

The Lane's Leaf-toed Gecko, *Phyllodactylus lanei* Smith, 1935: a new state record for Zacatecas, Mexico

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Lane's Leaf-toed Gecko (*Phyllodactylus lanei*) is endemic to Mexico and ranges from Nayarit, including the Río Grande de Santiago basin, south through Jalisco, Colima, Michoacán, Morelos and Guerrero, including the Río Balsas basin (Ramírez-Bautista, 1994; Ponce-Campos and García-Aguayo, 2007; Aréchega-Ocampo et al., 2008). *Phyllodactylus lanei* inhabits boulders, cliffs, and trees in the dry forest, thorn scrub, mangrove forest and it is usually found in human constructions, from the sea level to approximately 1.425 m (García and Ceballos, 1994; Ramírez-Bautista, 1994; Aréchega-Ocampo et al., 2008). The species is listed by IUCN as Least Concern (LC), and in the lower portion of the high vulnerability category (15) in the Environmental Vulnerability Score (Wilson et al., 2013), but is not included in the Mexican threatened species list Norma Oficial Mexicana (NOM-059-SEMARNAT-2010, Diario Oficial de la Federación, 2010). Here, we present data that adds *P. lanei* to the reptile fauna of Zacatecas.

On 04 August 2016, while conducting a field inventory of the Zacatecas herpetofauna, we found an adult male *P. lanei* beneath a rock, in dry forest-thorn scrub habitat in the Municipality of Valparaiso, Zacatecas, (22.640453 ° N, -104.099561 ° W [WGS84]; 1186 m above sea level). Several specimens were observed in the surroundings. The specimen was collected under the permit SEMARNAT SGPA/DGVS/030709/16, verified by Bradford Hollingsworth and a photo was deposited in the San Diego Natural History Museum (SDSNH_HerpPC_05344), and the specimen was deposited in the Vertebrate Collection of Universidad Autónoma de Aguascalientes (CZUAA-REP-647; Fig. 1). Vegetation in the dry forest-thorn scrub was represented by Palo Blanco (*Lysiloma divaricatum*), Copal (*Bursera* spp.), Fern-leaf Acacia (*Acacia pennatula*), Catclaw Mimosa (*Mimosa monancistrata*), Palo Bobo (*Ipomoea murucoides*), Ocotillo (*Fouquieria splendens*), and Prickly Pear (*Opuntia fuliginosa*) (Sousa and Martínez, 2010).

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Figure 1. Adult male specimen of *Phyllodactylus lanei* from Valparaiso, Zacatecas, Mexico (SDSNH_HerpPC_05344).

