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A new species of *Eukoenenia* (Palpigradi: Eukoeneniidae) from Brazilian iron caves

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Abstract

Eukoenenia ferratilis **sp. n.** is described from 7 adults (6 females and 1 male) and 1 immature (stage A) collected in iron caves in the municipalities of Moeda and Brumadinho, Minas Gerais, Brazil. The new species shares characteristics with several species of the genus *Eukoenenia* Börner, 1901 being related to the species *Eukoenenia mirabilis* (Grassi & Calandruccio, 1885) and *Eukoenenia berlesei* (Silvestri, 1903), but the shape and chaetotaxy of the male and female genitalia are distinctive

Key words: Neotropics, taxonomy, Arachnida

Introduction

The order Palpigradi is represented by three species of the genus *Eukoenenia* (Börner, 1901) in Brazil. *Eukoenenia janetscheki* Condé, 1993 and *Eukoenenia roquetti* (Mello-Leitão & Arlé, 1935), from the states of Amazonas and Rio de Janeiro, respectively, are edaphomorphic. *E. janetscheki* is a relatively well-known and well-studied species. Condé (1997) published a complementary description of this species. Adis *et al.* (1997) studied the phenology of this species in Central Amazon forests, sampling 745 individuals in a period of 12 months. On the other hand, *E. roquetti* is poorly known and has not been recorded since its description. Condé (1996) considers this species to be taxonomically uncertain. *Eukoenenia maquinensis* Souza & Ferreira, 2010, found in Maquiné cave, represents the first troglobiotic species of this order described from South America, presenting very advanced troglomorphic traits.

There are large gaps concerning the knowledge of Palpigradi in Brazil, since the existing information is restricted to the papers mentioned above. Up to the present moment, these arachnids have been considered rare organisms in this country. This scarcity of records is due to a lack of interest in these small arachnids, or even negligence in the study of their natural habitats. Brazilian caves are certainly included in this group of different habitats, as demonstrated by Souza & Ferreira (2010).

Although the Brazilian caves are related to many different lithologies, biological studies have focused on limestone caves. Only a few studies have included caves of different lithologies, such as quartzites, sandstones and granites (Souza-Silva 2008). Until recently, caves related to ferruginous rocks were not included in biospeleological studies due to their reduced dimensions, which leads to the erroneous assumption that they could only present low biological diversity (Ferreira 2005). However, studies performed by the latter author in some iron caves have revealed extremely complex communities living under peculiar conditions, including many troglomorphic species that have evolved in these systems.

The present study describes a new species of *Eukoenenia,* found in iron caves located in the municipalities of Moeda and Brumadinho (iron quadrangle: *quadrilátero ferrífero,* state of Minas Gerais, southeastern Brazil).

The Palpigrades were found by visual searching of the ground and under rocks in the caves, captured with a fine brush and placed in vials with 70% ethanol. The material examined for this study was cleared in Nesbitt's fluid and then mounted on glass slides in Hoyer's medium. Measurements and drawings were made with a phase con-

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