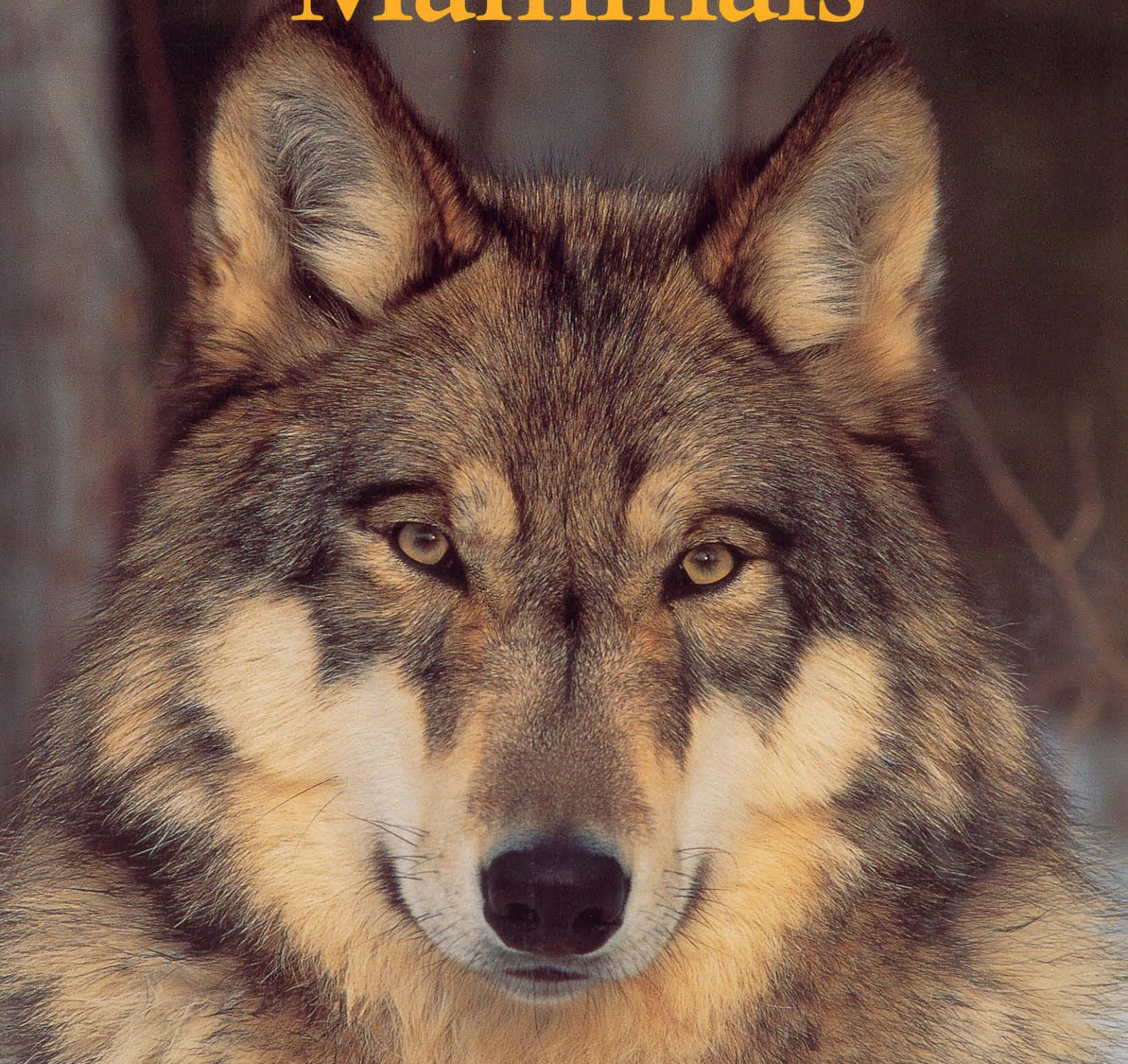


The Smithsonian Book of
**North American
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EDITED BY DON E. WILSON AND SUE RUFF

Agile kangaroo rat | *Dipodomys agilis*

The agile kangaroo rat primarily occurs in woodland and chaparral communities in west-central California; its range extends southward to the foothills of the San Gabriel and San Bernardino mountains along the northern side of the Los Angeles Basin. It occupies elevations of 500–2,250 meters. Fossils that may be of this species are known from Newport Bay Mesa and Rancho La Brea in southern California.

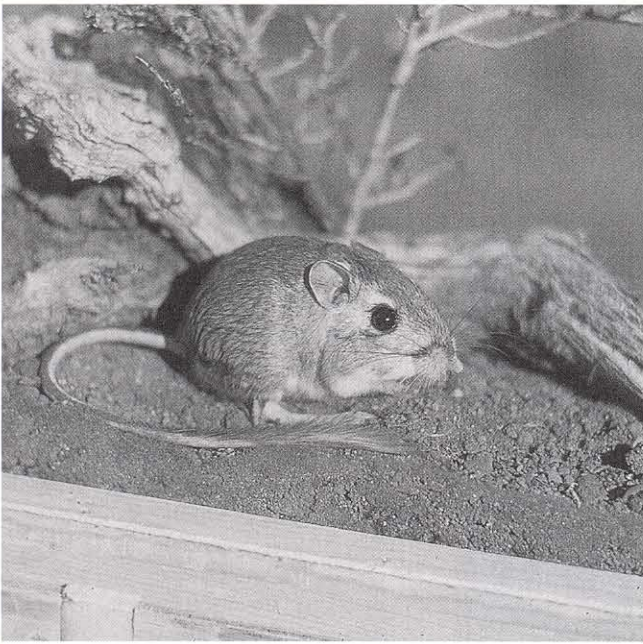
Occasionally, the agile kangaroo rat may be active during daylight hours, but usually it is active outside its burrow only at night. Like other species of kangaroo rats, it is solitary most of the year. It can harvest a large quantity of seeds: one 58-gram individual moved about 300 grams of sunflower seeds in one night. The capacity of its cheek pouches is about 30 of these seeds. These kangaroo rats are excellent swimmers; their large hind feet give them considerable agility in the water. The gait is a series of short hops; if hurried, agile kangaroo rats move rapidly on all four feet. They can make sharp turns to avoid predators.

