
On 8 March 2010 we were searching for snakes in northern Guam. At 22:30 h we observed a Coconut Crab sitting at the entrance to a tree (Premna obtusifolia) hole ca. 0.7 m above ground, holding onto the tail of an adult *Boiga irregularis* with one of its claws. The snake was partly suspended in mid-air and had anchored the forepart of its body to some roots and branches close to the ground, apparently trying to pull loose. As we approached, the crab retreated into the tree hole while maintaining its hold of the snake’s tail. A few minutes later, after more human disturbance, the crab released the snake. The crab had a thoracic width of about 45–50 mm, which would correspond to a thoracic length of about 22–25 mm (unpubl. data) and a mass of about 100 g (Amesbury, op. cit.). We captured the snake and determined that it was a gravid female (SVL = 1124 mm; total length = 1423 mm; 255 g). Close inspection of the tail revealed minor indentations from the crab’s claws, but there was no bleeding, nor any visible rupture of the skin.

There have been several observations of both terrestrial and marine crabs feeding on snakes (Maitland 2003. J. Crustacean Biol. 23:241–246; Voris and Jeffries 1995. J. Tropical Ecol. 11:569–576) but most accounts deal with snakes smaller than the one we observed. It is possible that the crab eventually would have started feeding on the tail while it was still attached to the snake, even if it had failed to kill the snake (Maitland, op. cit.).

Of the 295 individual *Boiga irregularis* we have encountered and marked in our main study population to date, 15% suffered damage to the tail. Damage ranged from the tip to most of the tail lost, leaving only a short stump. In 21 cases the damage had occurred before we first encountered a snake, so we do not know the size of the snake at the time of the injury. But for 23 snakes that we captured before and after tail damage (including major and minor damage), the mean of the snakes’ pre- and post-injury sizes is 1095 mm SVL. Some of these tail damages might have been inflicted by coconut crabs (or possibly other terrestrial crabs, several smaller species of which inhabit the area) in attacks similar to the one we observed. The Orote Peninsula in Guam reputedly has high densities of crabs (*B. latro* and others) and 40% of the *Boiga irregularis* there have damaged tails (Deni Porej, pers. comm.), suggesting a correlation between crab densities and incidence of tail damage.

Among snakes in our study population, we have seen tail damage in only five snakes < 800 mm SVL, and in two of these, only the very tip of the tail was missing. However, crab attacks on small juvenile snakes are likely to end in death for the snake, hindering our ability to assess rates of attack and the effects of such predation attempts on snake fitness. Even so, careful analyses of size-dependent injury incidences may help reveal potential impact of predators on prey populations when direct observations of predatory attempts are lacking.


In Guam, on the evening of 11 November 2009, the first author was filming a small (SVL = 450–500 mm) *B. irregularis*, perched in vegetation 4 m above ground. The snake suddenly started thrashing violently and after about ten seconds it fell to the ground. The snake slithered through a meter of grass and coiled up under a flattened soda can. A praying mantis was observed next to where the snake first landed on the ground. A review of the video footage (http://vimeo.com/13407786) showed that the snake had been attacked by a large praying mantis (*Hierodula patellifera*) that held the snake’s head with both forelegs. The mantis tried to hold on to the vegetation, but the snake eventually pulled the mantis from its perch and both fell to the ground. The snake was not closely examined after the event, but it did not appear to be harmed.


In Guam, hatching *B. irregularis* measure 290 mm SVL (Lardner et al. 2009. Herpetol. Cons. Biol. 4:313–323) to 430 mm SVL (Rodda et al. 1999. In Rodda et al. [eds.]. Problem Snake Management: the Habu and the Brown Treesnake, pp. 44–80. Cornell University Press, Ithaca, New York). Average-sized hatchlings (SVL = 360 mm) typically weigh 7–8 g, but we have seen a *B. irregularis* that weighed merely 4 g. Assuming the snake observed measured 475 mm SVL, its weight would have been ca 15 g. Adult specimens of *H. patellifera* collected from the site where the predation attempt occurred have a mean head-body length of 69 mm and an average mass of 2.9 g (range 1.6–4.1 g; N = 6). Thus, the snake that was attacked probably weighed about five times as much as the praying mantis, but some hatching *B. irregularis* weigh no more than a large *H. patellifera*. For a comparison, the large mantid *H. werneri* has been seen feeding on frogs and birds weighing as much as three times the mantid’s weight (Ridpath, op. cit.).

