

## Do aglyphous colubrid snakes prey on live amphisbaenids able to bite?

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The colubrid snake *Echivanthera affinis* occurs in the Brazilian Atlantic Forest, from Bahia (roughly 14°S) to Rio Grande do Sul (roughly 30°S) (Di-Bernardo 1992, Argôlo 1998). This small snake is known to feed upon anurans and lizards (Marques *et al.* 2001). Here we report on an unexpected gut content of an individual collected in the wild.

An adult female *E. affinis* (509 mm SVL, 132 mm tail length) was found moving by day on the ground within a secondary forest at the Parque Estadual das Fontes do Ipiranga, São Paulo (23° 39'S and 46° 37'W), on 7 October 2002. After its dissection, an individual of *Amphisbaena mertensi* (about 260 mm SVL, 22 mm tail length) was found in its stomach, ingested headfirst. The snake (and its prey) is housed in the collection of the Instituto Butantan (IB 69610).


Amphisbaenians have fossorial habits and generally are able to inflict powerful bite (Gorzula *et al.* 1977) and rotate the body vigorously (OAVM pers. obs.), two defensive tactics that cause these reptiles to be preyed on

by a few specialized predators. Some fossorial snakes with efficient mechanism of venom inoculation (some atractaspidids, elapid coral snakes and elapomorphine colubrids) or with stout skull and powerful bite (some basal snakes, such as Aniliidae) prey on amphisbaenians habitually (Savitzky 1978, Greene 1983, 1997, Zamprogno and Sazima 1993). However, snakes of the genus *Echivanthera* (including *Taeniophallus*; Myers and Cadle 1994) are aglyphous snakes with a slender body (Marques *et al.* 2001) and feeble skull (H. Ferrarezzi pers. com.). There are other records of amphisbaenians eaten by aglyphous colubrids, including the xenodontines *Liophis miliaris* and *L. poecilogyrus* (Gallardo 1977, Dixon 1989, Marques and Sazima in press), but *L. miliaris* ingested one specimen of *Leposternon microcephalum*, a non-biting amphisbaenian which defend itself with a fouling cloacal discharge (Marques and Sazima in press). Necrophagy might explains *E. affinis* (and *L. poecilogyrus*) feeding on a species of *Amphisbaena* (Sazima and Strüssmann 1990). However, necrophagous insect larvae were absent in the gut contents of *E. affinis* (Sazima and Strüssmann 1990) and the snake showed a conspicuous wound on its anterior body, an indication that it caught its biting prey alive. Unfortunately, there are no details about the gut

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content of *L. poecilogyrus* that preyed on an amphisbenian (Gallardo 1977) and thus it is not possible to infer in which way this prey was caught. Observations on captive individuals would test our assumption that *E. affinis* and possibly other aglyphous colubrids snakes are able to prey on live *Amphisbaena*.

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### References

- Argôlo, A. J. S. 1998. *Echinanthera affinis*. *Herpetological Review* 29: 176-176.
- Di-Bernardo, M. 1992. Revalidation of the genus *Echinanthera* Cope, 1884, and its conceptual amplification (Serpentes, Colubridae). *Comunicações do Museu de Ciências da PUCRS, Série Zoologia* 5: 225-256.
- Dixon J. 1989. Prey items of 20 species of the neotropical colubrid snake genus *Liophis*. *Herpetological Review* 20: 139-141.
- Gallardo, 1977. Reptiles de los Alredores de Buenos Aires. Buenos Aires. Editora Universitaria. 213 pp.
- Gorzula, S., C. Salazar and D. Rendon. 1977. Aspects of the ecology of *Amphisbaena alba* Linnaeus in the Venezuelan Guayana. *British Journal of Herpetology* 5: 623-626.
- Greene, H. W. 1983. Dietary correlates of the origin and radiation of snakes. *American Zoologist* 23: 431-441.
- Greene, H.W. 1997. *Snakes - the evolution of mystery in nature*. University of California Press 351 pp.
- Marques, O. A. V., A. Eterovic and I. Sazima. 2001. *Serpentes da Mata Atlântica - guia ilustrado para a Serra do Mar*. Ribeirão Preto. Holos. 184 pp.
- Marques, O. A. V. and Sazima, I. História Natural dos Répteis da Estação Ecológica Juréia-Itatins. Pp. 254-274 in O. A. V. Marques and W. Duleba (eds.), *Estação Ecológica Juréia-Itatins - ambiente físico, flora e fauna*. Ribeirão Preto, Holos. (in press.)
- Myers, C. W. and J. E. Cadle. 1994. A new genus for South American group related to *Rhadinea obtusa* Cope (Colubridae) and resurrection of *Taeniophallus* Cope for the "Rhadinaea" brevirostris group. *American Museum Novitates* 3102: 1-33.
- Savitzky, A. H. 1979. The origin of the New World proteroglyphous snakes and its bearing on the study of the venom delivery systems in snakes. Unpublished Ph.D. Thesis. University of Kansas, Lawrence.
- Sazima, I. and C. Strüssmann. 1990. Necrofagia em serpentes brasileiras. Exemplos e previsões. *Revista Brasileira de Biologia* 50: 463-468.
- Zamprogno C. and I. Sazima. Vertebrate predation on the neotropical amphisbaenian *Leposternon wuchereri*. *Herpetological Review* 24: 82-83.