

## A record of *Trachycephalus typhonius* (Linnaeus, 1758) preying upon *Dendropsophus soaresi* (Caramaschi & Jim, 1983) (Anura, Hylidae)

Daniel Loebmann

Among all tetrapods groups, amphibians are those most affected by predation. Several studies have reported invertebrates and vertebrates as batrachophagous (see Toledo, 2005 for invertebrates, and Toledo, Ribeiro and Haddad, 2007 for vertebrates), including other medium and large amphibians such, for example, the South American frogs in the genera *Cacophrys*, *Ceratophrys*, *Hemiphractus*, *Leptodactylus*, *Lepidobatrachus*, and *Rhinella* (e.g. Duellman, 1978; Scott and Aquino 2005; Silva and Ribeiro, 2009, Heitor et al., 2012). Here, we describe an *in situ* observation of *Trachycephalus typhonius* preying on an adult of *Dendropsophus soaresi*.

The observation was made on 23 February 2009, at 8:15 pm, at a temporary pond (ca. 50 m maximum length and 0.6 m maximum depth) created after a heavy rainfall. This area is located within the Caatinga Domain (*sensu* Ab'Saber, 1977) in a fragment of moist forest located at surroundings of Gameleira farm (3.717222°S, 40.950278°W, 843 m above sea level), in the municipality of Tianguá, state of Ceará, Northeastern Brazil. Both species were performing an explosive reproductive behavior, with ca. 40 individuals of *D. soaresi* and ca. 80 individuals of *T. typhonius* observed in calling activity. Other anuran species observed calling in the area included: *Leptodactylus mystaceus* (Spix, 1824), *Leptodactylus vastus* A. Lutz, 1930, *Phyllomedusa nordestina* Caramaschi, 2006, *Physalaemus cuvieri* Fitzinger, 1826, *Proceratophrys caramaschii* Cruz, Nunes & Junca, 2012, *Scinax x-signatus* (Spix, 1824), and *Dendropsophus minutus*

(Peters, 1872). The individual of *T. typhonius* that preyed on a male of *D. soaresi* was calling perched in trees (ca. 2 m high from water surface), capturing and swallowing it headfirst (Fig. 1).

*Trachycephalus typhonius* have been reported as a generalist species preying on spiders, insects and bats (e.g. Strüssmann and Sazima, 1991; Vaz-Silva, Silva and Silva Jr., 2004; Dure and Kehr, 2006). Besides those records, there is a register of predation of *T. typhonius* on the microhylid *Hypopachus variolosus* (Cope, 1866) in Mexico (Dundee and Liner, 1985). However, the predation of amphibians by *T. typhonius* seems to occur opportunistically, as only this amphibian was found after examination of 70 stomach contents. In addition, although there are several examples of batrachophagy



**Figure 1.** A specimen of *Trachycephalus typhonius* preying on a male *Dendropsophus soaresi*. Photo by D. Loebmann.

<sup>1</sup>Universidade Federal do Rio Grande, Instituto de Ciências Biológicas, Laboratório de Vertebrados Ectotérmicos. Av. Itália, km 8, Vila Carreiros, Rio Grande, Rio Grande do Sul, Brazil, CEP 96203-900.  
E-mail: contato@danielloebmann.com

in amphibians (see above), the predation of a hylid by another one is rarely documented. Two examples available for Neotropical region is the predation of *Hypsiboas faber* (Wied-Neuwied, 1821) upon *Scinax granulatus* (Peters, 1871) (Solé, Pelz and Kwet, 2004) and is the predation of *Itapotihyla langsdorffii* (Duméril and Bibron, 1841) upon *Aparasphenodon arapapa* (Pimenta, Napoli and Haddad, 2009) (Sales-de-Aquino et al., 2012).

Data here presented constitute the first record of an anuran preying on *D. soaresi*. Recently, *D. soaresi* was recorded as a prey item of a diving beetle (Coleoptera, Dytiscidae) (Santos-Silva and Ferrari, 2012). For other species of the *D. marmoratus* group additional information available is the predation of *D. nahdereri* by *Cyclarhis gujanensis* (Aves, Vireonidae) (Ghizoni, Azevedo and Port-Carvalho, 2000). The relative importance of anurans in the diet of other amphibians is unknown (Wells, 2007), but certainly differs among species. For *T. typhonius* the intake of amphibians seems to be unusual, considering the few records known so far.

