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TWO SPECIES OF SNAKES PREY ON CUBAN TREEFROGS IN SOUTHERN FLORIDA

WALTER E. MESHAKA, JR.^{1,2}, AND BETTY FERSTER³

¹Archbold Biological Station, P.O. Box 2057, Lake Placid, Florida 33862

³Department of Biology, Boston University, 5 Cummings Street,
Boston, Massachusetts 02215

²Present address: Museum, Everglades National Park, 40001 SR-9336,
Homestead, Florida 33034

The Cuban treefrog (*Osteopilus septentrionalis*) is a West Indian hylid known to mainland Florida and the Everglades for more than 40 years (Schwartz 1952; Allen and Neill 1953) and to the Florida Keys since before 1900 (Ashton and Ashton 1988). This large hylid is abundant in many habitats of the Everglades but is most common in hammocks and on buildings (Meshaka 1994). The Cuban treefrog rapidly colonized other areas of Florida where it is common in many kinds of disturbed sites (Meshaka 1995). Because of its ubiquity, this species may be an abundant prey base for frog predators. Here, we report predation by the yellow ratsnake (*Elaphe obsoleta*) and the black racer (*Coluber constrictor*), and relate these events to susceptibility of the Cuban treefrog to these predators in natural and disturbed ecosystems. Mean values are followed by ± 2 S.D.

The observation of a predatory encounter between a yellow ratsnake and Cuban treefrog took place on 6 October 1991 (0030 hrs) on a building surrounded by Brazilian pepper (*Schinus terebinthifolius*) on Long Pine Key, Everglades National Park. Both predator and prey were common around the buildings and surrounding area. The ratsnake was 62.0 cm snout-vent length (SVL) and was suspended upside-down from the eave of the building and swallowing its prey (44.0 mm SVL) head-first. The ratsnake and its prey were not captured for body measurements until the hind legs of the treefrog were no longer visible.

Treefrogs occur in the diets of the *obsoleta* group of ratsnakes in southern Florida (Wright and Wright 1957). In the Everglades, the yellow ratsnake may be an important predator of the Cuban treefrog. Both species share arboreal habits, exhibit year-round activity, use hammocks, and overlap in air temperature preference ($26.3 \pm 3.24^\circ\text{C}$; range = 20 - 29; n = 7 yellow ratsnakes). These factors increase the chances of encounters between both species.

The observation of a predatory encounter between the black racer and Cuban treefrog took place in Okeechobee, Okeechobee Co., Florida. At night Cuban treefrogs were easily captured on the walls of a building located downtown, and during the day they were easily taken from the axils of nearby queen palm trees (*Arecastrum romanzoffianum*). On 19 September 1993 at 1330 hrs we observed a black racer of 32.0 cm SVL swallowing head-first a Cuban treefrog of 24.0 mm SVL. Both animals were partly concealed by a loose palm axil that was 0.5 m above the ground.

Arboreal habits occur in the black racer (Fitch 1963; pers. obs.), and palm trees in southern Florida are inhabited by Indo-Pacific geckos (*Hemidactylus garnotii*), green treefrogs (*Hyla cinerea*), squirrel treefrogs (*H. squirrella*), and Cuban treefrogs (Meshaka 1995). In addition to Cuban treefrogs, we have seen Indo-Pacific geckos and brown anoles using palm trees at this site. In Dade and Monroe Cos., bark anoles (*Anolis distichus*) can be found on palm trees (WEM pers. obs.). Consequently, a potentially abundant food source is accessible to black racers in a habitat where some traditional prey species are scarce or absent.

The Cuban treefrog is a highly fecund and potentially abundant animal (Meshaka 1994). Both encounters suggest that despite ubiquity, the Cuban treefrog is not immune

to predation in Florida. Indeed, the abundance and widespread distribution of this food source could bode well for both snake species occurring in southern Florida.

LITERATURE CITED

- ALLEN, R. A., AND W. T. NEILL. 1953. The treefrog, *Hyla septentrionalis*, in Florida. *Copeia* 1953:127-128.
- ASHTON, R. E., JR., AND P. S. ASHTON. 1988. Handbook of Reptiles and Amphibians of Florida. Part Three. The Amphibians. Windward Publ. Inc. Miami.
- FITCH, H. S. 1963. Natural history of the racer *Coluber constrictor*. Univ. Kansas Mus. Nat. Hist. 15:351-468.
- MESHAKA, W. E., JR. 1994. Ecological correlates of successful colonization in the life history of the Cuban treefrog, *Osteopilus septentrionalis* (Anura: Hylidae). Unpubl. Ph.D. Dissert. Florida International Univ., Miami.
- MESHAKA, W. E., JR. 1995. Vagility and the Florida distribution of the Cuban treefrog (*Osteopilus septentrionalis*). *Herpetol. Rev.* (In Press).
- SCHWARTZ, A. 1952. *Hyla septentrionalis* Dumeril and Bibron on the Florida mainland. *Copeia* 1952:117-118.
- WRIGHT, A. H., AND A. A. WRIGHT. 1957. Handbook of Snakes of the United States and Canada. Vol. I. Comstock Publ. Assoc. Ithaca.

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