

Salinas pocket mouse, *Perognathus inornatus psammophilus*

Philip V. Brylski

Description: This is a small heteromyid rodent with a TL 130 mm and TAL of 62 mm (Williams et al. 1993). No weights are available in the literature, but are approximately from 10 to 13 g. The pelage is silky, lacking bristles or spines. Dorsal pelage ochraceous buff to pinkish, overlaid with blackish hairs. The ventral pelage is white. The tail is faintly bicolored, relatively non-penicillate (the tail hairs extend ca. <6 mm posterior to the tail), and, on average, slightly greater than 50% of the TL. The antitragus of the ear is unlobed. All of the Central Valley forms differ from *P. l. longimembris* from the Mojave Desert, which have 56 chromosomes, silkier pelage, and a smaller, relatively longer tail. Distinguishing these two species is difficult and, pending resolution of the taxonomy of Central Valley *Perognathus*, may be relevant to field biologists mainly where they are sympatric in the western Mojave Desert.

Taxonomic Remarks: The taxonomy of silky pocket mice in the Central Valley is currently unresolved. The Salinas pocket mouse was originally described as *P. longimembris psammophilus* (von Bloeker 1937), later referred to *P. inornatus psammophilus*, and synonymized with *P. i. sillimani* by Williams et al. (1993). This account follows Williams et al. (1993) in recognizing three subspecies of silky pocket mice in the Central Valley: *P. i. inornatus*, *P. i. neglectus*, and *P. i. psammophilus*. Three cytotypes have been reported from the Central Valley: a 50-chromosome form from the floor and eastern edge of the San Joaquin Valley; a 56-chromosome form from the western part of the valley, referable to *i. neglectus*; and a 60-chromosome form from Lake County in the Sacramento Valley. A thorough analysis of biochemical and morphological data are needed to validate the conclusion that *P. longimembris* does not occur in the Central Valley region (Best 1993a, Williams et al. 1993) and clarify the taxonomy of *Perognathus* there.

Distribution: The three recognized subspecies of *P. inornatus* (*inornatus*, *psammophilus*, and *neglectus*) are distributed from the Sacramento Valley in Tehama County, south through the San Joaquin Valley and contiguous valleys (including Salinas Valley) to the western Mojave Desert in Los Angeles, Kern, and extreme western San Bernardino counties, and the Tehachapi Mountains and the foothills of the Sierra Nevada below approximately 2000 ft (Williams et al. 1993). The distribution of *psammophilus* was reported by Williams et al. (1993) to be from the Salinas Valley, near Soledad, southward to "at least Hog Canyon, Monterey County". This represents a reduction of the southern range of the subspecies from that reported previously (Williams unpubl.), resulting from specimens from the Carrizo Plain and the Cuyama Valley being assigned to *P. i. neglectus*.

Life History: Like other silky pocket mice, *P. inornatus* is nocturnal, spending the day in a burrow, the entrance to which is plugged with soil. Although seasonal activity patterns have not been studied in *P. inornatus*, French (1993) reported that captive *P. inornatus* remained underground for many months. All species of *Perognathus* enter torpor readily (French 1993). Torpor is a period of reduced activity and supranormal reduction of body temperature, typically as an adaptive response to low temperature, inadequate food or water, or a combination of these. French (1993) pointed out that among heteromyids that show seasonal dormancy, it is not uncommon to find some individuals active on the ground surface when most of the population is inactive. Individuals unable to cache sufficient seed supplies, for example, may find it necessary to emerge from their burrows in search of food. The Salinas pocket mouse forages mainly on seeds of grasses and forbs, but also seasonally eats green vegetation. Although the frequency at which arthropods are eaten is uncertain, it is probably occasional.

Densities reported for *inornatus* are 0.4-7.3/ha in grassland habitats (Horn and Fitch 1942, Howard

1953). The average home range in alkali sink habitat was 148 m² (range 0-333 m²) and 258 m² (range 0-385 m²) (Warner 1976 *cited in* Best 1993a).

Habitat: The habitat relations of the silky pocket mice in the Central Valley region are not well known, in large part due to extensive loss of its habitat to agricultural conversion early in this century. In general, *inornatus* occurs in open grassland and desert-shrub communities on alluvial sandy and wind drifted sands (Williams 1993, unpubl., von Bloeker 1937). Hawbecker (1951) reported *psammophilus* in *Ephedra* scrub near stream courses. Williams (no date) described the habitat as annual grassland, desert scrub (e.g., *Atriplex*, *Ephedra*, and *Haplopappus*), and oak savannah communities on sandy soils and other friable soils, although this apparently included populations now referable to *P. i. neglectus*. Similarly, Braun (1985) described the habitat for *P. inornatus* on the Carrizo Plain (previously considered to include *psammophilus*) as sandy loam flats dominated by herbs (*Erodium*, *Amsinckia*, and *Astragalus*) and grasses (*Bromus*). Historically, they were most abundant in uncultivated habitats on sandy and other friable soils on the valley floor, and less common in the marginal habitats on the valley edges.

