The Cuban Treefrog, *Osteopilus septentrionalis* (Duméril & Bibron), is established in Jamaica

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The Cuban Treefrog *Osteopilus septentrionalis* is native to the Bahamas, the Cayman Islands, and Cuba and has been introduced throughout the Caribbean islands and the U.S., including the states of Florida, Georgia, Hawaii, and Louisiana (IUCN SSC Amphibian Specialist Group 2021). Genetic studies also suggested that the species may have naturally dispersed to Florida (Heinicke *et al.* 2011). Although not previously recorded from Jamaica, I shared the presence of the species in Jamaica with the IUCN during the review of the status of frogs from that island (IUCN SSC Amphibian Specialist Group 2021). However, because of its potential confusion with native hylids, it is important to better document its presence on Jamaica. Here, I report on details surrounding the establishment of the species on Jamaica and its current distribution on that island.

The Cuban Treefrog (Fig. 1) was first documented in Jamaica on 27 August 2019 at Longville Park Fish Farm in the south-central parish of Clarendon in a photo shared to me by Brandon Haye, Senior Scientific Officer at Caribbean Coastal Area Management Foundation. The species in the photo was identified as *Osteopilus septen-*

Figure 1. A Cuban Treefrog found by Troy Franklyn at Bowers Drive in Old Harbour, Saint Catherine Parish, Jamaica (17.955007, -77.124108) on 19 June 2022. Photo by Joseph Brown.

trionalis by Sloane Jackson, a local herpetologist, and Stesha Pasachnik (Fort Worth Zoo, Texas). The next reports were from Denbigh, approximately 11 km away in the same parish. Paul Cadogan, the local veterinarian, reported that community members from Denbigh heard strange calls at night, "MAARRK", and observed several frogs in their houses after rainfall on 25 September 2019. The frog is now reported and confirmed regularly through social media, print media, and radio campaigns where people were tasked with providing evidence of the frogs.

The species is now confirmed in eight of the 14 parishes of Jamaica: Saint Andrew, Kingston, Saint Catherine, Clarendon, Manchester, Saint Elizabeth, Westmoreland, and Saint James. The pattern of reports and anecdotal evidence suggest that *O. septentrionalis* was in the Clarendon area over several years (lag phase of population growth after initial establishment), and the population may now be experiencing exponential growth. Reports of *O. septentrionalis* are mainly from urban areas, and the frequency increases after rainfall. Tadpoles have been observed in rainwater tanks, drains, temporary ponds and other containers with fresh water, while adults often move into houses. Due to the common occurrence of *O. septentrionalis* in human habitations, the species has attracted conflict issues with local residents who are unwelcoming to its presence. Bee farmers in the parish of Clarendon have reported that the Cuban treefrogs were observed preying on the bees in the early mornings at the entrances of the bee hives and, in some instances, were observed inside the bee boxes. It is a concern to the bee farmers as the measures implemented to combat the Cane Toad *Rhinella marina*, such as putting the boxes on a higher platform, are ineffective against the Cuban Treefrog.

The Cuban Treefrog is regarded as an invasive species in many countries because it has the potential to harm the native ecosystem, consuming a wide variety of animals, including beetles, cockroaches, small lizards, snakes, and other frogs (Johnson 2007; Smith 2005). There are 21 native and endemic frogs in Jamaica (Hedges 2023) and therefore the introduction and establishment of *Osteopilus septentrionalis* represents a potential conservation threat to local amphibian species through both competition for food and space as well as predation. Trial studies in Florida have indicated that the Cuban Treefrog will prey on, and is a threat to, native hylid frogs (Wyatt and Forys 2004), a concern because there are four endemic hylid species in Jamaica. Effective management of the conservation threat presented by the invasion of *O. septentrionalis* is complicated because it is difficult to distinguish from some Jamaican endemic frogs, such as the Jamaican Laughing Treefrog (*O. ocellatus*) and the Jamaican Snoring Treefrog (*O. crucialis*).

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