

New distribution records of *Oolygon canastrensis* (Cardoso and Haddad, 1982) (Anura: Hylidae)

Elvis Almeida Pereira^{1,3,*}, Henrique Folly^{2,3}, Leandro Alves da Silva^{3,4}, Raoni Rebouças¹, and Diego José Santana^{3,4}

The *Oolygon* species “catharinae clade” currently comprise 46 species, and most of its diversity is distributed throughout the Atlantic Forest (see Duellman et al., 2016). However, some species of this genus also occur in gallery forests of the Brazilian savannah (Cerrado domain) in central and southeastern Brazil, such as *O. canastrensis*, *O. centralis*, *O. lutzotavioi*, *O. machadoi*, *O. pombali* and *O. skaios* (Bastos, 2007; Pombal and Bastos, 1996; Pombal et al., 2010; Moura and Cazelli, 2011; Lourenço et al., 2013). *Oolygon canastrensis* (Cardoso and Haddad, 1982) is a small endemic Cerrado treefrog (Moura and Cazelli, 2011), inhabitant of the Cerrado forested formations in Minas Gerais and São Paulo states (Cardoso and Haddad, 1982; Haddad et al., 1988; Oliveira-Filho and Kokubum, 2003; Araújo et al., 2007; Moura and Cazelli, 2011). According to IUCN Red List of Threatened Species is a species currently classified as Data Deficient (DD) (Bastos et al., 2004), however, according to the most update conservation status from the Brazilian evaluation, this species is not included in the list of endangered species (MMA, 2014; ICMBio, 2016).

Based on analysis of specimens deposited in a zoological collection, field work and data available on SpeciesLink (<http://www.splink.org.br>), here we report new records of *O. canastrensis* throughout southwestern of Minas Gerais state, Brazil. We analysed specimens from Museu de Zoologia João Moojen da Universidade Federal de Viçosa (MZUFV), and the records obtained through SpeciesLink website, were consulted of the Coleção Célio Fernando Baptista Haddad (CFBH), Museu Nacional do Rio de Janeiro (MNRJ), Museu de Zoologia da Universidade Estadual de Campinas (ZUEC), Museu de Ciências Naturais da Pontifícia Universidade Católica de Minas Gerais (MCNAM) and Museu de Zoologia da Universidade de São Paulo (MZUSP), which the vouchers were not examined (SpeciesLink, 2017). To avoid taxonomic misidentification, we discarded records with imprecise taxonomic determination (e.g. *O. aff. canastrensis* or *O. cf. canastrensis*). Specimens collected during field expeditions (see localities below) were anesthetized with 2% lidocaine, fixed in 10% formalin, and permanently preserved in alcohol 70%. Specimens collected in field were housed in the Coleção Zoológica da Universidade Federal de Mato Grosso do Sul (ZUFMS-AMP). The species diagnosis was confirmed by morphological characters (Cardoso and Haddad, 1982) and acoustic analysis (Bang and Giaretta, 2017; Bang et al., 2017). Compiling data from museums, SpeciesLink, and field sampling, we present 11 new records of distribution for *O. canastrensis* (Table 1). From museums and SpeciesLink, we recorded this species in ten municipalities.

¹ Programa de Pós-Graduação em Biologia Animal, Departamento de Biologia Animal, Laboratório de Herpetologia, Universidade Federal Rural do Rio de Janeiro, 23890-000, Seropédica, RJ, Brasil.

² Programa de Pós-Graduação em Biologia Animal, Departamento de Biologia Animal, Universidade Federal de Viçosa, 36570-000, Viçosa, MG, Brasil.

³ Mapinguari – Laboratório de Biogeografia e Sistemática de Anfíbios e Répteis, Universidade Federal de Mato Grosso do Sul, 79002-970, Campo Grande, MS, Brasil.

⁴ Programa de Pós-Graduação em Biologia Animal, Instituto de Biociências, Universidade Federal de Mato Grosso do Sul, 79070-900, Campo Grande, MS, Brasil.

* Corresponding author. E-mail: elvisaps@hotmail.com

On 05 July 2016, at 17:30 h, in the Campos Altos municipality, we observed several specimens of *O. canastrensis* (Figure 1) moving from a forest fragment to a permanent pond (10 m away from the forest fragment) inserted in a pasture matrix (19.637108°S, 45.963616°W; ca. 980m a.s.l.) (Figure 2). Around 20:15 h of the same night, we found several males of this species calling in the pond on the emerging vegetation,

Table 1. Municipalities where *Oolygon canastrensis* was recorded in Southeastern Brazil.

