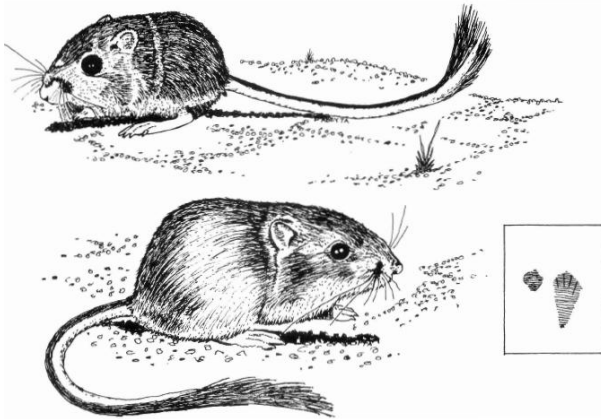


BIOLOGY, LEGAL STATUS, CONTROL MATERIALS AND DIRECTIONS FOR USE

Kangaroo Rats

Dipodomys spp.

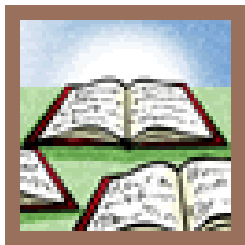
Family: Heteromyidae



Introduction: 23 species of kangaroo rat occur in North America. Some species are federally protected, and at state level some receive special threatened or endangered species classification. Always consult local authorities to determine status before applying any form of control.



Identification: Kangaroo rats are distinctive. They have a long tufted tail, small forelegs, and long powerful hind legs. Distinctive fur lined cheek pouches are visible. Their coloring varies from pale cinnamon to dark gray on the back, pure white under parts, dark markings on the face and tail. Size is 6 inches with a tail up to 8 inches.



Legal Status: Kangaroo rats are classified as nongame mammals by the California Fish and Game Code.** Nongame mammals which are found to be injuring growing crops or other property may be taken at any time or in any manner by the owner or tenant of the premises. They may also be taken by officers or employees of the Department of Food and Agriculture or by federal or county officers or employees when acting in their official capacities pursuant to the provisions of the Food and Agriculture Code pertaining to pests.

Important:**The following kangaroo rats have been designated as threatened or endangered species by the California Department of Fish and Game. They are the Morro Bay Kangaroo Rat (*Dipodomys heermanni*)

morroensis) -- Endangered; Giant Kangaroo Rat (*Dipodomys ingens*), -- Endangered; Stephens' Kangaroo rat (*Dipodomys stephensi*) -- Threatened; the Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*) -- Endangered; and the Tipton Kangaroo Rat (*Dipodomys nitratoides nitratoides*) -- Endangered. Before implementing rodent control within the range of these endangered and threatened species, contact the [Department of Fish and Game](#) or the [Department of Pesticide Regulation](#).



Damage: Kangaroo rats may damage grain crops grown next to desert or semi-desert wild lands. Kangaroo rats harvest and store large quantities of grass and other seeds in the dry months, and they consume some green vegetation in winter and spring. This competition for forage and reduction of seed stock can reduce grazing capacity of drier range in drought periods.

Range: The 12 *Dipodomys* species cover most of the noncultivated desert and dry foothill regions of the state.

[California Kangaroo Rat](#)

[Chisel-toothed Kangaroo Rat](#)

[Desert Kangaroo Rat](#)

[Giant Kangaroo Rat](#)

[Heermann's Kangaroo Rat](#)

[Fresno Kangaroo Rat](#)

[Merriam's Kangaroo Rat](#)

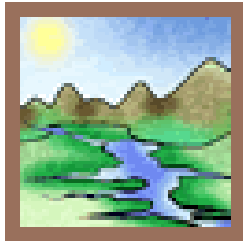
[Narrow-faced Kangaroo Rat](#)

[Ord's Kangaroo Rat](#)

[Pacific Kangaroo Rat](#)

[Panamint Kangaroo Rat](#)

[Stephens' Kangaroo Rat](#)



Habitat: Kangaroo rats prefer dry open areas with sandy or gravelly soil and sparse vegetation.



Biology: Kangaroo rats have very efficient kidneys and are well adapted to semi-arid areas. They derive much of their water from food and do not need drinking water. Equally important for survival are their nocturnal habits; they rest in their burrows during the day and come out at night when there is less evaporation and the humidity is higher. Kangaroo rats have external fur-lined cheek pouches used for carrying food. Soil around the burrow includes many hulls of harvested seeds.

