

Phimophis guerini (Duméril, Bibron and Duméril, 1854) (Squamata, Colubridae): Distribution extension in the northeast coast of the state of Bahia, Brazil

Ricardo Marques^{1,3}, Moacir S. Tinôco^{1,2,4,5}, Henrique C. Browne-Ribeiro^{1,2,5} and Cecil P. Fazolato¹

- 1 Universidade Católica do Salvador, Centro de Ecologia e Conservação Animal – ECOA. Avenida Prof. Pinto de Aguiar, 2589. CEP 41740-090. Pituáçu, Salvador, BA, Brazil.
 - 2 Universidade Federal da Bahia. Rua Barão de Jeremoabo, s/n. CEP 40170-115. Ondina. Salvador, BA, Brazil.
 - 3 Universidade Estadual de Santa Cruz, Programa de Pós-Graduação em Zoologia. Rodovia Ilhéus-Itabuna, km 16, CP 110. CEP 45662-900. Ilhéus, BA, Brazil.
 - 4 University of Kent at Canterbury; DICE - Durrell Institute of Conservation and Ecology; School of Anthropology and Conservation. Marlowe Building, Kent, CT2 7NZ, UK.
 - 5 Lacerta Ambiental. Avenida Tancredo Neves, 989. Edifício Esplanada Tower, Sala 1305. CEP 41820-020. Caminho das Árvores. Salvador, BA, Brazil.
- * Corresponding author. E-mail: rcdmarquess@gmail.com

ABSTRACT: *Phimophis guerini* inhabits open areas, forest and habitats within urban regions. In this paper we report two new localities for *P. guerini* in the state of Bahia within restinga environment. The two sites are along the northeast coast of Bahia, at Praia do Forte and Imbassá. The sites support many species of reptiles and amphibians and are threatened by tourism development, which may compromise many snakes in the region.

The Argentine Pampas Snake, *Phimophis guerini* (Duméril, Bibron and Duméril, 1854) is a nocturnal terrestrial snake of medium size. The habitats where this species occurs are open areas (Marques *et al.* 2008; Sawaya *et al.* 2008; Valdujo *et al.* 2009), ombrophilous vegetation habitat (Silva *et al.* 2006) and habitats surrounding urban regions (Brites and Bauab, 1988; Carvalho and Nogueira 1998).

This species differs from other congeners by the presence of a loreal scale, more than 196 ventral scales, and the absence of longitudinal bands (Peters and Orejas-Miranda 1970). In this paper we report two new localities where *P. guerini* (Figure 1) was recorded on the northern coast of the state of Bahia, in restinga ecosystem habitat.

Records are from two sites in restinga habitat on the northeast coast of Bahia, at Praia do Forte and Imbassai in the municipality of Mata de São João (Figure 2). One specimen was captured in shrub vegetation habitat at Imbassai (12°28'43.83" S, 37°57'37.33" W, 30 m) under permit number 0011/2006-NUFAU/IBAMA/BA and deposited in the herpetological collection at the Centro de Ecologia e Conservação Animal (CHECOA 1420). It is a male, 323 mm SVL and 60.6 mm tail length. The specimen captured in Praia do Forte (12°34'11.85" S, 38°00'08.01" W, 5 m) under permit number 0012/2006-NUFAU/IBAMA/BA was deposited in the same herpetological collection (CHECOA 1411). It is a female, 754 mm SVL and 121 mm tail length, and was captured in restinga dry forest.

Phimophis guerini is not listed on the IUCN Red List (IUCN, 2012) and its distribution is known from a few localities in Argentina, and from south, southeast and central Brazilian states of Paraná, São Paulo, Minas Gerais, Mato Grosso, Mato Grosso do Sul and Goiás, to northern Brazil in Amazonas and Tocantins, and northeastern Brazil (Rio Grande do Norte and Alagoas) (Melo 1926; Schmidt

and Inger 1952; Carvalho and Nogueira 1998; Vitt *et al.* 2002; Pavan and Dixó 2004; França *et al.* 2006; Recoder and Nogueira, 2007; Vaz-Silva *et al.* 2007; França *et al.* 2008; Marques *et al.* 2008; Sawaya *et al.* 2008; Moreira *et al.* 2009; Valdujo *et al.* 2009; Bérnils and Moura-Leite 2010; Bisby *et al.* 2011; Lisboa *et al.* 2011; Uetz 2012).

