



Giant Cuban Treefrog (*Osteopilus septentrionalis*) Tadpoles in an Introduced Population on Nevis (Lesser Antilles)

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Lindsay (2017) described the discovery on 13 February 2017 of very large tadpoles (Fig. 1) of an unknown species in a small pool in an old sugar-boiling copper on the grounds of Morning Star Estate in St. John Figtree Parish, Nevis. Because they were much larger than the larvae of the three anuran species (Cane Toad, *Rhinella marina*; Cuban Treefrog, *Osteopilus septentrionalis*; and the direct-developing Lesser Antillean Frog, *Eleutherodactylus johnstonei*) known to occur on Nevis, the tadpoles were transferred to aquaria with the intent of rearing them to metamorphosis. Two survived long enough to develop fore- and hindlimbs (Fig. 2). Although tentatively identified as *Lithobates catesbeianus* because of their size, a careful examination of photographs at various stages of development revealed them to be hylids and almost certainly *Osteopilus septentrionalis*, the only hylid known to occur on Nevis.

These individuals were much larger than sizes typically attained by larval *O. septentrionalis*. Approximately 7 cm in total length when initially encountered, they grew to >9 cm

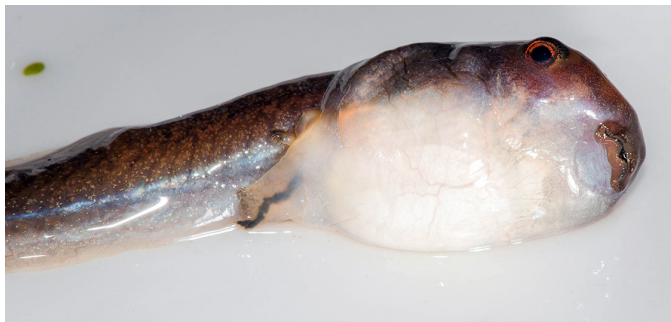


Fig. 1. Very large Cuban Treefrog (*Osteopilus septentrionalis*) tadpole discovered on 13 February 2017 in a small pool in an old sugar-boiling copper on the grounds of Morning Star Estate in St. John Figtree Parish, Nevis. Photograph by M. Yokoyama.



Fig. 2. Cuban Treefrog (*Osteopilus septentrionalis*) tadpoles on 26 April 2017 with the toes of the lower individual clearly showing the intercalary cartilage typical of frogs in the family Hylidae. Photograph by Kathleen Orchard.

in captivity (Fig. 3). Normal *O. septentrionalis* tadpoles are known to reach lengths of 32 mm (Dodd 2013).

The species was first reported on Nevis by Horwith and Lindsay (1999) and was suspected of having arrived with ornamental plants from Florida (USA). These frogs are now abundant and widely distributed; in 2017, tadpoles were observed in natural and artificial freshwater pools across the island to elevations as high as 405 m asl (J. Daltry, in litt., 20.v.2019).

Gigantism in anuran tadpoles has been reported previously in laboratory populations of *Xenopus laevis* (e.g., Rot-Nikcevic and Wassersug 2003), in the *Pelophylax* (formerly *Rana*) *ridibunda* species complex (e.g., Milto 2009), *Rana temporaria* (J. Daltry, in litt., 20.v.2019), *Lithobates catesbeianus* (Lapin 2018), and *Hyla arborea* (Boschwitz 1961). This condition apparently is attributable to hormone imbalances or

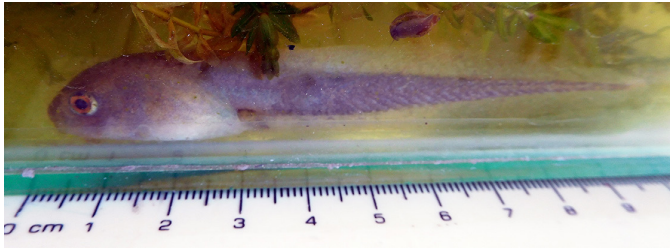


Fig. 3. Cuban Treefrog (*Osteopilus septentrionalis*) tadpole on 4 May 2017. Photograph by Kathleen Orchard.

athyroidism and, like the two tadpoles on Nevis, these giants died without completing metamorphosis (Rot-Nikcevic and Wassersug 2003).

Acknowledgements

Wentworth Smithen, St. Kitts and Nevis Department of the Environment, alerted us to the presence of the tadpoles. He and Carolyn Thomas were participants in the ecological survey team. Jennifer Daltry, Fauna & Flora International, Cambridge, UK, triggered the discussion that led to this note. Ronald Altig, Mississippi State University, was instrumental in resolving the mystery of the giant tadpoles. The discov-

ery of the tadpoles occurred during the project “Conserving Biodiversity and Reducing Habitat Degradation in Protected Areas and Their Areas of Influence, St. Kitts and Nevis,” under the auspices of the Department of the Environment, Government of The Federation of St. Kitts and Nevis, and the United Nations Development Programme (UNDP).

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