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***Copelatus cessaima* sp. nov. (Coleoptera: Dytiscidae: Copelatinae): first record of a troglomorphic diving beetle from Brazil**

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Abstract

Copelatus cessaima sp. nov. is described from Brazil. The new species was collected in water puddles inside of caves found in an ironstone formation and has typical troglomorphic characters: the eyes and metathoracic wings are absent, the elytra are fused and the body has long setae. This is the second species of Copelatinae reported as troglomorphic and the first record of a troglomorphic Dytiscidae species in Brazil. The modified morphology of the new species and the lack of elytral striae make the placement of *C. cessaima* sp. nov. in one of the 15 recognized *Copelatus* species groups difficult. Thus, we assign the new species to a “group unknown” as defined in Nilsson's world catalogue of the family Dytiscidae.

Key words: Dytiscidae, Copelatinae, *Copelatus*, new species, caves, taxonomy, troglomorphism

Resumo

Copelatus cessaima sp. nov. é descrito. A espécie nova foi coletada dentro de poças de água em cavernas de uma formação rica em ferro no Brasil e apresenta típicas características troglomórficas: olhos e asas do metatórax ausentes, élitros fundidos e longas cerdas no tegumento. Esta é a segunda espécie de Copelatinae descrita como troglomórfica e o primeiro registro de um Dytiscidae troglomórfico para o Brasil. As modificações morfológicas e a ausência de estrias elitrais dificultam seu posicionamento correto em um dos 15 grupos de espécies reconhecidos para *Copelatus*, consequentemente a nova espécie foi designada ao “grupo desconhecido” definido por Nilsson no catálogo mundial da família Dytiscidae.

Palavras-chave: Dytiscidae, Copelatinae, *Copelatus*, espécie nova, cavernas, taxonomia, troglomorfismo

Introduction

Caves are attractive environments for scientists seeking to understand the effect of complete darkness on the evolution of life. Among beetles, stunning morphological modifications associated with caves can be found in species of several families, such as Carabidae (Gnaspini *et al.* 1998), Curculionidae (García *et al.* 2007), Dytiscidae (Balke *et al.* 2004a), and Staphylinidae (Yin *et al.* 2011). Almost all troglomorphic Dytiscidae beetles described so far belong to the subfamily Hydroporinae, except for one Copelatinae species described from Northern Australia: *Exocelina abdita* (Balke, Watts, Cooper, Humphreys & Vogler, 2004). Other troglomorphic diving beetles have been described from several countries (Balke *et al.* 2004a, appendix). However, *C. cessaima* sp. nov. is the first record of a troglomorphic Dytiscidae species from Brazil.

A large number of eyeless diving beetles were sampled during collecting trips to a series of caves found in an ironstone formation at the Carajás National Forest, in the Brazilian municipality of Parauapebas (State of Pará). Here, we describe these highly modified beetles as a new troglomorphic species of the genus *Copelatus* Erichson, 1832 (Coleoptera: Dytiscidae: Copelatinae). *Copelatus* is the most speciose genus in the Copelatinae subfamily,