

host record for this helminth. *Abbreviata borneensis* has also been found in two species of *Gonocephalus*, *G. bellii* and *G. grandis*, from Peninsular Malaysia (Goldberg et al. 2016. Pac. Sci. 70:373–380). The nematodes are deposited in the Harold W. Manter Parasitology Laboratory (HWML 112293), The University of Nebraska, Lincoln, Nebraska, USA.

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SQUAMATA — SNAKES

AGKISTRODON CONTORTRIX (Eastern Copperhead). DIET. Vipers are typically ambush predators that sit and wait for prey, but they will actively forage when feeding on insects as juveniles or seasonally as adults. During June to September, we studied the foraging ecology of *Agkistrodon contortrix* as they feed on annual cicadas (*Neotibicen tibicen*). During this period, adult copperheads at our site adopt arboreal foraging strategies, climbing trees, bushes, and other vertical structures to eat freshly emerged cicadas. While this activity occurs, cicadas make up a high proportion of their diet, and we had not observed them consuming any other prey during this time of year. However, at 2130 h on 9 July 2021, we observed a large male *A. contortrix* (66.0 cm SVL, 74.5 cm

total length, 230.1 g) prey upon a Southern Flying Squirrel (*Glaucomys volans*) at a campground in the Red River Gorge, Daniel Boone National Forest, Wolfe County, Kentucky, USA (37.78098°N; 83.63611°W; WGS 84). The snake was climbing a small tree (circumference <15 cm) to consume a cicada. As the snake reached the cicada (ca. 1.5 m up the tree), the flying squirrel glided in to capture the cicada, and as it did, the snake struck and envenomated it. The flying squirrel immediately fell to the ground, at which point the snake climbed down the tree and consumed it over a 64 min period.

Although *Pantherophis obsoletus* (Western Ratsnake; Pierce et al. 2008. Southeast. Nat. 7:359–366), and *Crotalus horridus* (Timber Rattlesnake; Savage 1967. Copeia 1967:226–227), have been documented consuming flying squirrels, we are unaware of any reports for *A. contortrix*. Prior to these findings, we had documented *A. contortrix* at our study site for the past five years preying exclusively upon emerging annual cicadas during the summer months, although we have observed other potential prey items throughout the site during nightly surveys, including White-footed Mice (*Peromyscus leucopus*), Little Brown Skinks (*Scincella lateralis*), American Toads (*Anaxyrus americanus*), Fowler's Toads (*A. fowleri*), and Wood Frogs (*Lithobates sylvaticus*). This is interesting, as prior work found that three geographically separated populations of copperheads all exhibited non-envenomated prey preference towards small mammals, followed by insects, and then amphibians (Greenbaum 2004. Behav. Ecol. 15:345–350). This seasonal, cicada-specific predation behavior has likely developed as a strategy to maximize caloric intake and predation success. Our observations, however, indicate that a degree of opportunism does exist within individuals of our study population.

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AGKISTRODON RUSSEOLUS (Yucatecan Cantil). PREDATION. *Agkistrodon russeolus*, is a medium-sized pitviper (up to 1050 mm total length) endemic to the Yucatán Peninsula (Porrás et al. 2013. Amphib. Reptile Conserv. 7:48–73). Information on the ecology of this species is limited (Lee 1996. The Amphibians and Reptiles of the Yucatán Peninsula. Cornell University Press, Ithaca, New York. 500 pp.; Heimes 2016. Herpetofauna Mexicana Vol. 1, Snakes of Mexico. Edition Chimaira, Frankfurt am Main, Germany. 572 pp.), including reports on its predators. Herein, we report an account of a Crested Caracara (*Caracara plancus*) feeding on an individual of *A. russeolus* in southeastern Mexico.

The observation took place at 1830 h on 23 October 2021, at a site located in the Municipality of Telchac Puerto, Yucatán, Mexico (21.33°N, 89.32°W; WGS 84; 4 m elev.), while performing an ongoing radio-telemetry study of *A. russeolus* on the northern coast of the Yucatán Peninsula, within an area significantly impacted by hotel complexes. While attempting to locate one of our radio-equipped snakes, two of us (JAOM and JIVS) observed in the distance an adult *C. plancus* that took off from the site disturbed by our presence and perched on a nearby building (Fig. 1). When approaching the site where the bird of prey was, we found the fresh remains of a non-radio-equipped adult *A. russeolus*. Upon closer examination, we noticed that only the anterior half of the snake's body was left, without the guts, and with the marks of claws and beak in various areas of the snake's body (Fig. 1).



