

Predation of *Phimophis guerini* and *Ameiva ameiva* by *Erythrolamprus aesculapii* (Snake: Colubridae)

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Erythrolamprus aesculapii (Linnaeus, 1758) is a diurnal species of terrestrial habits (Sazima and Haddad, 1992; Marques et al., 2001) with wide distribution of the Neotropical region (Peters and Orejas-Miranda, 1970; Marques and Puerto, 1991). The species may occur in different environments including occasionally in altered areas (Hartmann, 2005). In the savanna biome is mainly associated with forested environments (France et al., 2008).

Erythrolamprus aesculapii shows ontogenetic variation in relation to diet, feeding on snakes when adults (Marques and Sazima, 2004; France, 2008), and lizards when young (Marques and Puerto, 1994). Hoogmoed (1980), Cunha and Nascimento (1984), Marques and Puerto (1994) and Martins and Oliveira (1998) shows data of predation of snakes of the genus *Atractus*, *Liophis*, *Tantilla* and *Micrurus*, of fish in the order of Anguilliformes and lizards. Beebe (1946) reports the record of crickets (Order Orthoptera, Family Gryllidae), considered an item of secondary ingestion.

The ophiophagia in *Erythrolamprus aesculapii* was documented by analysis of preserved specimens of zoological collections and some occasional records reported during field activities. Marques and Puerto (1994) report as part of the diet of the species the lizard *Placosoma sp.* and snakes *Taeniophalus undulatus*, *Liophis miliaris*, *Sibynomorphus newwiedi*,

Liophis poecilogyrus, *Atractus sp.*, *Thamnodynastes sp.*, *Oxyrhopus guibei*, *Taeniophalus perssimilis*, *Taeniophalus affinis*, *Taeniophalus occipitalis*, *Dipsas incerta*, *Liophis typhlus* and *Oxyrhopus petola*. Hartmann (2005) show a record of predation *Cercosaura sp.* and *Clelia montana*. Recently, Palmuti, Cassimiro and Bertoluci (2009) and Bernad and Abe (2010) cited *Elapomorphus quinquelineatus* and *Atractus latifrons* as items of diet *Erythrolamprus aescullapi*.

The present record related to the predation of the snake *Phimophis guerini* (Duméril, Bibron, & Duméril 1854) and the lizard *Ameiva ameiva* (Linnaeus, 1758). On April 23, 2011, at ca. 08:30 am, during the expedition for the study to the hydroelectric power plant inventory on the Maranhão River, in the municipality of Barro Alto, north of the state of Goiás, a specimen *Erythrolamprus aesculapii* was found during foraging in typical savanna environment (14°40'36"S, 4°48'17"W) (Collection permit 795/2011 SEMARH). When the specimen was collected regurgitated a young specimen of *Phimophis guerini* (Figure 1) and a young specimen of *Ameiva ameiva*.

Phimophis guerini is a terrestrial snake with nocturnal habits that feeds mainly of lizards (Sawaya et al., 2008). The young specimen was swallowed in the posteranterior direction, feeding behavior described for *Erythrolamprus aesculapii* by Greene (1976). *Ameiva ameiva* is an active foraging lizard heliophyle. Items reported here also suggest that *Erythrolamprus aesculapii* despite having diurnal habits, has eaten at night, since it *Ameiva ameiva* heliophyle lizard is hardly to be captured during the day, but it may easily have been caught inactive at night. This behavior has not yet been registered for *Erythrolamprus aesculapii*.

Studies on diet has important information about ways of life, size of niches, and other information are difficult to identify because of the difficulty of monitoring specimens, since most snakes have low population density and can be long periods of inactivity (Secor, 1994; Oliveira and Martins, 2001; Santos et al., 2010). The report of predation snake *Phimophis guerini* and

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Figure 1. *Erythrolamprus aesculapii* starting the process of regurgitation of the young specimen of *Phimophis guerini*.

lizard *Ameiva ameiva* adds two items not yet reported in the literature to the diet of *Erythrolamprus aesculapii*, also shows unprecedented behavior in their eating habits.

