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Liomys spectabilis.

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Liomys spectabilis Genoways, 1971

Jaliscan Spiny Pocket Mouse

Liomys spectabilis Genoways, 1971:1. Type locality from 2.2 mi NE Contla, 3,850 ft, Jalisco, Mexico.

CONTEXT AND CONTENT. Order Rodentia, family Heteromyidae, subfamily Heteromyinae, genus *Liomys*. *L. spectabilis* is monotypic (Williams et al. 1993).

DIAGNOSIS. *Liomys spectabilis* is much larger than *L. pictus* and does not have unworn permanent premolars (Fig. 1). Measurements do not overlap among adult specimens, except for interparietal length of adult females (Genoways 1971, 1973). Length of hind foot of *L. spectabilis* may be >30 mm, whereas that of *L. pictus* is <30 mm.

Liomys spectabilis has a longer, narrower cranium than *L. irroratus*. Bacular morphology of *L. spectabilis* resembles that of *L. pictus* and is distinct from that of *L. irroratus*. Six plantar tubercles are present on hind foot of *L. spectabilis* versus 5 on *L. irroratus*. *L. spectabilis* is dorsally reddish brown and has a lateral stripe that is bright ochraceous versus *L. irroratus*, which has a grayish brown dorsal color and a pale pink, lateral stripe (Dowler and Genoways 1978; Genoways 1971).

Liomys salvini is smaller than *L. spectabilis*. Baculum of *L. spectabilis* has a ventral keel, which is lacking on *L. salvini* (Genoways 1973).

Liomys spectabilis is slightly smaller than *L. adspersus*. Bacular keel of *L. spectabilis* is another characteristic that distinguishes the 2 species, as well as glans penis, which is shorter in length in *L. spectabilis* (Genoways 1973).

GENERAL CHARACTERS. Pelage is hispid, containing stiff spines mixed with slender soft hairs. Ventrum is white. Hairs on back do not curl upward so are not conspicuous above spines. Wings of pterygoids are narrow (Fig. 2; Williams et al. 1993). External measurements (in mm) of the holotype male are: total length, 280; length of tail, 142; length of hind foot, 31; length of ear, 17; length of maxillary toothrow, 5; length of rostrum, 16; depth of braincase, 8.6 (Genoways 1971, 1973). Morphometrics of 4 adult females for the first 2 measurements and of 8 females for the next are (mean and observed range): total length, 249.5 (242–261); length of tail, 129 (122–134); length of hind foot, 30.4 (29.5–32); length of ear, 16.9 (16.5–17.5—Genoways 1971, 1973; Williams et al. 1993). Two adult males were 67.1 and 69.3 g; 7 nonpregnant adult females averaged 51.2 g (48.6–56.1—Genoways 1971, 1973). Cranial measurements (mean ± 2 *SE* and/or range; in mm) from adult males are as follows: greatest length of skull, 35 ± 0.30 (34.7–35.2; $n = 3$); zygomatic breadth, 15.2–16.3 ($n = 2$); interorbital constriction, 8.2 ± 0.07 (8.1–8.2; $n = 3$); mastoid breadth, 14.6 ± 0.72 (13.9–15.1; $n = 3$); length of nasals, 14.5 ± 0.97 (14–15.5; $n = 3$); length of rostrum, 15.8–16 ($n = 2$); length of maxillary toothrow, 5–5.4 ($n = 2$); depth of braincase, 8.5–8.6 ($n = 2$); interparietal width, 9.0 ± 0.29 (8.7–9.2; $n = 3$); interparietal length, 4.8 ± 0.18 (4.6–4.9; $n = 3$). Cranial measurements for females are (mean ± 2 *SE* with range and sample size): greatest length of skull, 34.1 ± 0.59 (33.0–35.3; 8); zygomatic breadth, 15.6 ± 0.37 (14.8–16.3; 6); interorbital constriction, 8 ± 0.21 (7.5–8.4; 8); mastoid breadth, 14.5 ± 0.33 (14–15.4; 8); length of nasals, 13.6 ± 0.40 (12.6–14.2; 8); length of rostrum, 15.5 ± 0.35 (14.8–16.2; 8); length of maxillary toothrow, 5.2 ± 0.12 (5.0–5.6; 8); depth of braincase, 8.4 ± 0.12 (8.2–8.6; 7); interparietal width, 8.5 ± 0.28 (8.5–9; 8); interparietal length, 4.4 ± 0.19 (4.0–4.8; 8—Genoways 1971, 1973).

DISTRIBUTION. *Liomys spectabilis* is restricted to southwestern Jalisco, Mexico (Fig. 3). The known southern limit is 8.5 mi S of Mazamitla. The northern limit is 8 mi SW of Tecalitlán (Genoways 1971; Hall 1981). Altitudinal range is 960 to 1,615 m (Genoways 1973). No fossils are known.

FORM AND FUNCTION. Baculum is longest among *Liomys* (Genoways 1973). Ventral bacular keel is 1.30 mm. Distal end of shaft with ventral keel is laterally compressed. Shaft is dorsoventrally compressed posterior to terminal keel (Williams et al. 1993), and base of baculum is rounded. Urethral lappets of glans penis are trilobed (Genoways 1973). Tip protruding from the terminal crater of the glans is shortest among *Liomys* (McGhee and Genoways 1978). Head of spermatozoon is large, with pointed apex and distinct neck between head and midpiece (Genoways 1973).