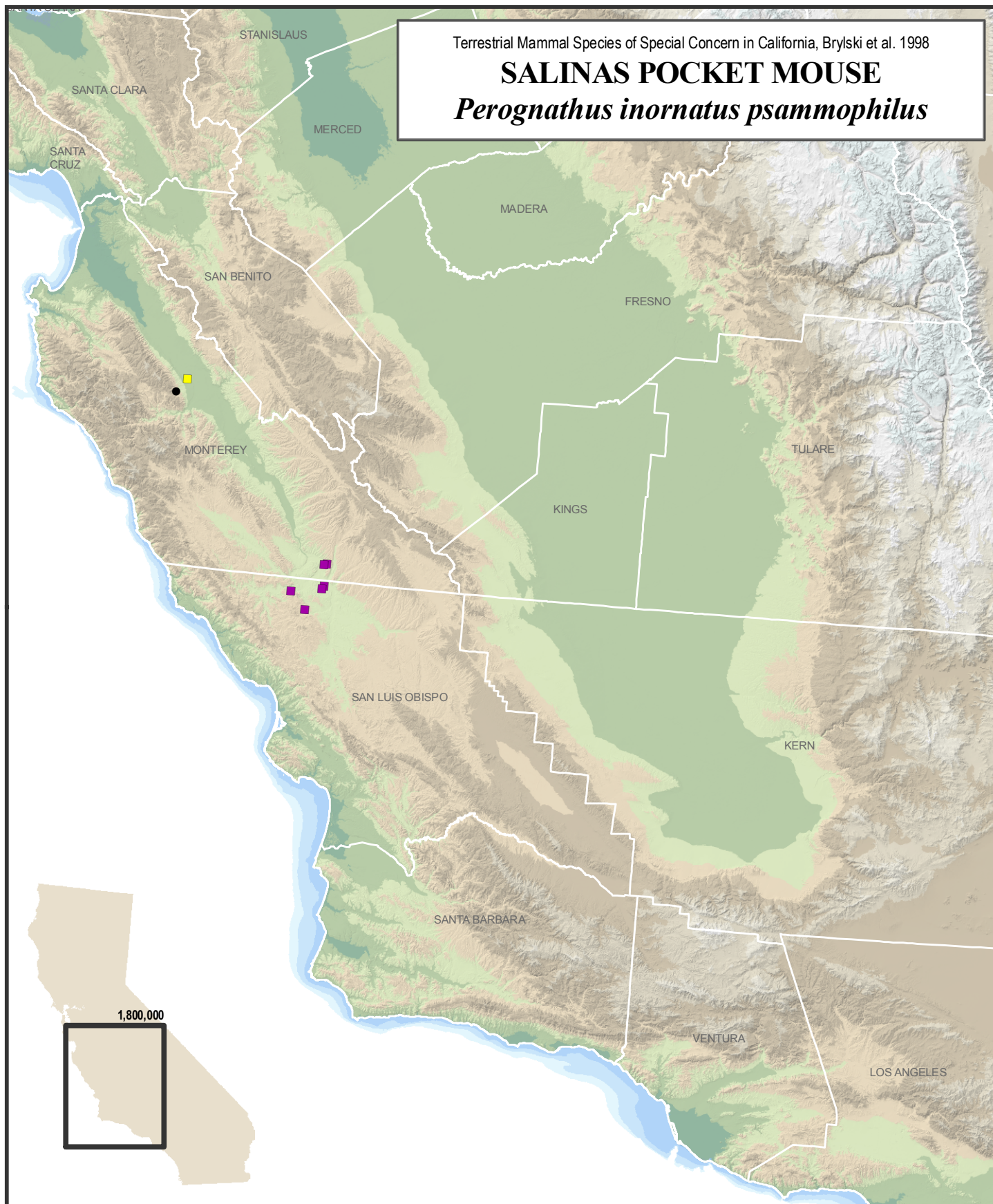
Status: Class I. Extensive and continued habitat loss and fragmentation from agricultural and urban development has resulted in declines in the distribution and abundance of *P. inornatus* in the Central Valley region. Other threats include predation by feral cats and the use of rodenticides to control California ground squirrel populations. Despite the need for additional data on the taxonomy, distribution, and abundance of the *Perognathus* populations in the Central Valley region, each of its taxonomic units may be considered sensitive as a result of habitat loss (Williams and Kilburn 1992). The declines have been dramatic for *psammophilus*, for which there have been no recent captures or sightings. *P. i. psammophilus* meets the criteria for a Species of Special Concern, and may qualify for listing as Threatened under CESA. *P. i. inornatus* and *i. neglectus* are less threatened than *psammophilus*; *i. neglectus* is included on the list of Watch List taxa.

Management Recommendations: Williams (no date) recommended the highest priority be preservation of suitable habitat in the Salinas Valley, with secondary but still important conservation efforts in the southern part of the species' range. There is an urgent need for work on the systematics of Central Valley *Perognathus* owing to the historic rate of population decline and loss, which may be resulting in the loss of important genotypes of the species. Focused surveys in appropriate habitat in the Salinas Valley and in the southern part of its range are needed to locate extant populations.

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

SALINAS POCKET MOUSE

Perognathus inornatus psammophilus



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

■ CNDDB 1979 - 1998

■ CNDDB 1978 and before