



## Record of predation by two amphibians *Rhinella major* and *Ctenophryne geayi* by *Erythrolamprus dorsocorallinus* (Esqueda, Natera, La Marca & Ilija-Fistar, 2005) (Serpentes: Dipsadidae) in northwestern Brazil

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Snakes have a major importance in the food chain, acting in the connection and transfer of energy between different trophic levels (Bernarde and Machado, 2002; Hartmann et al., 2003). The neotropical genus *Erythrolamprus* Boie, 1826 include 50 species of snakes with wide distribution in South and Central America (Curcio et al., 2009; Vidal et al., 2010; Grazziotin et al., 2012). *Erythrolamprus dorsocorallinus* features an exuberant color pattern but little is known about its distribution and ecology. The species is originally described from Venezuela (Esqueda et al., 2007), and recently recorded was recorded in the westernmost part of the Brazilian Amazonia (Bernarde et al., 2011; Pantoja and Fraga, 2012; Araújo et al., 2012; Miranda et al., 2014; Eversole et al., 2016). Data on natural history of this taxon is virtually inexistent, and the species does not have any kind of information available about its trophic ecology, reproduction or function in community, with highlighted only for one study in the Venezuela (e.g. Mumaw et al., 2015). To help filling this gap, this paper records the predation of amphibians by two individuals of *E. dorsocorallinus*, in a forest fragment in the state of Acre, Brazil. One specimen (collection number UFAC 396) was collected in pitfall traps, in February 2012 in the Zoobotanical Park of the Federal University of Acre (9°57'05.35"S, 67°52'26.23"W). The second specimen (UFAC 503) was captured manually in January 2013, on the main campus of the Federal University of Acre, in Rio Branco (9°57'26"S, 67°52'25"W), both in the state of Acre, northwestern Brazil. Specimens were collected under a permit from the Brazilian Environmental Ministry (SISBIO #37974-1). The two areas feature vegetation consisting of mature riparian forest and predominantly secondary formations at different stages of ecological succession. Specimens were identified following diagnostic characters and description in Esqueda et al. (2007), fixed in 10% formalin, preserved in alcohol 70%, and deposited

in the herpetological collection of the Federal University of Acre. For each specimen, we measured snout-vent length (SVL) from tip of snout to tip of tail. We recorded prey items in the digestive tract of snakes. For all vertebrate prey items, we recorded their snout-vent length (SVL) and weight (W) with a digital scale.

The two specimens of *E. dorsocorallinus* were females, SVL 515 mm and 490 mm (Figure 1a). From each individual, one species of amphibians were recorded in their stomach contents, *Rhinella major* (71 mm SVL) and *Ctenophryne geayi* (79 mm SVL) (Figure 1b).

*Rhinella major* is a species of Bufonidae with average length of 53 mm in adult males and 54 mm in adult females. This species is distributed in different countries in the Neotropical region, common in secondary forest and open areas (Narvaes and Rodrigues, 2009). *Ctenophryne geayi* is a Microhylidae with range length 32-43 mm in males and 42-55 mm in females (La Marca et al., 2010). This is a fossorial species which is mostly found in primary forests and is wide distributed in northern South America (Zweifel and Myers, 1989; La Marca et al., 2010).

The composition of food items can be influenced by the availability of prey in the area, that is, when they are found in abundance they are, consequently, more consumed (Macedo et al., 2008). Information on the types of prey consumed by each species of snake are necessary to describe for example, the diet and establishment of trophic guilds (Vitt and Vangilder, 1983) as well as information on the substrate used for foraging (Martins et al., 2002; França et al., 2008). Indeed, the studies that report first records of predation generate important information for future studies on trophic ecology, as well management of species conservation. This paper is the first report of the ingestion of *Rhinella major* and *Ctenophryne geayi* by *E. dorsocorallinus* and is crucial to a better knowledge of trophic ecology of the snakes of this important region of the Amazon.



**Figure 1.** Specimens of *E. dorsocorallinus* above (A) and prey below (B): *Rhinella major* (left) and *Ctenophryne geayi* (right) (Picture by Fabiano Corrêa).

