

Drymoluber brazili (Brazil's woodland racer): Defensive behaviour

SAMUEL CARDOZO RIBEIRO^{1*} and DANIEL OLIVEIRA MESQUITA¹

Programa de Pós-Graduação em Ciências Biológica (Zoologia), Universidade Federal da Paraíba, Departamento de Sistemática e Ecologia, Cidade Universitária, Campus I, 58059-900, João Pessoa, PB, Brazil

* Corresponding author email: ribeiroherpeto@gmail.com

When considering anti-predatory mechanisms, snakes are among many vertebrates that have defensive strategies (Greene, 1988). Most snakes, when presented with the opportunity, prefer to flee or remain immobile (cryptic coloration) when confronted by a predator. However, when necessary, some snakes defend themselves by biting, cloacal discharge, constriction or, very rarely, using tail breakage (Greene, 1988; Zug, 1993; Martins & Oliveira 1999). *Drymoluber brazili* (Gomes, 1918) (Colubridae) is primarily a diurnal terrestrial snake, which occurs mainly in open areas in the Cerrado (Costa et al., 2013). We observed the defensive behavior of *D. brazili* during a field trip in an isolated cerrado area in Araripe National Forest (FLONA Araripe-Apodi) (see Ribeiro et al., 2012), Barbalha municipality, Northeast Brazil (7°21'55" S; 39°26'26" W, 912 m a.s.l.), on March 17, 2012, 15:30hrs. The specimen of *D. brazili* was observed foraging at the edge of shrubs and perceiving the approach of collectors, performed the following sequence of defensive behaviors: attempting to escape remaining immobile in the bushes; after being rediscovered, fled again, and after it was restrained with a snake handling stick began a vigorous sequence of rotations around its own body, followed by repeated bites with a rapidly vibrating tail. Once the snake was restrained by the tail, the collector held its writhing body; that was followed by tail breakage, enabling the snake to escape again. No blood was evident on the injured tail. Gomes (1918) reported a *D. brazili* responded with a body attack position whilst at the same time rapidly vibrating its tail. In this report, the vibration of the tail occurred only after restraint, presumably such behavior can complement tail breakage flow, since strong vibration of the tail on the ground, can facilitate or even induce breakage. Costa et al. (2013) noted that the snakes of the genus *Drymoluber* presented evidence of pseudoautotomy (intervertebral breakage, no capacity for spontaneous separation and no regeneration), which can be confirmed in the present study. Other genera of Neotropical snakes are also recorded as

having Pseudo-autotomy, for example *Coniophanes*, *Dendrophidion*, *Mastigodryas*, *Thamnophis* (see Dourado et al., 2013).

ACKNOWLEDGEMENTS

We are grateful to Henrique Caldeira Costa for critical reading of the manuscript, and to CNPq and CAPES for a PhD scholarship granted to the first author.

REFERENCES

- Costa, H.C., Moura, M.R., & Feio, R.N. (2013). Taxonomic revision of *Drymoluber Amaral*, 1930 (Serpentes: Colubridae). *Zootaxa* (Online) 3716: 349-394.
- Dourado, A.C.M., Oliveira, L., & Prudente, A.L.C. (2013). Pseudoautotomy in *Dendrophidion dendrophis* and *Mastigodryas bifossatus* (Serpentes: Colubridae): Tail Morphology and Breakage Frequency. *Copeia* 2013(1): 132-141.
- Gomes, J.F. (1918). Contribuição para o conhecimento dos ofídios do Brasil – III (1). *Memórias do Instituto Butantan* 1: 57-83.
- Greene, H.W. (1988). Antipredator mechanisms in reptiles. In: *Biology of the Reptilia: Vol. 16, Ecology, Defense and Life History*. Gans, C., & Huey, R.B., (Eds). Pp. 1-152. Alan R. Liss, New York.
- Ribeiro, S.C., Roberto, I.J., Sales, D.L., Avila, R.W., Almeida, W.O. (2012). Amphibians and reptiles from Araripe Bioregion, Northeastern Brazil. *Salamandra* (Frankfurt) 48: 133-146.
- Zug, G.R. (1993). *Herpetology: an Introductory Biology of Amphibians and Reptiles*. Academic Press, San Diego.
- 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.