Point on map	Municipality	Altitude	Source
1	Serra do Salitre	~1160	SpeciesLink
2	Sacramento	~900	UFMG-AMP 15756
3	Capitólio	~780	ZUEC-AMP 23503-504
4	Araxá	~975	MZUFV 2157-60
5	Alpinópolis	~880	ZUEC-AMP 3822
6	Furnas	~810	CFBH 16731
7	Tapira	~1270	UFMG-GIR 1670
8	Bambuí	~720	UFMG-AMP 15763
9	Delfinópolis	~750	MZUFV 4879-81
10	Vargem Bonita	~820	ZUEC-AMP 4334, 4340
11	Campos Altos	980	Present study
12	Pitangui	673	Moura et al., 2011
13	Pedregulho	~980	Araújo et al., 2007
14	Perdizes	~900	Oliveira-Filho and Kokubum, 2003
15	São Roque de Minas	~950	Haddad et al., 1988

extending the distribution of *O. canastrensis* from type locality (Parque Nacional Serra do Canastra, São Roque de Minas municipality, Minas Gerais state) in 80 km in straight line outside the limits of the Park.

In the present work, we improve the distribution knowledge of the *Oolygon canastrensis*. With the new records presented here, the species occurrence polygon

encompasses an area of nearly 545km² (Figure 3), most of which made above ~700m a.s.l., throughout the middle-west region of the Minas Gerais state. Thus, although this species has showed a wider range than previously known, its occurrence actually is restricted only to highlands, a trend for other species of the region (e.g. *Bokermannohyla ibitiguara* (Cardoso, 1983);



Figure 1. Individual of *Oolygon canastrensis* at Municipality of Campos Altos, State of Minas Gerais, Brazil. (Photo by EAP).



Figure 2. Environment where *Oolygon canastrensis* specimens were observed at the Municipality of Campos Altos, State of Minas Gerais. (Photo by EAP).

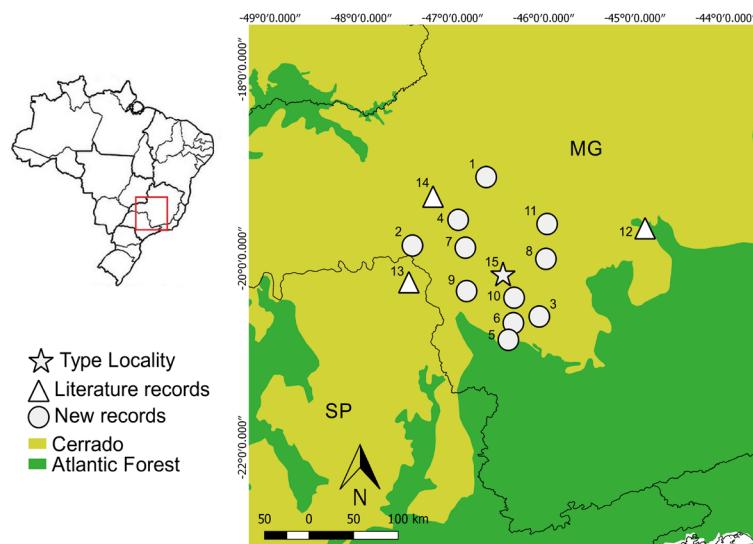


Figure 3. Map showing the known geographic distribution of *Oolygon canastrensis*. MG = Minas Gerais state and SP = São Paulo state.

Bokermanohyla sazimai (de Carvalho and Giareta 2013); *Scinax maracaya* (Cardoso and Sazima, 1980); and *Oolygon machadoi* (Canelas and Bertoluci 2007)).

Acknowledgements. Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) provides PhD scholarship to EAP (Process 141718/2016-1) and (CAPES) provides MsC scholarship to HF. DJS thanks CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico) for his research fellowship (311492/2017-7). EAP thanks SISBIO for the license collection (54493-5).

