



New Distributional and Elevational Records for Herrera's Alligator Lizard, *Barisia herrerae* (Squamata: Anguidae), in Central Mexico

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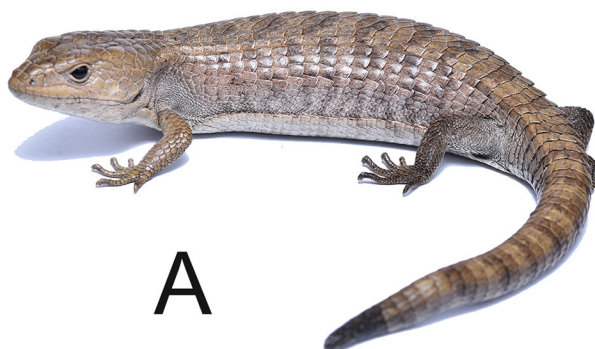
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Herrera's Alligator Lizard (*Barisia herrerae*), first described by Zaldívar-Riverón and Nieto-Montes de Oca (2002), is a large anguid (mean adult SVL = 122 ± 1.7 mm) with characteristic lateral granular scales largely covered by skin folds. Dorsal and lateral coloration is olive gray, sometimes yellowish or light brown, ventral coloration is cream (Ramírez-Bautista et al. 2009; González-Hernández et al. 2021). Distributed in the states of Morelos and México, these diurnally active terrestrial lizards are found mainly in temperate pine-oak forests at elevations of 2,350–2,500 m asl where they occasionally climb trees (Aguilar-Miguel et al. 2021).

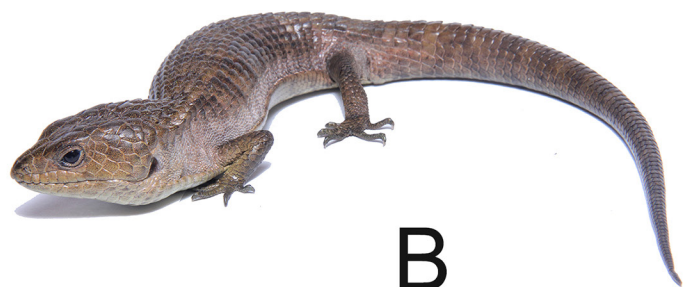
Barisia herrerae currently is listed as Endangered (EN) on the IUCN Red List (Flores-Villela, and Canseco-Márquez 2007), is not listed on NOM-059-SEMARNAT-2010 (SEMARNAT 2010), and as High Vulnerability (H) according to the EVS (Environmental Vulnerability Score) (Lemos-Espinal and Smith 2020). Most records of *B. herrerae* are in northern and northwestern Morelos and adjacent Estado de

México. The type locality is the Municipality of Ocuilan (elev. 2,350 m asl) on the border between the Estado de México and Morelos (Zaldívar-Riverón and Nieto-Montes de Oca 2002).

During herpetological surveys in the Municipality of Tenancingo de Degollado, Estado de México, in pine-oak forest, we found two *B. herrerae*; the first on 16 May 2023 was an adult female (SVL = 120 mm) (19.009327, -99.606337; elev. 2,523 m asl) (Fig. 1A) and the second on 5 July 2023 was an adult male (SVL = 119 mm) (19.024588, -99.60579; elev. 2,615 m asl) (Fig. 1B). Both individuals were in transition vegetation from wooded and grassland areas. Neither was collected but photographic vouchers were deposited in the Colección Fotográfica de Herpetología (CFH), Facultad de Ciencias, Universidad Autónoma del Estado de México, Toluca, México (CFH 38–40). The lizards were identified based on the morphological and meristic characteristics recorded by Zaldívar-Riverón and Nieto-Montes de Oca (2002) (Table 1), venters were immaculate and dorsal sur-



A



B

Figure 1. Female Herrera's Alligator Lizard (*Barisia herrerae*) found on 16 May 2023 (A) and male found on 5 July 2023 (B) in the Municipality of Tenancingo de Degollado, Estado de México. Photographs by Edgar Oviedo-Hernández.

Table 1. Meristics of Herrera’s Alligator Lizards (*Barisia herrerae*). Type series data from Zaldívar-Riverón and Nieto-Montes de Oca (2002).

Character	Type Series	Female	Male
Number of anterior gulars	2	1	1
Number of scales on first temporal row	3–5 (5)	6	6
Presence of postrostral	Yes	Yes (2)	Yes (2)
Nasal and rostral in contact	Yes	Yes	Yes
Number of loreals	2	2	2
Number of supraciliaries	4	5	5
Nuchal scales	Strongly keeled	Strongly keeled	Strongly keeled
Number of nuchals	4–6 (6)	6	6
Number of occipitals	3	3	3
Number of longitudinal dorsal scale rows	14	14	14
Number of transverse dorsal scale rows	29–33 (31)	29	29
Number of longitudinal ventral scale rows	14	14	14

