

DISTRIBUTION EXTENSION OF *Trilepida jani* IN THE ESPINHAÇO RANGE AND REVISION OF RECORDS OF *Trilepida koppesi* FROM THE ATLANTIC FOREST (SERPENTES: LEPTOTYPHLOPIDAE)

Hans Thomassen¹, Felipe S. F. Leite³, Paulo C. A. Garcia^{1,2}, Henrique C. Costa^{1,2}

¹ Laboratório de Herpetologia, Departamento de Zoologia, Universidade Federal de Minas Gerais. Avenida Antônio Carlos 6627, Pampulha, Belo Horizonte, MG, Brasil. CEP: 31270-901.

² Programa de Pós-Graduação em Zoologia, Departamento de Zoologia, Universidade Federal de Minas Gerais. Avenida Antônio Carlos 6627, Pampulha, Belo Horizonte, MG, Brasil. CEP: 31270-901.

³ Programa de Pós Graduação em Conservação e Manejo de Ecossistemas Naturais e Agrários, Instituto de Ciências Biológicas, Universidade Federal de Viçosa – campus Florestal. Rodovia LMG 818, km 06, Florestal, MG, Brasil. CEP: 35690-000.

E-mails: hans.thomassen1989@gmail.com, hans.thomassen1989@gmail.com, pcagarcia@gmail.com, ccostah@gmail.com

ABSTRACT: We update the known geographic distribution of the snake species *Trilepida jani*, extending its northernmost record to Parque Estadual de Grão Mogol, state of Minas Gerais, 260 km from the closest record. We also correct literature records of *Trilepida koppesi* from the Atlantic Forest of Minas Gerais, re-identifying the specimens as *T. salgueiroi*. Finally, we present a list of leptotyphlopoid specimens deposited at Universidade Federal de Minas Gerais.

Keywords: Espinhaço, Minas Gerais, snake, Squamata

Threadsnakes (Leptotyphlopidae) are distributed in Americas, Africa, Middle East and southwest Asia (Adalsteinsson *et al.* 2009). After a recent review, taxonomy of this family drastically changed with the revalidation and description of some genera (Adalsteinsson *et al.* 2009, Hedges 2011). New World leptotyphlopids are now arranged in six genera: *Epictia* Gray, 1845, *Rena* Baird & Girard, 1853, *Siagonodon* Peters, 1881, *Trilepida* Hedges, 2011, *Mistophis* Hedges, Adalsteinsson, & Branch, 2009, and *Tetracheilostoma* Jan, 1861 (Adalsteinsson *et al.* 2009, Hedges 2011), of which *Epictia*, *Siagonodon* and *Trilepida* are recorded in Brazil (Costa & Bérnils 2015).

Trilepida is composed of 14 species, seven occurring in the Brazilian territory, most of them endemic of that country (Passos *et al.* 2005, 2006, Costa *et al.* 2009, Pinto & Curcio 2011, Pinto & Fernandes 2012, Costa & Bérnils 2015). *Trilepida jani* Pinto & Fernandes 2012 is one of the newest described species in the genus and up to now is known only from a few localities in southern Espinhaço, a 1,000 km-long mountain range extending from the center of Minas Gerais to the north of Bahia states (Silva *et al.* 2008). Another species, *Trilepida koppesi* Amaral, 1954, has a distinct distribution

pattern, occurring in some localities of the Cerrado (Passos *et al.* 2006, Pinto & Fernandes 2012). Recently, this species was recorded for the Atlantic Forest, more than 600km from the closest previous known record (Filogonio & Canelas 2015).

In this note, we present new records of *Trilepida jani*, extending its known distribution range northwards; we also revise records of *T. koppesi* from the Atlantic Forest. Finally, we present data on leptotyphlopids housed in the herpetological collection of Universidade Federal de Minas Gerais (UFMG), Brazil.

