

An unexpected urbanite: first record of a Plateau Toad, *Anaxyrus compactilis* (Wiegmann, 1833), from a developed site in Tlaxcala, Mexico

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The Plateau Toad (*Anaxyrus compactilis*) is a medium-sized species endemic to Mexico, with an average snout–vent length (SVL) of 56.5 ± 2.0 mm, average head length 17.6 ± 0.5 mm, and average head width 21.1 ± 0.7 mm (Ramírez-Bautista et al., 2010). These toads are characterized by a short head with partially developed cranial crests that are difficult to see. Its hind limbs feature a small plantar tubercle, with a hard texture and a black border (Vázquez-Díaz and Quintero-Díaz, 2005). The dorsal surface has a rough appearance due to the presence of numerous small warts, which are widely spaced and have hardened tips (Oliver-López et al., 2009). Its colouration varies from dark brown to greyish or greenish tones, with irregular dark spots (Oliver-López et al., 2009; Ramírez-Bautista et al., 2010). The ventral area is white with poorly defined spots (Ramírez-Bautista et al., 2009; Dixon and Lemos-Espinal 2010). This toad inhabits temperate environments, including thorn scrublands, oak forests, and lowland tropical forests. It is commonly found near bodies of water, and its activity is predominantly nocturnal (Ramírez-Bautista et al., 2009; Leyte-Manrique et al., 2018). Its diet consists mainly of invertebrates. The breeding period occurs during the rainy season from May–September, when females lay their eggs, which adhere to aquatic vegetation (Ramírez-Bautista et al., 2010).

This species is distributed in several regions of Mexico, including the northern state of Durango; Aguascalientes and Guanajuato in the Bajío Region; Michoacán and Jalisco in the Western Region; and Mexico City, Mexico

State, Morelos, Puebla, and Tlaxcala in central Mexico (Altig, 1964; Ramírez-Bautista et al., 2009, 2010; Oliver-López et al., 2009; Dixon and Lemos-Espinal 2010; GBIF, 2024). In Tlaxcala, the species was recorded in 1956 and 1963 in Totolac and Calpulalpan Municipalities (37 km between these points) in the northwestern part of the state. Voucher specimens for these records, respectively, exist in the James Ford Bell Museum of Natural History at the University of Minnesota, Minneapolis, Minnesota, USA (JFBM A3832) and the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA (CM 63352). There is also a record of this toad from the year 2016 in Ixtacuixtla de Mariano Matamoros Municipality in the south-central part of the state on the iNaturalist platform (observation no. 10134726; GBIF, 2024). While this taxonomic assignment was confirmed independently by four iNaturalist correspondents, there was no detailed information on the ecological conditions of the capture site or the number of individuals associated with this record. Moreover, *A. compactilis* is not listed in several published works on the biodiversity of amphibians and reptiles in Tlaxcala, including inventories, new records, and books (Sánchez-Herrera, 1980; Sánchez-Herrera and López-Ortega, 1987; Fernández et al., 2006a, b; Gómez-Álvarez et al., 2006; Méndez de la Cruz et al., 2018).

On 18 October 2024 at approximately 21:30 h, we captured an adult male *A. compactilis* (SVL 31.3 mm, head width 15.9 mm, body weight 3.3 g, nuptial calluses present; Fig. 1A, B) in the Salado neighbourhood of Santa Ana Nopalucan Municipality, Tlaxcala (19.3130°N, 98.3381°W, elevation 2135 m). This is an urbanized area surrounded by agricultural fields, and this is the first documented instance of this species in an anthropogenically modified environment (Fig. 1C). The pond where the toad was captured is located near the San Martín Texmelucan–Tlaxcala federal highway (Fig. 1D). The toad was identified to the species level by Sandra García de Jesús, curator of the amphibian and reptile collection at the Facultad de Agrobiología,

