

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

USDA National Wildlife Research Center - Staff  
Publications

U.S. Department of Agriculture: Animal and Plant  
Health Inspection Service

---

2009

## *Gopherus polyphemus* (Gopher Tortoise), *Ctenosaura similis* (Gray's Spiny-Tailed Iguana) Predation

Michael L. Avery

USDA APHIS National Wildlife Research Center, Gainesville, FL, michael.l.avery@aphis.usda.gov

Eric Tillman

USDANational Wildlife Research Center, Florida Field Station

Kenneth Krysko

Florida Museum of Natural History, Division of Herpetology, University of Florida, Gainesville, Florida,  
kenneyk@flmuh.ufl.edu

Follow this and additional works at: [http://digitalcommons.unl.edu/icwdm\\_usdanwrc](http://digitalcommons.unl.edu/icwdm_usdanwrc)



Part of the [Environmental Sciences Commons](#)

---

Avery, Michael L.; Tillman, Eric; and Krysko, Kenneth, "Gopherus polyphemus (Gopher Tortoise), Ctenosaura similis (Gray's Spiny-Tailed Iguana) Predation" (2009). *USDA National Wildlife Research Center - Staff Publications*. 868.

[http://digitalcommons.unl.edu/icwdm\\_usdanwrc/868](http://digitalcommons.unl.edu/icwdm_usdanwrc/868)

This Article is brought to you for free and open access by the U.S. Department of Agriculture: Animal and Plant Health Inspection Service at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in USDA National Wildlife Research Center - Staff Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

**GOPHERUS POLYPHEMUS** (Gopher Tortoise), **CTENOSAURA SIMILIS** (Gray's Spiny-tailed Iguana). **PREDATION.** *Gopherus polyphemus* is currently listed as a threatened and protected species in the state of Florida (Mushinsky et al. 2006. In Meylan [ed.], *Biology and Conservation of Florida Turtles*, pp. 350–375. Chelonian Research Monographs 3). Documented natural predators of *Gopherus polyphemus* include the Raccoon (*Procyon lotor*), Gray Fox (*Urocyon cinereoargenteus*), Striped Skunk (*Mephitis mephitis*), Opossum (*Didelphis virginianus*), Armadillo (*Dasypus novemcinctus*), and crows (*Corvus* sp.) (Mushinsky et al., *op. cit.*), and the introduced Savannah Monitor (*Varanus exanthematicus*) (Owens et al. 2005. *Herpetol. Rev.* 36:57–58). Herein, we augment this list to include the nonindigenous Gray's Spiny-tailed Iguana (*Ctenosaura similis*).

In its native range of central and southern Mexico, the Yucatán Peninsula, and Central America, *C. similis* is known to consume a variety of plants and animals, including leaves, flowers, fruits, insects, spiders, crabs, fishes, rodents, hatchling sea turtles, lizards and their eggs, birds and their eggs, bats, as well as its own eggs and hatchlings (Montanucci 1968. *Herpetologica* 24:305–315; Fitch and Henderson 1978. *Univ. Kansas Sci. Bull.* 51:483–500; Alvarez del Toro 1982. *Los Reptiles de Chiapas*. Instituto de Historia Natural, Tuxtla Gutierrez. 248 pp.; Van Devender 1982. In Burghardt and Rand [eds.], *Iguanas of the World*, pp. 162–183. Noyes Publications, Park Ridge, New Jersey; Krysko et al. 2003. *Florida Sci.* 66:74–79). In its introduced range in Florida, *C. similis* has been documented consuming at least 24 native plants and 13 invertebrates, and 14 nonindigenous plants and 2 vertebrates (Krysko et al. 2009. *Florida Sci.* 72:48–58).

On 28 May 2008, in a residential area on northern Gasparilla Island, Charlotte Co., Florida (26.8094°N, 82.2815°W, datum WGS84, elev. < 1 m), we observed an adult (37.5 cm SVL, 1.54 kg) male *Ctenosaura similis* enter a *Gopherus polyphemus* burrow. Later that morning, as part of an ongoing iguana removal program on Gasparilla Island, this lizard was trapped and transferred to USDA's National Wildlife Research Center Florida Field Station. Stomach contents revealed various stems, leaves, and seeds, as well as several small bones and scutes from the plastron and carapace of a juvenile *G. polyphemus* (Fig. 1).

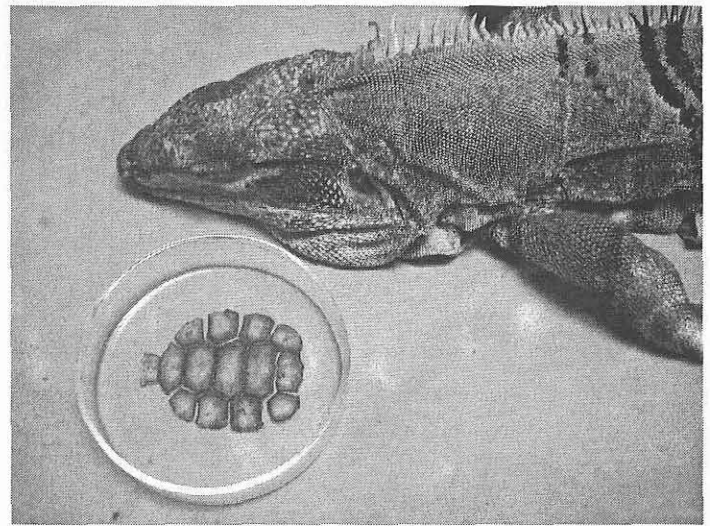


FIG. 1. Adult male *Ctenosaura similis* and scutes of the carapace of a juvenile *Gopherus polyphemus* recovered from its stomach.

Given the close proximity of *Ctenosaura similis* to *Gopherus polyphemus* burrows, ctenosaurs on Gasparilla Island undoubtedly encounter tortoises regularly. Although previous studies have noted the potential negative effects of ctenosaurs on Gopher Tortoises through burrow usurpation (Engeman et al. 2009. *Herpetol. Rev.* 40:84) and competition for food (Krysko et al. 2009, *op. cit.*), direct predation has not been previously documented. Invasive carnivorous reptiles represent potentially serious impacts to tortoise populations already imperiled by habitat degradation and native predators.

We thank M. L. Christie (Charlotte County Environmental & Extension Services), P. T. Hall (USDA Wildlife Services), and Gasparilla Island residents for their support.

Submitted by **MICHAEL L. AVERY**, USDA National Wildlife Research Center, Florida Field Station, 2820 East University Avenue, Gainesville, Florida 32641, USA (e-mail: michael.lavery@aphis.usda.gov); **ERIC A. TILLMAN**, USDA National Wildlife Research Center, Florida Field Station, 2820 East University Avenue, Gainesville, Florida 32641, USA; and **KENNETH L. KRYSKO**, Florida Museum of Natural History, Division of Herpetology, University of Florida, Gainesville, Florida 32611, USA (e-mail: kenneyk@flmnh.ufl.edu).