



## A new troglomorphic *Metagonia* Simon 1893 (Araneae, Pholcidae) from Brazil

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The genus *Metagonia* Simon 1893 currently has 81 species widely distributed in South and Central America (Platnick, 2011). The majority of species are leaf-dwellers (Gertsch 1986; Huber 1997; 2004; Huber & Schütte 2009) but some inhabit leaf-litter (Huber *et al.* 2005) or live in caves (Gertsch 1986; Gertsch & Peck 1992; Huber 1998; Pérez González & Huber 1999). Three species were described from cave environments as eyeless troglobites: *M. bellavista* Gertsch & Peck 1992 and *M. reederi* Gertsch & Peck 1992 from the Galapagos Islands and *M. debrasi* Pérez González & Huber 1999 from Cuba. These species may be local relicts from extinct groups (Gertsch & Peck 1992, Pérez González & Huber 1999). Huber (2000) placed these eyeless species in his ‘group 4’.

In this paper we describe *Metagonia diamantina*, a new species from Brazil. *Metagonia diamantina* was collected in a cave and is probably a troglobite (exclusively subterranean species): the spider is completely eyeless and has reduced pigmentation. The Lapa do Bode cave, where the specimens were found, is inserted in carbonate rocks dating from the upper Proterozoic. The cave is located at the “Caatinga” formation, which comprises the only semi-arid system occurring in Brazil (Rizzini, 1997).

### Material and methods

Specimens were examined using a Leica MZ12.5 stereomicroscope with camera lucida. The epigynum was dissected and immersed in clove oil for visualization of internal structures following Levi (1965). Descriptions and measurements follow Huber (2000). The carapace length, due to the absence of eyes, was taken from the chelicerae internal base to the rear margin excluding the clypeus. Measurements are given in millimeters. The ratio tibia I length/diameter (L/d) is a measure of the robustness of the legs (Huber 2000). The material was deposited in the ISLA—“Coleção de Invertebrados Subterrâneos de Lavras”, Universidade Federal de Lavras (Lavras, curator: R.L. Ferreira).

