

Title	Aristelliger praesignis (Jamaican Croaking Lizard). Maximum Size.
Authors	Campbell, P; Bauer, AM; Griffing, AH; Deboer, JC

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/315476620

Aristelliger praesignis (Jamaican Croaking Lizard). Maximum Size.

Article in Herpetological Review · March 2017

CITATION: 0	S	reads 43	
5 autho	rs , including:		
	Aaron H Griffing Marquette University 5 PUBLICATIONS 0 CITATIONS SEE PROFILE		Jonathan Choe Deboer Villanova University 1 PUBLICATION 0 CITATIONS SEE PROFILE
\$	Patrick Campbell Natural History Museum, London 34 PUBLICATIONS 90 CITATIONS SEE PROFILE		A. M. Bauer Villanova University 537 PUBLICATIONS 6,610 CITATIONS SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Project Global Assessment of Reptile Distributions View project

All content following this page was uploaded by Aaron H Griffing on 21 March 2017.

locations, including southern Florida, USA (Meshaka et al. 2004, *op. cit.*). *Hemidactylus mabouia* occupies edificarian and arboreal habitats and is abundant and widely distributed in southern Florida (Krysko and Daniels 2005. Carib. J. Sci. 41:28–36). While this species is primarily nocturnal, it is occasionally observed basking during the day (Meshaka et al. 2004, *op. cit.*). An *A. equestris* has been observed with a gecko identified as *H. mabouia* in its mouth (Nicholson and Richards 1999. Anolis Newsletter V:95–98). However, consumption was not confirmed, and *Hemidactylus* geckos are difficult to identify without a specimen in hand (Krysko and Daniels 2005, *op. cit.*). Here we report a predation event of *A. equestris* on *H. mabouia*.

On 18 September 2016 at approximately 1100 h, we observed an adult *A. equestris* completely consume a lizard while perched at a height of ~2 m on a Gumbo Limbo (*Bursera simaruba*) tree in a remnant forest patch at the Montgomery Botanical Center (25.660°N, 80.283°W; WGS 84). A brief pursuit of the *A. equestris* induced it to regurgitate its prey item, which we collected and identified as *H. mabouia* (Krysko and Daniels 2005, *op. cit.*). The body of the *H. mabouia* showed evidence of trauma from multiple bites and was missing a significant portion of its tail, which the *A. equestris* presumably retained. To our knowledge, this is the first recorded observation of *A. equestris* preying on *H. mabouia*.

CHRISTOPHER J. THAWLEY (e-mail: cthawley@gmail.com), AN-DREW C. BATTLES (e-mail: andrewcbattles@gmail.com), SOZOS N. MI-CHAELIDES (e-mail: msozos@gmail.com), and JASON J. KOLBE, Department of Biological Sciences, University of Rhode Island, 120 Flagg Rd., Kingston, Rhode Island 02881, USA (e-mail: jjkolbe@uri.edu).

ANOLIS PULCHELLUS (Puerto Rican Grass-bush Anole) and SPHAERODACTYLUS MACROLEPIS (Big-scaled Dwarf Gecko). **PREDATOR-PREY INTERACTION.** Many primarily insectivorous lizards will eat other vertebrates on occasion, a behavior that has been reported in many species of Anolis. One unifying generality is that such carnivory is size structured, with the predator usually being substantially larger than the prey (Gerber 1999. In Losos and Leal [eds.], Anolis Newsletter V, pp. 28-39. Washington University, Saint Louis, Missouri). Not surprisingly, reports of anole carnivory pertain primarily to middle-sized and larger anoles. Here we report carnivory by a small anole of the species A. pulchellus. To our knowledge, this is the first instance of carnivory reported for this species and one of few for any similar-sized anole (the record noted by Henderson and Powell 2009. Natural History of West Indian Reptiles and Amphibians. University Press of Florida, Gainesville, Florida. 495 pp. is based on the observations reported here).

We observed a female *A. pulchellus* (SVL ca. 38 mm) capture and consume a *Sphaerodactylus macrolepis* (SVL ca.18 mm) in the leaf litter at approximately 1430 h on 25 September 2006, on Guana Island, British Virgin Islands, near the head of the Liao Wei Ping Trail at roughly 18.47916°N, 64.57444°W (WGS 84). The anole jumped from a low perch (ca. 20 cm above the ground) to the ground and bit the gecko, which escaped and fled 15–20 cm to the opening of an ant nest. The anole attacked the gecko again, seized it in its mouth and carried it approximately 10 cm up a vine, a distance of 15–20 cm from the site of attack. Initially, the anole held the gecko upside down (i.e., dorsal surface facing down), biting it between the fore and hind limbs on the left side. Eventually the anole worked its grasp posterior to the base of the tail, still on the left side. At this point, parts of both the base of the tail and the left hind limb were in the anole's mouth (Fig.



