

New record and updated distribution map for *Drymoluber brazili* (Gomes, 1918) (Serpentes: Colubridae)

Sâmia Caroline Melo Araújo^{1,3}, Lucas Rafael Uchôa^{1,3}, Felipe Paixão de Sena^{2,3}, Carina Uchôa Barbosa³, Alan Pablo Antonio Gonçalves Campêlo de Sousa³, Etielle Barroso de Andrade³

¹ Programa de Pós-Graduação em Biodiversidade, Ambiente e Saúde-PPGBAS, Universidade Estadual do Maranhão, Caxias, Maranhão, Brazil.

² Programa de Pós-Graduação em Zoologia, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil.

³ Grupo de Pesquisa em Biodiversidade e Biotecnologia do Centro-Norte Piauiense-BIOTECPI, Instituto Federal do Piauí, *Campus* Pedro II, Piauí, Brazil.

Locality.— Brazil, state of Piauí, municipality of Pedro II, Grotta rural village (4°29'56" S; 41°28'59" W, datum WGS84, ca. 580 m above sea level). Collected by Felipe Paixão de Sena on April 21, 2021, around 11:00 am. Deposited in the Biological Collection of the Instituto Federal de Educação, Ciências e Tecnologias do Piauí-IFPI *Campus* Pedro II (CBPII 189).

Comments.— The genus *Drymoluber* Amaral, 1930 currently comprises three species of aglyphous snakes with wide distribution in South America: *Drymoluber apurimacensis* Lehr, Carrillo and Hocking, 2004 is restricted to Apurímac Valley in Peru (Lehr *et al.*, 2004); *Drymoluber brazili* (Gomes, 1918) mainly known for Brazil with a single record for Paraguay (Costa *et al.*, 2013); and *Drymoluber dichrous* (Peters, 1863) with distribution to Peru, Ecuador, Bolivia, Colombia, Venezuela, Brazil, Guyana, Suriname, and French Guiana (Costa *et al.*, 2013). *Drymoluber brazili* is a diurnal and terrestrial snake that feeds on small vertebrates (Guedes *et al.*, 2014) and presents evidence of pseudoautotomy (non-spontaneous separation from the tail) (Ribeiro and Mesquita, 2014). It is a typical species from open areas of the Brazilian Cerrado, being also found in savanna enclaves in the Caatinga, and in anthropized areas of Atlantic Forest, between 334–1,100 m elevation (Costa *et al.*, 2013; Guedes *et al.*, 2014).

Despite the wide distribution in the central region of Brazil, there are few records of this species in the states of the Northeastern region of the country (see Guedes *et al.*, 2014). Herein, we present a new record of *Drymoluber brazili* for the state of Piauí, increasing its distribution and providing an updated distribution map of the species. A juvenile

of *Drymoluber brazili* [Snout-Vent Length (SVL): 327 mm, Caudal Length (CL): 142 mm; Fig. 1] was accidentally found in a rural residence of the municipality of Pedro II, state of Piauí. Pedro II is located on the Serra dos Matões, a mountain range inserted in the Serra da Ibiapaba Environmental Protection Area, a transition area between Cerrado and Caatinga ecoregions, with predominance of Cerrado floral elements (IBGE, 2012; Santos *et al.*, 2019). The specimen, killed by a domestic animal, was immediately collected and sent to the laboratory for fixation. The species identification was verified by Henrique Costa.

Drymoluber brazili can be distinguished from its congeners by having 17/17/15 smooth dorsal scales rows with two apical pits, 182–202 ventral scales, and 109–127 subcaudal scales, without secondary sexual dimorphism in segmental counts (Lehr *et al.*, 2004; Costa *et al.*, 2013). In general, it presents a dorsal coloration ranging from olive-green to grayish-brown on the anterior part of the body, becoming reddish-brown posteriorly, with a yellowish-white belly (Gomes, 1918; Costa *et al.*, 2013). When young, individuals have a red-orange head, with broad dark transverse bands separated by narrower light bands on the back and a yellowish-cream belly (Costa *et al.*, 2013).

Previous records of *Drymoluber brazili* are known only from two localities in the southern region of the state of Piauí (Fig. 2), for municipality of São Gonçalo do Gurguéia (Freitas *et al.*, 2012) and Serra das Confusões National Park (Dal Vechio *et al.*, 2016). This new record extends the known geographical distribution of *Drymoluber brazili* in about 536 km airline northeastern of the Serra das



Figure 1. Juvenile of *Drymoluber brazili* (CBP1189; SVL 327 mm, CL 142 mm) from the municipality of Pedro II, state of Piauí, Brazil.