Dipodomys agilis is intermediate in size for the genus. The hind feet are elongated and well adapted for hopping. Each hind foot has five toes. The front feet are small and are impor-

tant in manipulation of food and in construction of burrows. The tail is 1.55 times the length of head and body and is bicolored, with a blackish crest and tuft. The kangaroo rat's upperparts are dark reddish-brown. External, fur-lined cheek pouches—one on each side of the mouth—are used to carry food from where it is found to storage places in or near the burrow. Along the anterior part of the back, there is a specialized glandular area in the skin. The function of the gland is unknown, but may be related to scent production.

The breeding season is March to July, but some litters may be born in autumn. One litter of two to four young (average is 2.5) is born each year. The young sometimes make squeaking sounds, but adults rarely vocalize. The young's pelage is darker than that of adults, and the hairs on its tail are not elongated into a crest.

In most of its range in California, *D. agilis* is most often found in open chaparral and coastal sage-scrub communities. In the San Gabriel Mountains, it is most abundant in level tracts of coastal sage. Except for the San Diego pocket mouse, it is the most abundant mammal in this habitat. *D. agilis*'s limited power of digging restricts it to areas of loose soils, and as a



Dipodomys agilis

result, its burrows often are located in sandy areas within the chaparral community. Large colonies occur locally on sandy soils adjacent to large washes. These kangaroo rats are absent in heavy chaparral where a layer of plant debris covers the ground, such as on the north slopes, which are covered with scrub oak and lilac.

Agile kangaroo rats often burrow within and at the edges of arroyos. The entrances of burrows may be closed in the daytime. One burrow was oval in cross section and about 5 cm in diameter. The entrance sloped gently downward and the main burrow was about 20 cm below the surface for about 2.5 meters, then about 0.5 meter below for 2 meters, where it terminated in another entrance that was under a small perennial plant. This terminal entrance was nearly perpendicular for 15–18 cm. There were six branches to the burrow, varying from a few cm to 1 meter in length, each terminating in a chamber of greater diameter than the burrow. A nest made of the hulls of grass seeds was in one chamber. The other chambers were used to store acorns, grass seeds, and parts of flowers. Most of these storage chambers were closed with earth; they contained 26–149 acorns. The open chamber was only partially full.

Size

Males are slightly larger than females.

Total length: 285–320 (302) mm (males);

277–305 (295) mm (females)

Length of tail: 170–195 (181) mm (males);

170–192 (178) mm (females)

Weight: 66–79 (72) g (males); 63–78 (66) g (females)

Identification

The large body size and large ears of *D. agilis* distinguish it from all sympatric species. Compared with *D. simulans*, *D. agilis* is larger in most characters of the body and skull, the ears and hind feet are longer, and it has two more chromosomes than *D. simulans*. Compared with *D. stephensi*, *D. agilis* has much larger ears

Foods consumed by the agile kangaroo rat include seeds of forbs, grasses, and shrubs. *D. agilis* stores seeds of laurel-sumac and chamise, and will eat some insects. Scrub oak acorns and juniper tree berries have been found in cheek pouches. One immature individual had its cheek pouches stuffed with about 550 seeds of brome grass.

In southern California, populations of 5 to 15 per hectare occur in pinyon-juniper habitat from mid-September to mid-March, but populations may range in size from 6 to 232 per hectare. During peak populations, most individuals are juveniles.

Species occurring in the same area as the agile kangaroo rat include cottontails, black-tailed jackrabbits, California ground squirrels, pocket gophers, California pocket mice, Merriam's and Stephen's kangaroo rats, dusky-footed woodrats, California mice, bobcats, gray foxes, coyotes, and mule deer. Predators include Pacific rattlesnakes, great-horned owls, bobcats, foxes, and coyotes. The coyote probably is one of the major predators; remains of *D. agilis* are often found in coyote feces, and coyotes excavate many burrow systems in colonies of these kangaroo rats. Parasites include protozoans, mites, ticks, and fleas. *T. L. Best*

and usually occupies less open habitats. Compared with *D. merriami*, which has four toes on each hind foot, *D. agilis* has five toes on each hind foot.

Recent Synonyms

Dipodomys wagneri

Perodipus perplexus

Other Common Names

Pacific kangaroo rat, nimble kangaroo rat

Status

Common

Subspecies

Dipodomys agilis agilis, coastal southern
California

Dipodomys agilis perplexus, coastal and south-
central California

References

Genoways and Brown, 1993