

Santa Cruz kangaroo rat, *Dipodomys venustus venustus*

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Description: This is a narrow-faced, five-toed kangaroo rat with dark coloration (Best 1992). There are two subspecies: *venustus sanctiluciae* and *v. venustus*. *D. v. venustus* is the darker of the two subspecies and has slightly more inflated auditory bullae (Grinnell 1922). *D. venustus* potentially overlaps with three other 5-toed kangaroo rats: *D. agilis*, *D. elephantinus*, and *D. heermanni*. *D. venustus* is much darker than *D. agilis*, and has bolder facial markings, much larger ears and a much longer tail, and a number of skull characters that require sacrificing the animal to observe. *D. venustus* is smaller than *D. elephantinus*, darker in color (most distinctive in the face and ears), and the ear is smaller. In general, the ear is less than 16.5 mm in length in *D. venustus* and greater than 16.5 mm in *D. elephantinus*, although this character is not always reliable. *D. venustus* is considerably darker and the ear is larger than *D. heermanni*.

Taxonomic Remarks: The taxonomic relationships of *D. venustus*, *D. agilis*, and *D. elephantinus* are uncertain. Honacki et al. (1982) suggested that *venustus*, *elephantinus*, and *agilis* may be conspecific, but provided few data to support this conclusion. Subsequent taxonomic reviews (Wilson and Reeder 1993, Williams et al. 1993) have recognized the three species, but all agree that *D. elephantinus* may be a subspecies of *venustus*. Whether *D. elephantinus* is considered a species, or is a subspecies of *D. venustus* has little or no impact on the need for measures to protect their populations.

Distribution: *D. v. venustus* occurs in the cool, maritime mountains of west-central California. Historical records range from Mount Hamilton to Corralitos, with most specimens collected around Mount Hermon, Felton, and Bonny Doon in Santa Cruz County. Populations of *D. v. venustus* in the Santa Cruz Mountains are disjunct from populations in the Diablo and Gabilan ranges (Williams et al. 1993). *D. v. sanctiluciae* occurs to the south, in the Santa Lucia Mountains in Monterey and San Luis Obispo counties. The current distribution is uncertain. Roest (1988) provides a partial summary of the species' distribution. The species occurs in Mount Hermon, but in remnant patches of suitable habitat surrounded by development. Burrow surveys at Bonny Doon suggest the species still occurs there, although limited live-trapping efforts yielded no captures.

Life History: Like all kangaroo rats, this species is active year-round and seeds form the majority of its diet. Burrows are simple (relatively short with few branches), often located in open, abandoned agricultural land. Like other heteromyids, burrows are not dug in orchards and other actively cultivated land. The diet consists mainly of annual seeds. In one study, the most common food item was *Heterotheca grandiflora* seeds, followed by seeds of *Bromus rigidus* (Hawbecker 1940). One or two litters of two to four young are produced annually.

Habitat: *D. v. venustus* occurs in chaparral habitat in the low foothills of the Santa Cruz Mountains, on substrates of sands, loams, and sandy loams. The habitat at the common collecting localities of Mount Hermon, Felton, and Bonny Doon were described as sandy ponderosa pine parkland, with a chaparral understory. The species' distribution conforms closely to the distribution of open chaparral habitat (including *Arctostaphylos* sp. and *Ceanothus* sp.) occurring on sandy soils (Zayante or Santa Margarita soils) (Hawbecker 1940, Rudd 1948, D. Laabs pers. comm.). Other plant species reported in habitat are *Adenostoma fasciculatum*, *Salvia mellifera*, *Arbutus menziesii*, and *Lithocarpus densiflora* (Best 1992).

Status: Class II. A status review is needed. The majority of records for the Santa Cruz kangaroo rat are museum specimens from localities trapped more than 30 years ago. Prior to 1984, *D. v. venustus*