Confusões National Park and about 744 km airline northeastern of the São Gonçalo do Gurguéia. In addition, we increased about 500 km northwestern of the municipality of Milagres, state of Ceará, the closest known record of *Drymoluber brazili* (Fig. 2).

Despite presenting a significant increase in its geographic distribution, *Drymoluber brazili* is still underrepresented in zoological collections (França *et al.*, 2006; Costa *et al.*, 2013), mainly after the fire at the Butantan Institute, where a large part of preserved specimens was destroyed (Costa *et al.*, 2013). This new occurrence within a Caatinga-Cerrado transition area in the northern region of the state of

Piauí reinforces the lack of herpetological research and the need for systematic surveys to increasing knowledge about the distribution of this and other species in the state of Piauí.

Acknowledgments

The authors are grateful to Marta Angélica Pereira for preparing the specimen and Henrique Caldeira Costa for confirming the species identification. We thank the Instituto Federal de Educação, Ciência e Tecnologia do Piauí for providing the grant PROAGRUPAR-INFRA (#077 - 07/05/2018), and to Instituto Chico Mendes de Conservação da Biodiversidade by provide the collection permission (MMA/ICMBio/SISBIO 61838-4/20). SCMA thanks the Universidade Estadual do Maranhão for fellowship (#01/2020 PPG-UEMA) and LRU thanks the Fundação de Amparo à Pesquisa e ao Desenvolvimento Científico e Tecnológico do Maranhão for the fellowship (#BM-01016/21).

Literature cited

- Amaral, A. 1930. Estudos Sobre Ophidios Neotrópicos. XXII – Sobre a espécie *Coluber dichrous* (Peters) Boulenger, 1894. *Memórias do Instituto Butantan* 4: 333-337.
- Costa, H.C.; Moura, M.R. & Feio, R.N. 2013. Taxonomic revision of *Drymoluber* Amaral, 1930 (Serpentes: Colubridae). *Zootaxa* (Online) 3716: 349-394.
- Dal Vechio, F.; Teixeira-Junior, M.; Recoder, R.S.; Rodrigues, M.T. & Zaher, H. 2016. The herpetofauna of Parque Nacional da Serra das Confusões, state of Piauí, Brazil, with a regional species list from an ecotonal area of Cerrado and Caatinga. *Biota Neotropica* 16: e20150105.

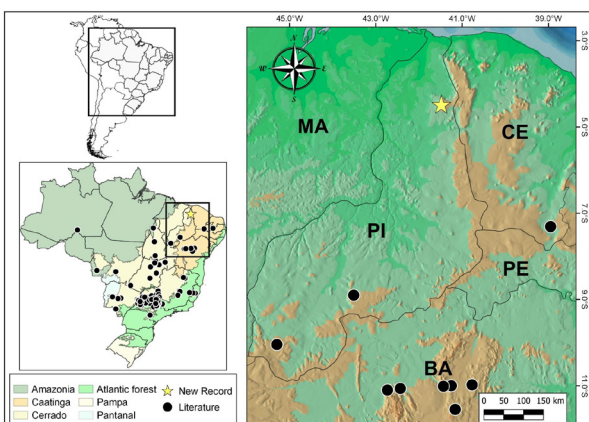


Figure 2. Geographic distribution of *Drymoluber brazili* based on literature records (Nogueira, 2001; Lehr *et al.*, 2004; Moreira *et al.*, 2009; Freitas *et al.*, 2012; Ribeiro *et al.*, 2012; Costa *et al.*, 2013; França and Braz, 2013; Costa *et al.*, 2014; Dal Vechio *et al.*, 2016; Nogueira *et al.*, 2019), and new record to the municipality of Pedro II (yellow star), state of Piauí, Brazil.

