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**North American
Mammals**



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Banner-tailed kangaroo rat | *Dipodomys spectabilis*

The banner-tailed kangaroo rat occurs from northeastern Arizona southward to Aguascalientes and San Luis Potosi, Mexico, and from southern Arizona eastward into western Texas. Fossil remains have been found in cave deposits in Arizona, New Mexico, Texas, and Coahuila, Mexico.

Banner-tailed kangaroo rats are active all year, they are nocturnal, they do not hibernate or aestivate, and when the weather is rainy, wet, or cold, they remain in their burrows. Activities are confined to small areas near the large earthen mounds that contain their complex burrow systems. Usually only one individual occupies a burrow system. *D. spectabilis* has good swimming ability, and it sandbathes to scent-mark its territory and to clean its pelage. These kangaroo rats advertise their territories by footdrumming on their earthen mounds, and they use footdrumming as a long-distance warning signal; chasing is used as a closer-distance threat. Usually gentle and timid, these kangaroo rats will fight furiously to defend their burrow mound from invasion by other banner-tailed kangaroo rats.

Banner-tailed kangaroo rats are adapted to locomotion by hopping, with hind legs and feet that are much larger and



longer than the forelegs. Like other kangaroo rats, they have external fur-lined cheek pouches they use for gathering seeds. The tail is long, covered with short hairs on the half nearest the body, and there are long hairs toward the tip. At the end of the tail is a conspicuous white tip that waves in the air as the animal moves; it is the basis for the name of this colorful species.

The body is yellowish-brown above and white underneath in adults, but young are grayish on the back.

Dipodomys spectabilis reproduces year-round, except perhaps in October and November. Onset and termination of reproduction are earlier in northern populations than in southern populations. From one to three litters per year are born after a gestation period of 22–27 days. Neonates weigh about 8 grams and are toothless, hairless, and wrinkled. The eyes and ears are closed, and they show the color pattern of adults in shades of pink. They are weaned at 20–25 days of age. Young males grow faster in mass than young females; age at maturity is 300 days.

Banner-tailed kangaroo rats live in desert grasslands with scattered shrubs such as creosotebushes and mesquites. The mounds of earth that contain the burrow are conspicuous features of the landscape. They ordinarily are constructed in open locations, sometimes in the centers of cleared areas as large as 10 meters in diameter, but many are built under the protection of shrubs. These low, rounded mounds rise to varying heights above the surface of the surrounding soil; usually they are circular and average 4 meters in diameter and 30 centimeters in height. There are three to 12 openings in each mound, each 10–15 centimeters in diameter. Radiating in various directions from some of the openings are well-used runways, some extending 30–50 meters or more to neighboring burrows. In addition to providing protection from the elements and predators, the mounds often contain large caches of grass seeds and other seeds. Deep within the mound, temperature varies less than 5° C year-round.

Although there may be as many as three mounds per hectare, only about two-thirds of the mounds in an area will have evidence of recent activity by kangaroo rats. Of those that appear to be inhabited, 40–95 percent have kangaroo rats inside. It may take months or years for these elaborate mounds to be constructed, but they soon collapse when not maintained. Each new mound begins as a small satellite burrow near an existing mound, which is enlarged into a small raised mound and then into a full-sized mound.

Mounds constructed by banner-tailed kangaroo rats are an important part of the desert-grassland ecosystem. In addition



Dipodomys spectabilis

to meeting the requirements of the kangaroo rat, the mounds also serve as home to a variety of animals including grasshoppers, locusts, crickets, cockroaches, scorpions, black widow spiders, centipedes, amphibians, rattlesnakes, bullsnares, kingsnakes, many species of lizards, pocket mice, and other small mammals.

Other mammals that occur in the same habitat include antelope and black-tailed jackrabbits, desert and eastern cottontails, round-tailed and spotted ground squirrels, Harris's antelope squirrels, pocket gophers, pocket mice, Ord's and Merriam's kangaroo rats, grasshopper mice, white-footed mice, white-throated and southern plains woodrats, and pronghorns. Predators include coyotes, badgers, long-tailed weasels, kit foxes, great horned owls, and barn owls. Banner-tailed kangaroo rats are resistant to infection by plague. Internal parasites include protozoans and cestodes, and external parasites include a variety of mites, ticks, and fleas. T. L. Best

Size

Males are slightly larger than females.

Total length: 315–349 (342) mm (males);

310–345 (338) mm (females)

Length of tail: 185–208 (199) mm (males);

180–205 (196) mm (females)

Weight: 100–132 (126) g (males); 98–130 (120)

g (females)

Identification

The banner-tailed kangaroo rat is one of the largest and most spectacularly colored of the

kangaroo rats. The only large species of *Dipodomys* in the United States with which *D. spectabilis* may be sympatric, or is likely to be confused, is *D. deserti*. The ranges of these species approach each other in southern Arizona. *D. spectabilis* can be distinguished by the darker and sharply contrasting dorsal and ventral stripes of the tail, darker body color, and mastoid bones that do not meet behind the parietals of the skull.

Status

Common

Subspecies

Dipodomys spectabilis baileyi, central and eastern New Mexico, western Texas

Dipodomys spectabilis clarencei, northwestern New Mexico, northeastern Arizona

Dipodomys spectabilis cratodon, central Mexico

Dipodomys spectabilis intermedius, Sonora, Mexico

Dipodomys spectabilis perblandus, southern Arizona, northern Sonora, Mexico

Dipodomys spectabilis spectabilis, southwestern New Mexico, southeastern Arizona, northern Mexico

Dipodomys spectabilis zygomaticus, southern Chihuahua, Mexico

References

Mammalian Species 311; Monson and Kessler, 1940