**Acknowledgements.** I thank Victor G. Dill Orrico for discussing and commenting the earlier drafts of the manuscript. Fundação O Boticário de Proteção à Natureza (Proc. no. 0776\_20081) and Conselho Nacional de Pesquisa e Desenvolvimento (CNPq Proc no. 140226/2006-0) for financial support. Collecting permits were given by Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA) (Processes #12545-1 and #12545-2).

## References

- Ab'Saber, A.N. (1977): Os domínios morfoclimáticos na América do Sul. Primeira aproximação. *Geomorfologia* **52**: 1-21.
- Duellman, W.E. (1978): The biology of an equatorial herpetofauna in Amazonian Ecuador. Miscellaneous Publication, Museum of Natural History, University Kansas **65**: 1-352.
- Dundee, H.A., Liner, E.A. (1985): *Phrynohyas venulosa* (Veined treefrog). Food. *Herpetological Review* **16**: 109.
- Dure, M., Kehr, A.I. (2006): *Phrynohyas venulosa* diet. *Herpetological Review* **37**: 338-339.
- Ghizoni, Jr., I.R., Azevedo, M.A.G., Port-Carvalho, M. (2000): Predação of *Hyla nahdereri* (Anura: Hylidae) por *Cyclarhis gujanensis* (Aves: Vireonidae) em Santa Catarina. *Melopsittacus* **3**: 137-139.
- Heitor, R.C., Lacerda, J.V.A., Silva, E.T., Peixoto, M.A., Eloi, R.G. (2012): Predation of *Hypsiboas pardalis* (Anura, Hylidae) by the butter frog *Leptodactylus cf. latrans* (Anura, Leptodactylidae), in municipality of Espera Feliz, State of Minas Gerais, southeastern Brazil. *Herpetology Notes* **5**: 23-25.
- Sales-de-Aquino, D.C.P., Jaloretto, I., Lantyer-Silva, A.S.F., Solé, M. (2012). Predation of *Aparasphenodon arapapa* (Hylidae) by *Itapotihyla langsdorffii* (Hylidae). *Herpetology Notes* **5**: 437-438.
- Santos-Silva, C.R., Ferrari, S.F. (2012). Predation on *Dendropsophus soaresi* (Anura: Hylidae) by a diving beetle (Coleoptera: Dytiscidae) in Raso da Catarina, north-eastern Brazil. *Herpetology Notes* **5**: 11-12.
- Scott Jr, N.J., Aquino, A.L. (2005): It's a frog eat frog world in the Paraguayan Chaco: food habits, anatomy, and behavior of the frog-eating anurans. In: *Ecology and Evolution in the Tropics: A Herpetological Perspective*, p. 243-259. Donnelly, M.A., Crother, B.I., Guyer, C., Wake, M.H., White, M.E., Eds., Chicago, University of Chicago Press.
- Silva, E.T., Ribeiro-Filho, O.P. (2009): Predation on juveniles of the invasive American Bullfrog *Lithobates catesbeianus* (Anura, Ranidae) by native frog and snake species in South-eastern Brazil. *Herpetology Notes* **2**: 215-217.
- Solé, M., Pelz, B., Kwet, A. (2004): *Hyla faber* (smith frog). Diet. *Herpetological Review* **35**: 159.
- Strüssmann, C., Sazima, I. (1991): *Phrynohyas hebes* life history notes. *Herpetological Review* **22**: 97-97.
- Toledo, L.F. (2005). Predation of juvenile and adult anurans by invertebrates: current knowledge and perspectives. *Herpetological Review* **36**: 395-400.
- Toledo, L.F., Ribeiro, R.S., Haddad, C.F.B. (2007): Anurans as prey: an exploratory analysis and size relationships between predators and their prey. *Journal of Zoology* **271**: 170-177.
- Vaz-Silva, W., Silva, H.L.R., Silva Jr., N.J. (2004): *Phrynohyas venulosa* diet. *Herpetological Review* **35**: 160.
- Wells, K.D. (2007): *The Ecology and Behavior of Amphibians*, 1st Edition. University of Chicago Press.