New records of *Trilepida jani* came from different localities in the state of Minas Gerais (Appendix I), most importantly from the Parque Estadual de Grão Mogol: UFMG 2185 (16°26'47.76" S, 42°52'30.06" W, 634 m above sea level [a.s.l.]); UFMG 2199 (16°29'40.38" S, 42°53'33.40" W, 717 m a.s.l.); UFMG 2224 (16°29'31.20" S, 42°53'35.28" W, 708 m a.s.l.) (Figure 1). New data from Grão Mogol consist in the northernmost known records for the species, ca. 260 km northwards from Fechados and Santana de Pirapama, the closest known localities of occurrence (Figure 2). Specimens from Grão Mogol were collected in *campo rupestre* vegetation (rupestrian grasslands) an ecoregion *T. jani* is known to occur (Pinto & Fernandes 2012). Collection

permits were given by the Instituto Chico Mendes de Conservação da Biodiversidade - ICMBio (license number #42369-1) and Instituto Estadual de Florestas - IEF (license number 004/2014). We based the identification in the original description of the species (Pinto & Fernandes 2012).

Filogonio & Canelas (2015) recently proposed a distribution extension of another species, *Trilepida koppesi*, based on specimens housed at Museu de Ciências Naturais, Pontifícia Universidade Católica de Minas Gerais (MCN-R 3294-3296). MCN-R 3294 does not have the head, what makes scale counts and a detailed identification unfeasible. However, since all three specimens came from the same locality and there is no known sympatry between different leptotyphlopids of the same genus in southeastern Brazil, we suggest MCN-R 3294 belong to the same taxon as the other two specimens.

After examination we confirm MCN-R 3294-3296 belong to *T. salgueiroi* (Amaral 1955), not *T. koppesi*. There is overlap in morphological characters of *T. koppesi* and *T. salgueiroi*, but the latter species attain higher dorsal and ventral scales counts (Pinto & Fernandes 2012). The two specimens whose scale counts were taken (MCN-R 3295 [female] and MCN-R 3296 [male]) present 230 and 217 middorsals, 206 and 203 midventrals, 18 and 19 subcaudals. Number of middorsals and midventrals of these two specimens is within the known scale counts of *T.*

salgueiroi (200-233 middorsals, 183-213 midventrals), but not *T. koppesi* (185-213 middorsals, 169-196 midventrals) (Pinto & Fernandes 2012). Differences in scale counts between the two specimens are due to sexual dimorphism known from *T. salgueiroi* (Costa *et al.* 2009).

The identification of MCN-R 3294-3296 as *T. salgueiroi* is also consistent with the known distribution range of this species. Governador Valadares is located in the Atlantic Forest domain, within the known range of *T. salgueiroi*, and Costa *et al.* (2009) previously made a record of this species from the same locality. On the other side, the known distribution of *T. koppesi* is the Cerrado domain of central and southeastern Brazil (Passos *et al.* 2006, Pinto & Fernandes 2012).

While revising leptotyphlopids specimens housed at UFMG, we have also found some records that although not representing range extensions, bring new distribution data for some species (Table 1) usually subsampled due to their fossorial habits and small size. Species identification was based on Passos *et al.* (2006), Pinto & Curcio (2011), Francisco *et al.* (2012), and Pinto & Fernandes (2012). The reptile collection at UFMG has nine Leptotyphlopidae species of *Epictia* and *Trilepida* from different localities of northern, southwestern, and southeastern Brazil (Appendix I). These records may be useful for future distribution datasets.

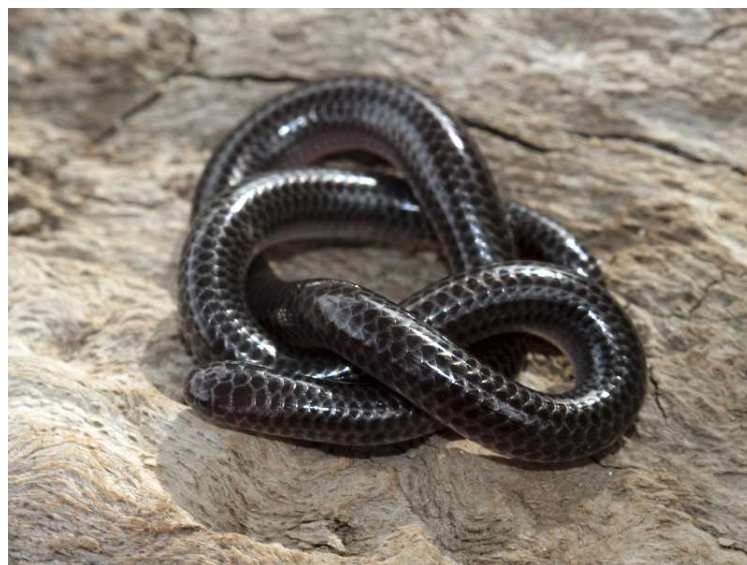


Figure 1. Live specimen of *Trilepida jani* from Parque Estadual de Grão Mogol, Minas Gerais, Brazil. Photo by H. Thomassen.

