

NEW RECORDS OF THE TUNGARA FROG *ENGYSTOMOPS PUSTULOSUS* COPE, 1864 (ANURA: LEPTODACTYLIDAE) IN CAMPECHE, MEXICONUEVOS REGISTROS DE LA RANA TÚNGARA *ENGYSTOMOPS PUSTULOSUS* COPE, 1864 (ANURA: LEPTODACTYLIDAE) EN CAMPECHE, MÉXICO

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Engystomops pustulosus is a small-sized amphibian (25-35 mm in snout-vent length, SVL), with females typically larger than males. This species is characterized by its relatively globose and rounded body, and its dorsal skin has a high density of glands, giving it a warty appearance. The snout is pointed in dorsal view, and well-developed parotid glands are present at the base of the head. The dorsal coloration is gray, brown, or tan with irregular blotches, while the venter is cream with dark spots. Males possess a dark sub-gular vocal sac with a distinctive white line down the middle (Lee, 1996; Ospina-L & Bedoya-Cañón, 2018).

Engystomops pustulosus is distributed from southern Oaxaca and Veracruz in Mexico, extending through Central America, to the northern portion of South America, in Colombia, Venezuela, Trinidad and Tobago, and Guyana (Lee, 1996; Ospina-L & Bedoya-Cañón, 2018). In the Mexican Yucatan peninsula, this species has been recorded in several localities in southern Campeche and Quintana Roo (Lee, 1996). Here, we report new records of *E. pustulosus* in Campeche, Mexico. The photographs of the specimens were deposited in the digital collection of the Centro de Investigaciones Biológicas of the Universidad Autónoma del

Estado de Hidalgo, and in the figure 1 is presented the map with the new and old records.

Calakmul Biosphere Reserve. On April 20th, 2023, at 21:19 h, during a herpetofauna survey conducted in the Calakmul Biosphere Reserve, we encountered an *E. pustulosus*, approximately 30 mm SVL (CH-CIB-151; Fig. 2A, B), actively moving over the leaf-litter in a semi-deciduous tropical forest near to the abandoned chiclero camp “La Esperanza”, in the municipality of Calakmul, Campeche, Mexico (18.166346° N, 90.04234° W, WGS 84, 190 m a.s.l.). This observation is located 33.7 km southeast (airline distance) from the nearest records, 5.6 km south of Chan Laguna, Calakmul, Campeche, México.

Engystomops pustulosus has been previously recorded in the Balam-Ku Biosphere Reserve in the Calakmul region (Barão-Nóbrega et al., 2022), however, that record was outside the boundaries of Calakmul Biosphere Reserve, with no records of this frog within this reserve (Cedeño-Vázquez et al., 2006; Barão-Nóbrega et al., 2022). Therefore, our observation represents the first record of *E. pustulosus* within the Calakmul Biosphere

Reserve, increasing to 106 the herpetofauna registered for this Natural Protected Area, and to 23 species of amphibian fauna (Colston et al., 2015; Barão-Nóbrega et al., 2022; Jesús-Espinosa et al., 2024).

Municipality of Campeche. On January 16th, 2022, at 15:30 h, during a herpetofauna survey, we found an *E. pustulosus* approximately 20 mm SVL (CH-CIB-148; Fig. 3A) inside a small den in the ground, 6.3 km southwest Tixmucuy in the municipality of Campeche, Campeche, Mexico (19.553828° N, 90.369358° W, WGS 84, 26 m a.s.l.). The individual was found at the edge of a temporary body of water approximately 25 m long (Fig. 3B), surrounded by flooded vegetation and elements of semi-deciduous tropical forest. This observation is located 104.3 km northeast (airline distance) from the nearest previously reported locality, 7.1 km north of Escárcega, Campeche (Fig. 2).