FIG. 1. Female *Anolis pulchellus* in the process of ingesting a *Sphaerodactylus macrolepis*.

1). The anole then manipulated the gecko so that it was no longer upside down, but rotated about its long axis by roughly 90 degrees (the ventral surface of the gecko was then oriented forward relative to the anole) at which point it was biting the gecko at the base of the tail and possibly by the left hind limb; the anole eventually manipulated the gecko so that it held it tail-first in its mouth, dorsal side up, at which point the anole proceeded to ingest the gecko tail first (during this time, the tail itself broke off and was carried away by ants, which had been biting the gecko in several places since shortly after it was captured by the anole). Total time from capture to complete ingestion was approximately five minutes.

Predation on *Sphaerodactylus* geckos has been reported in anoles of only a few species, none of which are as small as *Anolis pulchellus* (Henderson and Powell 2009. Natural History of West Indian Reptiles and Amphibians. University Press of Florida, Gainesville, Florida. 495 pp.). However, given the size discrepancy between the lizards in these two clades and their extensive coexistence across the Caribbean, we suspect that such interactions may occur with some frequency. Moreover, the high population densities of some *Sphaerodactylus* geckos (e.g., Rodda et al. 2001. J. Trop. Ecol. 17:331–338) and the diurnal activity of several species (Allen and Powell 2014. Herpetol. Conserv. Biol. 9:590–600) suggest that they may be important prey items for anoles.

KEVIN DE **QUEIROZ**, National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia 20560, USA (e-mail: dequeirozk@si.edu); **JONATHAN B. LOSOS**, Museum of Comparative Zoology and Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, Massachusetts 02138, USA (e-mail: jlosos@ oeb.harvard.edu).

ARISTELLIGER PRAESIGNIS (Jamaican Croaking Lizard). MAXIMUM SIZE. Aristelliger praesignis is a large, nocturnal, and semi-arboreal sphaerodactylid gecko native to Jamaica, the Cayman Islands, and Swan Island (Schwartz and Henderson 1991. Amphibians and Reptiles of the West Indies. University of Florida Press, Gainesville, Florida. 714 pp.). Although only one Aristelliger is currently recognized on Jamaica, there are multiple deeply divergent, species-level taxa within A. praesignis as presently construed (Cloud 2013. Unpublished Master's Thesis, Pennsylvania State University, State College, Pennsylvania). Boulenger (1885. Catalogue of the Lizards in the British Museum [Natural History] I. Geckonidae, Eublepharidae, Uroplatidae, Pygopodidae, Agamidae. Trustees of the British Museum, London) reported an individual of 96 mm snout–vent length (SVL), which has subsequently been regarded as the record-sized individual of this species (e.g., Meiri 2008. Global Ecol. Biogeogr. 17:724–734). However, we have re-identified this specimen (Natural History Museum, London [NHM] 1845.12.27.9) as *A. georgeensis*, a species occurring along the Caribbean coast of Middle America, particularly on offshore islands from Cozumel, México to San Andrés, Nicaragua, and known to reach at least 115 mm SVL (Bauer and Russell 1993. Cat. Amer. Amphib. Rept. 568:1–2). Excluding Boulenger's specimens, the maximum published SVL of *A. praesignis* is 85 mm (Hecht 1952. Evolution 6:112–124; Schwartz and Henderson 1991, *op. cit.*).

We collected an adult male A. praesignis (MCZ R194411) at 1920 h on 31 May 2016, approximately 6 m above the ground on the walls of a private residence in the hills NW of Kingston, St. Andrew Parish, Jamaica (18.03990°N, 76.72417°W, WGS 84; 628 m elev.). The specimen measures 100.7 mm SVL-an increase in size of 18.5% over the previous record specimen, has a mass of 28 g, and shows signs of either territorial behavior and/or predation attempts (e.g., regenerated tail and digit loss). Three other large adult males (93.4-96.9 mm SVL) were collected at the same site that evening and two others (97.4-97.9 mm SVL) were collected from the walls of a separate private residence in College Common, St. Andrew Parish, Jamaica (17.99965°N, 76.75062°W, WGS 84; 172 m elev.). Cloud (2013, op. cit.) likewise reported that the largest A. praesignis complex specimen she examined (95 mm SVL from Port Antonio, Portland Parish) was a member of the clade that also occurs in the Kingston region.