In Bahia, *Phimophis guerini* was recorded in a region of semideciduous forest and Caatinga environment with anthropic activity at Chapada Diamantina in Lençóis municipality by Juncá (2005). Although Freitas (2003) reports the occurrence of the species to Mata de São João and other municipalities, his records do not allow a precise habitat location, and no voucher specimens are given. In the restinga ecosystem, Dias and Rocha (2005) recorded this species at Costa Azul in Jandaíra municipality. The specimens reported here extend the distribution of *Phimophis guerini* 110 km southeast of the nearest location at Costa Azul.



FIGURE 1. *Phimophis guerini* CHECOA 001411 SVL 754 mm, from Imbassá, Bahia, Brazil (Photo by RM).

The sites where *Phimophis guerini* was found hold many species of reptiles and amphibians and are threatened by human tourism development (Tinôco et al. 2008; 2010), which may compromise not only this species, but also

other snakes from the region (Marques et al. 2011). We believe this snake occurs in open habitats that surround the Cerrado ecoregion and are somehow influenced by it, since most records are within this biome.

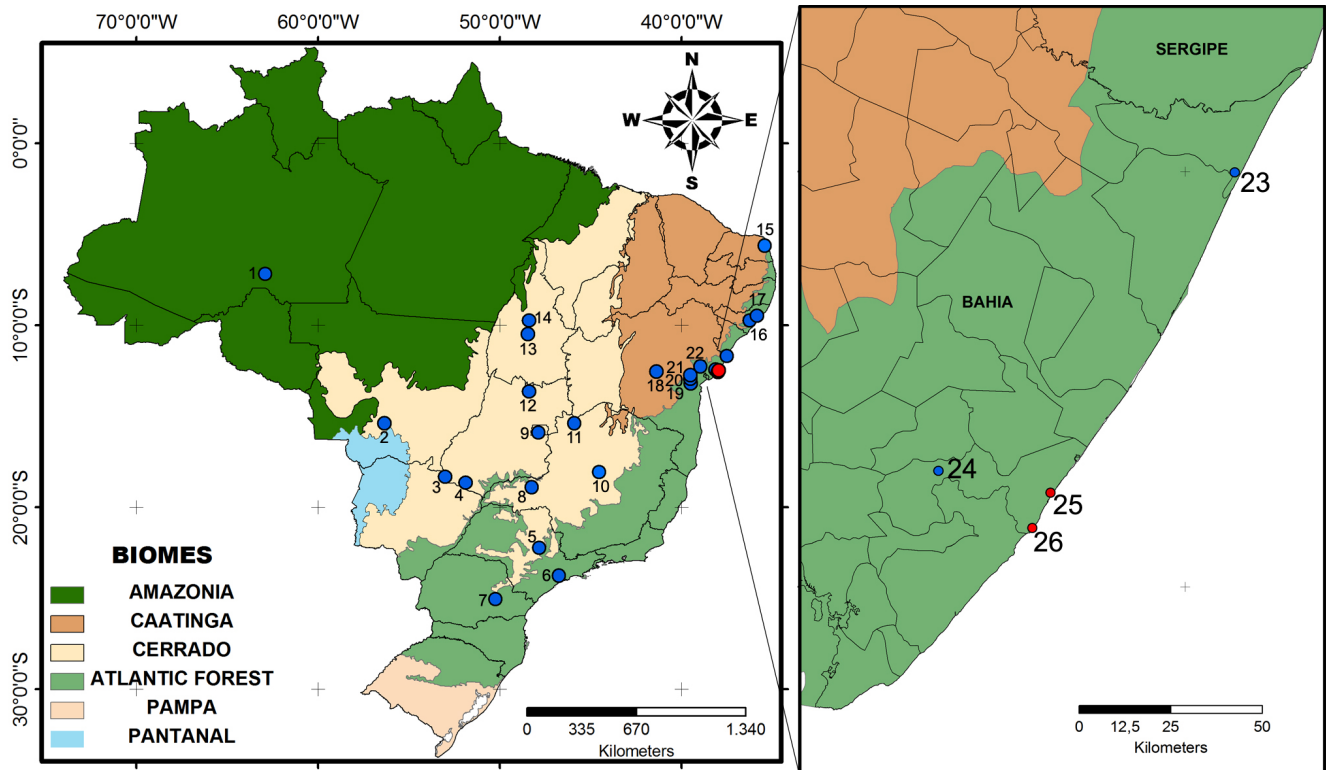


FIGURE 2. Left: Distribution of *Phimophis guerini* in Brazil according to literature: 1 – França et al. 2006; 2 – Carvalho and Nogueira 1998; 3 – Valdujo et al. 2009; 4 – Vaz-Silva et al. 2007; 5 – Sawaya et al. 2008; 6 – Marques et al. 2008; 7 – Bérnils and Moura-Leite 2010; 8 – Brites and Bauab 1998; 9 – França et al. 2008; 10 – Melo 1926; 11 – Recoder and Nogueira 2007; 12 – Moreira et al. 2009; 13 – Vitt et al. 2002; 14 – Pavan and Dixo 2004; 15 – Schmidt and Inger 1951; 16 – Lisboa et al. 2009; 17 – Silva et al. 2006; 18 – Juncá 2005; 19, 20, 21 and 22 – Freitas 2003. Right: The northern coast of Bahia containing remnants literature records of the species: 23 – Dias and Rocha 2004; 24 – Freitas 2003. The red dots 25 – Imbassai and 26 – Praia do Forte show the new localities in Mata de São João municipality.

ACKNOWLEDGMENTS: We thank the Centro de Ecologia e Conservação Animal – ECOA/UCSAL and Lacerta Ambiental for supporting the field work, and Rob Ward for reviewing and contributing to the manuscript text.

LITERATURE CITED

- Bérnils, R.S. and J.C. Moura-Leite. 2010. The contribution of Andreas Mayer for the natural history of the State of Paraná, Brazil. *Brazilian Archives of Biology and Technology* 53(2): 431-435
- Bisby, F.A., Y.R. Roskov, T.M. Orrell, D. Nicolson, L.E. Paglinawan, N. Bailly, P.M. Kirk, T. Bourgoin, G. Baillargeon and D. Ouvrard. 2011. *Species 2000 & ITIS Catalogue of Life*. Electronic database available at www.catalogueoflife.org/col/. Captured on 26 July 2011.
- Brites, V.L.C. and F.A. Bauab. 1988. Fauna of the municipality of Uberlândia, Minas Gerais- Brazil: occurrence in the urban area. *Revista do Centro de Ciências Biomédicas da Universidade Federal de Uberlândia* 4(1): 3-8.
- Carvalho, M.A. and F. Nogueira. 1998. Serpentes da área urbana de Cuiabá, Mato Grosso: aspectos ecológicos e acidentes ofídicos associados. *Cadernos de Saúde Pública* 14(4): 753-763.
