Western North American Naturalist 82(3), © 2022, pp. 599–602

Recent records of Anthony's Mexican mole (*Scapanus anthonyi* Allen, 1893) in Sierra San Pedro Mártir, Baja California, México

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Abstract.—We describe 2 recent records with specimens for the endangered endemic mole *Scapanus anthonyi* in Sierra San Pedro Mártir, Baja California, México. A comparison of cranial measurements with previous specimens is given to illustrate within-species variation and to provide taxonomic corroboration.

Resumen.—Describimos 2 registros recientes con espécimen para el topo endémico en peligro de extinción, *Scapanus anthonyi*, en la Sierra de San Pedro Mártir, Baja California, México. Una comparación de mediciones craneales con especímenes previos es proveída para variación y corroboración taxonómica.

Anthony's Mexican mole (*Scapanus anthonyi* Allen, 1893) is a species endemic to the highlands of the Sierra San Pedro Mártir, Baja California, México, with only 11 specimens collected from 4 localities (Yates and Salazar-Bravo 2005, GBIF 2021). It is the smallest mole of the genus *Scapanus* and has a black dorsal coloration, a short tail, and front legs as wide as they are long (Palmer 1937, Alvarez Castañeda and Cortés-Calva 2021). This genus is only known in Mexico for Baja California. *Scapanus latimanus* is common in the western United States and is represented in Baja California by the subspecies *S. latimanus occultus* Grinnell and Swarth, 1912, found only at Laguna Hanson, Baja California (Guevara et al. 2015). Another species of *Scapanus*, *S. anthonyi*, is endemic to the Sierra San Pedro Mártir. *Scapanus anthonyi* is listed as endangered according to the Norma Oficial Mexicana NOM-059-SEMARNAT-2010 (SEMARNAT 2010).

On 12 November 2018, an adult male *S. anthonyi* was found (CVUABC-1126) in the locality of Vallecitos, situated in the northeastern part of the Sierra de San Pedro Mártir National Park (PNSSPM; 31.007318, −115.491965; elevation 2433 m asl; Fig. 1). This specimen was found by park rangers while they were on a surveillance tour. The collection site is a meadow of *Astragalus circumdatus*, *Leptosiphon melingii*, and *Calyptridium monospermum* on Fluvisol-type soil with a depth of 150 cm (Delgadillo Rodríguez 2004).

Subsequently, on 29 April 2019, a second dead specimen of an adult female in an advanced state of decomposition (CVUABC-1127) was found at this same national park near a small creek located between the public-use subzone and the El Cóndor conservation area (31.009403, −115.555426; elevation 2510 m; Fig. 1). The collecting site consists of coniferous trees, including *Pinus lambertiana*, *Pinus jeffreyi*, and *Abies concolor*, and Regosol-type soil (Delgadillo Rodríguez, 2004).

The 2 specimens described above (Fig. 2) were deposited in the mammal collection of the Facultad de Ciencias, Universidad Autónoma de Baja California (CVUABC-1126 [skull and skin] and CVUABC-1127 [skin only]). The second

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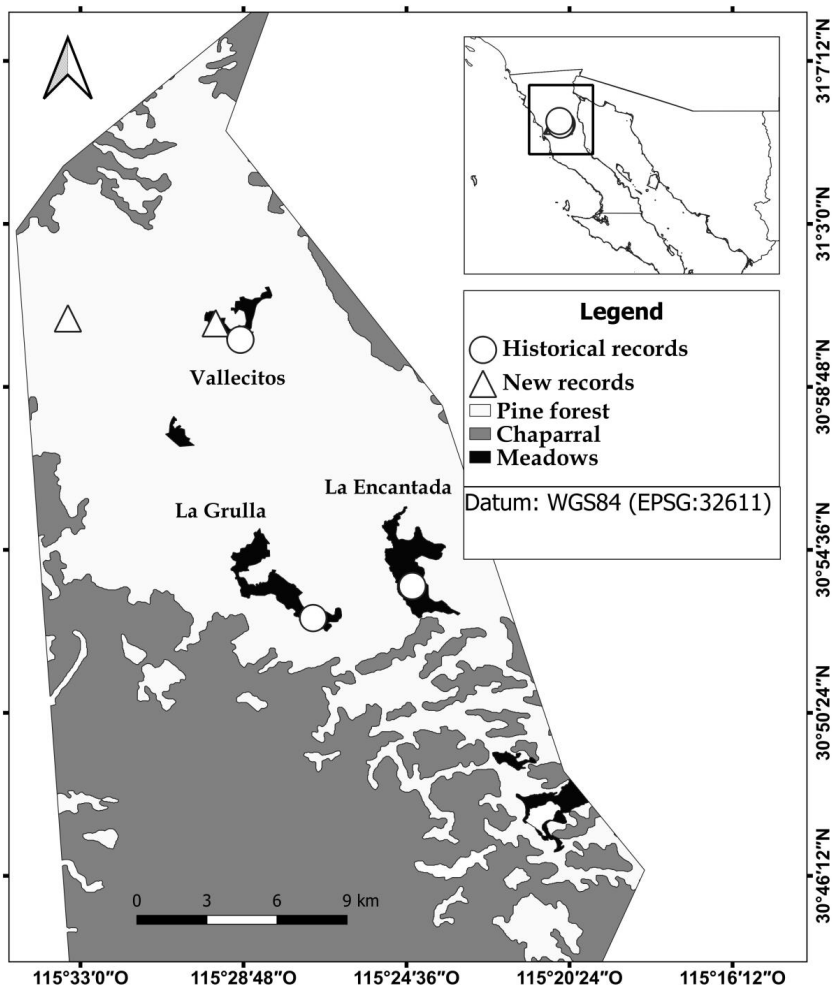

