

# A CUBAN TREEFROG (*OSTEOPILUS SEPTENTRIONALIS*, HYLIDAE) PREYING ON A CAGED YELLOW-FACED GRASSQUIT (*TIARIS OLIVACEUS*) IN CUBA

UNA RANA ARBORÍCOLA (*OSTEOPILUS SEPTENTRIONALIS*, HYLIDAE) DEPREDANDO A UN TOMEGUÍN DE LA TIERRA ENJAULADO (*TIARIS OLIVACEUS*) EN CUBA

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**Resumen.**— Se reporta el primer caso de depredación de la Rana Platanera (*Osteopilus septentrionalis*) a un ave confinada en una jaula, un Tomeguín de la Tierra (*Tiaris olivaceus*) in Cuba central. Se comenta sobre depredaciones en peces ornamentales. Ambos casos de depredación no se han reportado previamente.

**Palabras clave.**— Ave ornamental, depredación, mascota, ornitofagia, *Osteopilus septentrionalis*, Rana Platanera, *Tiaris olivaceus*, Tomeguín de la Tierra.

**Abstract.**— We herein report the first case of predation by a Cuban Treefrog (*Osteopilus septentrionalis*) on a confined caged bird, a Yellow-faced Grassquit (*Tiaris olivaceus*), in central Cuba. We also report predation by Cuban Treefrogs on aquarium fish. Both examples of predation by Cuban Treefrogs on captive pets are reported for the first time.

**Keywords.**— Caged-bird, Cuban Treefrog, ornithophagy, *Osteopilus septentrionalis*, pet, predation, *Tiaris olivaceus*. Yellow-faced Grassquit.

The Cuban Treefrog (*Osteopilus septentrionalis*, Hylidae) is native to Cuba, the Cayman Islands, and at least eight Bahamian islands (Henderson & Powell, 2009). In Cuba, the species is abundant and widely distributed on the main island and on at least 15 satellite islands in the Cuban Archipelago (Estrada, 2012; Rivalta González et al., 2014). In addition, Cuban Treefrogs have been introduced widely to many Caribbean Islands, Costa Rica, and the U.S. states of Florida, Georgia, and Hawaii (Owen et al., 2005; Henderson & Powell, 2009; Powell et al., 2011, 2013). Most studies of this species have addressed introduced rather than native populations (e.g., Meshaka, 1996, 2001; Owen, 2005; Peters, 1974; Smith, 2005; Vargas Salinas, 2006; Beard et al., 2018).

In Cuba, the snout-vent length (SVL) of female Cuban Treefrogs is typically 80–110 mm, with few individuals reaching 165 mm, whereas males usually have SVLs of about 40 mm (Díaz & Cádiz, 2008). Cuban Treefrogs are very abundant in both natural and anthropogenic habitats, always associated with wet places, and often function as human commensals, occupying homes, yards, cisterns, water tanks, and wet agricultural crops like rice and bananas. When many individuals occupy indoor areas (e.g.

personal observation of 4–6 individuals in a bathroom of 2 m<sup>2</sup>), the Cuban Treefrog can be a pest and can produce discomfort in people with some level of herpetofobia.

The Cuban Treefrog is a voracious predator with a documented generalist diet that is highly plastic, consisting primarily of invertebrates, but small vertebrates such as frogs, lizards, and snakes are not uncommon, especially in introduced populations (Meshaka, 1996, 2001, 2011; Wyatt & Forsys, 2004; Owen, 2005; Glorioso et al., 2012). Cannibalism has been documented (Kaiser et al., 2016; Borroto-Páez & Reyes Pérez, 2019). However, specific information about prey and predators is scarce, especially in the native range.

The Yellow-faced Grassquit (*Tiaris olivaceus*, 11.5 cm, 9 g; Fig. 1A) is a common passerine songbird with a wide distribution from Mexico through northern South America, the Greater Antilles, and the Cayman Islands (Garrido & Kirkconnell, 2010). It is a common year-round resident of Cuba, where it is commonly kept in captivity for its color and soft warbling song (Pérez Mena & Ayón, 2002).