FIG. 1. Male *Agkistrodon contortrix* feeding on a Southern Flying Squirrel, *Glaucomys volans*, that it envenomated while actively foraging arboreally for annual cicadas (*Neotibicen tibicen*) in Daniel Boone National Forest, Wolfe County, Kentucky, USA.

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FIG. 1. Remains of an adult *Agkistrodon russeolus* preyed upon by a *Caracara plancus* (inset) in Yucatán, Mexico.

The Crested Caracara is a known dietary opportunist with a wide spectrum of prey types (Morrison and Pias 2006. Fla. Sci. 69:36–46). Although it is considered largely a scavenger that also steals food from other avian predators (kleptoparasitism) (e.g., Partida and Rodríguez-Estrella 2015. Acta Zool. Mex. 31:306–308), quantitative studies on its diet and feeding behavior indicate that much of its prey are actually captured alive, including snakes (Rodríguez-Estrella and Rivera-Rodríguez 1997. J. Raptor Res. 31:228–233; Morrison and Pias 2006, *op. cit.*). Therefore, although we did not observe the moment when the falcon actually captured the snake, it is very likely that the individual of *A. russeolus* was attacked, subdued, and consumed at the observation site, given this raptor's active foraging behavior often taking place on the ground (Brown and Amadon 1968. Eagles, Hawks, and Falcons of the World. McGraw-Hill Book Co., New York, New York. 945 pp.). This is further substantiated by the fresh condition of the prey. To the best of our knowledge, this observation represents the first published account of *A. russeolus* as prey of *C. plancus*.

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BOA CONSTRICTOR (Boa Constrictor). DIET. *Boa constrictor* is found throughout rainforests, savannas, and wetlands in northern South America (Reynolds and Henderson 2018. Bull. Mus. Comp. Zool. 162:1–62). In Brazil, it is distributed throughout the Amazon, Atlantic Forest, Cerrado, and Caatinga biomes (Nogueira et al. 2019. S. Am. J. Herpetol. 14:1–274). Considered top predators, opportunistic, and generalist (Monroy-Vilchis et al. 2011.



FIG. 1. Young *Boa constrictor* as found during a predation attempt on *Gnorimopsar chopi* (Chopi Blackbird), Fazenda Milagres, Conde, Bahia, Brazil.

Rev. Mex. Biodiv. 82:319–321), they are sit-and-wait strategists capable of feeding both in terrestrial and arboreal environments (Scartozzoni and Molina 2004. Rev. Etol. 6:25–31.; Pizzatto et al. 2009. Amphibia-Reptilia 30:533–544) and usually feed on birds, mammals and lizards (Pizzatto et al. 2009, *op. cit.*).

At 1010 h on 27 March 2021, we observed a young *B. constrictor* attempting to eat an adult *Gnorimopsar chopi* (Chopi Blackbird) in a tree within a restinga ecosystem in Fazenda Milagres, Conde, Bahia, Brazil (11.94651°S, 37.61043°W; WGS 84). The *B. constrictor* immobilized the bird (Fig. 1), but it is unclear whether the snake was about to begin the ingestion process. After watching this event for 20 min, we approached within 2 m of the snake and at this moment the snake released the bird and started to retreat. Although the *B. constrictor* released the bird, the snake appeared to have completely immobilized the prey and would have consumed it if not for our presence. To our knowledge, this is the first record of attempted predation of *G. chopi* by a *B. constrictor*. *Gnorimopsar chopi* is an icterid endemic to South America (Di Giacomo and Reboreda 2015. Auk 132:16–24) that mainly nests in preexisting holes, forming colonies of 3–7 nests (Di Giacomo et al. 2010. Wilson J. Ornithol. 122:795–799). After confirming the identity of the bird, we checked the nearby nest for possible eggs or chicks, but it was empty.

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BOA IMPERATOR (Central American Boa Constrictor). DIET. *Boa imperator* is distributed from Mexico to Colombia (Card et al. 2016. Mol. Phylogenet. Evol. 102:104–116). It is the largest snake in Mexico, reaching a total length of 320 cm (Heimes 2016. Herpetofauna Mexicana Vol. 1: Snakes of Mexico. Edition Chimaira, Frankfurt am Main, Germany. 435 pp.). It is terrestrial and arboreal, kills by constriction, and feeds on a wide variety