- França, F.G.R.; Mesquita, D.O. & Colli, G.R. 2006. A checklist of snakes from Amazonian Savannas in Brazil, housed in the Coleção Herpetológica da Universidade de Brasília, with new distribution records. *Occasional Papers* 17: 1-13.
- Freitas, M.A.; França, D.P.F. & Veríssimo, D. 2012. Distribution extension of *Drymoluber brazili* (Gomes, 1918) (Serpentes: Colubridae) for the state of Piauí, Brazil. *Check List* 8: 168-169.
- Gomes, J.F. 1918. Contribuição para o conhecimento dos ofídios do Brasil. III (1). *Memorial do Instituto Butantan* 1: 57-83.
- Guedes, T.B.; Nogueira, C. & Marques, O.A.V. 2014. Diversity, natural history, and geographic distribution of snakes in the Caatinga, Northeastern Brazil. *Zootaxa* 3863: 1-93.
- IBGE. 2012. Manual Técnico da Vegetação Brasileira. Sistema Fitogeográfico, Inventário das formações florestais e campestres, Técnicas e manejo de coleções botânicas. Procedimentos para mapeamentos. 2. ed. Available in: <https://biblioteca.ibge.gov.br/visualizacao/monografias/GEBIS%20%20RJ/ManuaisdeGeociencias/Manual%20Tecnico%20da%20Vegetacao%20Brasileira%20n.1.pdf>. Accessed: 10 May, 2021.
- Lehr, E.; Carrillo, N. & Hocking, P. 2004. New species of *Drymoluber* (Reptilia: Squamata: Colubridae) from Southeastern Peru. *Copeia* 1: 46-52.
- Moreira, L.A.; Fenolio, D.B.; Silva, H.L.R. & Silva-Júnior, N.J. 2009. A preliminary list of the Herpetofauna from termite mounds of the cerrado in the Upper Tocantins river valley. *Papéis Avulsos de Zoologia* 49: 183-189.
- Nogueira, C.C.; Argôlo, A.J.S.; Arzamendia, V.; Azevedo, J.A.; Barbo, F.E.; Bérnils, R.S.; Bolochio, B.E.; Borges-Martins, M.; Brasil-Godinho, M.; Braz, H.; Buononato, M.A.; Cisneros-Heredia, D.F.; Colli, G.R.; Costa, H.C.; Franco, F.L.; Giraudo, A.; Gonzalez, R.C.; Guedes, T.; Hoogmoed, M.S.; Marques, O.A.V.; Montingelli, G.G.; Passos, P.; Prudente, A.L.C.; Rivas, G.A.; Sanchez, P.M.; Serrano, F.C.; Silva-Júnior, N.J.; Strüssmann, C.; Vieira-Alencar, J.P.S.; Zaher, H.; Sawaya, R.J. & Martins, M. 2019. Atlas of Brazilian snakes: verified point-locality maps to mitigate the Wallacean shortfall in a megadiverse snake fauna. *South American Journal of Herpetology* 14(sp1): 1-274.
- Nogueira, C.C. 2001. New records of Squamate Reptiles in Central Brazilian Cerrado II: Brasília Region. *Herpetological Review* 32(4): 285-287.
- Peters, W. 1863. Über einige neue oder weniger bekannte Schlangenarten des zoologischen Museums zu Berlin. *Monatsberichte der königlich Akademie der Wissenschaften zu Berlin* 29: 272-289.
- Ribeiro, S.C. & Mesquita, D.O. 2014. *Drymoluber brazili* (Brazil's woodland racer): Defensive behaviour. *Herpetological Bulletin* 129: 30-30.
- Ribeiro, S.C.; Roberto, I.J.; Sales, D.L.; Ávila, R.W. & Almeida, W.D.O. 2012. Amphibians and reptiles from the Araripe bioregion, northeastern Brazil. *Salamandra*, 48(3): 133-146.
- Santos, A.J.; Costa, C.A.; Sena, F.P.; Araújo, K.C. & Andrade, E.B. 2019. New record and geographic distribution of *Proceratophrys caramaschii* Cruz, Nunes, and Juncá, 2012 in the state of Piauí, northeastern Brazil (Anura: Odontophrynidae). *Herpetology Notes* 12: 675-679.

Recibida: 18 Mayo 2021

Revisada: 09 Diciembre 2021

Aceptada: 21 Diciembre 2021

Editor Asociado: P. Passos

doi: 10.31017/CdH.2022.(2021-037)

© 2022 por los autores, licencia otorgada a la Asociación Herpetológica Argentina. Este artículo es de acceso abierto y distribuido bajo los términos y condiciones de una licencia Atribución-No Comercial 4.0 Internacional de Creative Commons. Para ver una copia de esta licencia, visite <http://creativecommons.org/licenses/by-nc/4.0/>