Fig. 1. Sites of historical records and recent records of Anthony's Mexican mole (*Scapanus anthonyi*) in San Pedro Mártir National Park, Baja California, México. Historical records were obtained from Vertnet (2021) and GBIF (2021).

specimen lacks skeleton and skull because both were damaged.

Specimen body measurements (mm) and weight (g) are as follows:

> CVUABC-1126: weight 36 g, total length 133.75 mm, hind foot length 18.3 mm, and tail length 16.5 mm (short tail length possibly due to damage).
>
> CVUABC-1127: weight 40 g, total length 140.2 mm, hind foot length 18.2 mm, and tail length 25.2 mm.

Body measurements of the 2 specimens were compared with 5 specimens from the Museum of Vertebrate Zoology (MVZ) at the University of California, Berkeley. Cranial measurements of CVUABC-1126 were compared with those described for this species by Yates and Salazar-Bravo (2005) (Table 1).

Cranial measurements and dental features corroborate the taxonomic identification of recent specimens (Table 1), particularly the presence of a reduced parastyle on M1, as well as a larger temporal fossa compared to the species' closest congener, *S. latimanus occultus* (Fig. 2; Yates and Salazar-Bravo, 2005).

The 2 recent records of *S. anthonyi* in the PNSSPM provide evidence of its current presence after its last record—a specimen collected in 1982 by Dwight W. Moore in the locality of Vallecitos (GBIF 2021). Dinets (2018) pointed out that during a field trip to

