



Caribbean Island Hopping: Community Science Reveals the First Report, Establishment, and Range Expansion of the Lesser Dark-spotted Thin-toed Frog (*Adenomera* cf. *hylaedactyla*) on Tobago

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At least 29 species of frogs in the genus *Adenomera* (AmphibiaWeb 2023) occur widely across South America and on the island of Trinidad (Auguste et al. 2023). These terrestrial frogs occupy open grassy areas and forest edges (Auguste 2017). At least one species, *Adenomera* cf. *hylaedactyla* (Cope 1868), commonly called the Lesser Dark-spotted Thin-toed Frog (Downie 2013), occurs on Trinidad. However, until now, it had not been formally reported on Tobago (Murphy et al. 2018). Herein we report for the first time the presence, establishment, and range expansion of the Lesser Dark-spotted Thin-toed Frog (*A.* cf. *hylaedactyla*) on Tobago, West Indies.

On 1 June 2023, prior to the annual Trinidad and Tobago Bioblitz, we encountered a frog we identified as being in the genus *Adenomera* at Pigeon Point, Tobago (11.16235 N, 60.83956 W). The frog was initially observed at 0130 h at the edge of a shallow mangrove marsh adjacent to the beach at an elevation of 6 m asl. On 3 June 2023, during the Bioblitz, we observed an additional frog on an open grassy dirt trail (11.19963 N, 60.78710 W; elev. ~50 m asl) at 1955 h. The site was characterized by secondary forest and grasses on either side of the trail and by the lack of canopy cover.

Air temperature and other climatic variables were not recorded for either observation, but heavy rainfall preceded the second observation on 3 June and the moon was full when the frog was observed. Using Murphy et al. (2018), we identified the frogs seen on both dates as *Adenomera* cf. *hylaedactyla* by distinguishing them from other leptodactylid frogs based on size, the relative lengths of the first and second fingers, and by the dorsal markings (Fig. 1). The snout-vent-length of the frog observed on 3 June was 18 mm; the first frog was not measured. A photographic voucher of the frog observed

on 3 June 2023 has been deposited in the Kansas University Digital Archive (13993) and its identity was confirmed by Prof. J. Roger Downie.

Two additional potential records of frogs identified as *Adenomera* on Tobago were observed by authors of this report on 18 August 2022 (<https://www.inaturalist.org/observations/140089949>) and 22 October 2022 (<https://www.inaturalist.org/observations/140060168>). The frog observed on 18 August 2022 was seen at 2359 h at Corbin Wildlife Sanctuary in Mason Hall, Tobago (11.20150 N, 60.70510 W). The habitat in the area is predominantly secondary for-



Figure 1. The Lesser Dark-spotted Thin-toed Frog (*Adenomera* cf. *hylaedactyla*) observed on 3 June 2023 on Tobago. Photograph by Renoir J. Auguste.

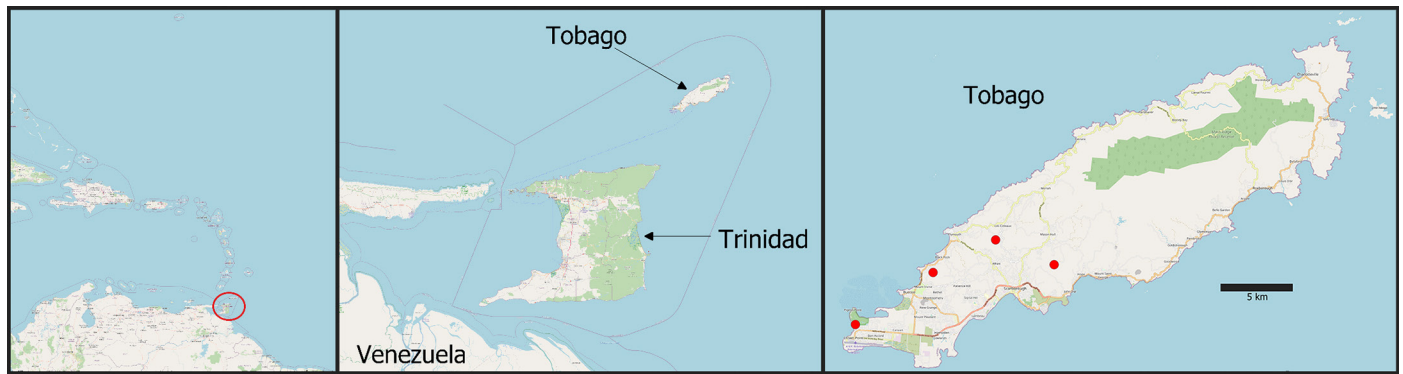


Figure 2. The potential distribution of the Lesser Dark-spotted Thin-toed Frog (*Adenomera cf. hylaedactyla*) in southwestern Tobago. Red dots indicate the observations highlighted in this report.

est with an elevation of roughly 130 m asl. The frog was not measured. The frog observed on 22 October 2022 was seen at 1929 h at Les Coteaux, Tobago (11.21843 N, 60.74471 W), in secondary forest habitat at an elevation of about 90 m asl. No climatic variables were measured during either observation. Both frogs were putatively identified on iNaturalist as *Adenomera* and distinguished from other leptodactylid frogs based on their size, the relative lengths of the first and second finger (if visible in the photograph), and by the patterns of the dorsal markings. Given the lack of genetic and call data for the genus in Trinidad and Tobago in relation to populations in South America, both frogs were identified only to genus on iNaturalist because cryptic species of *Adenomera* might be present in the country (Murphy et al. 2018).

When *Adenomera cf. hylaedactyla* arrived and for how long it had been on Tobago is unclear. Individuals might have arrived through human-facilitated transport from Trinidad, as all four sightings were near urban development. However, four sightings of *Adenomera* more than 10 km apart between some sites suggest that they likely are established on the southwestern part of the island (Fig. 2). Community science events like the Bioblitz and platforms like iNaturalist (iNaturalist.org) have great potential for not only educating the public about local wildlife, but increasing scientific knowledge of wildlife distribution (e.g., Auguste 2017; Auguste 2020). Our report further highlights how community science can play an important role documenting the distribution of spe-

cies, especially those that are considered cryptic or obscure in their natural habitat.

Acknowledgements

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