

***Liotyphlops trefauti* Freire, Caramaschi & Argôlo, 2007
(Squamata: Anomalepididae): Distribution extension and
geographic distribution map**

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RESUMO: (*Liotyphlops trefauti* Freire, Caramaschi & Argôlo, 2007 (Squamata: Anomalepididae): novo registro, distribuição geográfica e mapa). Este estudo apresenta uma nova localidade de ocorrência para *Liotyphlops trefauti*, no Domínio Morfoclimático da Caatinga, conhecida como Serra da Mão, situada à margem esquerda do Rio São Francisco, no Município de Traipu, Estado de Alagoas, com cota altimétrica máxima de 735 metros acima do nível do mar e fisionomias vegetais representadas por Floresta úmida, Cerrado, Caatinga Arbustiva e Campos Rupestres.

Palavras-chave: Alagoas; Brejos de Altitude; Nordeste brasileiro; Scolecophidia; Serpentes

ABSTRACT: New records, geographical distribution and map. This study presents a new record for *Liotyphlops trefauti*, in the Caatinga morphoclimatic domain in a locality known as Serra da Mão, located on the left bank of the São Francisco River, in the Municipality of Traipu, state of Alagoas, Brazil, with altimetry maximum quota of 750 m above the sea level and vegetation physiognomies of rainforest, Cerrado, shrubby Caatinga and rocky grasslands.

Key words: Alagoas; Upland forest vegetation; Northeastern Brazil; Scolecophidia; snakes

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The family Anomalepididae consists of 18 species distributed in four genera that, together with four other families (Gerrhopilidae, Typhlopidae, Leptotyphlopidae and Xenotyphlopidae), make up the infraorder Scolecophidia (Greene, 1997; Silva-Haad *et al.*, 2008; Vidal *et al.*, 2010; Wallach *et al.*, 2014; Uetz & Hošek, 2016). All family members display fossorial habits, having reduced or absent eyes, cylindrical body and smooth and shiny scales without enlargement of the ventral scales, a distinct pair of pre-frontals or head recovered by small scales and teeth in the lower jaws (Dixon & Kofron, 1984; Greene, 1997). Moreover they display an M – shaped hyoid and prefrontal bones that extend posteriorly over the orbits, characters unique among squamates (Pough *et al.*, 2015). Molecular data of the recent molecular phylogenetic analyses do not support the monophyly of the Scolecophidia. These analyses result in Anomalepididae as either the sister lineage to all other snakes (Scolecophidia + Alethinophidia) (Pyron *et al.*, 2013) or the sister lineage the Alethinophidia (Wiens *et al.*, 2008; 2012).

This family is poorly studied and almost nothing is known about the behavior and ecology of its species (Greene, 1997). This family includes small snakes that rarely exceed 300 mm in length (Kley, 2003; Hedges, 2008) and, due to their fossorial habits, are usually very difficult to find in nature (Dixon & Kofron, 1984). They feed on small social insects such as ants, termites and their larvae (Greene, 1997; Cundall & Greene, 2000). The members of this family are distributed from southern Central America (Nicaragua, Costa Rica and Panama) to northwestern South America (Colombia, Ecuador and Peru), and from Brazil to Paraguay and northern Argentina (Freire *et al.*, 2007).

The genus *Liotyphlops* is the most diverse in the family with 10 species: *Liotyphlops albirostris* (Peters, 1857); *L. anops* (Cope, 1899); *L. argaleus* Dixon & Kofron, 1984; *L. beui* (Amaral, 1924); *L. caissara* Centeno, Sawaya & Germano, 2010; *L. haadi* Silva-Haad, Franco & Maldonado, 2008; *L. schubarti* Vanzolini, 1948; *L. ternetzii* (Boulenger, 1896); *L. trefauti* Freire, Caramaschi & Argôlo, 2007; *L. wilderi* (Garman, 1883) (Wallach *et al.*, 2014; Uetz & Hošek, 2016). During the inventory of the herpetofauna of the Serra da Mão, municipality of Traipu (9°45'33"S, 36°56'54"W, 712 m above the sea level; under the ICMBio license number 24083-2), state of Alagoas, Brazil, a specimen of *Liotyphlops trefauti* (MUFAL 9424 ♀), Figure 1; 22.ix.2011) was collected and housed in the Herpetological Collection of the Museum of Natural History of the Federal University of Alagoas.

This species has been known only from the original description, from three regions of northeastern Brazil: the holotype (MZUSP 12178) recorded for the rainforest at Bananeira Farm, in the municipality of Murici, Alagoas (9°14'S, 35°48'W, 640m altitude), the paratype (MZUSP 12179) described for

the municipality of Ilhéus, Bahia (14°46'S, 39°13'W, 50m altitude) and a final specimen, used as a reference (CHBEZ 649), collected at Mata da Cachoeira, São José da Laje, Alagoas (9°00'S, 36°03'W, 437m altitude) (Freire *et al.*, 2007) (Figure 2). According to these authors, the holotype was collected in significant remnants of Atlantic Rainforest, with about 1,200 hectares of dense forest cover and canopy up to 40 m high, which maintains the interior of the forest shady and humid.