References

- Araujo, C.O., Condez, T.H., Haddad, C.F.B. (2007): Amphibia, Anura, *Barycholos ternezi*, *Chaunus rubescens*, and *Scinax canastrensis*: Distribution extension, new state record. Check List 3: 153–155.
- Bang, D.L., Giareta, A.A. (2017): A reassessment of the vocalizations of three species of *Oolygon* (Anura: Hylidae) from southeastern Brazil. Phyllomedusa 16: 23–45.
- Bang, D.L., Carvalho, T.R.D., Andrade, F.S.D., Haga, I.A., Bernardes, C.D.S., Giareta, A.A. (2017): Vocalization of *Scinax haddadorum* (Anura: Hylidae), with further notes on the vocalization of the morphologically similar *Scinax rupestris*. Neotropical Biodiversity 3: 117–124.
- Bastos, R., Eterovick, P.C., Silvano, D. (2004): *Scinax canastrensis*. The IUCN Red List of Threatened Species 2004. Available at: e.T55940A11398967. <http://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T55940A11398967.en>. Accessed on 29 June 2017.
- Bastos, R.P. (2007): Anfíbios do Cerrado. In: Herpetologia no Brasil II, p. 87–100. Nascimento, L.B., Oliveira, M.E., Ed., Sociedade Brasileira de Herpetologia, Belo Horizonte.
- Canelas, M.A.S., Bertoluci, J. (2007): Anurans of the Serra do Caraça, Southeastern Brazil: species composition and phenological patterns of calling activity. Iheringia: 97: 21–26.
- Cardoso, A.J., Sazima, I. (1980): Nova espécie de *Hyla* do sudeste brasileiro (Amphibia, Anura, Hylidae). Revista Brasileira de Biologia 40: 75–79.
- Cardoso, A.J., Haddad, C.F.B. (1982): Nova espécie de *Hyla* da Serra da Canastra (Amphibia, Anura, Hylidae). Revista Brasileira de Biologia 42: 499–503.
- Cardoso, A.J. (1983): Descrição e biologia de uma nova espécie de *Hyla Laurenti*, 1768 (Amphibia, Anura, Hylidae). Iheringia: 62: 37–45.
- de Carvalho, T.R., Giareta, A.A. (2013): A reappraisal of the geographic distribution of *Bokermannohyla sazimai* (Anura: Hylidae) through morphological and bioacoustic approaches. Phyllomedusa: 12: 33–45.
- Duellman, W.E., Marion, A.B., Hedges, S.B. (2016): Phylogenetics, classification, and biogeography of the treefrogs (Amphibia: Anura: Arboranae). Zootaxa 4104: 1–109.
- Haddad, C.F.B., Andrade, G.V., Cardoso, A.J. (1988): Anfíbios Anuros no Parque Nacional da Serra da Canastra, estado de Minas Gerais. Brasil Florestal 64: 9–20.
- ICMBio (Instituto Chico Mendes da Biodiversidade). (2016). Livro Vermelho da Fauna Brasileira Ameaçada de Extinção. http://www.icmbio.gov.br/portal/images/stories/comunicacao/publicacoes/publicacoes-diversas/dcom_sumario_executivo_livro_vermelho_ed_2016.pdf
- Lourenço, A.C.C., Carvalho, A.L.G., Baêta, D., Pezzuti, T.L., Leite, F.S.F. (2013): A new species of the *Scinax catharinae* group

- (Anura, Hylidae) from Serra da Canastra, Southwestern State of Minas Gerais, Brazil. Zootaxa **3613**: 573–588.
- MMA (Ministério do Meio Ambiente). (2014). Portaria nº 444, de 17 de dezembro de 2014. Lista Nacional das Espécies da Fauna Brasileira Ameaçadas de Extinção. http://www.icmbio.gov.br/ortal/images/stories/biodiversidade/fauna-brasileira/avaliacao-do-risco/PORTARIA_N%C2%BA_444_DE_17_DE_DEZEMBRO_DE_2014.pdf
- Moura, M.R., Cazelli, H. (2011): *Scinax canastrensis* (Cardoso and Haddad, 1982) (Anura: Hylidae): New record in the state of Minas Gerais, southeastern Brazil. Check List. Journal of Species Lists and Distribution **7**: 606–607.
- Oliveira-Filho, J.C., Kokubum, M.N.C. (2003): Geographic distribution: *Scinax canastrensis*. Herpetological Review **34**: 163.
- Pombal-Jr, J.P., Bastos, R.P. (1996): Nova espécie de *Scinax* Wagler, 1830 do Brasil central (Amphibia, Anura, Hylidae). Boletim do Museu Nacional, Nova Série. Zoologia **371**: 1–11.
- Pombal-Jr, J.P., Carvalho-Jr, R.R., Canelas, M.A.S., Bastos, R.P. (2010): A new *Scinax* of the *S. catharinae* species group from Central Brazil (Amphibia: Anura: Hylidae). Zoologia **27**: 795–802.
- SpeciesLink. (2017): Rede SpeciesLink. Centro de Referência em Informação Ambiental (CRIA), Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). Available at: <http://www.splink.org.br/>. Accessed on 28 August 2017.