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References

- Beebe, W. (1946): Field notes on the snakes of Kartabo, British Guiana, and Caripito, Venezuela. *Zoologica* **31**: 11-52.
- Cunha, O.R., Nascimento, F.P. (1984): Ofídios da Amazonia XXI - *Atractus zidoki* no leste do Para e notas sobre *A. alphonsehoegi* e *A. schach* (Ophidia, Colubridae). *Boletim do Museu Paraense Emílio Goeldi. Série Zoologia, Belém* **1**(2): 219-228.
- Hartmann, P.A. (2005): História natural e ecologia de duas taxocenoses de serpentes na Mata Atlântica. Tese de Doutorado, Universidade Estadual Paulista "Júlio de Mesquita Filho", Rio Claro. 116p.
- Hoogmoed, M.S. (1980): Revision of the genus *Atractus* in Surinam, with the resurrection of two species (Colubridae, Reptilia). Notes on the herpetofauna of Surinam VII. *Zoologische Verhandelingen* **175**: 1-47.
- Marques, O.A.V., Puerto, G. (1991): Padrões cromáticos, distribuição e possível mimetismo em *Erythrolamprus aesculapii* (Serpentes, Colubridae). *Memórias do Instituto Butantan* **53**(1): 127-134.
- Marques, O.A.V., Puerto, G. (1994): Dieta e comportamento alimentar de *Erythrolamprus aesculapii*. *Revista Brasileira de Biologia* **54**(2): 253-259.
- Marques, O.A.V., Sazima, I. (2004): História natural dos répteis da Estação Ecológica Juréia-Itatins. In: Estação Ecológica Juréia-Itatins. Ambientes físico, flora e fauna, p. 257-277. Marques, O.A.V., Dulepa, W., Eds., Ribeirão Preto, Holos.
- Marques, O.A.V., Eterovick, A., Sazima, I. (2001): Serpentes da Mata Atlântica: Guia Ilustrado para Serra do Mar. Ribeirão Preto, Holos.
- Martins, M., Oliveira, M.E. (1998): Natural history of snakes in forests of the Manaus region, Central Amazonia, Brazil. *Herpetological Natural History* **6**: 78-150.
- Oliveira, M.E., Martins, M. (2001): When and where to find a pit-viper: activity patterns and habitat use of a lancehead *Bothrops atrox*, in central Amazonia, Brazil. *Herpetological Natural History* **8**(2): 101-110.
- Palmuti, C.F.S., Cassimiro, J., Bertoluci, J. (2009): Hábito alimentar de serpentes da RPPN Feliciano Miguel Abdala, um fragmento de Mata Atlântica do sudeste do Brasil. *Biota Neotropica* **9**(1): 264-268
- Peters, J.A., Orejas-Miranda, B. (1970): Catalogue of the Neotropical Squamata. Part I. Snakes. *Bulletin United States National Museum* **297**: 1-347.
- Santos, M.B., Huckembeck, S., Bergmann, F.B., Tozetti, A.M. (2010): Comportamento alimentar aquático de *Liophis jaegeri* (Günther 1858) (Serpentes, Dipsadidae) em cativeiro. *Biota Neotropica* **10**(4): 343-346.
- Sazima, I., Haddad, C.F.B. (1992): Répteis da Serra do Japi: notas sobre história natural. In: História natural da Serra do Japi: ecologia e preservação de uma área florestal no Sudeste do Brasil, p. 212-236. Morellato, L.P.C., Ed., Campinas, Editora da Unicamp/FAPESP.
- Sawaya, R.J., Marques, O.A.V., Martins, M. (2008): Composição e história natural das serpentes de Cerrado de Itirapina, São Paulo, Sudeste do Brasil. *Biota Neotropica* **8**(2): 127-149.
- Secor, S.M. (1994): Ecological significance of movements and activity range for the side winder, *Crotalus cerastes*. *Copeia* **1994**(3): 631-645.