 3 or 4 levels of rooms, all more or less connected by tunnels and passageways. Only one animal occupies a mound except when young are present, or when a male defends the mound of a female from another male. There are about 10 storage areas per mound. Most tunnels are within 20 inches of the surface, except the nest burrow, which goes deeper. Old mounds may be used for years, thus dispersing young rarely construct their own mound; newly constructed mounds can take up to 2 years to build. Home-range not more than 600 ft (183 m) across; may move nearly a mile (1.6 km). Density of active mounds are 1.7 per ha in central New Mexico. Both males and females defend their territories, although they are tolerant of neighbors (friendly rivals or enemies), which is beneficial to maintaining territorial claims (Randall 1989).

A nocturnal animal that does not hibernate or estivate (like other kangaroo rats), but remains in its burrow during inclement weather. They may forage during daylight hours in times of drought. Lifespan is 1-3 years in wild. They hop about (sometimes run) much like a robin, with ease and grace as if walking on four legs, using their long legs and hind feet. Their tail is used for balancing and turning, much like a rudder. Banner-tails make a *peeee* sound lasting about a second, but also growl, squeak, squeal, and chuckle. They foot-drum in or near their mounds at night, in response to neighbors or in case of a challenge to the mound. Foot-drumming and sand-kicking, along with alert posture and avoidance, help them avoid snake predators. Other enemies include Badgers, foxes, Bobcats, and great horned and barn owls. (Whitaker, Jr. 1996).

REPRODUCTION: For the species, reproduction may occur throughout the year except October and November. Most births occur January – August. Time of breeding is irregular and apparently regulated by weather and food conditions. One to 3 litters are born each year; 1-4 young per litter. Gestation period last 22-27 days, with young born hairless, pink, and with eyes and ears closed. They are full-grown by 4 months of age. Occasionally, females from the first litter will breed later that same year; otherwise, they do not breed until the following year. Nest consists of chaff, stems, and leaves of grasses.

FOOD HABITS: Consumes seeds of grass and various other plants, and at times, green and succulent plants. They store many types of seeds to carry them over periods of scarcity. Stores from a fraction of a gram to well over 5 kg have been found.

HABITAT: Preferred habitat is Great Basin desertscrub, and desert grasslands with scattered shrubs, mesquite, or junipers. They occupy scrub or brush-covered slopes, often with creosote bush or acacia on hard or gravelly soil; hard soils support their complex and deep burrow systems.

ELEVATION: The species *D. spectabilis*, is known to occur at elevations from 3,500 - 4,000 ft (1067.5-1220 m). BISON (2000), report elevations for the subspecies *D. s. baileyi* from 4,000-5,000 ft (1220-1525 m) northwest of Albuquerque, New Mexico.

PLANT COMMUNITY: For the species: often found in areas with catclaw, mesquite, and *Opuntia*. Seeds cached include *Bouteloua rothrockii* (crowfoot grama), *B. aristidoides* (six-weeks grama), *Boerhaavia wrightii* (spiderling), *Aristida* sp. (needlegrass), *Prosopis velutina* (mesquite), and *Mollugo verticillata*. (Hoffmeister 1986). In central New Mexico, the subspecies *D. s. baileyi* was found in vegetation including *Sporobolus*, *Aristida*, *Muhlenburgia*, *Tridens*, *Bouteloua*, *Andropogon*, *Mentzilia pumila*, and *Gutierrezia sarothrae*, with *Salsola kali* and *Yucca glauca* sparsely intermixed (Schroder and Geluso 1975, in BISON 2000).

POPULATION TRENDS: Unknown. Was observed on the Navajo Nation as recently as 1989-1991. How many and distribution of observations is unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:

None

STATE STATUS:

WSC (WSCA, AGFD in prep)

[Endangered, TNW, AGFD 1988]

OTHER STATUS:

Bureau of Land Management Sensitive – full sp. (USDI, BLM AZ 2010)

[Bureau of Land Management Sensitive (USDI, BLM AZ 2008)]

Forest Service Sensitive (USDA, FS Region 3 2007)

Group 4, full species level (NNDFW, NESL 2005)

MANAGEMENT FACTORS: Habitat loss and degradation.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

Charles LaRue, Private consultant.

ADDITIONAL INFORMATION:

Specimens taken on the Navajo Nation by Chuck LaRue in 1989-1991.

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