Dental formula is i 1/1, c 0/0, p 1/1, m 3/3, total 20. In 17 specimens, interparietal bone is undivided. Of these specimens, 77.8% had posterior margin of interparietal bone unnotched, 16.7% had a small notch, and 5.5% had a large notch. Of the same specimens, 64.7% had nasal bones terminating in an emarginated shape, 23.5% had nasal bones rounded terminally, and 11.8% had nasal bones truncated posteriorly. Of these 17 individuals, 88.2% had premaxillary bones that terminated posterior to end of nasals, and 11.8% had nasal and premaxillary bones that terminated at the same level (Genoways 1973).

ONTOGENY AND REPRODUCTION. In September a female carried 5 embryos that averaged 4 mm in crown–rump length. Testes length of 4 adult males averaged 21.5 mm (range, 21–22—Genoways 1971).

ECOLOGY. Original vegetation of the distributional area is xerophytic montane and *Quercus* forest (Rzedowsky 1981), but current agricultural use has greatly modified the landscape (Genoways 1971; Sánchez-Cordero and Fleming 1993). Some specimens were caught in the immediate vicinity of a highway. Weeds, low brush, cornfields, grass, and several trees compose the typical habitat of the Jaliscan spiny pocket mouse (Genoways 1973).

GENETICS. Diploid chromosome number is 48, and fundamental number (FN) is 64 (Genoways 1973; Patton and Rogers 1993). Karyotype comprises 9 pairs of metacentric autosomes, 14 pairs of medium-sized to small telocentric autosomes, a medium-sized metacentric X, and a small subtelocentric Y chromosome. Chromosome pair 11 is telocentric due to a pericentric inversion that accounts for the difference in FN with other *Liomys*. Chro-

FIG. 1. *Liomys spectabilis* from Contla, Jalisco, Mexico. Photograph by B. Hernandez-Meza.

FIG. 2. Dorsal, ventral, and lateral view of skull and lateral view of mandible of *Liomys spectabilis* collected at 3 km NNE Contla, Tanmazula de Giordiano, Jalisco (Instituto de Biología, Universidad Nacional Autónoma de México 28217). Greatest length of skull is 33.5 mm. Photograph by Yolanda Domínguez-Castellanos.

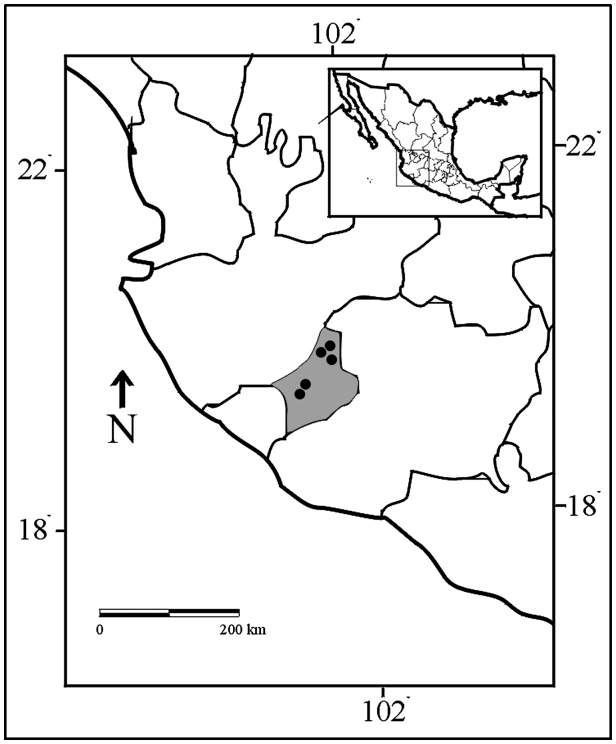

FIG. 3. Geographic distribution of *Liomys spectabilis* in the southeast of Mexico (from Genoways 1971).

mosome pair 12 has lost some euchromatin, probably via a telocentric T-type form (with no short arms). Addition of euchromatin occurred in pair 22. Heterochromatin of chromosomes displays interstitial blocks of C-bands along the arms, in addition to peripheral heterochromatin (Cervantes et al. 1999). Six centric fusions and 1 pericentric inversion (Robertsonian events) can explain the derivation of the karyotype of *L. spectabilis* from the ancestral lineage of *L. irroratus*, and 1 additional pericentric inversion produces the karyotype of *L. pictus* (Genoways 1973). Chromosomal polymorphism of *L. pictus* suggests that both species are sister taxa, and both are equally related with *L. irroratus* (Rogers 1990). A vicariant event is proposed to explain the separation between *L. p. pictus* and *L. spectabilis* (Rogers and Engstrom 1992), supporting the hypothesis by homologing the G-bands of both species (Cervantes et al. 1999).

CONSERVATION STATUS. *Liomys spectabilis* is an endemic restricted to a few localities in Jalisco and is considered rare due to low numbers of specimens (Arita and Ceballos 1997; Genoways 1973). Habitat destination by extended agricultural use threatens the Jaliscan spiny pocket mouse.

REMARKS. The generic name *Liomys* is a combination of the Greek *lio* (plain) and *mys* (mouse) referring to the absence of specialized characteristics (Dowler and Genoways 1978); *spectabilis* (striking) refers to the dorsal reddish brown, which is more striking than in other species (Best 1988). *L. spectabilis* occupies a restricted distribution near the eastern limit of the geographic range of *L. pictus* in Jalisco. The precursor of these 2 species occurred throughout western Mexico, and the parental stock was split in 2 parts in response to changing environmental conditions. One segment was restricted to coastal regions of western Mexico and gave rise to *L. pictus*, whereas the other was isolated in interior Jalisco and gave rise to *L. spectabilis* (Genoways 1971, 1973).

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