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## References

- ARAÚJO, J.S., SOUZA, M.B., FARIAS, T.A., SILVA, D.P., VENÂNCIO, N.M., MACIEL, J.M.L. and MELO-SAMPAIO, P.R., 2012. *Liophis dorsocorallinus* Esqueda, Natera, La Marca and Ilija Fistar, 2007 (Squamata: Dipsadidae): Distribution extension in southwestern Amazonia, state of Acre, Brazil. *Check List*, vol. 8, no. 3, pp. 518-519. <http://dx.doi.org/10.15560/8.3.518>.
- BERNARDE, P.S. and MACHADO, R.A., 2002. Fauna reptiliana da Bacia do rio Tibagi. In: M.E. MEDRI, E. BIANCHINI, O.A. SHIBATTA and J.A. PIMENTA, eds. *A Bacia do rio Tibagi*. Londrina: Edição dos Autores, pp. 291-296.
- BERNARDE, P.S., MACHADO, R.A. and TURCI, L.C.B., 2011. Herpetofauna da área do Igarapé Esperança na Reserva Extrativista Riozinho da Liberdade, Acre – Brasil. *Biota Neotropica*, vol. 11, no. 3, pp. 117-144. <http://dx.doi.org/10.1590/S1676-06032011000300010>.
- CURCIO, F.F., PIACENTINI, V. and FERNANDES, D.S., 2009. On the status of the snake genera *Erythrolamprus* Boie, *Liophis* Wagler and *Lygophis* Fitzinger (Serpentes, Xenodontinae). *Zootaxa*, vol. 2173, pp. 66-68.
- ESQUEDA, L.F., NATERA, M., LA MARCA, E. and ILIJA-FISTAR, M., 2007. Nueva especie de serpiente (Reptilia: Colubridae: *Liophis*) de un bosque tropical relictual en el estado Barinas, Venezuela. *Herpetotropicos*, vol. 2, no. 2, pp. 95-103.
- EVERSOLE, C.B., POWELL, R.L., LIZARRO, D. and CHOLIMA, B.R., 2016. *Erythrolamprus* (*Liophis*) *dorsocorallinus*, Esqueda, Natera, La Marca and Ilija-Fistar, 2007 (Squamata:Dipsadidae): range extension, new country record, and comments on color pattern. *Biotaxa*, vol. 12, no. 6, pp. 1-4.
- FRANÇA, F.G.R., MESQUITA, D.O., NOGUEIRA, C.C. and ARAÚJO, A.F.B., 2008. Phylogeny and ecology determine morphological structure in a snake assemblage in the Central Brazilian Cerrado. *Copeia*, vol. 1, no. 1, pp. 23-38. <http://dx.doi.org/10.1643/CH-05-034>.
- GRAZZIOTIN, F.G., ZAHER, H., ROBERT, W.M., SCROCCHI, G., BENAVIDES, M.A., ZHANG, Y.-P. and BONATTO, S.L., 2012. Molecular phylogeny of the New World Dipsadidae (Serpentes: Colubroidea): a reappraisal. *Cladistics*, vol. 28, no. 1, pp. 1-23.
- HARTMANN, P.A., HARTMANN, M.T. and GIASSON, L.O.M., 2003. Uso do hábitat e alimentação em juvenis de *Bothrops jararaca* (Serpentes, Viperidae) na Mata Atlântica do sudeste do Brasil. *Phyllomedusa*, vol. 235, no. 2, pp. 35-41. <http://dx.doi.org/10.11606/issn.2316-9079.v2i1p35-41>.
- LA MARCA, H., COLOMA, L.A., RON, S. and AMORÓS, C.L.B., 2010 [viewed 7 July 2016]. *Ctenophryne geayi*. *Version 2013.2*. IUCN Red List of Threatened Species. Available from: <http://www.iucnredlist.org/>.
- MACEDO, L.C., BERNARDE, P.S. and ABE, A.S., 2008. Lagartos (Squamata: Lacertilia) em áreas de floresta e de pastagem em Espigão do Oeste, Rondônia, sudoeste da Amazônia. *Biota Neotropica*, vol. 8, no. 1, pp. 133-139.
- MARTINS, M., MARQUES, O.A.V. and SAZIMA, I., 2002. Ecological and phylogenetic correlates of feeding habits in Neotropical pitvipers (Genus *Bothrops*). In: G.W. SCHUETT, M. HÖGGREN, M.E. DOUGLAS and H.W. GREENE, eds. *Biology of the vipers*. Eagle Mountain: Eagle Mountain Publishing, pp. 307-328.
- MIRANDA, D.B., VENÂNCIO, N.M. and ALBUQUERQUE, S., 2014. Rapid survey of the herpetofauna in an area of forest management in eastern Acre, Brazil. *Check List*, vol. 10, no. 4, pp. 893-899.

- MUMAW, M.N., GONZÁLEZ, L.F.E. and FERNÁNDEZ, M.C., 2015. *Atlas serpientes de Venezuela: una visión actual de su diversidad*. 440 p.
- NARVAES, P. and RODRIGUES, M.T., 2009. Taxonomic revision of *Rhinella granulosa* species group (Amphibia, Anura, Bufonidae), with a description of a new species. *Arquivos de Zoologia*, vol. 40, no. 1, pp. 1-73. <http://dx.doi.org/10.11606/issn.2176-7793.v40i1p1-73>.
- PANTOJA, D.L. and FRAGA, R., 2012. Herpetofauna of the Reserva Extrativista do Rio Gregório, Juruá Basin, southwest Amazonia, Brazil. *Check List*, vol. 8, no. 3, pp. 360-364.
- VIDAL, N., DEWYNTER, M. and GOWER, D.J., 2010. Dissecting the major American snake radiation: a molecular phylogeny of the Dipsadidae Bonaparte (Squamata, Caenophidia). *Comptes Rendus Biologies*, vol. 333, no. 1, pp. 48-55. PMID:20176336. <http://dx.doi.org/10.1016/j.crvi.2009.11.003>.
- VITT, L.J. and VANGILDER, L.D., 1983. Ecology of a snake community in Northeastern Brazil. *Amphibia-Reptilia*, vol. 4, no. 2, pp. 273-296. <http://dx.doi.org/10.1163/156853883X00148>.
- ZWEIFEL, R.G. and MYERS, C.W., 1989. A new frog of the genus *Ctenophryne* (Microhylidae) from the Pacific lowlands of northwestern South America. *American Museum Novitates*, vol. 2947, pp. 1-16.