- Dias, E.J.R. and C.F.D. Rocha. 2005. *Os répteis nas restingas do estado da Bahia: Pesquisa e ações para a sua conservação*. Rio de Janeiro: Instituto Biomas, 36p.
- França, F.G.R., D.O. Mesquita, C.C. Nogueira and A.F.B. Araújo. 2008. Phylogeny and ecology determine morphological structure in a snake assemblage in the Central Brazilian Cerrado. *Copeia* 2008(1): 20-36
- França, F.G.R., D.O. Mesquita and G.R. Colli. 2006. A checklist of snakes from Amazonian Savannas in Brazil, housed in the coleção herpetológica da Universidade de Brasília, with new distribution records. *Sam Noble Oklahoma Museum of Natural History. Occasional papers* (17): 1-13.
- Freitas, M.A. 2003. *Serpentes Brasileiras*. Lauro de Freitas. 160 p.
- IUCN, 2012. *IUCN Red List of Threatened Species. Version 2012.2*. Electronic database accessible at <http://www.iucnredlist.org/>. Captured on 20 July 2012.
- Juncá, F.A. 2005. Anfíbios e répteis; p. 337-356 In F.A. Juncá, L. Funch and W. Rocha. *Biodiversidade e conservação da Chapada Diamantina*. Brasília: Ministério do Meio Ambiente.
- Lisboa, B.S., J.V. Araújo-Neto and S.T. Silva. 2011. Geographic Distribution. *Phimophis guerini* (Argentine Pampas Snake). *Herpetological Review* 42(4): 573-574.
- Marques, O.A.V., D.N. Pereira, F.E. Barbo, V.J. Germano and R.J. Sawaya. 2008. Os Répteis do Município de São Paulo: diversidade e ecologia da fauna pretérita e atual. *Biota Neotropica* 9(2): 139-150
- Marques, R., M.S. Tinôco, D. Couto-Ferreira, C. P. Fazolato, H.C. Browne-Ribeiro, M.L.O. Travassos, M.A. Dias, and J.V.L. Mota. 2011. Reserva Imbassai Restinga: inventory of snakes on the Northern coast of Bahia, Brazil. *Journal of Threatened Taxa* 3(11): 2184-2191.
- Mello, O. 1926. Contribuição para o conhecimento dos ophidios brasileiros. *Memórias do Instituto Oswaldo Cruz* 19: 127-131.
- Moreira, L.A., D.B. Fenolio, H.L.R. Silva and N.J. Silva Jr. 2009. A preliminary list of the Herpetofauna from termite mounds of the cerrado in the Upper Tocantins river valley. *Papéis Avulsos de Zoologia* 49(15): 183-189
- Pavan, D. and M. Dixo. 2004. A Herpetofauna da área de influência do reservatório da Usina Hidrelétrica Luís Eduardo Magalhães, Palmas, TO. *Humanitas* 4/6: 13-30.
- Peters, J.A. and B. Orejas-Miranda. 1970. *Catalogue of the Neotropical Squamata: Part I, Snakes*. Washington, D.C.: Smithsonian Institution. 347 p.
- Recorder, R. and C. Nogueira. 2007. Composição e diversidade de répteis na região sul do Parque Nacional Grande Sertão Veredas, Brasil Central. *Biota Neotropica* 7(3): 267-278
- Sawaya, R.J., O.A.V. Marques and M. Martins. 2008. Composição e história natural das serpentes de Cerrado de Itirapina, São Paulo, sudeste do Brasil. *Biota Neotropica* 8(2): 127-149.
- Schmidt, K.E. and R.F. Inger. 1951. Amphibians and reptiles of the Hopkins-Branner expedition to Brazil. *Fieldiana: Zoology* 31: 439-465.
- Silva, S.T., U.G. Silva, G.A.B. Sena and F.A.C. Nascimento. 2006. Anfíbios e répteis; p. 65-76 In F.B.P. Moura. *A Mata Atlântica em Alagoas*. Maceió: Editora da Universidade Federal de Alagoas.