### Taxonomy

#### Family Pholcidae Koch, 1850

#### Genus *Metagonia* Simon, 1893

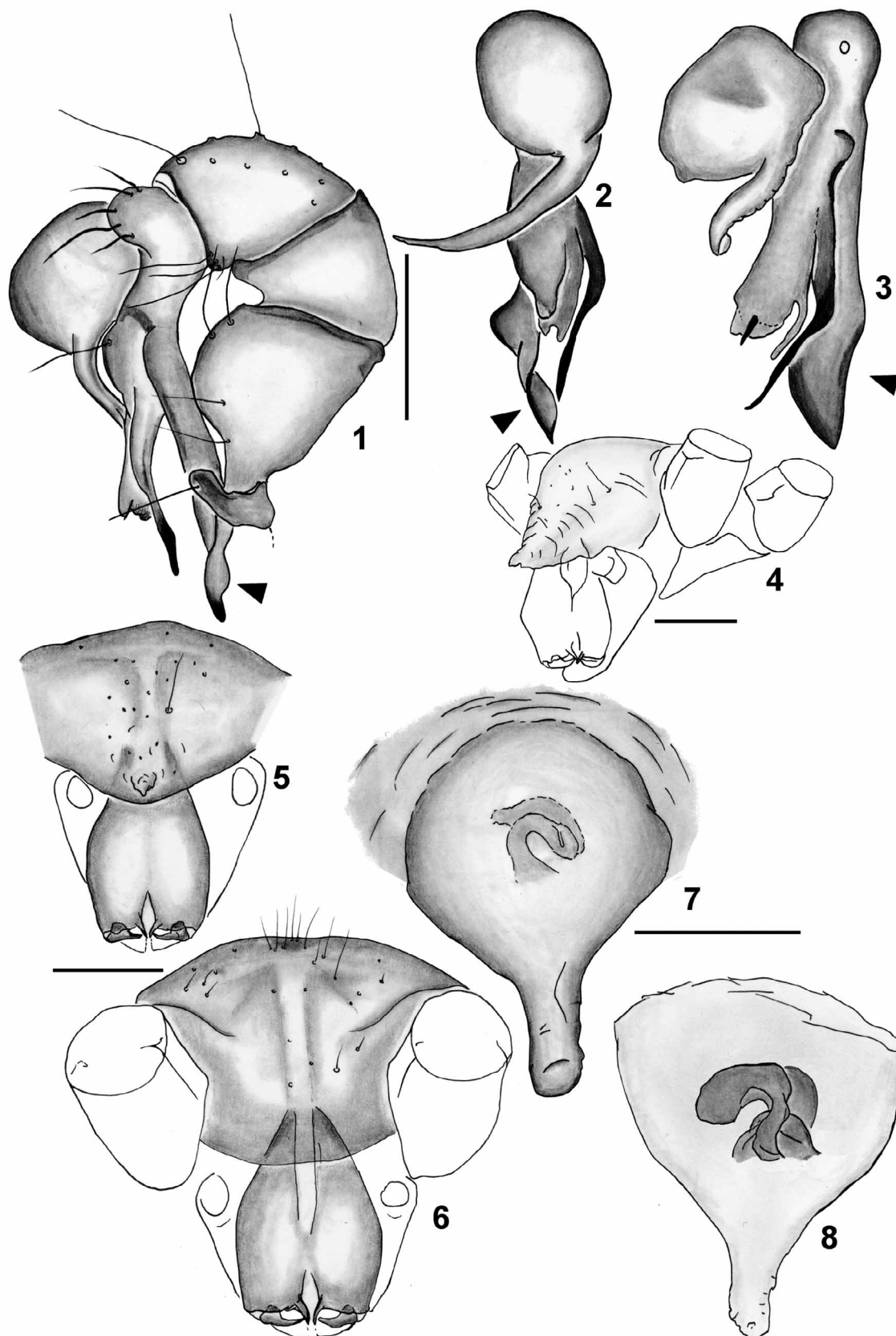
#### *Metagonia* Simon, 1893: 472

Type species: *M. bifida* Simon, 1893, by original designation.

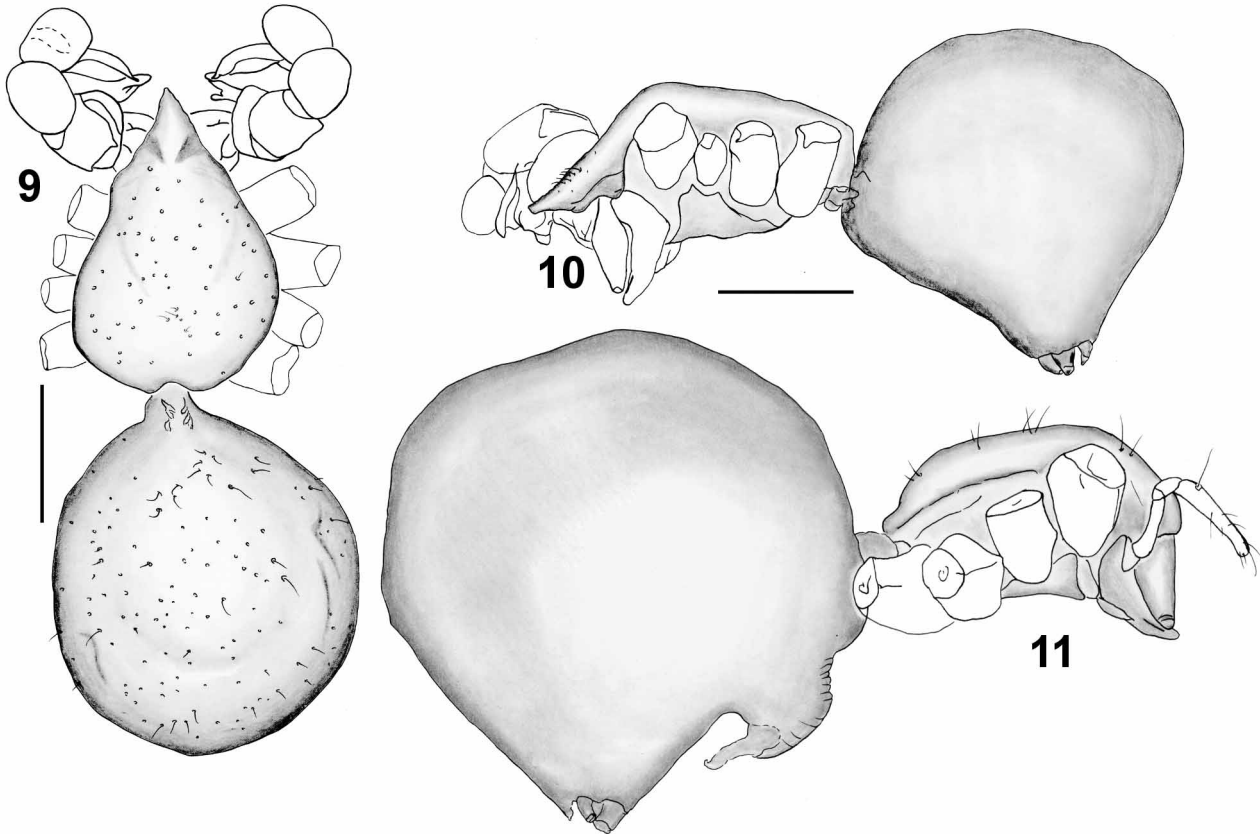
#### *Metagonia diamantina* new species

(Figures 1–11)

**Type material.** Male holotype and paratype female from Lapa do Bode cave (12°56'02"S; 41°03'44"W), Itaeté, Bahia, Brazil, 26.VII.2007, R.L. Ferreira col., deposited in ISLA 1429 and ISLA 1428, respectively.