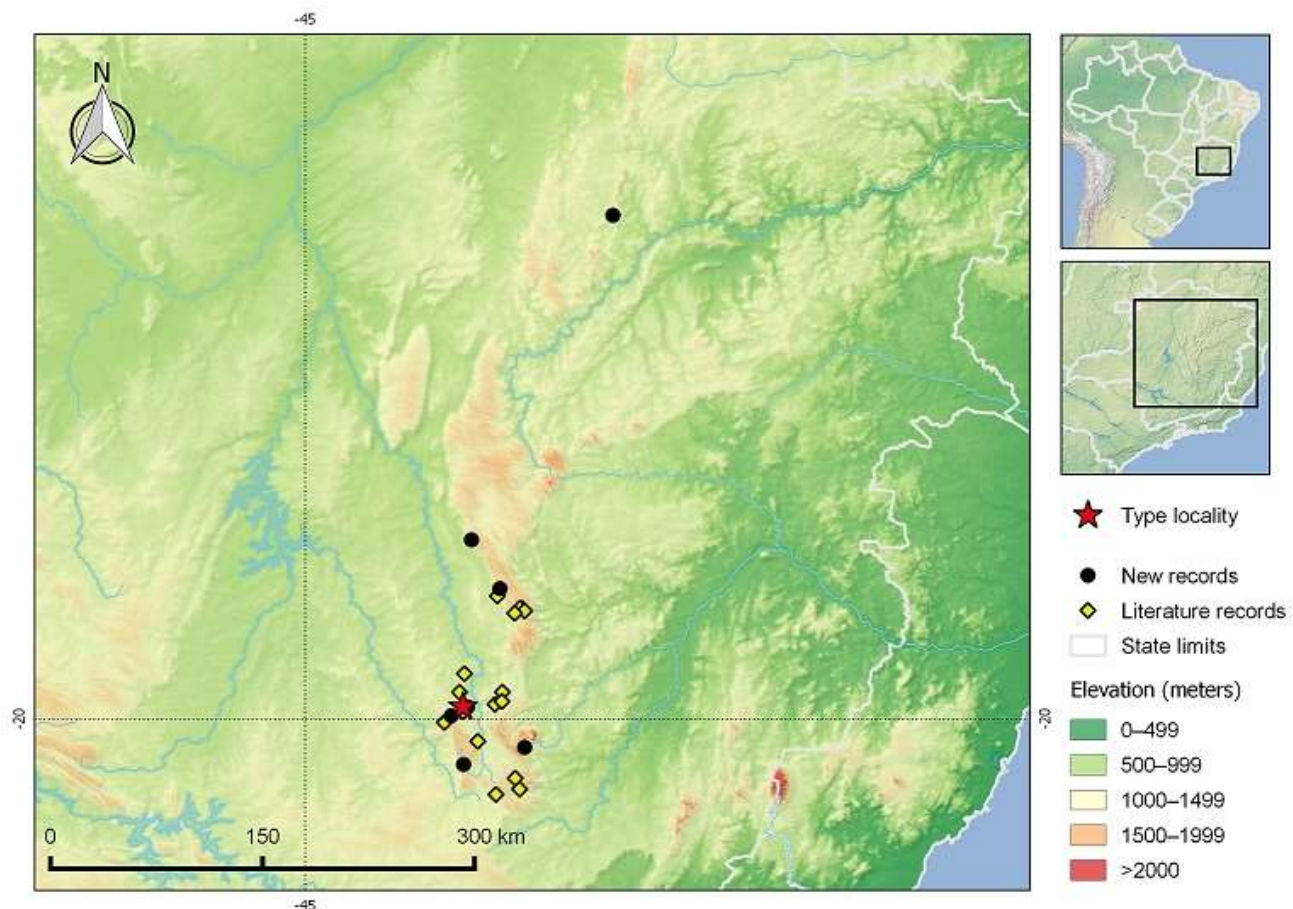


Figure 2. Geographic distribution map with known records of *Trilepida jani*. For locality details, see Pinto & Fernandes (2012) and Appendix I.

