

# Peromyscus pembertoni.

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## *Peromyscus pembertoni* Burt, 1932

### San Pedro Nolasco Deer Mouse

*Peromyscus pembertoni* Burt, 1932:176. Type locality “San Pedro Nolasco Island (Latitude 27°58'N, Longitude 111°24'W) Gulf of California, Sonora, Mexico.”

**CONTEXT AND CONTENT.** Order Rodentia, suborder Sciurognathi, family Muridae, subfamily Sigmodontinae, genus *Peromyscus* (Musser and Carleton 1993), subgenus *Haplomyomys*. *P. pembertoni* is monotypic (Carleton 1989; Hooper 1968).

**DIAGNOSIS.** *Peromyscus pembertoni* (Fig. 1) may be distinguished from all members of the subgenus *Haplomyomys*, except *P. merriami dickeyi* (sensu Hafner et al. 2001) by its relatively short tail (Burt 1932). *P. pembertoni* is larger in all body measurements than *P. eremicus*, *P. fraterculus* (sensu Hafner et al. 2001), and *P. merriami*. Dorsal color of *P. pembertoni* is a lighter cinnamon than that of *P. merriami*. Compared to the sympatric *P. boylii glasselli*, *P. pembertoni* is of larger body size, and length of tail is about equal in length to head; tail size is larger in *P. b. glasselli* (Burt 1932); and the 2 main outer angles of m1 and m2 are simple, without the accessory cusps or enamel loops that are present in *P. boylii* (Osgood 1909).

**GENERAL CHARACTERS.** Tail is bicolor, brownish above and white below, and its length is about equal to length of head and body. Dorsal surface is light cinnamon to ochreous buff, lightly mixed with fine dusky lines on back. Head is paler relative to back. Ventral surface is white. Young individuals are pale slate gray (Burt 1932). Interparietal bone is narrow antero-posteriorly, rostrum is heavy, and premaxilla extends posteriorly beyond nasals (Fig. 2; Burt 1932). Bacular dimensions of *P. pembertoni* are closer to those in *P. merriami* than *P. eremicus* (Lawlor 1971a).

Average measurements ( $\pm 2$  SE; in mm) of 7 adults are: total length, 210.6 ( $\pm 2.0$ ); length of tail, 104.9 ( $\pm 0.05$ ); length of hind foot, 24.57 ( $\pm 0.20$ ); greatest length of skull, 27.34 ( $\pm 0.18$ ); zygomatic breadth, 14.35 ( $\pm 0.07$ ); mastoid breadth, 12.11 ( $\pm 0.05$ ); length of nasal, 10.16 ( $\pm 0.07$ ); length of maxillary toothrow, 4.44 ( $\pm 0.04$ —Lawlor 1971a).

Skull is robust (Lawlor 1971a), large, and heavy; zygomatic arches taper anteriorly. Sutures between frontal and parietal bones form an acute angle at the median line. Length of maxillary tooth row is greater than interorbital breadth.

**DISTRIBUTION.** *Peromyscus pembertoni* is known only from Isla San Pedro Nolasco, Gulf of California, México (Fig. 3; Burt 1932, 1938; Caire 1997; Lawlor et al. 2002). No fossils are known.

**FORM AND FUNCTION.** Baculum has a broad base, shallow depression above and below, and a small notch at extreme basal end (Burt 1960). Average measurements (range) of bacula of 4 specimens are length, 10.75 mm (10.3–11.3) and width of base, 2.05 mm (1.9–2.2—Burt 1960).

**ECOLOGY.** San Pedro Nolasco is the only island in the Gulf that supports 2 species of *Peromyscus* (*P. pembertoni* and *P. boylii glasselli*). No other mammals occur on the island (Burt 1932). *P. pembertoni* was collected on a steep, grass-covered hillside on the east side of the island (Burt 1938).

Isla San Pedro Nolasco has an area of 3.2 km<sup>2</sup> and is 10 km west of the Sonoran coast (Nieto-Garibay 1999). Dominant plants (Moran 1983) are: elephant tree/torote (*Bursera microphylla*), pitayita (*Echinocereus websterianus*), liga (*Euphorbia magdalenae*), Adam's tree/palo adan (*Fouquieria diguetii*), leatherplant/matacora



FIG. 1. Specimen of *Peromyscus pembertoni* endemic from Isla San Pedro Nolasco. Drawing from specimen 59644MUZ by Oscar Armendariz.