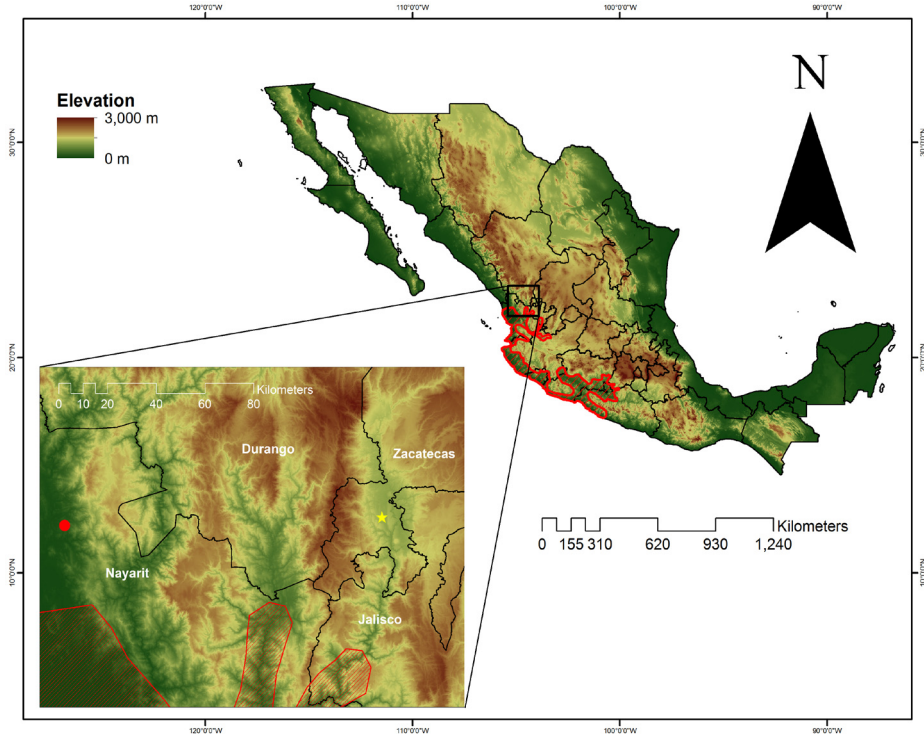


Figure 2. The geographic range of *Phyllodactylus lanei*, red area represents the IUCN Red List of Threatened Species distribution (Ponce-Campos and García-Aguayo 2007). The yellow star represents the new record of *Phyllodactylus lanei* for Zacatecas at Valparaíso; red spot nearest recorded locality at Huajicori, Nayarit.

Phyllodactylus lanei is a large gecko with a snout-vent length (SVL) of 78 mm (Smith, 1935; Dixon, 1964). The dorsal and lateral scales are mostly granular, but there are enlarged tubercles in several rows on the back and sides. Similar but smaller tubercles are on the dorsum of the head and limbs, and on the sides of the tail. This species is characterized by having 13 to 19 (16.1) longitudinal rows of enlarged dorsal tubercles; paravertebral tubercles 30 to 41 (35.3); those between the axilla and groin 14 to 22 (18.7); four rows of tubercles on each side at base of the tail, 12-19 interorbital scales (15.4); scales across snout between third labials 18 to 26 (21.6); scales across venter 25 to 35 (30.2); ventrals from gular region to anus 60 to 75 (69.5); scales between nostril and eye 8 to 15 (11.4) and there are no femoral or preanal pores (Smith, 1935; Dixon, 1964). The dorsal background colour is light grey; between the levels of the limbs are seven pairs of dark squarish blotches, separated at midline. The forelegs and tail are banded, the head and hind limbs spotted. The ventral surface is flesh to white

(Dixon, 1964). *Phyllodactylus lanei* is the only species of gecko native to the state that lacks eyelids, and has only one, terminal pair of enlarged lamellae under the digits, unlike *Hemidactylus frenatus* (non-native) with most of the sub-digital lamellae enlarged.

This specimen represents the first record of the species for the state of Zacatecas and extends the known geographic range 120.3 km west from the nearest previous record at 6 km southeast Huajicori, Nayarit (KU-63370; GBIF, 2016) (Figure 2). *Phyllodactylus lanei* is likely a species complex with many lineages currently recognized as four subspecies (*P. l. isabellae*, *P. l. lanei*, *P. l. lupitae*, and *P. l. rupinus*) (Castro-Franco and Uribe-Peña, 1992). Our specimen corresponds to the northwestern form *P. l. rupinus*, which differs from the other subspecies in having interorbital scales 12 to 17 (14.2); 13 to 16 (14.6) longitudinal rows of enlarged dorsal tubercles; 30 to 38 (32.9) tubercles in one paravertebral row; those from axilla to groin 15 to 20 (17.2); tail with 6-4-2 reduction in tubercular

rows; 66 to 75 (69.5) scales from gular to anus; snout-vent length varies from 49 to 70 mm, (58.6) (Dixon, 1964). The specimen from Zacatecas had a length of 68 mm of SVL, 130 mm of TL; 15 interorbital scales; 15 longitudinal rows of enlarged dorsal tubercles; 29 tubercles in one paravertebral row; 6 rows of enlarged tubercles on the proximal one-fourth of the tail and 66 scales from gular to the anus. Our discovery of *P. lanei* suggests that additional species typical of the Pacific slope likely remain to be documented for the state and reinforces the importance of the canyons of the upper basin of the Río Grande de Santiago as biota corridors. Due to the high number of endemic species and the low number of human settlements this area is an important area for conservation (Sousa and Martínez, 2010).

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