

NEW RECORD ON THE GEOGRAPHIC DISTRIBUTION OF *BOLITOGLOSSA EREMIA* (PLETHODONTIDAE) IN THE SUBTROPICAL HUMID FOREST OF JALAPA, GUATEMALA

NUEVO REGISTRO DE DISTRIBUCIÓN GEOGRÁFICA DE *BOLITOGLOSSA EREMIA* (PLETHODONTIDAE) EN BOSQUE HÚMEDO SUBTROPICAL DE JALAPA, GUATEMALA

DANIEL J. NÚÑEZ-ROBLES¹, JOSÉ A. GUTIÉRREZ-GODOY¹, MELVIN FLORES-TURCIOS¹, JOSÉ J. MELÉNDEZ-LÓPEZ¹, FLOR M. MORALES-ARROYO¹, MARÍA A. SANTA CRUZ-HUARD¹, LUIS GONZÁLEZ-MARTÍNEZ & DANIEL ARIANO-SÁNCHEZ^{2*}.

¹Departamento de Biología, Facultad de Ciencias y Humanidades, Universidad del Valle de Guatemala.

²Centro de Estudios Ambientales y Biodiversidad, Universidad del Valle de Guatemala, Vista Hermosa III, Guatemala, Guatemala.

*Correspondence: dariano@uvg.edu.gt

Received: 2021-07-20. **Accepted:** 2022-04-21. **Published:** 2022-05-05.

Editor: Oscar Alberto Flores-Villela, México.

Bolitoglossa eremia (Campbell et al., 2010), is an endemic species of Jalapa, Guatemala. It is a small species that can reach a snout-vent length (SVL) of 42.3 mm in males and 62.1 mm in females and can be distinguished by its small size, feet and hands not completely webbed, and a relatively short tail (Campbell et al., 2010). The upper portion of the head, back, tail and extremities have a dark gray with white coloration. The flanks are usually pink-orange, forming big spots (Fig. 1). The species is endemic and is isolated in the Region of Cerro Miramundo, Jalapa. *B. eremia* habits montane forest with an elevation of 2360–2660

m a.s.l. It can be found with higher frequency in rotten trunks (Campbell et al., 2010). The population is likely declining due to a combination of habitat loss and agricultural pollution, categorized as endangered species (IUCN SSC Amphibian Specialist Group, 2020).

We found two individuals of *B. eremia* (Figs. 2–3) during a biodiversity survey in the Community Reserve Bosque Encantado in Ladinos Pardos village. One was a juvenile (SVL 40 mm) and the other was an adult female (SVL 60mm). We observed them on 21 October 2019 in the Bosque Encantado Community



Figura 1. *Bolitoglossa eremia*

UTADC 9621a ubicada en la Reserva Comunitaria Bosque Encantado, Jalapa, Guatemala. Foto: D. Núñez-Robles.

Figure 1. *Bolitoglossa eremia* UTADC

9621a located in the Community Reserve Bosque Encantado, Jalapa, Guatemala. Photo: D. Núñez-Robles.



Figura 2. *Bolitoglossa eremia* UTADC 9621b ubicada en la Reserva Comunitaria Bosque Encantado, Jalapa, Guatemala. Foto: D. Núñez-Robles.

Figure 2. *Bolitoglossa eremia* UTADC 9621b located in the Community Reserve Bosque Encantado, Jalapa, Guatemala. Photo: D. Núñez-Robles.

Reserve, Aldea Ladinos Pardos (Fig. 4) at 2306 meters above sea level (N 14.55660°, W 090.05579°, WGS84). Both individuals were found approximately at 10:00 pm, 1 m above the ground in a leaf of a plant located in a trail near a stream. The temperature was 15.7°C with a percentage of humidity of 87.5%. This new record is 9.73 km apart from the known records in la Soledad

Grande, Jalapa (14.530146° N, 90.142417° W) (Campbell et al., 2010). The specimens were released in the same site after taking morphometric measurements and photographs. The Community Reserve Bosque Encantado is 368.4 hectares protected area, 10 km apart from the city of Jalapa. This observation represents an extension of the distribution of *B. eremia*, 9.73 km northeast

Figura 3. *Bolitoglossa eremia* UTADC 9621c ubicada en la Reserva Comunitaria Bosque Encantado, Jalapa, Guatemala. Foto: D. Núñez-Robles.

Figure 3. *Bolitoglossa eremia* UTADC 9621c located in the Community Reserve Bosque Encantado, Jalapa, Guatemala. Photo: D. Núñez-Robles.