Table 1. Morphologic data of Leptotyphlopidae specimens deposited at Universidade Federal de Minas Gerais. All specimens are from Brazil. Scale counts follow Pinto & Curcio (2011), except for enlarged supracaudals, *i.e.*, enlarged scales on dorsal part of tail. DO = middorsal scales; VE = midventral scales; MB = scales around midbody; SC = subcaudals; FSB = fused subcaudals; EC = enlarged supracaudals; SL = supralabials; IL = infralabials; SO = supraocular; SL1+SO = contact between first supralabial and supraocular; MT = scales around midtail; SVL = snout-vent length; TAL = tail length; TL = total length; MB = mid-body diameter; MT = mid-tail diameter. All measurements are given in millimeters (mm). For locality data see Appendix I.

Species	Collection number	Sex	DO	VE	MB	SC	FC	EC	SL	IL	SO	SL1+SO	MT	SVL	TAL
<i>Epictia tenella</i>	UFMG 2442	?	226	207	14	17	0	3	1+1	4	yes	yes	10	145	12
<i>E. tenella</i>	UFMG 2459	♀	225	204	14	17	0	4	1+1	4	yes	yes	10	121	12
<i>E. tenella</i>	UFMG 2471	♂	224	200	14	17	0	4	1+1	4	yes	yes	10	112	9
<i>E. tenella</i>	UFMG 2477	♀	229	211	14	17	2	3	1+1	4	yes	yes	10	145	11
<i>E. vellardi</i>	UFMG 2248	♀	229	213	14	15	0	0	1+1	4	yes	no	10	173	11
<i>E. vellardi</i>	UFMG 2249	♀	229	215	14	18	0	0	1+1	4	yes	no	10	145	11
<i>Trilepida brasiliensis</i>	UFMG 1643	♂	202	192	14	16	3	5	2+1	4	no	no	10	217	15
<i>T. brasiliensis</i>	UFMG 1671	♂	222	186	14	18	3	4	2+1	4	no	no	10	202	16
<i>T. brasiliensis</i>	UFMG 2231	♂	204	177	14	20	4	4	2+1	4	no	no	10	171	16
<i>T. fuliginosa</i>	UFMG 494	♂	205	192	14	19	4	4	2+1	4	yes	no	10	191	18
<i>T. fuliginosa</i>	UFMG 943	♂	202	195	14	12	5	3	2+1	4	yes	no	10	194	14

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Species	Collection number	Sex	DO	VE	MB	SC	FC	EC	SL	IL	SO	SL1+SO	MT	SVL	TAL
<i>T. jani</i>	UFMG 53	♂	193	180	14	15	3	4	1+1	4	yes	no	10	152	15
<i>T. jani</i>	UFMG 495	♂	203	188	14	16	3	5	1+1	4	yes	no	10	207	17
<i>T. jani</i>	UFMG 977	♂	196	185	14	16	3	5	1+1	4	yes	no	10	283	20
<i>T. jani</i>	UFMG 1029	♂	190	174	14	19	4	4	1+1	4	yes	no	10	185	22
<i>T. jani</i>	UFMG 1911	♂	200	160	14	17	3	3	1+1	4	yes	no	10	132	17
<i>T. jani</i>	UFMG 1951	♂	184	166	14	19	4	5	1+1	4	yes	no	10	174	20
<i>T. jani</i>	UFMG 1982	♀	200	185	14	16	4	5	1+1	4	yes	no	10	264	18
<i>T. jani</i>	UFMG 2185	?	191	174	14	18	4	4	1+1	4	yes	no	10	112	11
<i>T. jani</i>	UFMG 2199	♂	198	183	14	16	4	5	1+1	4	yes	no	10	233	20
<i>T. jani</i>	UFMG 2224	♂	189	173	14	19	3	3	1+1	4	yes	no	10	178	20
<i>T. jani</i>	UFMG 2785	♂	182	170	14	17	4	7	1+1	4	yes	no	10	140	18
<i>T. macrolepis</i>	UFMG 1705	♂	248	229	14	17	2	3	2+1	4	yes	no	10	261	20
<i>T. salgueiroi</i>	UFMG 806	♂	215	193	14	22	4	6	2+1	4	yes	no	10	179	23
<i>T. salgueiroi</i>	UFMG 1000	?	208	186	14	20	4	3	2+1	4	yes	no	10	109	10
<i>T. salgueiroi</i>	UFMG 1929	♂	215	183	14	22	4	4	2+1	4	yes	no	10	243	30

