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# Bothriechis schlegelii. Diet.

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*S. graptolaemus* in the high category with an EVS score of 16. These major discrepancies between conservation evaluations for *S. graptolaemus* indicate a critical deficiency of basic biological information, which, if not remedied, will certainly be disadvantageous to the conservation outlook for this and other understudied species.

The dearth of empirical information regarding the ecological habits of *S. graptolaemus* renders this a noteworthy observation, and to the best of our knowledge this report is a new arboreal habitat record for this enigmatic gecko.

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## Reptilia: Squamata (snakes)

**Bothriechis schlegelii. Diet.** The Eyelash Palm-pitviper, *Bothriechis schlegelii*, is known to feed on a variety of small vertebrates, including frogs, lizards (especially anoles), birds (including hummingbirds), mammals (including a small marsupial), and in captivity an incident of cannibalism has been reported (see summary in Campbell and Lamar, 2004; Sorrell, 2009; Meza Ramos et al., 2010; McCranie, 2011; Barrio-Amorós, 2015). Cundall and Greene (2000) noted that viperids are capable of eating exceptionally large prey items relative to their body size. As an example, Lindley and Sorrell (2004) reported on a subadult female *B. schlegelii*, measuring 360 mm in

snout-vent length (SVL) and 423 mm in total length (TL), and weighing 19 g, having consumed a Turnip-tailed Gecko (*Thecadactylus rapicauda*) measuring 118 mm SVL and 125 mm TL and weighing 28 gr, resulting in a prey/predator ratio of 1.47.

Herein we report an incident of an adult *B. schlegelii* ingesting an extraordinarily large prey item relative to its length, a subadult *Holcosus undulatus* (Teiidae). The *B. schlegelii* was found and killed by a gardener at the Green Village Bed & Breakfast, ca. 10 km N of Tilarán, Provincia de Guanacaste, Costa Rica (10.5233831°N, 84.9698291°W; WGS 84), on 21 October 2014 at 1000 h. One of us (RM) recovered the body and froze it until 2 November 2014, when it was dissected. The *B. schlegelii* measured 56 cm TL (SVL not taken) and weighed 34 gr, and the *H. undulatus* measured 38 cm SVL and 47 cm in TL, and weighed 49 gr, resulting in a prey/predator ratio of 1.44.

In a study involving diel movement and predation activity patterns in *B. schlegelii*, Sorrell (2009) indicated that this species most often moves at night, can capture mobile prey from daytime perches, and consumes prey during the day and night. Further, he noted that *B. schlegelii* frequently will strike and successfully capture prey such as frogs and the lizard *Norops limifrons* (Dactyloidae) that approach a snake's ambush site. Sorrell (2009) also indicated *Ameiva festiva* (= *Holcosus festivus*) in the diet of *B. schlegelii*, but provided no explanation how this diurnal, terrestrial, fast-moving teiid that retreats down burrows or hides under logs and debris (Savage, 2002) might have been taken. *Holcosus undulatus* is similar in behavior, so the tactics used by *B. schlegelii* to capture these extremely active lizards remain a mystery. The size of the prey item ingested by the individual of *B. schlegelii* in this note is the second largest on record, after the 1.47 prey/predator ratio for an individual of *Thecadactylus* reported by Lindley and Sorrell (2004).



**Fig. 1.** An adult *Bothriechis schlegelii* with its massive prey, a subadult *Holcosus undulatus*. The individuals were not preserved.

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**Drymobius margaritiferus. Mating behavior.** The Speckled Racer, *Drymobius margaritiferus*, is a widespread colubrid with a broad distribution that on the Atlantic versant extends from extreme southern Texas, United States, to northern Colombia, and on the Pacific versant from southern Sonora to central Panama (McCrane, 2011). This species is known to occur in a variety of habitats, including savannas, but favors open areas along forest edges and clearings, riparian sites, areas of secondary growth, pastures, and roadsides (Dixon and Werler, 2000; Savage, 2002). Its elevational distribution extends from sea level to 2,000 m (Köhler, 2008; Wilson and Johnson, 2010). In Tamaulipas, Mexico, *D. margaritiferus* has been recorded from the Gómez Farías region and the Sierra de Tamaulipas in a variety of tropical habitats, both arid and humid, including lower cloud forest and pine-oak forest (Martin, 1958). Although this species is widely distributed, little is known about its natural history (Dixon and Werler, 2000). Herein we report an observation on the mating behavior of this species from the northern part of its distribution.

On 30 May 2015 at 1430 h, at the Centro Interpretativo Ecológico (CIE), Gómez Farías, Tamaulipas, Mexico (23.06599° N, 99.16864° W; WGS 84; elev. 360 m), Mario Alberto Álvarez Lara and Luis García Álvarez observed an aggregation of five adult individuals of *D. margaritiferus* next to a waterfall (Fig. 1). The snakes were intertwined, and one individual (presumably a female) looked larger than the others. Although the snakes were not observed copulating, apparently they were displaying courtship behavior. After ca. 20 min of exhibiting this behavior, the snakes dispersed in different directions. A few minutes later they reappeared near the location where they initially were observed and began to perform similar mating behavior, but this time while hiding under a large plant that obstructed the observer's view. This observation occurred near an artificial lake and a waterfall, where rocks and dense vegetation dominate the landscape. This disturbed area, which is surrounded by tropical deciduous forest, has become an attractive habitat for *D. margaritiferus* and other common snake species whose diet includes amphibian prey.

In Central America, Campbell (1998: 213) mentioned seeing a photograph taken at Biotopo Cerro Cahuí, in the department of El Petén, Guatemala, in which at least seven adult individuals of *D. margaritiferus*, one of the snakes considerably larger than the others, were intertwined. In Costa Rica, Solórzano (2004) reported that during the dry season (from December through April) in areas of the Valle Central, aggregations of up to 25 individuals of *D. margaritiferus* have been observed, possibly for reproduction. To our knowledge, this note represents the first published photograph of an apparent breeding aggregation of *D. margaritiferus*.