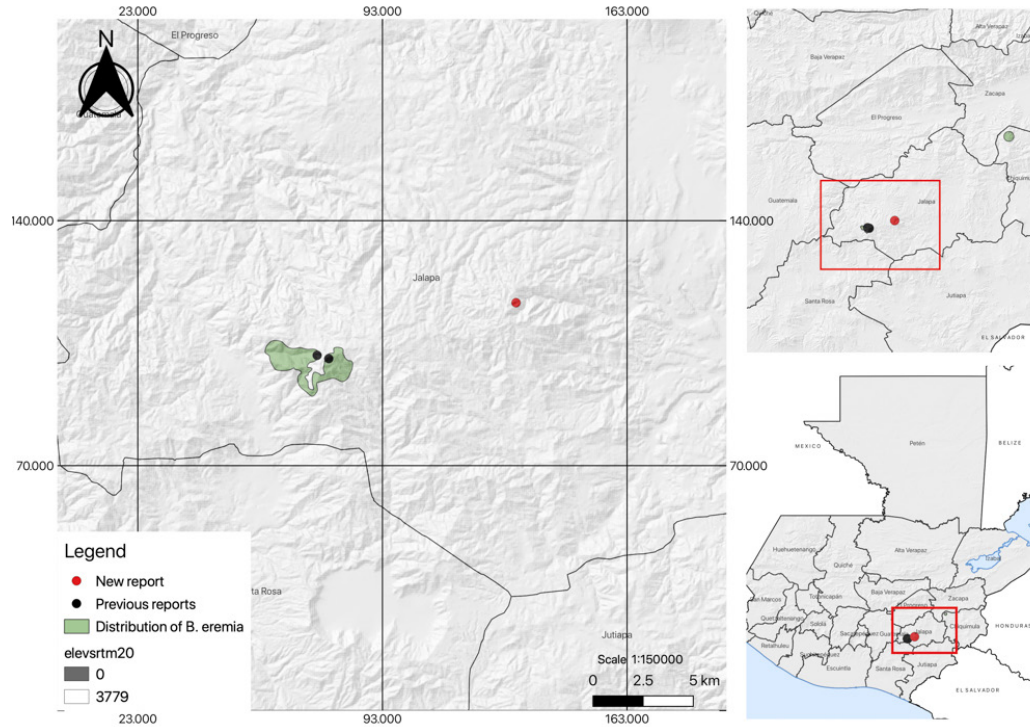


Figura 4. Nuevo mapa de registro de localidad para *Bolitoglossa eremia* en la Reserva Comunitaria Bosque Encantado, Jalapa. El punto rojo corresponde al nuevo informe; el punto negro para los informes anteriores y el área sombreada en verde para la distribución de *Bolitoglossa eremia*. Mapa: D. Núñez-Robles.

Figure 4. New locality record map for *Bolitoglossa eremia* in Community Reserve Bosque Encantado, Jalapa. The red dot corresponds to the new report; the black dot for the previous reports and the green shaded area for the distribution of *Bolitoglossa eremia*. Map: D. Núñez-Robles.

from the known localities of this species, at Cerro Miramundo, Jalapa (Fig. 4). The Bosque Encantado Community Reserve at Aldea Ladinos Pardos, Jalapa, could be a very important area for the conservation of this species, due to its location on an isolated mountain. Most of the forests of the region have been deforested in recent years.

The finding of these individuals represents an important record for the conservation of amphibians because of its limited distribution range, since it is found in two localities to an extent of occurrence (EOO) of 241 km². It is important to have new records of this species due to habitat loss and increased agricultural pollution in the region of Jalapa (IUCN SSC Amphibian Specialist Group, 2020). Other species of herpetofauna found on the same survey at the Reserve were the Guatemalan spike thumb frog (*Plectrohyla guatemalensis*), Godman's Montane Pit Viper (*Cerrophidion godmani*), Rosebelly earth snake (*Geophis rhodogaster*) and Bocourt's emerald lizard (*Sceloporus smaragdinus*). The photographs of the individuals found were deposited in the digital collection of the University of Texas Arlington (UTADC) with the following register codes: UTADC 9621a–9621c.

Acknowledgements.- We want to thank the members of the community of Bosque Encantado for their guidance during the biodiversity monitoring. We are grateful to Luis Rios and Ana Lucia Arevalo for their support during the field trip. In addition, we want to thank Jonathan Campbell for interesting discussions about this extension range.

CITED LITERATURE

- Campbell, J.A., E.N. Smith, J. Streicher, M.E. Acevedo & E.D. Brodie, Jr. 2010. New Salamanders (Caudata: Plethodontidae) from Guatemala, with miscellaneous notes on known species. Miscellaneous Publications Museum of Zoology University of Michigan 200:1-60 pp.
- IUCN SSC Amphibian Specialist Group. 2020. *Bolitoglossa eremia*. The IUCN Red List of Threatened Species 2020:https://e.T194314A2311664. <https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T194314A2311664.en> Downloaded on January 18 of 2022.