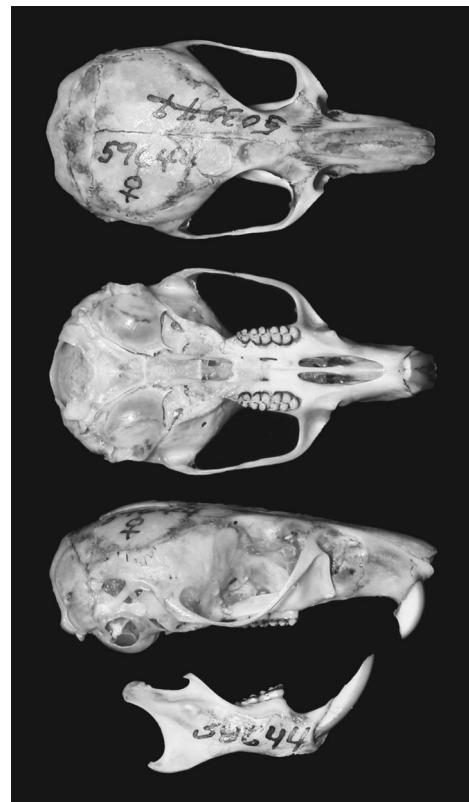


FIG. 2. Dorsal, ventral, and lateral views of cranium and lateral view of mandible of *Peromyscus pembertoni* (adult female from Isla San Pedro Nolasco, Sonora, Mexico; Museum of Vertebrate Zoology, University of California, number 59644). Greatest length of cranium is 26.23 mm. Drawing by Oscar Armendariz. Photography by Sergio Ticul Álvarez-Castañeda.

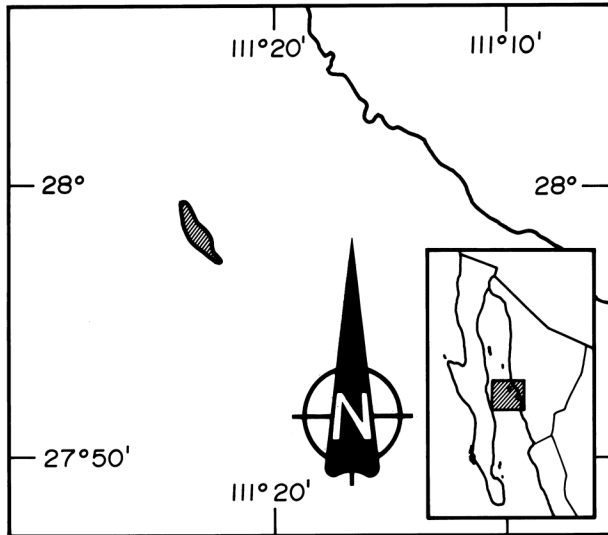


FIG. 3. Distribution of *Peromyscus pembertonii* in Sonora, Mexico (modified from Álvarez-Castañeda and Cortés-Calva 1999).

(*Jatropha cuneata*), biznaguilla/fishhook cactus (*Mammillaria multidigitata*, *M. tayloriorum*), malva rosa (*Melochia tomentosa*), chain-fruit cholla/cholla (*Opuntia fulgida* var. *fulgida*), cardon (*Pachycereus pringlei*), slipper plant/candelilla (*Pedilanthus macrocarpus*), jojoba (*Simmondsia chinensis*), and pitaya dulce/organpipe cactus (*Stenocereus thurberi*).

**REMARKS.** *Peromyscus pembertonii* is most similar to *P. merriami dickeyi* of Isla Tortuga (Burt 1932, Hooper 1968), but Lawlor (1971a) and Hafner et al. (2001) believe it is derived from *P. merriami* on the Sonora mainland. Burt (1932) reported that *P. boylii* and *P. pembertonii* were collected in about equal numbers in 1931, the only known collection of *P. pembertonii* (Lawlor 1983). Extensive collecting (>7,000 trapnights over 10 years) covering all part of the island had “failed to turn up *P. pembertonii*, suggesting that it is now extinct” (Lawlor 1983:263). The presence of *P. boylii glasselli* and the absence of *P. pembertonii* suggest that the former may be competitively superior and may supplant the latter (Lawlor 1971b).

In 1997, no specimens of *P. pembertonii* were collected on Isla San Pedro Nolasco (Álvarez-Castañeda and Cortés-Calva 1999; Álvarez-Castañeda and Ortega-Rubio 2003). In the early 1980s, Bernardo Villa tried to find the species on the island. Lawlor (1971a, 1983) and Carleton (1989) consider the species extinct. The Mexican government (NOM 2001) considers the species as endangered.

The species is named for Mr. J. R. Pemberton, who financially supported natural history surveys to the islands of the Gulf of California (Burt 1932).

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