**FIGURES 1–8.** *Metagonia diamantina* n. sp. 1. Male palp, retrolateral; 2–3. Bulb and procurus, 2. Prolateral, 3. Dorsal; 4–5. Male carapace, 4. Anterolateral, 5. Frontal; 6. Female carapace, frontal; 7–8. Epigynum, 7. Ventral, 8. Dorsal. Arrows indicate hinged process. Scale bars: 0,25 mm.



**FIGURES 9–11.** *Metagonia diamantina* n. sp. 9–10. Male. 9. Dorsal, 10. Lateral; 11. Female, lateral. Scale bars: 0,5 mm.

**Etymology.** The specific name is a noun in apposition taken from the Chapada Diamantina, a famous Brazilian region where the cave is located.

**Diagnosis.** The species is compared with the other three eyeless *Metagonia* species. *Metagonia diamantina* can be distinguished from *M. bellavista* and *M. debrasi* by the unpaired apophysis on the male clypeus (Figs. 4, 10) and the epigynal scape (Figs. 7–8), and from *M. reederi* by the long, divided and strong procurus (Fig. 3), the smooth chelicerae (Fig. 5) and the epigynal scape (Figs. 7–8).

**Description.** Male (Holotype). Total length 1.8, carapace length 0.7, width 0.7, leg I 13.3 (3.3 + 0.4 + 3.6 + 5.0 + 1.1), tibia II 2.5, tibia III 1.8, tibia IV 2.3; tibia I l/d 40. Habitus as in figures 9–10. Carapace slightly indented medially but without thoracic groove (Fig. 9), homogeneous pale yellow without stripes or spots (Figs. 9–10), almost depigmented. Ocular area undifferentiated, eyeless, without lens or ocular pigmentation. Clypeus with a simple pointed apophysis (Figs. 4–5). Sternum pale yellow. Chelicerae pale yellow, without apophyses or modified hairs (Fig. 5). Palps (Figs. 1–3) pale yellow; femur without apophysis; trochanter with strong ventral apophysis; procurus divided distally, hinged process elongated and strong (Fig. 3), general color pale yellow, darkening to dark brown on the tips; bulb simple with a slender embolus (Fig. 2). Legs pale yellow, spines absent, retrolateral trichobothrium of tibia I at 6%, tarsus I with approximately 18 pseudosegments. Abdomen globular (Figs. 9–10), completely pale yellow, genital plate indistinct.

Female (paratype). Total length 2.5, carapace length 0.8, width 0.9, leg I 14.3 (3.8 + 0.4 + 3.7 + 5.3 + 1.1), tibia II and III missing, tibia IV 3.6. In general very similar to male, eyeless and without clypeus modification (Fig. 6). Habitus as in fig. 11. Epigynum pale yellow, the epigynal plate with distinct scape (Figs. 7). Internal genitalia with a complex system of asymmetrical, sclerotized ducts (Fig. 8).

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

**Other material examined.** None.

**Remarks.** The species probably belongs to Huber (2000)'s 'group 4'. It shows similarities to *M. lancetilla* Huber 1998, sharing the long hinged process and the epigynal scape (very small in *M. lancetilla*).

**Habitat description and natural history.** The two specimens were collected in an inner portion of the Lapa do

Bode cave (approximately 200 meters from the nearest entrance), in a chamber with moist soil and some bat guano piles. The specimens were moving slowly on the cave floor, and they were found at least 40 meters apart from each other. The potential preys observed in the cave were mainly springtails (Arrhopalitidae and Cyphoderidae, both troglomorphic). The Lapa do Bode cave has 1,430 meters of horizontal projection, with conduits of anastomotic pattern. Although the cave is mainly dry, the existence of some water ponds in some inner areas enhances the moisture content in the cave atmosphere (in some parts of the cave the moisture content is 100%). The temperature inside the cave is around 24.5°C. The cave is currently being used for touristic purposes, and the area where the spiders were found is visited. Although these activities are not apparently altering intensively the cave (there are no electric lights), there is concern that the touristic activities could have an impact on the species.

### Acknowledgments

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