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***Endecous peruassuensis* n. sp. (Orthoptera: Grylloidea: Phalangopsidae) from caves of Eastern Brazil: evidence of isolation in the subterranean realm and discussion about troglomorphisms**

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Abstract

We describe a new species of the genus *Endecous* Saussure (1878), recorded at the Lapa do Cipó and Olhos d'Água caves, which are located in the Itacarambi municipality, Minas Gerais state, Eastern Brazil. Another species, *E. aguassay* Mews, 2008 was recorded in the surroundings of the caves. The genus *Endecous* corresponds to the most common cricket in Brazilian hypogean environments. In general, these crickets inhabit the areas around cave entrances up to the aphotic zones of caves. The genus *Endecous* is the only cave cricket to present troglomorphosis, i.e., an apterous condition. The distribution of the new species is limited to these two caves, which suggests an endemism in this karst system similar to the distribution of other endemic animals, such as harvestmen and amblypygid arachnids. This species is the sixth troglitic one described for Olhos d'Água cave, which sets this cave as a spot of subterranean fauna in Brazil.

Key words: new species, cave cricket, subterranean environment, Peruaçu Caves National Park

Introduction

Gorochov (2014) proposed a classification for the subfamily Phalangopsinae (regarded here as the family Phalangopsidae) and synonymized the tribe Luzarini Hebard, 1928 with the tribe Phalangopsini Blanchard, 1845. The author proposed several subtribes for the Luzarini tribe and included the genus *Endecous* Saussure, 1878 in the subtribe Modestozarina Gorochov, 2014 based on the following characters: maxillary palpi thinner and longer, hind tibia with dorsal inner apical spur, longest and ectophallic fold (*rachis*) of male genitalia long or moderately long and with a finger-like or angular apex. In that study, the author also divided the genus into three subgenera: the subgenus *Pedroecous* Gorochov, 2014, monotypic, for the species *E. apterus* Bolfarini & Souza-Dias, 2014; the subgenus *Notendecous* Gorochov, 2014 for the species *E. onthophagus* (Berg, 1891) and *E. lizeri* Rehn, 1918; and the subgenus *Endecous* Saussure, 1878 for the remaining species, namely *E. abbreviatus* Piza, 1960; *E. aguassay* Mews, 2008; *E. alejomesai* Zefa, 2010; *E. arachnopsis* Saussure, 1878; *E. betariensis* de Mello & Pellegatti-Franco, 1998; *E. cavernicolus* Costa Lima, 1940; *E. itatibensis* Rehn, 1918; *E. ferruginosis* Bruner, 1916; *E. hubbelli* Liebermann, 1965; *E. onthophagus* (Berg, 1891); *E. lizeri* Rehn, 1918; and *E. ubajarensis* Zefa, 2014. This subgenus was proposed mainly based on the characters of the phallic complex and tegmina (e. g., wings absent in both sexes of *E. apterus*).

The genus *Endecous* is common in Brazilian caves and is mentioned in several lists of cave fauna (Trajano, 1987; Pinto-da-Rocha, 1996b; Trajano & Bichuette, 2010) in taxonomic descriptions (Saussure, 1878; Berg, 1891; Bruner, 1916; Rehn, 1918; Costa Lima, 1940; Piza, 1960; Liebermann, 1965; de Mello & Pellegatti-Franco, 1998; Mews & Sperber, 2008; Zefa *et al.* 2010, 2014; Souza-Dias *et al.*, 2014), in cytotaxonomy (Zefa *et al.* 2010, 2014) and in evolutionary biology studies (Trajano & Bichuette, 2010). The genus *Endecous* comprises species with trogliphilic populations found in burrows, holes and natural cavities, which frequently leave these sites towards the surface.