An even larger Jamaican form, *Aristelliger titan* from Pleistocene fossil material, is estimated from disarticulated dermal skull and vertebral elements to have reached 150 mm SVL (Hecht 1951. Am. Mus. Novit. 1538:1–33). *Aristelliger titan* has since been synonymized with *A. lar* on the basis of large size (maximum 135 mm SVL; Schwartz and Henderson 1991, *op. cit.*) and a similar ontogenetic trend of increasing tooth row length and number of teeth (Etheridge 1965. Quart. J. Florida Acad. Sci. 28:83–105). However, based on our findings of large-bodied *A. praesignis*, and the fact that *A. lar* is restricted to Hispaniola, we suggest the synonymy of *A. titan* should be revisited.

AARON H. GRIFFING (e-mail: agriffing66@gmail.com) and JONA-THAN C. DEBOER, Department of Biology, Villanova University, Villanova, Pennsylvania 19085, USA (e-mail: jdeboer1@villanova.edu); PATRICK D. CAMPBELL, Department of Life Sciences, Darwin Centre, Natural History Museum, London SW7 5BD, United Kingdom (e-mail: p.campbell@ nhm.ac.uk); BYRON S. WILSON, Department of Life Sciences, University of West Indies, Mona, Jamaica (e-mail: byron.wilson@uwimona.edu.jm); AARON M. BAUER, Department of Biology, Villanova University, Villanova, Pennsylvania 19085, USA (e-mail: aaron.bauer@villanova.edu).

ASPIDOSCELIS SEXLINEATA SEXLINEATA (Six-lined Racerunner). REPRODUCTION. Aspidoscelis sexlineata sexlineata is a documented Gopherus polyphemus (Gopher Tortoise) burrow associate (Jackson and Milstrey 1989. Proc. Tortoise Relocation Symp. 86:86–98). The reproductive ecology of *A. s. sexlineata* is not fully understood. One study documented use of road edges and embankments for nesting and suggested a preference for red clay soils (Trauth 1983. Am. Midl. Nat. 109:289–299). However, very little is known about nest site selection and reproductive behavior of *A. s. sexlineata* in the extreme southeastern part of its range. Here we describe



FIG. 1. Adult *Aspidoscelis sexlineata* (yellow arrow) digging a nest hole next to the entrance of a *Gopherus polyphemus* burrow.

possible nesting behavior and confirm clutch deposition in aprons of *G. polyphemus* burrows at Archbold Biological Station in Highlands Co., Florida, USA.

While monitoring tortoise behaviors using game cameras equipped with infrared sensors (Bushnell TrophyCam), we recorded an adult A. s. sexlineata excavating a chamber into the side of the entrance of a tortoise burrow (27.1871°N, 81.3383°E; WGS 84). A small hole was first observed on 10 June 2015. On 12 June 2015 beginning at 1309 h, our video footage showed the individual excavating a hole approximately 3 cm in diameter and at least the length of the adult lizard, which was able to fully hide itself in the hole (Fig. 1). The individual dug vigorously with its forelimbs for 2-3 min then was not seen for the remainder of the day. On 14 June 2015, an adult we assume to be the same individual resumed digging. By 15 June 2015, the hole was filled with sand and no longer visible, although we recorded an A. s. sexlineata walking past the site of the hole for several days thereafter. Female A. s. sexlineata can lay two clutches in a season, with ovulation of the second clutch occurring between mid-June and late July (Trauth 1983, op. cit.), corroborating the timing of this observation as a potential nesting event.

On 8 July 2015, while searching for *G. polyphemus* eggs, we unearthed two clutches of lizard eggs (three in each clutch). These clutch sizes are consistent with the previously reported mean clutch size for *A. s. sexlineata* of 3.19 eggs (Trauth 1983, *op. cit.*). One clutch (A) was buried 15 cm deep and approximately 30 cm from the mouth of the burrow (27.1867°N, 81.3374°E, WGS 84). Mean egg size in clutch A was 16.8 mm long by 11.2 mm wide. The second clutch (B) was buried in the apron of a different burrow (27.1873°N, 81.3385°E, WGS 84) and had a mean egg size of 16.3 mm by 12.1 mm.

To confirm species identification, we incubated both clutches until hatching in repurposed wine chillers. Each clutch was kept in a separate container in moist sand at constant temperature of 29°C. On 31 July 2015, a single *A. s. sexlineata* hatchling emerged from clutch A (SVL = 30.5 mm, total length = 96.0 mm). On 14 August 2015, one hatchling emerged from clutch B (SVL = 31.4 mm, total length = 93.5 mm). In South Carolina, young-of-year were found in late July and into August (Bellis 1964. Herpetologica 20:9–16), consistent with the timing of hatching at our study site. Our disturbance to the eggs during