



ARTÍCULO:

**A new cave spider of the genus *Lygromma* Simon (Araneae, Prodidomidae) from Minas Gerais, Brazil**

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**A NEW CAVE SPIDER OF THE GENUS *LYGROMMA*  
SIMON (ARANEAE, PRODIDOMIDAE) FROM  
MINAS GERAIS, BRAZIL**

Cristina A. Rheims &amp; Antonio D. Brescovit

**Abstract:**

A new troglobitic (exclusively subterranean) species of *Lygromma*, *L. ybyguara*, is described from Gruta de Maquiné, Cordisburgo, Minas Gerais. This is the third known blind species of the genus and the second troglomorphic spider to be described from Brazil.

**Key words:** Araneae, Prodidomidae, *Lygromma*, new species, cavernicolous spiders, Brazil.

**Taxonomy:** *Lygromma ybyguara* sp. n.

**Una nueva especie cavernícola del género *Lygromma* Simon (Araneae, Prodidomidae) de Minas Gerais, Brasil**

**Resumen:**

Se describe una nueva especie troglobia de *Lygromma*: *L. ybyguara*, de la Gruta de Maquiné, Cordisburgo, Minas Gerais, Brasil. Esta es la tercera especie anoftalma del género y la segunda especie troglobia conocida de Brasil.

**Palabras clave:** Araneae, Prodidomidae, *Lygromma*, nueva especie, arañas cavernícolas, Brasil.

**Taxonomía:** *Lygromma ybyguara* sp. n.

**Introduction**

Spiders constitute one of the major groups present in caves. The species restricted to the hypogean (subterranean) environment are termed troglobites, and are usually distinguished by the presence of autapomorphies related to the subterranean life ("troglomorphisms") (Holsinger & Culver, 1988). The most commonly observed troglomorphisms are partial or complete reduction of eyes and pigmentation. In spiders, common troglomorphisms also include lengthening of motor appendages and trichobothria (Ribera & Juberthie, 1992), which are clearly associated to the need of more effective long-distance mechanoreception and have been reported by several authors for many groups of spiders (Fage, 1931; Platnick & Shadab, 1976; Deeleman-Reinhold, 1978; Kratochvil, 1978; Gertsch, 1992).

Until the early 2000, studies of the Brazilian hypogean araneofauna were mostly restricted to faunistic surveys, and very few papers dealt with the systematics of particular groups (Brignoli, 1972; Xavier *et al.*, 1995; Baptista, 2003). To date 35 spider families include species that have been recorded in caves (Pinto da Rocha, 1995; Rheims & Pellegatti-Franco, 2003; Zeppelini Filho *et al.*, 2003). Nevertheless, the only named troglobitic spider from Brazil is *Speocera eleonorae* (Ochyroceraethidae), described by Baptista (2003), from caves of the State of Mato Grosso do Sul. The species herein described is the second troglobitic spider from Brazilian caves.

The genus *Lygromma* Simon is exclusively Neotropical and includes, to date, 18 species distributed from Mexico to northern South America (Platnick, 2004). Mostly, they are ground-dwelling hunters, distinguished from the remaining Prodidomidae by having the anterior median eyes much smaller, or altogether absent (Platnick & Shadab, 1976).

To date, only two troglomorphic species of *Lygromma* have been described: *L. gertschi* Platnick & Shadab, from two limestone caves in Jamaica (Falling Cave, St. Ann. Parish and Worthy Park Cave, St. Catherine Parrish) and *L. anops* Peck & Shear, from two volcanic caves in the Galapagos Islands (Cueva Belavista and Cueva de Vargas, Isla Santa Cruz). Both species lack functional eyes (completely absent in *L. anops* and vestigial in *L. gertschi*), and present legs, spinnerets and tarsal trichobothria longer than those of surface-dwelling *Lygromma*.

In this paper we describe the third known troglomorphic *Lygromma* species, from Gruta de Maquiné, Cordisburgo, Minas Gerais. As is the case with *L. gertschi*

and *L. anops*, the Brazilian species also presents characteristics that indicate restriction to the cave environment (i.e. appendice elongation and lack of functional eyes), thus being considered a troglobite. However, the South American *Lygromma* fauna is still poorly known and the fact that several additional species, which could also present troglomorphisms (reduction of eyes and pigmentation can also occur in species inhabiting litter and other dark environments), probably remain to be discovered in litter, prevents us from certifying this restriction.

The specimen herein described is deposited in the arachnid collection of the Universidade de Brasília (UnB, P.C. Motta). Format of descriptions follow those used by Platnick & Shadab (1976) and Peck & Shear (1987). All measurements are in millimeters.

### *Lygromma ybyguara* sp. n. Figs. 1-3.

**TYPE.** Male holotype from Gruta de Maquiné, Cordisburgo (19° 07.21'S; 44° 21.04'W), Minas Gerais, Dec. 15, 2002, B.C. Cabral col., deposited in UnB 306.

**ETYMOLOGY.** The specific name is a noun in apposition taken from the Tupi indian language that means underground inhabitant.

**DIAGNOSIS.** The males of *L. ybyguara* n.sp. resemble those of *L. gertschi* Platnick & Shadab by the absence of functional eyes (fig. 1), but differ by the long and slender embolus and lack of conductor (figs. 2-3).