The new locality is situated 137 km southwest from the Bananeira Forest in Murici, 134 km southwest from the Mata da Cachoeira in São Jose da Lage and 608 km northeast from the municipality of Ilhéus (Figure 2). This region is situated on the left bank of the São Francisco River, displaying large variations in altitude, with altimetry maximum quota of 750 m above the sea level, and more diverse vegetation physiognomies, represented by moist rainforest (upland forest vegetation), Cerrado, shrubby Caatinga, and rocky grasslands at higher altitudes. The upland forest vegetation physiognomy is situated between the altitudes of 500-735 m, composed of trees ranging from 15m up to 35m tall, with a variety of epiphytes. The soil is quite humid and



Figure 1. Live specimen of *Liotyphlops trefauti* (MUFAL 9424) collected in Serra da Mão, Municipality of Traipu, state of Alagoas, Brazil. Photo by Ubiratan Gonçalves.

the leaf litter is dense. These features are equivalent to the environment for the species described by Freire, Caramaschi & Argôlo (2007).

The specimen of the Serra da Mão (MUFAL 9424) had dorsum light brown and pale yellow venter, scales around body 22-22-22, prefrontal scales 4, eyes absent, and 389 mm total length (Figure 1). This description is consistent with that of the holotype, however, the specimen (in parentheses) showed some variations if compared to the type series: dorsal scales: 520-543 (548), ventral scales: 499-532 (538), subcaudals: 8 (9), supralabials: 4-4 (3-3), infralabials 4-4 (3-3).

Since this was the first record of this species for the semiarid region, additional studies which will increase the number of specimens at various locations, with different and similar physiognomies to those originally described for the species should be encouraged because they may help clarify any questions regarding morphological, as well as molecular, aspects. In addition, the state of Alagoas despite intense loss and fragmentation of forest cover

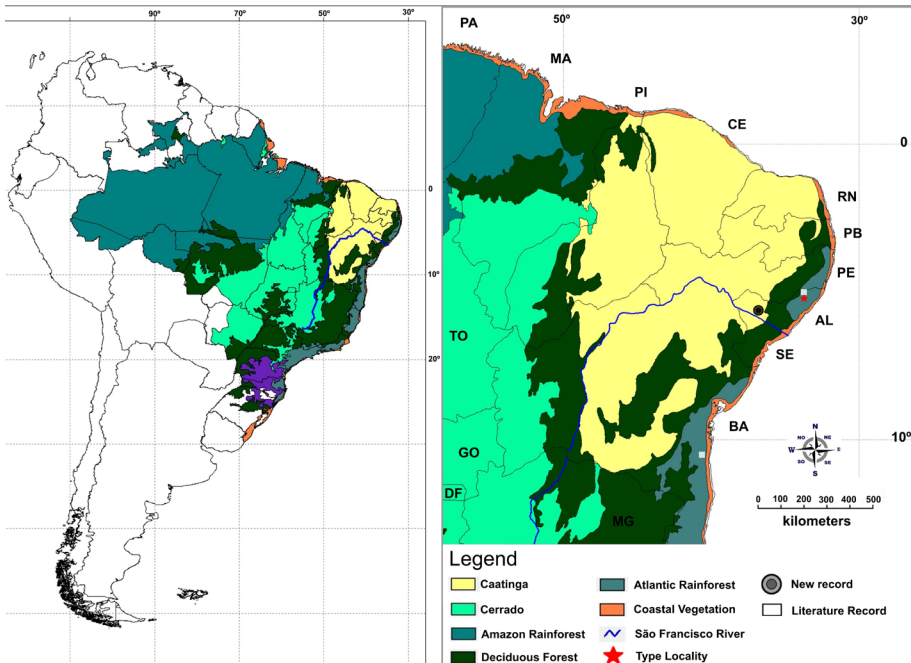


Figure 2. Records of *Liotyphlops trefauti* found for the present study. Abbreviations: AL = Alagoas; BA = Bahia; PB = Paraíba; PE = Pernambuco; RN = Rio Grande do Norte; ES = Espírito Santo; RJ = Rio de Janeiro; MG = Minas Gerais; SP = São Paulo; GO = Goiás; TO = Tocantins; MA = Maranhão; PI = Piauí; CE = Ceará.

still has the most important Atlantic forest fragments north of the river Sao Francisco, from the point of view of richness and endemism of the herpetofauna (Di Bernardo, 1994; Pombal & Madureira, 1997; Peixoto *et al.*, 2003; Freire *et al.*, 2010; Gonçalves *et al.*, 2012). Therefore, occurrence records and studies on composition, diversity and distribution of species in the state of Alagoas are relevant information for planning of conservation actions.

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