**Figura 1.** A) El Tomeguín de la Tierra (*Tiaris olivaceus*, 11.5, 9 g.) en cautiverio en Guayos, cerca de Cabaiguan, provincia de Sancti Spiritus, Cuba. B) Vista lateral de la rana platanera (*Osteopilus septentrionalis*) trabada entre los barrotes de la jaula por el gran tamaño de la parte abdominal después de depredar el Tomeguín de la Tierra. C) Vista más frontal. D) Vegetación y condiciones ambiente del patio donde se encontraba la jaula. E) Lugar probable de entrada de la rana platanera, forzado y expandido hasta 2 cm del espacio original de 1 cm. F) Espacio abierto hasta 3.5 cm para permitir extraer el animal trabado entre los barrotes (diámetro de la barriga de la rana platanera con el ave en su interior).

**Figure 1.** A) A Yellow-faced Grassquit (*Tiaris olivaceus*, 11.5 cm, 9 g.) in captivity in Guayos, near Cabaiguan, Santi Spiritus Province, Cuba. B & C) Lateral and frontal views of a Cuban Treefrog (*Osteopilus septentrionalis*) trapped in the bars of a cage after ingesting a Yellow-faced Grassquit. D) The vegetation in the backyard where the Cuban Treefrog consumed the caged bird. E) The probable site where the Cuban Treefrog entered the cage (space between the bars expanded from the original 1.2 cm to 2 cm). F) The space between the bars expanded to 3.5 cm to permit extraction of the Cuban Treefrog trapped between the bars of the cage.

We herein report the first documented case of Cuban Treefrog predation on a captive adult Yellow-faced Grassquit. At 0700 h on 30 March 2020 in the town of Guayos (22°02'57" N, 79°27'47" W), 15 km from Cabaiguan, Sancti Spiritus Province, Cuba. Residents informed YPR that a large female Cuban Treefrog (SVL 105 mm) had eaten their songbird, which had been confined in a backyard cage. The event probably occurred during the early morning when, after swallowing the bird, the frog was trapped and died between the bars of the cage while trying to escape (Figs. 1B and

C). When the cage was examined, we noted that possible entry site where the bars (normal space between bars was about 1.2 cm to avoid the escape of birds) had been separated to a width of 2 cm (Fig. 1D). However, after ingesting the bird, the frog needed about 3.5 cm, the approximate diameter of the frog's abdomen (Fig. 1E), to escape. The backyard is substantially shaded by ornamental vegetation that includes two large Staghorn Ferns (*Platycerium* sp.) and a neighboring yard with banana trees creates a humid environment ideal for Cuban Treefrogs (Fig. 1F).



The neighbor is an experienced breeder of songbirds who noted several instances of some small songbirds disappearing from cages that he had attributed to escapes or consumption by domestic cats. However, the cages were intact and, when cats prey on caged birds, they invariably damage the cages. To the best of our knowledge, this is the first report of predation by *Osteopilus septentrionalis* on a caged bird the size of a Yellow-faced Grassquit. We found only two references (Bartlett & Bartlett, 1996; Mitchell, 2009) relating intended predation on smaller birds or hatchlings by Cuban Treefrog. Other events of anuran's ornithophagy were reported by McLeod (2009), Brown and Brown (2009), and Camilotti and Barreto-Lima (2011).

We are unaware of any other predation event on pets or small vertebrates in cages, except for our own experiences of Cuban Treefrogs taking small fishes, such as Guppies (*Poecilia reticulata*), Black Mollies (*Poecilia sphenops*), or Southern Platyfish (*Xiphophorus maculatus*), and other ornamental fishes, from water container and aquaria without protection. Our observation were especially in rural areas, where Cuban Treefrogs are more abundant. However, some experienced colleagues, who breed freshwater fishes, informed us that they always protect breeding tanks with nets to prevent Cuban Treefrogs from taking fish from their aquaria, and the eggs and the tadpoles can compete by food in nursery water containers with the ornamental fish breeding. We have found no published reports of *Osteopilus septentrionalis* foraging or damages in aquaria. A quantitative search of damages assessment could be possible in future, implementing surveys and interview on the ornamental fish breeders.

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