



Love Thy Neighbor: Predation of a Utila Spiny-tailed Iguana (*Ctenosaura bakeri*) by a Common Spiny-tailed Iguana (*C. similis*) on Utila Island, Honduras

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The Utila Spiny-tailed Iguana (*Ctenosaura bakeri*; Fig. 1) is a mangrove specialist endemic to the island of Utila (41 km²) in the Islas de Bahía, located off the Caribbean Coast of Honduras. The species is listed as Critically Endangered on the IUCN Red List (Maryon et al. 2018), due to its small area of occupancy. Predators of this species are known to include birds (Great-tailed Grackle, herons, and egrets; D. Maryon, pers. obs.) and snakes (e.g., the Central American Boa, *Boa imperator*; Gutsche 2005; Maryon et al., unpubl. data). Ongoing threats include loss and degradation of mangrove habitat, illegal poaching of adults and eggs, as well as the risk of hybridization with the congeneric Common Spiny-tailed Iguana (*Ctenosaura similis*; Pasachnik et al. 2009).

Although *Ctenosaura bakeri* is a mangrove dwelling species, we have found small populations in recently developed urban areas and coastal habitats used as nesting sites by both ctenosaur species. Alberts et al. (2004) suggested that the specialization for mangrove habitats by *C. bakeri* might have evolved to avoid competition with the larger and more aggressive *C. similis*. Populations of *C. similis* occur throughout most other habitat types in Utila, with the highest population densities in coastal and urban areas (D. Maryon, unpubl. data). It is within these areas where the distributions of the two species often overlap, especially if mangrove fringes are nearby. Although *C. similis* is larger and more ecologically versatile than *C. bakeri* (Maryon et al. 2018; Pasachnik 2015), documented interspecific interactions that demonstrate a direct negative effect on *C. bakeri* remain scarce. Herein we present the first definitive evidence for *C. similis* preying on *C. bakeri*.

On the morning of 11 June 2017, we photographed a subadult *C. similis* ingesting a juvenile *C. bakeri* (Fig. 1). Although we did not witness the capture, the *C. similis* ingested its prey in under two minutes. The observation took place in beachfront habitat bordering a stand of Red

Mangroves (*Rhizophora mangle*) on the island's southern shoreline. Both species were identified confidently from the photographs based on distinct coloration and morphology. Prior monitoring at the site provided evidence of spatial overlap between adults of both species in the transitional beachfront vegetation. Observations suggest that adult *C. bakeri* dwelling in the mangroves emerge seasonally to breed and deposit eggs along the coast (Gutsche 2006; D. Maryon, pers. obs.). After hatching, juveniles remain in the area for a short period before migrating to mangrove habitats. During this time, juvenile *C. bakeri* are most vulnerable to predation from larger *C. similis* that inhabit and breed in the same area.

Although herbivory is common in iguanids (e.g., Iverson 1982), most Spiny-tailed Iguanas (*Ctenosaura* spp.) have an omnivorous diet that includes fruits, invertebrates, and occasional vertebrates (Dirksen and Gutsche 2006; Gandola and Hendry 2011; Pasachnik and Chavarria 2011). *Ctenosaura*



Fig. 1. An adult male Utila Spiny-tailed Iguana (*Ctenosaura bakeri*). Photograph by Tom W. Brown.



Fig. 2. An adult female Common Spiny-tailed Iguana (*Ctenosaura similis*). Photograph by Tom W. Brown.

similis has been observed consuming Cane Toads (*Rhinella marina*; Pasachnik 2011), and *C. oedirhina* has been observed eating freshwater turtles (*Trachemys* sp.) and Green Iguana (*Iguana iguana*) hatchlings (Pasachnik and Chavarria 2011). Saurophagy (e.g., consumption of lizards) has been documented previously in *C. oedirhina* (Pasachnik and Chavarria 2011) and *C. bakeri* (Dirksen and Gutsche 2006) and cannibalism of juveniles has been documented in *C. similis*, with an indication that this may occur more frequently in areas of high density (Mora 1991). Therefore, predation of a congener by *C. similis* should not be unexpected. Our presented observation confirms that *C. similis* will consume smaller congeneric iguanas if the opportunity arises. Accordingly, on Utila, *C. similis* may not only physically outcompete or hybridize with adult *C. bakeri* in coastal habitats (Pasachnik et al. 2009), but their year-round abundance in those regions may pose a predation risk to migrating juveniles.

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Fig. 3. A subadult Common Spiny-tailed Iguana (*Ctenosaura similis*) ingesting a juvenile Utila Spiny-tailed Iguana (*Ctenosaura bakeri*) on Isla de Utila, Islas de Bahia, Honduras. Photographs by Nancy Hammer.

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