- Tinôco, M.S., H.C. Browne-Ribeiro and M.A. Dias. 2010. The Bahian Sand Dunes Whiptail Lizard *Cnemidophorus abaetensis* Dias, Rocha & Vrcibradic 2002 (Reptilia, Scleroglossa, Teiidae), geographic distribution and habitat use in Bahia, Brazil. *Herpetological Bulletin* 111: 19-24.
- Tinôco, M.S., H.C. Browne-Ribeiro, R.C. Santos, M.A. Dias and I.A. Nascimento. 2008. Habitat change and amphibian conservation in the Atlantic Forest of Bahia, Brazil. *Froglog* 89: 1-3
- Uetz, P. 2012. *The Reptile Database*. Electronic database available at <http://www.reptile-database.org>. Captured on July 27th of 2012.
- Valdujo, P.H., C.C. Nogueira, L. Baumgarten, F.H.G. Rodrigues, R.A. Brandão, A. Eterovic, M.B. Ramos-Neto and O.A.V. Marques. 2009. Squamate Reptiles from Parque Nacional das Emas and surroundings, Cerrado of Central Brazil. *Check List* 5(3): 405-417.
- Vaz-Silva, W., A.G. Guedes, P.L. Azevedo-Silva, F.F. Gontijo, R.S. Barbosa, G.R. Aloísio and F.C.G. Oliveira. 2007. Herpetofauna, Espora Hydroelectric Power Plant, state of Goiás, Brazil. *Check List* 3(4): 338-345.
- Vitt, L.J., J.P. Caldwell, G.R. Colli, A.A. Garda, D.O. Mesquita, F.G. França and S.F. Balbino. 2002. Um guia fotográfico dos répteis e anfíbios da região do Jalapão no Cerrado brasileiro. *Sam Noble Oklahoma Museum of Natural History. Special Publications in Herpetology* 1: 1-17

RECEIVED: May 2012

ACCEPTED: August 2012

PUBLISHED ONLINE: September 2012

EDITORIAL RESPONSIBILITY: Ross MacCulloch