

Reptilia, Squamata, Amphisbaenidae, *Amphisbaena fuliginosa wiedi* Vanzolini, 1951: Distribution extension

Paulo Nogueira-Costa^{1*}, Flávia Vieira de Oliveira Aguiar², Guilherme Ramos da Silva^{2,3}, Mariana Campelo Afonso², José Thiago Barbosa Baldine² and Marcos Ferreira Venâncio²

- 1 Universidade Federal do Rio de Janeiro, Museu Nacional, Departamento de Vertebrados, Quinta da Boa Vista. CEP 20940-040. Rio de Janeiro, RJ, Brazil.
 - 2 Laboratório de Anfíbios e Répteis, Departamento de Zoologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro. Caixa Postal 68044. CEP 21944-970. Rio de Janeiro, RJ, Brazil.
 - 3 Universidade Estadual do Piauí, Campus Professor Alexandre Alves de Oliveira. Av. Nossa Senhora de Fátima s/no. CEP 64202-220. Parnaíba, PI, Brazil.
- * Corresponding author E-mail: nogpj@yahoo.com.br

ABSTRACT: Recently, the predominantly Amazonian amphisbaenian species *Amphisbaena fuliginosa* was reported from the Cerrado biome, where its distribution is presently restricted to three localities in Goiás state and one in Minas Gerais state. Here we present new data on its distribution range in the Cerrado biome, a new record in the state of Minas Gerais and the southernmost record for the species, extending its southern distribution limit by 35 km.

The Cerrado biome is a world biodiversity ‘hotspot’, with high species richness and endemism (Myers *et al.* 2000; Klink and Machado 2005). It is a mosaic of landscapes, such as open savannas and dense vegetation (Oliveira-Filho and Ratter 2002). The main threat to Cerrado is its fragmentation, due especially to agriculture (Klink and Moreira 2002). In spite of human activity, it boasts a highly diverse animal community and some endemic groups, including squamata and plants (Colli *et al.* 2002; Nogueira *et al.* 2011; Werneck 2011).

Amphisbaenians are burrowing reptiles, poorly known ecologically because of their fossorial habits. There are over 200 species in 24 genera, usually distributed in four families (Kearney 2003; Gans 2005). Amphisbaenidae is the largest family, with about 180 species in 18 genera (Gans 2005), and 67 species found in Brazil (Bérnils and Costa 2012). From the 33 species known from the Cerrado, 20 are endemic (Nogueira *et al.* 2011).

Amphisbaena fuliginosa wiedi Vanzolini, 1951 is a wide-ranging species known mainly from Amazonian forest areas (Vanzolini 2002). It has a characteristic color pattern, a mosaic of predominantly black and white areas on both the dorsal and ventral sides. Recently, this species was reported from the Cerrado biome, in three localities in Goiás state (Serra da Mesa, Piraicanjuba and Cumari) (Colli *et al.* 2002; Lemos and Facure 2007; Vanzolini 2002) and one in Minas Gerais (João Pinheiro) (Silveira 2007). Here we present new data on its distribution range in the Cerrado biome.

During fieldwork conducted in Araguari municipality, Minas Gerais state, we collected two specimens of *A. fuliginosa wiedi*. The first one (24.5 cm of total length) was found dead on March 19th 2009, around 17:00h, having been run over by an automobile on a dirt road in a semi-deciduous forest formation (18°33'27" S, 48°04'03" W), a typical Cerrado landscape. The second specimen (31.9 cm total length) (Figure 1) was found alive in a transitional

area between Cerrado vegetation and an agricultural area (18°33'47" S, 48°02'56" W) on March 20th 2009, around 11:30h, while crossing a dirt road (IBAMA 12164). The specimens were deposited at the collection of the Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil (ZUFJR 1783-84).



FIGURE 1. Female specimen of *Amphisbaena fuliginosa wiedi* (ZUFJR 1784), photographed in its natural environment.