*Hierodula patellifera* are common in trees and bushes frequented by small *B. irregularis* on Guam. It therefore seems plausible that encounters between small snakes and large mantids are not rare. Further information about the frequency and outcomes of such encounters, especially encounters that lead to death or serious injury for the snake, would be useful.

We thank Aubrey Moore for help with mantid identification and references. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.


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BOTHROPS LEUCURUS (Bahia Lancehead). CAUDAL LURING. Caudal luring, the wriggling movements of a conspicuous tail tip made by an otherwise cryptically colored snake in the presence of potential prey, has been reported for several species of Boidae, Viperidae, and Elapidae (Sazima 1993. Copeia 1993:222-226). Bothrops leucurus is a terrestrial and nocturnal snake from the Atlantic Forest Domain of northeastern and eastern Brazil (Campbell and Lamar 2004. The Venomous Reptiles of the Western Hemisphere. Cornell Univ. Press, Ithaca, New York. 870 pp.). It is a generalist species that preys on amphibians, lizards, and rodents (Freitas 1999. Serpentes da Bahia e do Brasil. Ed DALL, Feira de Santana, Bahia. 80 pp.; Freitas 2003. Serpentes Brasileiras. Malha-de-Sapo-Publicações, Lauro de Freitas, Bahia. 160 pp.). We observed tail displays in three juvenile B. leucurus in the wild in Brazil, suggesting that this species uses caudal luring behavior to capture prey. The observations occurred as follows: 1) On 14 April 2007, at 2021 h, in a pond adjacent to Timbó River, Amargosa municipality, state of Bahia; 2) On 29 April 2007, at 0941 h, on the ground of the forest at Igapã municipaility, state of Bahia; and 3) On 24 July 2006, at 1440 h, in João Pessoa municipality, state of Paraíba. Similar evidence have been recorded for other Brazilian species such Tropidodyra striaaticeps, Bothropoides jararaca, and Bothrops jararacussu (Sazima 1991. Copeia 1991:245-248; Sazima 1993, op cit.; Sazima 2006. Aqu. J. Ichthyol. Aquat. Biol. 11:117-124). Although the caudal luring display was observed, there was no case of predation attempts during our observations.

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On 20 March 2009, we collected a juvenile male Bothrops sp. (gr. atrox) (SVL = 501 mm, 24.82 g without prey) in a relictual patch of sub-evergreen tropical neotropical rainforest that extends about 150 km across the eastern and northern regions of Chapada da Ibiapaha, in the municipality of Ubajara, state of Ceará, Brazil (03.5042°S, 40.5604°W; datum: WGS84; elev. 851 m). Inside the gut of the specimen we found an intact Oxyrhopus melanogenys orientalis (Black-headed Calico Snake; SVL = 590 mm, 16.64 g; Fig. 1). The prey measured ca. 78% of the predator’s length and ca. 67% of its body mass. To our knowledge, this is the first record of B. atrox preying on snakes of the genus Oxyrhopus. The specimen is housed on Universidade de Campinas Natural History Museum ‘Prof. Adão J. Cardoso’, Campinas, São Paulo, Brazil (ZUEC 3475).

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BUNGARUS CAERULEUS (Common Krait). SCAVENGING. We encountered a Bungarus caeruleus at Jhadeswar Hill, Ganjam district, Odisha, India (19.4589°N 85.0249°E; datum: WGS84; elev. 83 m) on 12 May 2010 at 1235 h. The krait (ca. 80 cm total length) was found near a hill stream feeding on a dead and decayed snake. After close examination, the prey was identified as a Coelognathus helena helena. The dead prey was caught by the middle of the body and was half inside the krait’s mouth (Fig. 1). The dead snake was almost the same size or a little smaller than the krait and was swallowed in approximately two minutes. The krait then moved into a heap of boulders near the stream. After interviewing local inhabitants, I learned that a snake had been killed and thrown near the stream three days before.

Kraits are known to feed on frogs, lizards, and snakes (Whitaker and Captain 2004. Snakes of India, the Field Guide. Draco Books, Chennai. 481 pp.). Although scavenging has been documented in several species of snakes under natural conditions, and is considered a prevalent opportunistic foraging strategy for many snakes (DeVault and Krochmal 2002. Herpetologica 58:429-436), it has not previously been reported in B. caeruleus.

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