On November 26th, 2022, at 11:45 h, during a wildlife rescue survey, another *E. pustulosus* (SVL: 20 mm; CH-CIB-149; Fig. 4A) was encountered in an artificial vertical hole in the ground near to an old trail line, approximately 1.5 km southeast of the town of Chiná, Municipality of Campeche, Campeche, México (19.758484° N, 90.479752° W, WGS 84, 24 m a.s.l.). This individual was found within semi-deciduous tropical forest and secondary vegetation (Fig. 4B). It is plausible that the frog accidentally fell into the hole, unable to climb the walls. This observation is located 25.4 km northwest (air distance) from the nearest record previously reported in this document, at 6.3 km southwest Tixmucuy, and at 122.5 km northeast (airline distance) from the record at 7.1 km north of Escárcega, Campeche.

There is a record on the citizen science platform iNaturalist by the user enrique31 of an *E. pustulosus* observed around the

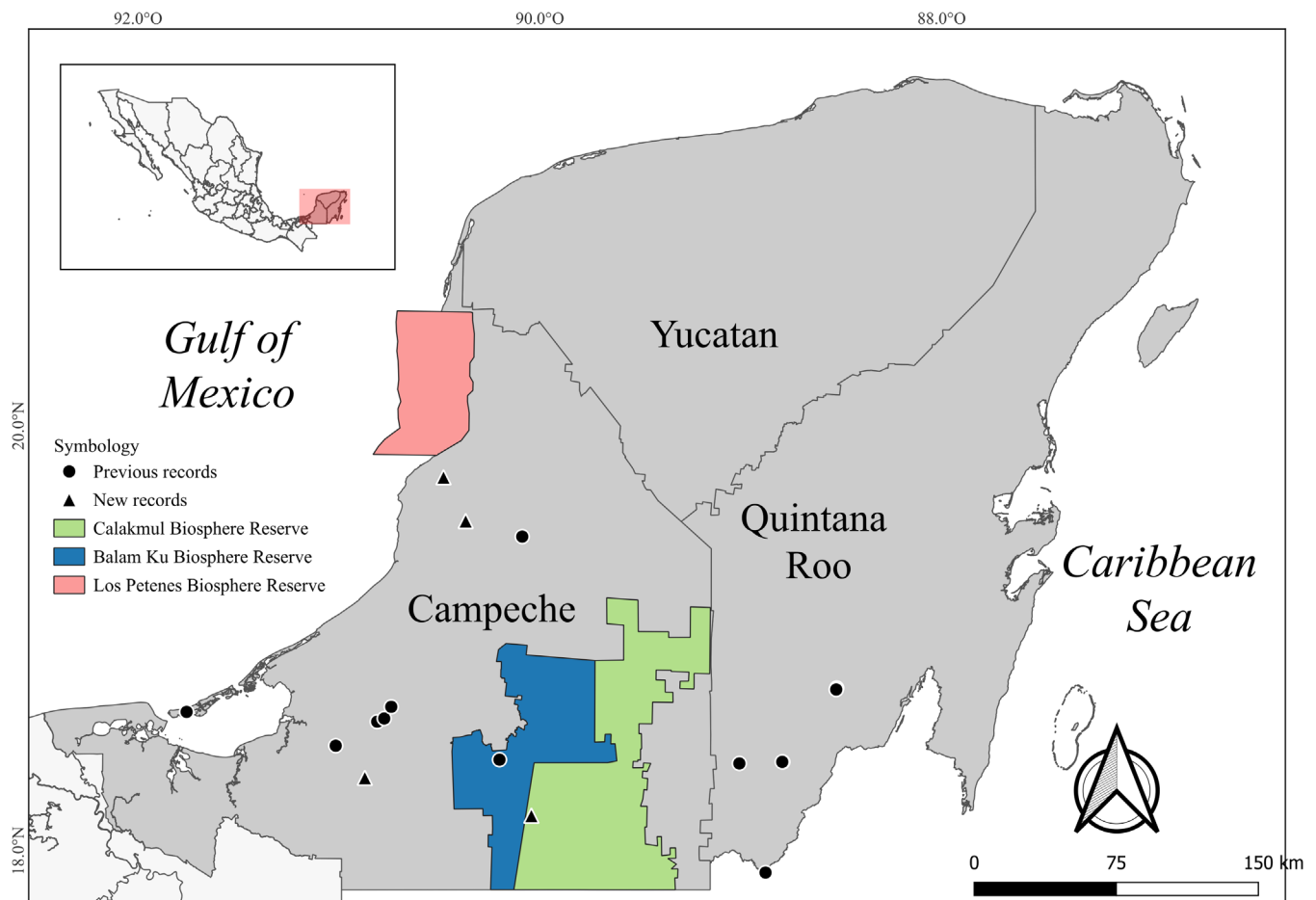


Figura 1. Nuevo registro (triángulo) y registro previo (círculo) de *Engystomops pustulosus* en el estado de Campeche, México.

Figure 1. New record (triangle) and previous record (circle) of *Engystomops pustulosus* in the state of Campeche, Mexico.



Figura 2. Vista lateral (A) y dorsal (B) de *Engystomops pustulosus* en la Reserva de la Biósfera de Calakmul, Campeche. Foto: Pedro E. Nahuat-Cervera.

Figure 2. Lateral (A) and dorsal (B) view of *Engystomops pustulosus* in Calakmul Biosphere Reserve, Campeche. Photo: Pedro E. Nahuat-Cervera.