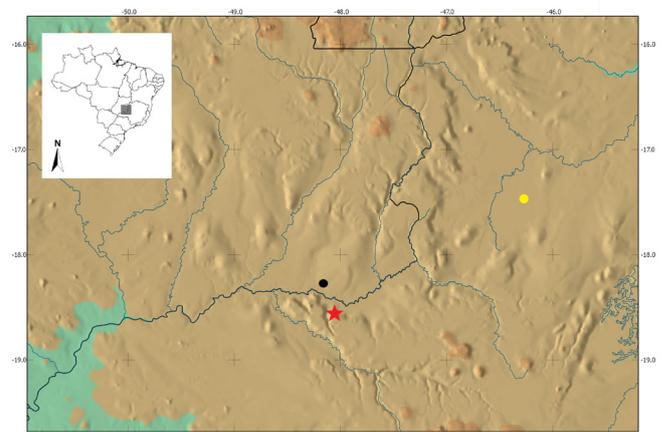


FIGURE 2. The two southernmost distribution records of *Amphisbaena fuliginosa* in Brazil. Red star – Araguari, Minas Gerais (new data, this study), Black circle – Cumari, Goiás (Lemos and Facure 2007; Vanzolini 2002), Yellow circle – João Pinheiro, Minas Gerais (Silveira 2007).

Until now Cumari was the southernmost locality reported for *Amphisbaena fuliginosa*. The data presented here extend its range about 35 km southwards, placing Araguari as the southernmost record for the species. This constitutes the second record of *A. fuliginosa wiedi* from Minas Gerais state, the fifth from the Cerrado biome and its southernmost record (Figure 2). Cerrado is one of the world's biodiversity hotspots, and the knowledge of fauna distribution along states where this biome occurs are essential for subsidize conservation actions.

ACKNOWLEDGMENTS: We are grateful to Caio Antônio Figueiredo de Andrade for suggestions.

LITERATURE CITED

- Bérnils, R.S. and H.C. Costa. 2012. *Brazilian reptiles - list of species*. Eletronic Database accessible at <http://www.sbherpetologia.org.br>. Sociedade Brasileira de Herpetologia, Brazil. Captured on 23 March 2012.
- Colli, G.R., R.P. Bastos and A.F.B. Araújo. 2002. The character and dynamics of the Cerrado herpetofauna; p. 223-241 In P.S. Oliveira and R.J. Marquis (ed.). *The Cerrado of Brazil: Ecology and Natural History of a Neotropical Savanna*. 1st ed. v.1. New York: Columbia University Press.
- Gans, C. 2005. Checklist and bibliography of the Amphisbaenia of the world. *Bulletin of the American Museum of Natural History* 289(8): 130 p.
- Klink, C.A. and R.B. Machado. 2005. A Conservação do Cerrado Brasileiro. *Megadiversidade* 1(1): 147-155.
- Klink, C.A. and A.G. Moreira. 2002. Past and current human occupation, and land-use; p. 69-88 In P.S. Oliveira and R.J. Marquis (ed.). *The Cerrado of Brazil: Ecology and Natural History of a Neotropical Savanna*. 1st ed. v.1. New York: Columbia University Press.
- Lemos, F.G. and K.G. Fature. 2007. New record of *Amphisbaena fuliginosa* (Squamata, Amphisbaenidae) for the Cerrado biome, in an area of extensive cattle ranching. *Biota Neotropica* 7(1): 239-241.
- Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A.B. Fonseca and J. Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.
- Nogueira, C., S. Ribeiro, G.C. Costa and G.R. Colli. 2011. Vicariance and endemism in a Neotropical savanna hotspot: distribution patterns of Cerrado squamate reptiles. *Journal of Biogeography* 38: 1907-1922.
- Kearney, M. 2003. Systematics and evolution of the Amphisbaenia: a phylogenetic hypothesis based on morphological evidence from fossil and recent forms. *Herpetological Monographs* 17: 1-75.
- Oliveira-Filho, A.T. and J.A. Ratter. 2002. Vegetation physiognomies and woody flora of the cerrado biome; p. 91-120 In P.S. Oliveira and R.J. Marquis (ed.). *The Cerrado of Brazil: Ecology and Natural History of a Neotropical Savanna*. 1st ed. v.1. New York: Columbia University Press.
- Silveira, A. L. 2007. *Amphisbaena fuliginosa wiedi*. Geographic Distribution. *Herpetological Review*. 38 (4): 481.
- Vanzolini, P.E. 2002. A second note on the geographical differentiation of *Amphisbaena fuliginosa* L., 1758 (Squamata, Amphisbaenidae), with a consideration of the forest refuge model of speciation. *Anais da Academia Brasileira de Ciências* 74: 609-648.
- Werneck, F.P., 2011. The diversification of eastern South American open vegetation biomes: Historical biogeography and perspectives. *Quaternary Science Reviews* 30: 1630-1648.

RECEIVED: May 2012

ACCEPTED: December 2012

PUBLISHED ONLINE: March 2013

EDITORIAL RESPONSIBILITY: Fernanda Werneck