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Endecous apterus: A new species of cave cricket from northeast Brazil, with comments on the use of subterranean habitats by Luzarinae crickets (Orthoptera: Grylloidea: Phalangopsidae: Luzarinae)

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Abstract

In this study we describe the first apterous species of *Endecous* Saussure (1878), collected in two caves at Ituaçu, Bahia State, Brazil. In Brazil, *Endecous* is the most widespread cricket in hypogean environments and its species can colonize caves and inhabit the entrance and the aphotic zones; *Endecous* species can also be found in the litter, rock gullies, crevices, burrows, and any natural cavities. The use of subterranean habitat by *Endecous* crickets and its related genera are discussed.

Key words: Grylloidea, Phalangopsidae, Luzarinae, New species, Cave life

Resumo

Neste estudo descrevemos a primeira espécie áptera de *Endecous* Saussure (1878), coletada em duas cavernas em Ituaçu, Bahia, Brasil. No Brasil, *Endecous* é o grilo mais comum em ambientes hipógeos, podendo habitar tanto as zonas de entrada quanto as extremidades mais profundas e zonas afóticas de cavernas, além de habitarem a serapilheira, barrancos/paredões, fendas, tocas e outras cavidades naturais. Discutimos também o uso do habitat subterrâneo por grilos *Endecous* e gêneros próximos.

Palavras-chave: Grylloidea, Phalangopsidae, Luzarinae, Nova espécie, Vida cavernícola

Introduction

The genus *Endecous* was erected by Saussure (1878) for the species *E. arachnopsis*; the type locality of this species, referred to as "Le Brésil, Sierra Gival", is probably "Serra Geral". Brazil has two geologic formations known as Serra Geral: a large rock formation in the southern region, and the second is located on the border of states of Bahia and Minas Gerais. Bruner (1916) mentioned about two adult couples of *E. arachnopsis* collected in a cave in San Matias, Bolivia, and deposited in the Carnegie Museum, but he did not provide additional information. Liebermann (1965–1966) reported the occurrence of the type of *E. arachnopsis* in "Sierra Geral", Minas Gerais state, Brazil, but he did not examine the specimen. Mesa & Garcia-Novo (1997), subsequently, described the male genitalia of *E. arachnopsis* syntypes, and highlighted the lack of precise information regarding the type locality of this species. Thus, the type locality of *E. arachnopsis* remains uncertain.

Since the original description, 10 additional species have been added to the genus. Six of these species—*E.*

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new species should be classified as a troglobitic species and, to this moment, the first troglobitic species of *Endecous* described.

The taxonomy of *Endecous* is not fully understood due to its large number of undescribed species— several of which have specimens deposited in Brazilian collections. Therefore, further taxonomic studies with species descriptions are very important. Additionally, systematic studies with phylogenetic analysis are required, in order to understand the taxonomic position of *Endecous* and the relationships of its species. Moreover, because of its wide distribution, and its taxonomic and habitats diversity, *Endecous* comprises a valuable subject for natural history and evolutionary biology studies, particularly those focused on the evolution of cave life.

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