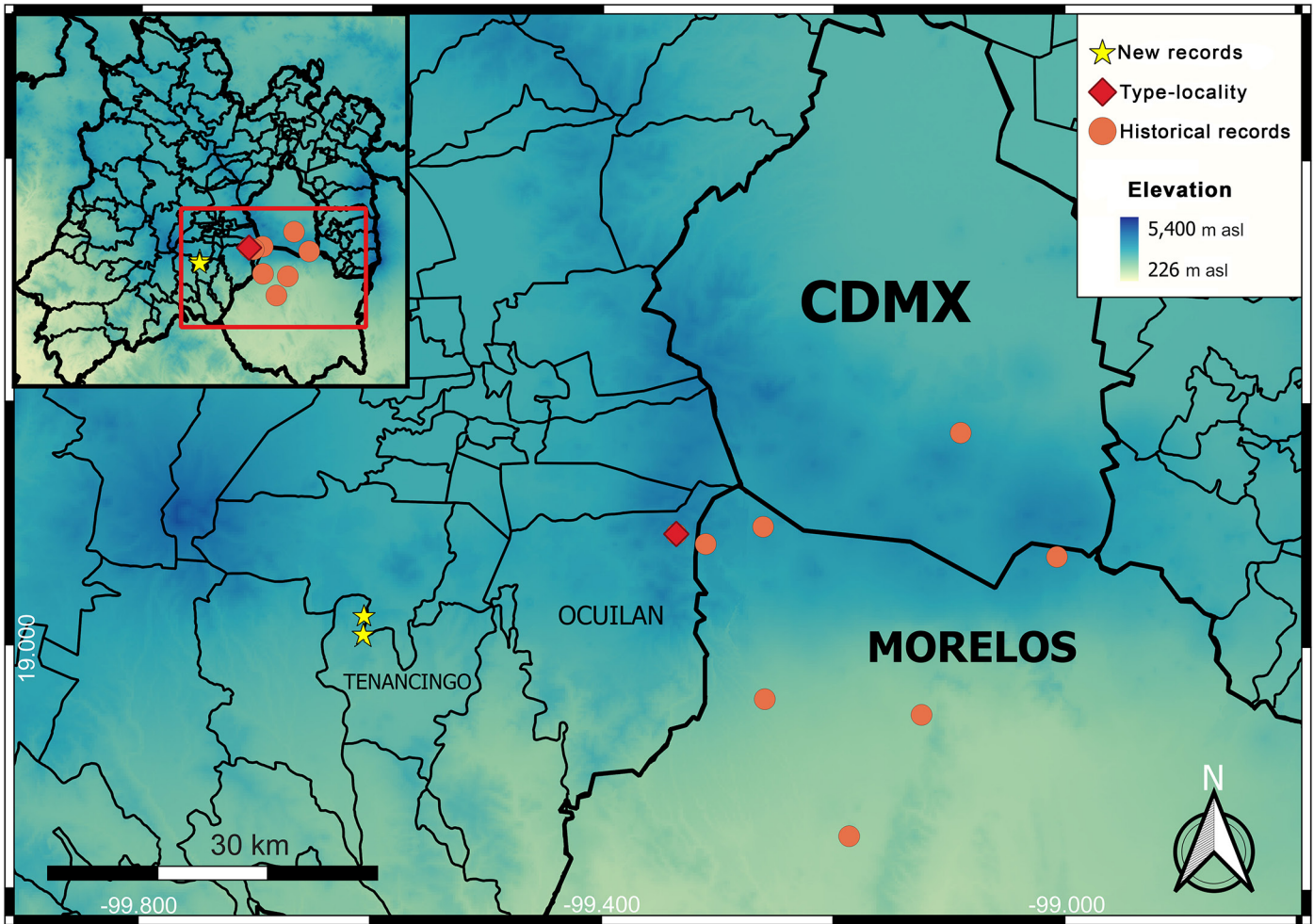


Figure 2. Map of records of *Barisia herrerae*. The orange dots correspond to records in the Global Biodiversity Information Facility database (GBIF.org, 9 July 2023). The red rhombus corresponds to the type locality in the Municipality of Ocuilan, State of Mexico, and the yellow stars correspond to the new records of *Barisia herrerae* in the Municipality of Tenancingo, State of Mexico, Mexico.

faces were olive-green with each scale on the dorsal surface finely stippled with white in the adult male. The identity of the species was independently confirmed by Dr. Alejandro Zaldívar-Riverón. However, both individuals had only one gular scale, which differed from the two gular scales recorded for the species.

A map including the new records (Fig. 2) was constructed using distributional data from the Global Biodiversity Information Facility (GBIF.org 2023). This new locality for *B. herrerae* represents the first for the Municipality of Tenancingo de Degollado and the second for the State of Mexico. The closest recorded locality is the type locality, Municipality of Ocuilan, Estado de Mexico, located 30 straight-line km east of the two new records (Zaldívar-Riverón and Nieto-Montes de Oca 2002), and the most distant locality is 63.6 straight-line km northeast of the two new records in the Municipality of Tlalnepantla, Morelos. The known elevational range of *B. herrerae* was between 2,350 and 2,500 m asl (Ramírez-Bautista et al. 2009; Aguilar-Miguel et al. 2021) but the adult male was found at 2,615 m asl, 115 m higher than the highest previously recorded elevation for the species (Aguilar-Miguel et al. 2021). To our knowledge, these are the westernmost and highest records for the species, which extend the distribution of the species toward central Mexico.

The new records might represent a peripheral population of *B. herrerae*, possibly with unique phenotypic characteristics compared to other populations (i.e., Andrade-Soto et al. 2017). Given the limited records and scarce information on the species, we recommend additional studies to propose conservation strategies for the area, which is in grave danger due to excessive logging.

Acknowledgements

We thank Dr. Alejandro Zaldívar-Riverón for verifying the identity of the species, SECIHTI for funding through scholarship No. 83205, and the Universidad Autónoma del Estado de Mexico for research grant 6991/2024CIB.

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