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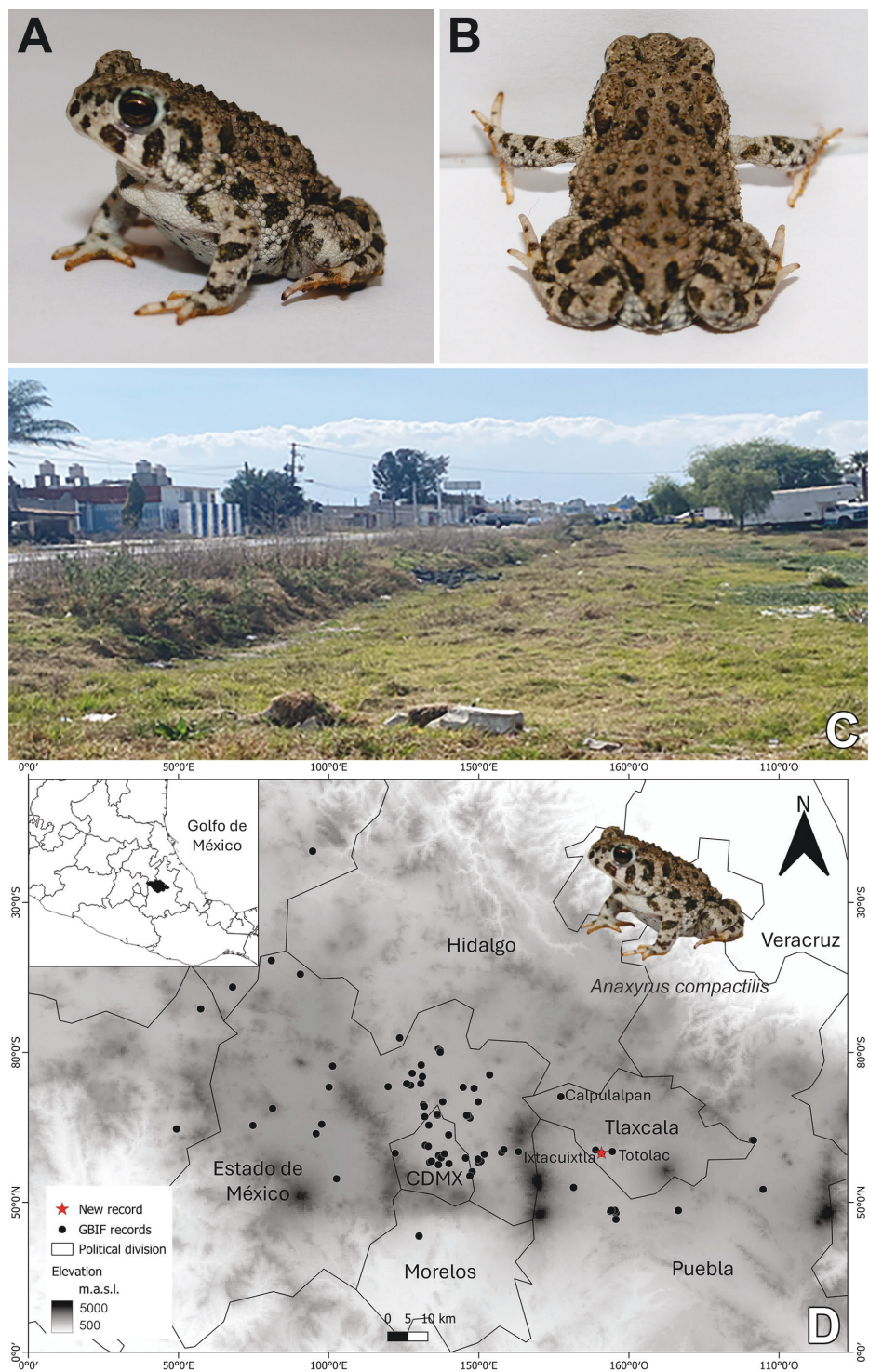


Figure 1. Adult male Plateau Toad (*Anaxyrus compactilis*) from Santa Ana Nopalucan Municipality, Tlaxcala, Mexico, in (A) lateral and (B) dorsal views. (C) Habitat where we found the toad, an urbanized area with little vegetation. (D) Map of Tlaxcala records, showing the new record (red star) and GBIF records. Photos by J. Erick Gómez-Campos (A, B) and Maribel Méndez-Tepepa (C).

Universidad Autónoma de Tlaxcala, who has extensive expertise in the taxonomy and identification of anurans, particularly relevant given that there are currently no specimens of this species in Mexican collections. The identification was performed using the amphibian guide of Mexico published by Ramírez-Bautista (2009), and the specimen was subsequently deposited in the amphibian and reptile collection at the Facultad de Agrobiología, Universidad Autónoma de Tlaxcala, under catalogue number AN0188.

From a conservation perspective, this record underscores the need for systematic surveys to assess the population status of these toads in Tlaxcala, particularly in urban and semi-urban environments. Further studies focusing on its behavioural ecology, reproductive success, and physiological adaptations in these settings could provide crucial information for developing conservation strategies. Additionally, the presence of an adult male suggests that reproduction may occur in these modified habitats, highlighting the potential role of semi-natural waterbodies in maintaining local populations. Long-term monitoring efforts should be conducted to determine whether these habitats provide stable conditions for the species' reproduction and survival or if they serve as ecological traps that could eventually lead to population declines.

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