Most kangaroo rats are solitary animals with home ranges of a little less than half an acre. These home ranges are often territories from which other individuals are excluded. Each rat has an extensive underground burrow system with nest chambers and storage areas for seeds. The amount of seeds stored, commonly several pounds for some species, varies greatly among species. The burrows of desert species are generally centered about a shrub or bush and are usually marked by a low mound. In some areas, ground squirrel burrows are often used. The burrows are generally shallow and of various lengths, depending on soil type and species. Burrows have one or several openings. Besides its home burrow, some kangaroo rats use a number of outlying burrows which serve as emergency shelters when the animal is foraging. Burrow entrances are usually closed with earth during the day.

The breeding season is from February to October. From one to three litters of two to five young are produced in a season. The gestation period is three to four weeks, depending upon the species, and the young probably begin to forage for themselves and seek new burrows at about four weeks of age. Females of *D. beermanni* have been observed in heat at approximately six weeks, but the males were not mature until 10 to 12 weeks of age (Fitch, 1948). Females born early in the breeding season may produce two litters in the remainder of the same breeding season.

Trapping records indicate that the usual life span is short, less than six months young. Death comes from unfavorable winter weather, poor forage yields in dry years, and from predation by rattlesnakes, coyotes, owls, foxes, and others.



Damage Prevention and Control Methods

Exclusion: If the area to be protected is small, a sheet-metal barrier 18 inches tall may be used to exclude kangaroo rats. Bury the barrier about 6 inches to prevent kangaroo rats from burrowing under it. Exclusion is impractical and too expensive for larger areas.

Habitat Modification: Kangaroo rats like open areas but removing dense cover by burning, mowing, plowing, or the use of herbicides, where permissible, can help in detecting rat populations. Habitat modification is best as a preventive measure, since this control method will have little effect on the ensuing

damage once a population reaches its peak.

Kangaroo rats are often found on rangeland areas which have been overused by livestock, and thus there is little grass cover.

Frightening: None are registered for repelling kangaroo rats.

Fumigants: There are no fumigants useful for kangaroo rats because their burrows are small, closed during the day, and difficult to find.

Repellents: There are no registered repellents for kangaroo rats

Toxic Bait: None registered.

Trapping: Small rodent live traps or rat-sized snap traps are effective for catching a small number of animals, including kangaroo rats. The traps should be baited with a mixture of peanut butter and oatmeal or oatmeal paste. The trap should be set in the runways at a right angle to the direction of travel. If live captured do not re-release in a different location as this is illegal in California. Trapping kangaroo rats requires a trapping license issued by the Department of Fish and Game (see ground squirrel section for details).

REFERENCES AND ADDITIONAL READING

Baker, Rex O., 1990. Native Heteromyid Rodents as Pests of Commercial Jojoba. Proc.14th Vertebrate Pest Conf. (L.R. Davis and R.E. Marsh, Eds.) Published at Univ. of Calif., Davis Pp.124-128.

Koehler, Ann E., R.E. Marsh, T.P. Salmon, 1990. Frightening Methods And Devices/Stimuli to Prevent Mammal Damage- A Review. Proc.14th Vertebrate Pest Conf. (L.R. Davis and R.E. Marsh, Eds.) Published at Univ. of Calif., Davis Pp. 168-173.

Sterner, Ray T., 1994. Zinc Phosphide: Implications of Optimal Foraging Theory and Particle-Dose Analysis to Efficacy, Acceptance, Bait Shyness, and Non-Target Hazards. Proc. 16th Vertebrate Pest Conf. (W.S. Halverson & A.C. Crabb, Eds.) Published at Univ. of Calif., Davis. Pp. 152-159.

Tobin, Mark E., R.T. Sugihara, R.M. Engeman, 1994. Effects of Initial Rat Capture on Subsequent Capture Success Of Traps. Proc. 16th Vertebrate Pest Conf. (W.S. Halverson & A.C. Crabb, Eds.) Published at Univ. of Calif., Davis. Pp. 101-105.

Whisson, Desley A., 1998. Modified Bait Stations For California Ground Squirrel Control in Endangered Kangaroo Rat Habitat. Proc. 18th Vertebrate Pest Conf. (R.O. Baker & A.C. Crabb, Eds.) Published at Univ. of Calif., Davis. Pp. 233-235.