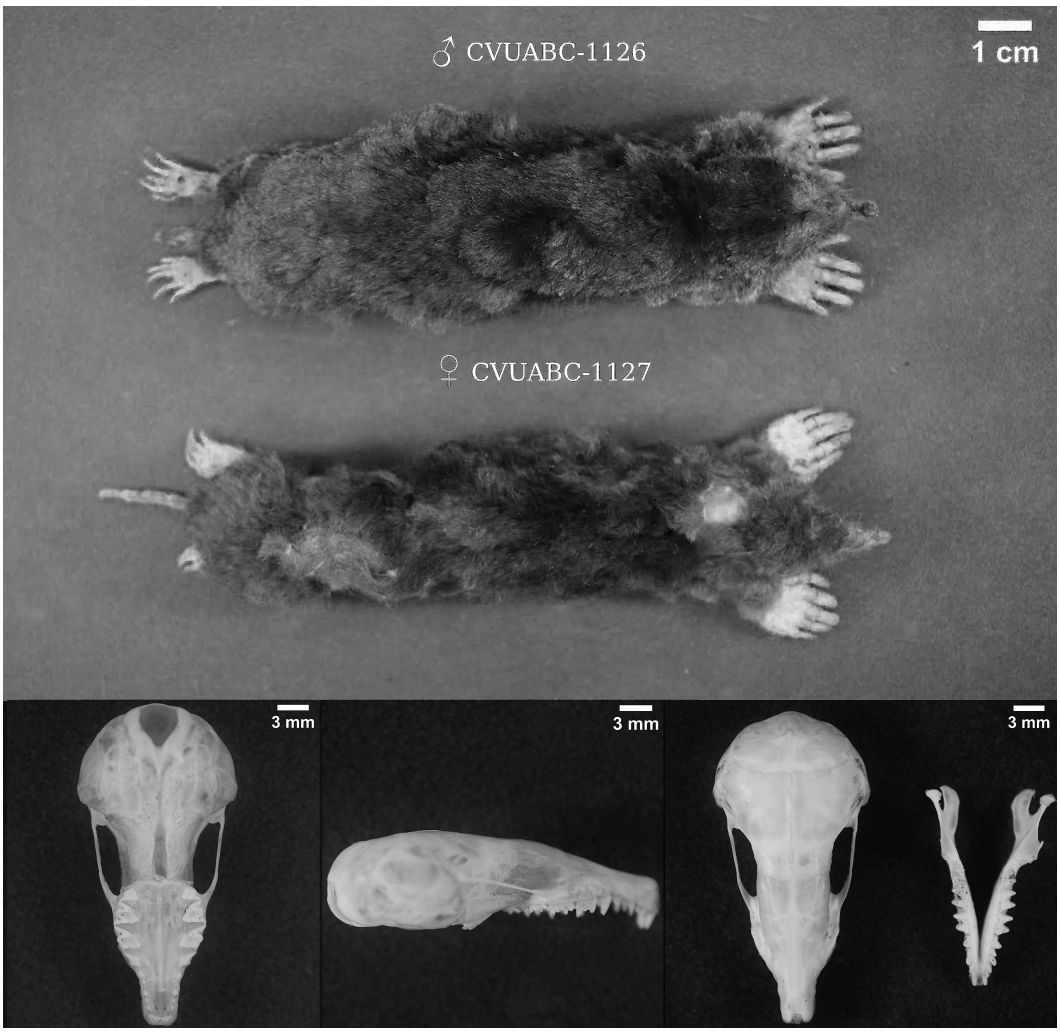

Fig. 2. Voucher specimens of Anthony's Mexican mole (*Scapanus anthonyi*) from Sierra San Pedro Mártir, Baja California, México: skins (CVUABC-1126 and CVUABC-1127) and skull (CVUABC-1126).

Sierra San Pedro Mártir, he observed 2 moles (31°02′38″N, 115°27′54″W, elevation 2800 m) in the park, but no specimens were collected.

Previously recorded specimens had been collected in meadows in the valleys of La Grulla, La Encantada, and Vallecitos, exclusively. However, the second specimen (CVUABC-1127) was collected in a mixed coniferous forest, which we consider to be a new habitat for this species. It is worth mentioning that some authors report that mole specimens collected for this genus are individuals found dead after heavy rainfall or apparently hunted by some predator, not collected by trapping (Ceballos and Oliva, 2005). Nevertheless, we consider the site a new habitat because we identified burrows and mole galleries in the place where the mole was found.

The 2 new specimens of Anthony's Mexican mole were found in areas with low anthropogenic activity within the PNSSPM. It is important to note that the first specimen was found in an experimental exclusion area for cattle and ecotourism, where there is no effect of disturbance by these anthropogenic activities. We consider that threats faced by this mole and its habitat in its area of distribution require baseline studies to establish conservation strategies.

Table 1. Comparison of cranial measurements (mm) of the recent specimen (CVUABC-1126) of *Scapanus anthonyi* with average values reported for this species by Yates and Salazar-Bravo (2005).

	Scapanus anthonyi	
Cranial measure (mm)	CVUABC-1126	Yates and Salazar-Bravo 2005
Greatest length of skull	30.28	30.5 ± 0.6
Basal length	26.38	26.0 ± 0.6
Mastoid breadth	17.74	15.2 ± 0.4
Least interorbital breadth	6.92	7.0 ± 0.3
Length of maxillary toothrow	8.99	9.3 ± 0.2
Palatal length	13.83	13.2 ± 0.3
Width across M2-M2	8.65	8.8 ± 0.6
Width across canines	3.38	3.6 ± 0.2
Depth of skull	8.33	8.6 ± 0.2

Acknowledgments

Our thanks go to Francisco Arce Ruiz and Mohamed Saad for obtaining the specimens, the rangers of the Sierra San Pedro Mártir National Park for logistic support in the field, Chris Conroy of the Museum of Vertebrate Zoology at UC Berkeley, California, for providing curatorial and biometric data of specimens, and 2 anonymous reviewers who made useful comments that improved the content of the note.

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Received 30 November 2021
Revised 18 March 2022
Accepted 11 April 2022
Published online 4 August 2022