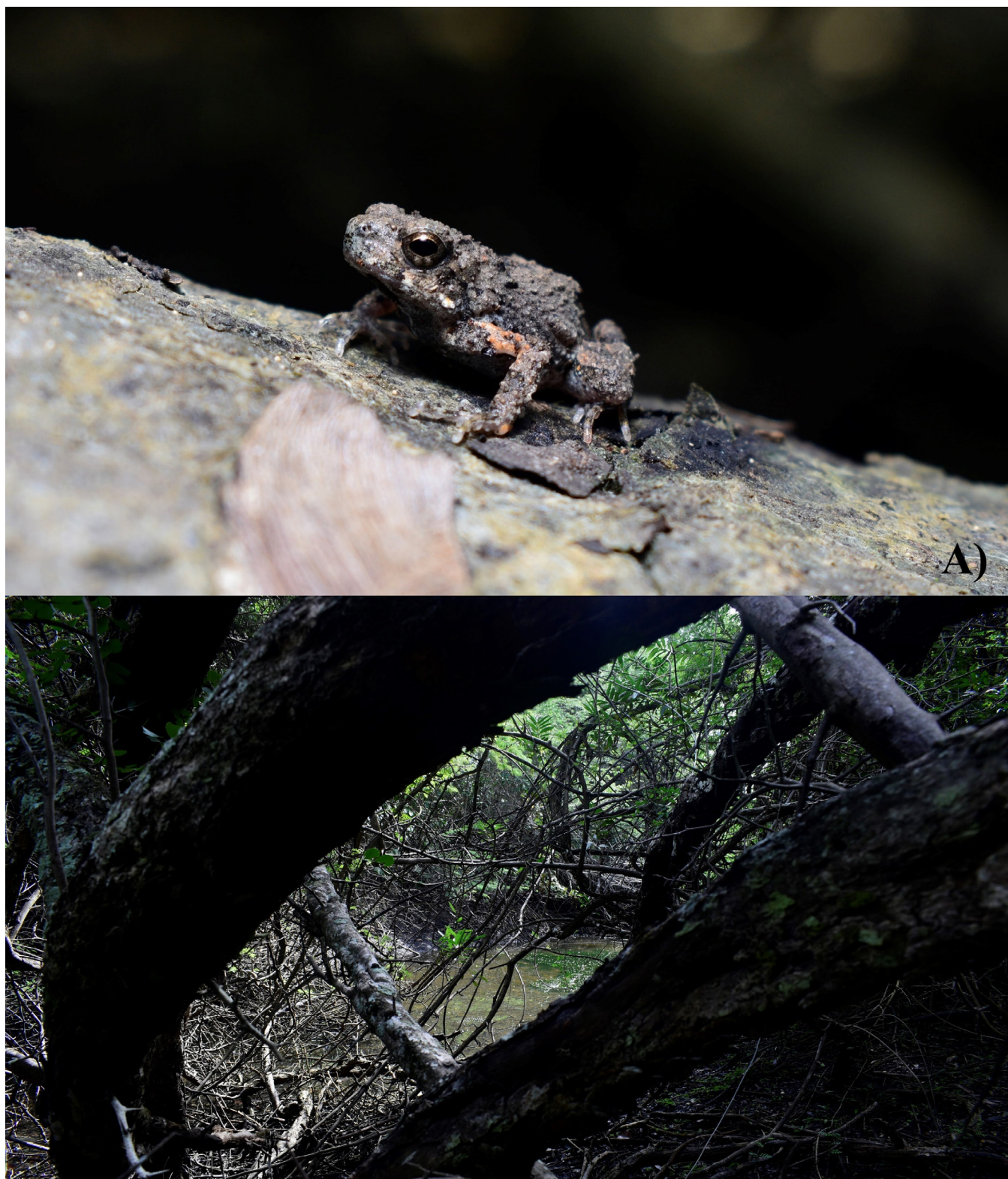


Figura 3. *Engystomops pustulosus* (A) y hábitat (B) en el suroeste de Tixmucuy, Campeche. Fotos: Leonardo Ponce-Rosales.

Figure 3. *Engystomops pustulosus* (A) and habitat (B) in southwest Tixmucuy, Campeche. Photos: Leonardo Ponce-Rosales.



Figura 4. *Engystomops pustulosus* (A) y hábitat (B) en el sureste de Chiná, Campeche. Fotos: David Brindis-Badillo.

Figure 4. *Engystomops pustulosus* (A) and habitat (B) in southeast Chiná, Campeche. Photos: David Brindis-Badillo.



Figura 5. *Engystomops pustulosus* encontrado en Don Samuel, Escárcega, Campeche. Foto: Daniel Pérez Hernández.

Figure 5. *Engystomops pustulosus* found in Don Samuel, Escarcega, Campeche. Photo: Daniel Pérez Hernández.

community of Pich on October 9, 2019 (iNaturalist observation #44559796). This observation is located 30.6 km east of our record near the community of Tixmucuy (CH-CIB-148), and 51.3 km southeast of our record in Chiná, Campeche (CH-CIB-149). To our knowledge, our observations represent the northernmost records of this frog in the state of Campeche, as well as the Yucatan peninsula (Lee, 1996; 2000). It is important to highlight that the record CH-CIB-149 is located approximately 11.9 km from the southern boundary of the Los Petenes Biosphere Reserve, making it possible that this species is part of the herpetofauna of this protected natural area. It is recommended to conduct surveys in the southern portion of the reserve to determine if there is a population of *E. pustulosus* present.

Municipality of Escarcega. On October 19th, 2020, at 10:30 h, during a herpetofauna survey, we found a *E. pustulosus* (SVL: 21 mm; CH-CIB-150; Fig. 5) in the edges of a small temporary creek near an old trail line, approximately 1.9 km southern of the community of Don Samuel, municipality of Escarcega, Campeche, Mexico (18.345008° N, 90.871501° W, WGS 84, 93 m

a.s.l.). This individual was found in semi-deciduous tropical forest. This observation is situated 22.6 km southeast (airline distance) from the nearest records, 8.2 km east of Mamantel, municipality of Carmen, Campeche, México, and 30.1 km south (airline distance) from the record at 7 km west of Escárcega, municipality of Escárcega, Campeche, México. This observation helps to complement the information on the distribution of *E. pustulosus* at the base of Campeche and fills a gap between records in the area.

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