**DESCRIPTION. MALE** (holotype). Depigmented. Total length 3.50. Carapace 1.60 long, 1.30 wide. Eyes absent, carapace smooth, with no indication of vestigial eye lenses. Chelicerae with three denticles in promarginal row, basal one very small and distal ones median sized, retromargin with single small medial denticle. Legs: measurements: I: absent; II: femur 1.80/ patella 1.10/ tibia 1.30/ metatarsus 1.30/ tarsus 0.90/ total 6.40; III: absent; IV: 1.70/ 1.00/ 1.50/ 1.40/ 0.90/ 6.50; spination: I: femur I: d1-1-1, p0-1-1; tibia: p2-1-1, r1-1-0, v2-2-2; metatarsus: p1-0-0, v2-0-0; IV: femur: d1-1-1, p0-1-1, r0-1-1; tibia: d1-0-1, p2-1-1, r2-1-1, v2-2-2; metatarsus: d0-1-0, p1-1-1, r1-1-1, v2-2-2. Palp with large bent median apophysis. Embolus gently curved toward margin of tegulum, very long and slender, inserted on retrolateral side of tegulum. Median apophysis subapical and cup-shaped. Conductor absent. Tibial apophysis long and slender, ventrally directed (Figs. 2-3).

**FEMALE.** Unknown.

**MATERIAL EXAMINED.** Only the holotype.

**DISTRIBUTION.** Known only from the type locality.

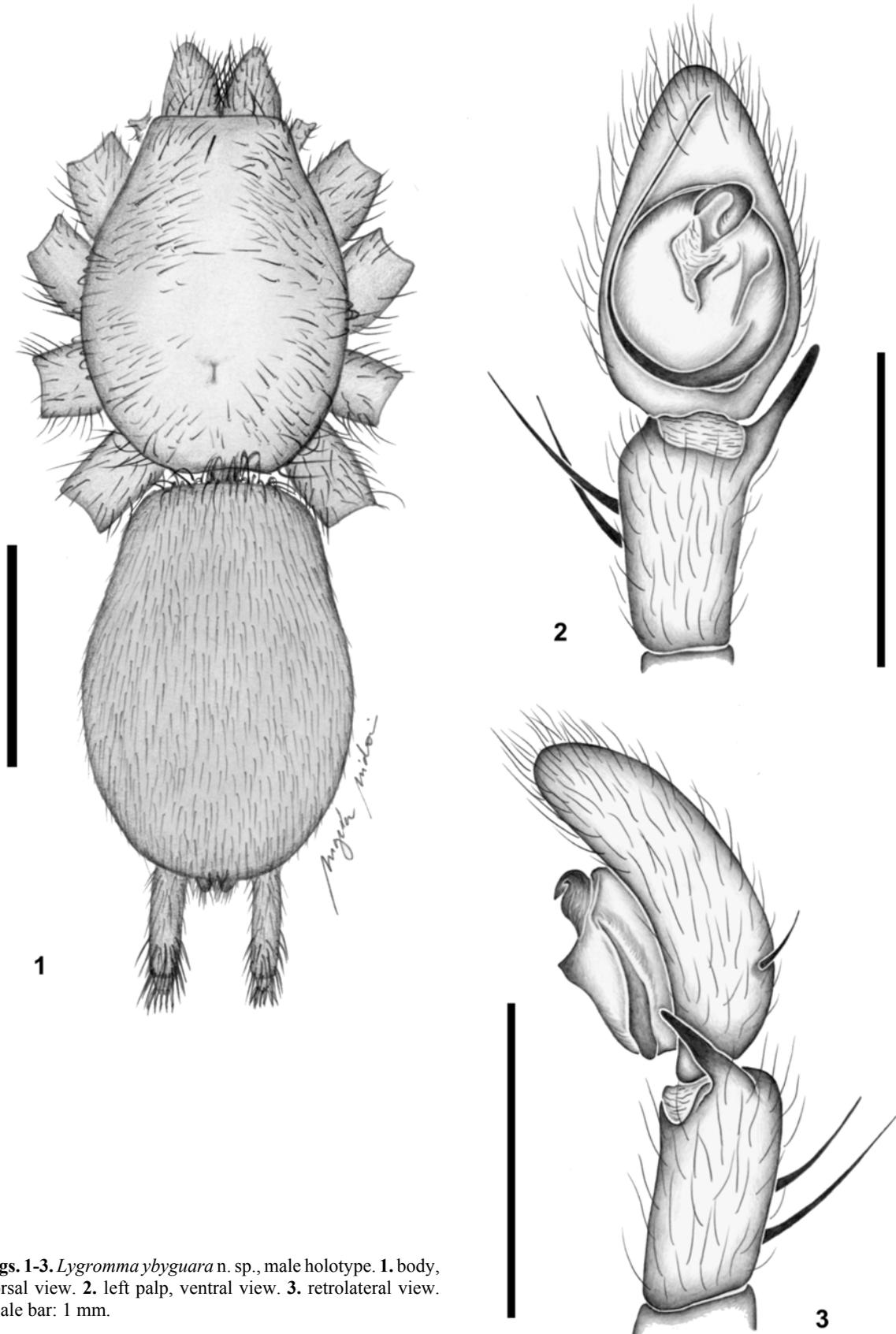
**HABITAT NOTES.** The Gruta de Maquiné is located in Cordisburgo, 114 km north of Belo Horizonte, Minas Gerais. It presents 650 mts extension and average temperature of 20°C. *Lygromma ybyguara* was collected at approximately 150 mts from the cave's entrance, in a completely afotic zone.

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**Figs. 1-3.** *Lygromma ybyguara* n. sp., male holotype. **1.** body, dorsal view. **2.** left palp, ventral view. **3.** retrolateral view. Scale bar: 1 mm.