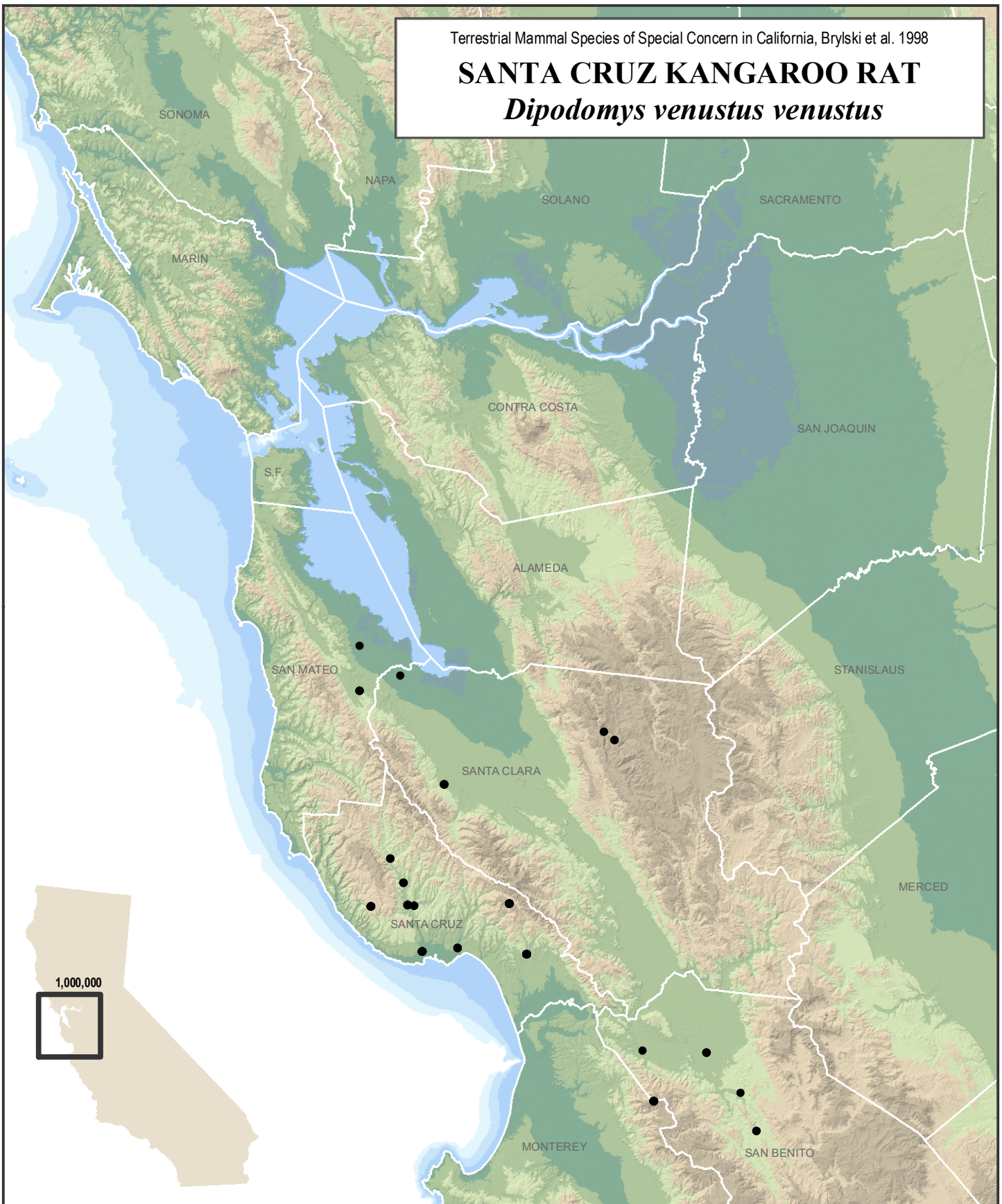
had apparently not been seen since 1960 (Roest 1988). The known populations in the area around Mount Hermon have small, disjunct distributions corresponding to the fragmented habitat in the region. Habitat loss from suburban development and sand quarrying operations, and habitat degradation from recreational uses have resulted in small, fragmented patches of occupied and potentially occupied range. Existing populations are susceptible to local extirpation, while opportunities for recolonization have been reduced. Much of potential habitat is in private ownership, and under continuing development/mining pressure. Active sand quarries in the Mount Hermon area and urbanization of the Scotts Valley area continue to reduce the area of suitable habitat. The largest undisturbed area of occupied habitat in Santa Cruz County is apparently the S. H. Cowell Foundation property adjacent to Henry Cowell State park, a site that has been proposed for development by the San Lorenzo Water District and, most recently, by the Scotts Valley School District. The Department Reserve in Bonny Doon contains important patches of habitat, but it is uncertain whether the species occurs there. There are also small patches of occupied habitat within Wilder Ranch and Henry Cowell state parks.

Management Recommendations: A range-wide survey for this species is needed to describe its current distribution and status.

Terrestrial Mammal Species of Special Concern in California, Brylski et al. 1998

SANTA CRUZ KANGAROO RAT

Dipodomys venustus venustus



- Locations verified by authors
(captures, observations, museum records)

No CNDDDB Records