

The Smithsonian Book of
**North American
Mammals**



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Sonoma chipmunk | *Tamias sonomae*

Tamias sonomae occurs in California north of San Francisco Bay at elevations from near sea level to 1,800 meters. No fossils are known.

The Sonoma chipmunk has a shy, retiring nature. When foraging, it usually climbs through the smaller branches of bushes, but individuals often seek elevated positions such as stumps, lower limbs of pine and oak trees, and rock outcroppings, where they rest, watch intruders, and eat food gathered elsewhere. Sonoma chipmunks call from trees, bushes, the ground, and under bushes. In reaction to alarm calls, *T. sonomae* moves rapidly in a direct path to the center of the tree or bush in which it is foraging, or directly to the nearest log, tree, or bush from open ground, where it becomes still and attentive. This alarm-response behavior makes the chipmunk's movements visible to predators for the briefest possible time. Alarm calls are emitted more often by females than males in all age groups. Adult females spend more of their active time giving alarms after the juveniles emerge from the nest than they do earlier in the spring and summer.

Chipmunks from low elevations may breed more than 5 months earlier in the spring than individuals from high elevations. Males travel extensively during the breeding season (December–June). They enter the home range of a female in estrus to breed, and then move on, vying with other, similarly-attracted males over a wide area. One litter of three to five (average is four) young is born each year. Females alone raise the litter; they stay with the young and suckle them, at least at night, for about 3 weeks after the young emerge from the nest. Weaned young remain together for some weeks after the mother no longer associates with them.

Juvenile females tend to stay near where they were born; males disperse. This produces mother-daughter groups along with less-closely-related males. When juveniles first emerge



from the nest, the number of males and females is equal, but the sex ratio favors females among older juveniles by late autumn, and the following spring, first-year females outnumber first-year males. By autumn, first-year adults have a 1:1 sex ratio, suggesting high reproduction-related mortality among females during their initial breeding attempt. Among older adults, females show higher survivorship than males, especially at 3–5 years of age. Because of their nomadism and conflict during the reproductive period, adult males are exposed to

more danger and suffer greater mortality than adult females, which maintain a limited home range.

The Sonoma chipmunk occurs in chaparral and open areas in redwood forests and the lower and drier forests of ponderosa pine. It requires habitat with trees, shrubs, logs, standing dead trees, and litter. Habitat includes chaparral, small brushy clearings in forests, and streamside thickets. *T. sonomae* is found in association with black oak, ponderosa pine, digger pine, Douglas fir, white fir, redwood, sticky laurel, incense cedar, madrone, manzanita, and serviceberry. One tree nest was in a 55-meter Douglas fir; it measured 45 by 25 centimeters, was made of dry grass, and was 15 meters from the ground. Although out in the open on a limb 2.5 meters from the trunk, the nest was beneath a dense growth of small branches and dry dead twigs.

In northwestern California, the Siskiyou chipmunk, *T. siskiyou*, occurs in fir forest that may surround habitat of *T. sonomae*. *T. siskiyou* is active among downed logs on the forest floor, but ranges into bushes of whitethorn at the edge of the forest where it meets *T. sonomae*. *T. sonomae* occurs in valley areas in the Salmon Mountains; here, *T. siskiyou* occurs at higher elevations than *T. sonomae* (about 1,800 meters). On the west slope of this range, at 990 meters elevation, both species occur together. *T. sonomae* also occurs in the same habitat as shrews, moles, cottontails, California ground squirrels, north-



Tamias sonomae

ern flying squirrels, Douglas's squirrels, California gray squirrels, voles, deer and pinyon mice, bushy-tailed woodrats, elk, and mule deer. Predators include red-tailed hawks. The only parasites reported are lice. T. L. Best

Size

No significant sexual dimorphism
Total length: 220–264 (245) mm
Length of tail: 100–126 (112) mm
Weight: 63–77 g

Identification

Within its geographic range, *T. sonomae* meets *T. amoenus*, *T. ochrogenys*, *T. senex*, and *T. siskiyou*. From *T. amoenus*, *T. sonomae* can be distinguished by its larger size, white-edged tail, and deep-reddish coloration. From *T.*

ochrogenys, *T. senex*, and *T. siskiyou*, *T. sonomae* differs as follows: body paler; legs, tail, and ears longer; tail broader and more bushy; cheeks in winter are gray instead of brown; ears in summer pelage are sparsely furred and unicolored instead of well furred and bicolored; central reddish area on underside of tail paler rather than darker anteriorly.

Recent Synonyms

Eutamias sonomae
Eutamias townsendii alleni

Status

Common

Subspecies

Tamias sonomae alleni, near San Francisco Bay, California
Tamias sonomae sonomae, northwestern California

References

Mammalian Species 444; S. F. Smith, 1978