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Notes on Geographic Distribution

Reptilia, Squamata, Serpentes, Typhlopidae, *Typhlops amoipira* Rodrigues and Juncá, 2002: Range extension and new state record

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Abstract: This article provides a new record for *Typhlops amoipira* from municipality of Bonito de Minas, state of Minas Gerais. The record extends its distribution about 500 km southern from the type locality at Ibiraba, state of Bahia. The collection site is also located on the left bank of the São Francisco River, and is dominated by cerrado *sensu stricto* with sandy soils, Veredas and riparian forests, in a transitional region between Cerrado and Caatinga biomes. This record confirms that the occurrence of *T. amoipira* goes beyond the borders of the Caatinga biome.

Typhlops amoipira Rodrigues and Juncá, 2002 is a small blind snake known only from its type-locality, at Ibiraba (11°06'6" S, 43°09'7" W), in the Quaternary sand-dunes of the left bank of São Francisco River, state of Bahia, Brazil. It is mainly diagnosed by its small size, light brown and slightly pigmented body, incomplete nasal suture, 18 scale rows around the body, 212–242 dorsal scales between rostral and tail tip, and 7–12 subcaudals (Rodrigues and Juncá 2002). *Typhlops amoipira* can also be separated from *T. brongersmianus*, a blindsnake widely distributed throughout the Cerrado, by the difference in the number of dorsal scales between rostral and tail tip and in the number of scales around body (195–287 dorsal scales and 20 scales rows around body in *T. bongersmianus*) (see Dixon and Hendricks 1979).

On December 2008, during a field expedition to the northern region of the state of Minas Gerais, Brazil, we collected eight specimens of *T. amoipira* (MZUFV 1644–1651; Figure 1) at "Fazenda Santa Maria da Vereda" (15°24'26" S, 44°50'18" W; elevation: 553 m), municipality of Bonito de Minas (15°19'22" S, 44°45'26" W) (collection permits #10504-1, given by the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA and #075/08, given by the Instituto Estadual de Florestas – IEF). The present record represents a range extension of about 500 km southern from the type locality at Ibiraba (Figure 2), as well as the first report of the species in the state of Minas Gerais.

The snakes were obtained in a pitfall-trap grid holding five 60-liters buckets each (50 buckets in total), buried in the ground and connected by a 1 m high canvas drift fence, anchored by stakes and wire. Ten lines of tracks were set, three at cerrado *sensu stricto*, three at Veredas and two at riparian forests, willing to sample the different environments of the locality (Jones 1981). The traps were opened from Jun/29/2008 to Jul/07/2008, Nov/27/2008 to Dec/12/2008 and Feb/02/2009 to Feb/10/2009, totalizing 34 days of sampling effort. All the records were obtained during the campaigns of Nov-Dec and Feb, when the locality goes through its rainy season. Considering that the region of sampling is characterized by two well marked seasons, these data might suggest that *T. amoipira* behavior is affected by seasonality being more active during the rainy season, although the small sample does not allow a conclusive statement yet. Specimens (Table 1) are housed in herpetological collection of the Museu de Zoologia João Moojen, Universidade Federal de Viçosa, municipality of Viçosa, state of Minas Gerais (MZUFV).

Figure 1. Adult *Typhlops amoipira* from Fazenda Santa Maria da Vereda, municipality of Bonito de Minas, Minas Gerais. Photo by Diego J. Santana.

Like the type locality, the collection site is also located on the left bank of the São Francisco River. The region is classified as a transitional area between the Cerrado and Caatinga biomes (Sales *et al.* 2009a; b). However, in contrast with the dry caatinga of Ibiraba (Rodrigues and Juncá 2002), the sampling area is dominated by cerrado

sensu stricto with sandy soils, dissected by Veredas and riparian forests, confirming that the occurrence of *T. amoipira* goes beyond the borders of the Caatinga biome. This species seems to spread south due to other ecological factors that are not strictly associated to the Caatinga. Understanding those factors though, would be a relevant next step on the delimitation of conservational actions regarding *T. amoipira*.

Rodrigues and Juncá (2002), discuss that *T. amoipira* could be closely related to *T. yonenagae*, the latter occurring only on the right bank of the São Francisco River. The two species are rather similar with respect to morphology and ecological preferences (both species seem to be associated to sandy soils, which is likely to be a decisive factor determining the distribution of such fossorial taxa); moreover, distribution of both taxa is highly suggestive of vicariant patterns associated to the presence of the river, already commented for other reptile taxa from the region (see Rodrigues 1984; 1986; 1991; 1996; 2002).

The record of *T. amoipira* in Bonito de Minas may imply that other fossorial psammophilic species of the Quaternary sand dunes area in the state of Bahia occur in the region, reinforcing theories related with the endorrheic pattern of drainage of the São Francisco River in the end of the last glacial period (Rodrigues 1996). If ecological conditions on the right bank of the river are the same as those found at the municipality of Bonito de Minas, it will not be surprising if *Typhlops yonenagae* is also recorded at such more meridional localities.

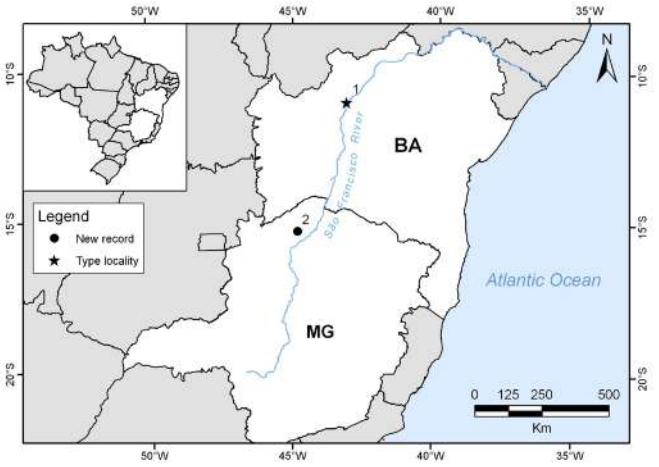

Figure 2. Distribution extension map of *Typhlops amoipira*. Number 1: Type locality at Ibiraba, state of Bahia; Number 2: Fazenda Santa Maria da Vereda, municipality of Bonito de Minas, state of Minas Gerais. Map by Mário R. Moura.

Table 1. Measurements (mm) of the specimens of *Typhlops amoipira* collected at the municipality of Bonito de Minas, northern state of Minas Gerais, following its description given by Rodrigues and Juncá (2002). SAB = number of scales around body; DS = number of dorsal scales; SC = number of subcaudal scales; TL = total length; CL = caudal length; MD = midbody diameter; HW = head width; ED = eye diameter.

MZUFV number	SAB	DS	SC	TL	CL	MD	HW	ED
1644	18-18-18	216	10	227	5.6	9.4	5.85	1
1645	18-18-18	226	5	159	4.1	6.1	4.25	0.5
1646	18-18-18	228	10	182	4.4	7	4.95	0.6
1647	18-18-18	232	8	131	4	4.75	3.6	0.45
1648	18-18-18	222	8	134	4.6	4.8	4.85	0.5
1649	18-18-18	219	7	243	6.4	9.6	6.1	1
1650	18-18-18	227	7	297	7.3	11.15	7.35	1.1
1651	18-19-18	227	8	142	4.3	5.3	4.15	0.5

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