We were unable to verify three specimens that were loaned by the institution and are currently outside the collection: UFMG 496 (ex. 245), UFMG 497 (ex. 246), and UFMG 498 (ex. 247), paratypes of *Trilepida jani* (Pinto & Fernandes 2012).

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Appendix I

Locality data of Leptotyphlopidae specimens housed at Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Brazil, up to February 2016. All specimens are from Brazil. ***Epictia tenella***: PARÁ: Oriximiná, *Bacaba* [01°46'14.16" S, 56°19'19.56" W]: UFMG 2442, 2459, 2471, 2477. ***Epictia vellardi***: MATO GROSSO DO SUL: Corumbá [19°00' S, 57°39' W]: UFMG 2248, 2249. ***Trilepida brasiliensis***: MINAS GERAIS: Brasilândia de Minas, *Fazenda Brejão* [16°53'41.86" S, 45°45'52.26" W]: UFMG 1671; Lassance, *Fazenda Serra do Cabral* [17°58'2.24" S, 44°25'4.03" W]: UFMG 1643; Pompéu [19°13'S, 45°00'W]: UFMG 2231. ***Trilepida fuliginosa***: MINAS GERAIS: Cabeceira Grande, *Palmital de Minas*, *AHE Queimado* [16°07'37.30" S, 47°20'8.21" W]: UFMG 494. GOIÁS: Catalão, *UHE Facão* [18°00' S, 47°40' W]: UFMG 943. ***Trilepida jani***: MINAS GERAIS: Belo Horizonte, *Bairro Paraíso* [19°55' S, 43°53' W]: UFMG 495; *Barreiro* [19°58'38.37" S, 44°00'44.92" W]: UFMG 1982; Grão Mogol, Parque Estadual de Grão Mogol [16°26'47.76" S, 42°52'30.06" W]: UFMG 2185; [16°29'40.38" S, 42°53'33.40" W]: UFMG 2199; [16°29'31.20" S, 42°53'35.28" W]: UFMG 2224; Itabirito, *Serra da Moeda* [20°18'25.41" S, 43°55'00" W]: UFMG 1911; Ouro Preto, *Samarco* [20°11'29.72" S, 43°30'57.06" W]: UFMG 2785; Rio Acima, *Fazenda Velha* [20°09' S, 43°50' W]: UFMG 53; Santana de Pirapama, *Fechar-dos* [18°47'11.32" S, 43°52'32.33" W]: UFMG 1951; Santana do Riacho, *Estrada para Lapinha da Serra* [19°06'36.54" S 43°41'49.41" W]: UFMG 1029; *Lapinha da Serra* [19°07' S, 43°41' W]: UFMG 977. ***Trilepida macrolepis***: PARÁ: Porto de Moz, *Foz do Rio Peri, margem esquerda* [02°22'3.03" S, 52°11'15.83" W]: UFMG 1705. ***Trilepida salgueiroi***: ESPÍRITO SANTO: Vitória, *Complexo do Porto de Tubarão* [20°16' S, 40°14' W]: UFMG 806. MINAS GERAIS: Diamantina, *Parque Nacional das Sempre Vivas* [17°59' S, 43°41' W]: UFMG 1000; Carlos Chagas/Pavão, *PCH Mucuri* [17°35'28" S, 41°00'27.87" W]: UFMG 1929.

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