

***PHILODRYAS PATAGONIENSIS* (Parelheira):  
VENOMOUS SNAKE (CROTALID) AS PREY.**

*Philodryas patagoniensis* is found almost everywhere in South America. In Brazil, it can be found in the states of Pernambuco and Bahia (Northeast Region), Minas Gerais, Rio de Janeiro and São Paulo (Southeast Region) and in Parana and Rio Grande do Sul (South Region) (Peters & Orejas-Miranda, 1986) where it occurs primarily in open areas, but also woodland (Thomas, 1976). *Philodryas patagoniensis* is a medium-sized colubrid snake (Figure 1.) with predominantly terrestrial, diurnal habits (Marques *et al.*, 2001) that feeds on frogs, lizards, birds, mice, and other snakes (Duarte & Eterovic, 2003; Perroni, 2004; Hartmann & Marques, 2005). However, available reports limit it to the ingestion of colubrids, such as *Philodryas olfersii*, *Thamnodynastes strigatus*, *Clelia occipitolutea*, *Liophis poecilogyrus*, *Liophis jaegeri*, *Helicops carinicaudus*, *Lystrophis dorbignyi* (Lema *et al.*, 1983) and *Liophis poecilogyrus* and *Pseudablabe agassizii* (Hartmann & Marques, 2005). Perroni (2004) found dorsal and ventral scales of a non-identified colubrid on his analysis. According to Shine (1991) ophiophagus snakes can possibly show cannibalism. In the genus *Philodryas* this has been confirmed by Lema (1983) and by Hartmann & Marques (2005), with one report of cannibalism each. In captivity, a newborn *P. patagoniensis* was observed ingesting another conspecific newborn by attacking and ingesting it head-first. *Philodryas olfersii*, despite being a non-venomous snake, has enlarged maxillary fangs in addition to a Duvernoy's gland (which produces toxic substances), and is thus potentially bale to envenomate its prey (Silvia Cardoso, personal observation).

We analyzed gut contents from the digestive tract of one female *Philodryas patagoniensis* sent to us on April 24<sup>th</sup> 2003 from Santana de Parnaíba - SP (23° 26'S. 46° 56'W), measuring 525 mm in snout-vent length (SVL), 190 mm in tail length (TL), 14.2 mm in head length (HL) and weighing 35 g. After examining the feaces of this individual, we verified the presence of a grooved fang which belonged to a venomous snake, probably a young



**Figure 1.** *Philodryas patagoniensis* (adult female). © S. R. Travaglia-Cardoso.

one. By comparing it with the fangs of other venomous snakes born in captivity, in order to estimate the age group of the swallowed prey item, we found that it was from a species of pit viper (juvenile), probably of the genus *Bothrops*. The offspring of *Bothrops* spp. in Brazil are usually born between November and March (Almeida-Santos & Salomão, 2002), thus, predation on a newborn specimen by *Philodryas patagoniensis* in April could be possible. As far as we are aware there are no other such records available in the literature. Perhaps *P. patagoniensis* avoids this kind of prey because it is a venomous snake and can suffer some injury or even death. Alternatively, the snake may have been ingested when already dead. No cases of feeding on carrion have previously been reported for this species, but it is rare to observe this kind of behaviour in nature unless you see the snake directly encountering a dead animal (Lillywhite, 1982; Shine, 1986). We

seriously considered the possibility of secondary prey ingestion but conclude that for several reasons this seems unlikely. Firstly it is known that *P. patagoniensis* feeds primarily on mice and birds, and venomous snakes are not part of the general diet of these animals. In addition, only a large-sized bird could presumably have attacked a venomous snake, much larger than could have been ingested by a *Philodryas*.

#### REFERENCES

- Almeida-Santos, S. M. & Salomão, M. G. (2002). Reproduction in neotropical pitvipers, with emphasis on species of the genus *Bothrops*. In: *Biology of the Vipers*, pp. 445–462. Schuetti, G. W., Hoggren, M., Douglas, M. E., & Greene, H. W. (Eds.). Texas: Eagle Mountain publishing, LC.
- Duarte, M. R. & Eterovic, A. (2003). Serpentes exóticas no Brasil. In: *Animais Peçonhentos do Brasil: Biologia, Clínica e Terapêutica dos Acidentes*, pp. 13–32. Cardoso, J. L. C., França, F. O. S., Wen, F. H., Malaque, C. M. S., & Haddad,

- V. Jr. (Eds.). São Paulo: Ed. Sarvier.
- Hartmann, P. A. & Marques, O. A. V. (2005). Diet and habitat use of two sympatric species of *Philodryas* (Colubridae), in South Brazil. *Amphibia-Reptilia* **26**, 25–31.
- Lema, T. Araújo, & M. L. Azevedo, A. C. P. (1983). Contribuição ao conhecimento da alimentação e do modo alimentar de serpentes do Brasil. *Com. Mus. Ci. Tecnol. PUC-RS. Zool. Serie.* **26**, 64–65.
- Lillywhite, H. B. (1982). Cannibalistic carrion ingestion by the rattlesnake, *Crotalus viridis*. *J. Herpetol.* **16**, 95.
- Marques, O. A. V., Eterovic, A., Sazima, I. (2001). *Serpentes da Mata Atlântica: Guia Ilustrado Para Serra do Mar*. Ribeirão Preto. Ed. Holos.
- Perroni, L. P. G. (2004). Análise da morfometria e da dieta de *Philodryas olfersii* e *Philodryas patagoniensis* (Serpentes: Colubridae) da grande São Paulo. *Monografia de conclusão de curso*. – Universidade Metodista de São Paulo. São Paulo.
- Peters, J. A. & Orejas-Miranda, B. (1986). *Catalogue of the Neotropical Squamata: part I, snakes*. Revised edition (originally published 1970), addenda and corrigenda by P. E. Vanzolini. Washington: Smithsonian Institution. 347 pp.
- Shine, R. (1986). Ecology of a low-energy specialist: food habits and reproductive biology of the arafura filesnake (Acrochordidae). *Copeia* [S.I.] **2**, 424–437.
- Shine, R. (1991). *Australian Snakes: A Natural History*. Ithaca: Cornell University Press.
- Thomas, R. A. (1976). *A revision of the American colubrid snake genus Philodryas* Wagler, 1830. Texas: Graduate College of Texas A and M University. Unpublished thesis (Ph.D.). 338 pp.

LUIS PAULO GODA PERRONI<sup>1</sup> and SILVIA REGINA TRAVAGLIA-CARDOSO<sup>2</sup>

<sup>1</sup> Museu Biológico, Instituto Butantan, Av. Vital Brazil, 1500, CEP 05503-900, São Paulo, SP, Brazil.

E-mail: luispaulo.bio@globocom

<sup>2</sup> Laboratório de Herpetologia, Instituto Butantan, Av. Vital Brazil, 1500, CEP 05503-900, São Paulo, SP, Brazil.

E-mail: silviacardoso@butantan.gov.br