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Oukuriella pesae, a new species of sponge-dwelling chironomid (Insecta: Diptera) from Amazonia, Brazil

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Abstract

The larva, pupa, male and female of a new Neotropical chironomid species, *Oukuriella pesae*, are described and illustrated. The larvae were found in freshwater sponge colonies of *Oncosclera navicella* (Carter, 1881) in Amazonian streams. The morphological characteristics of the larval head and the presence of fine particles in the larval gut contents suggest that the larvae probably feed on the sponge tissue or on other animals that live inside the sponges. *Oukuriella* Epler, 1986 is currently divided into three species groups, but *Oukuriella pesae* does not fit any of them.

Key words: Diptera, Chironomidae, *Oukuriella*, new species, freshwater sponges

Introduction

Chironomidae larvae in freshwater sponges have been studied by various authors (Steffan 1967; Roback 1968; Tokeshi, 1993, 1995; Matteson & Jacobi 1980; Melão & Rocha 1996; Roque *et al.* 2004). Although representatives of many chironomid genera have been found in sponges, obligatory associations are recognized only for *Xenochironomus* Kieffer, 1921, *Demeijerea* Kruseman, 1933 and *Oukuriella* Epler, 1986. Studies of the relationships between chironomids and sponges may contribute to phylogenetic and biogeographic knowledge of both groups.

The genus *Oukuriella* was established by Epler (1986). Since then taxonomic knowledge has been increased by successive studies (Epler 1996, Messias & Fittkau 1997, Messias 1998, Messias & Oliveira 1999, Messias 2000, Messias *et al.* 2000, Trivinho-Strixino & Messias 2005, Fusari *et al.* 2008).

Species of this genus have been divided into three species groups based on male adult morphology. In the first group the wings are without markings and abdominal tergites without setal tufts, in the second group the wings are without markings and the tergites carry setal tufts, in the third group the wings carry markings and the tergites setal tufts (Messias *et al.* 2000). Roque *et al.* (2007) described the larva of *Oukuriella epleri* Messias & Fittkau, 1997, and suggested that the species of the third group inhabit freshwater sponges. Fusari *et al.* (2008) described another *Oukuriella* species, placed it into the third species group and added more evidence to support the species-group diagnosis.

Since 2006 we have been collecting chironomids associated with freshwater sponges in Amazonian water bodies. During a survey in eastern Amazonia (Pará state, Brazil) in 2007 and 2008 we found an unusual larva that could not be placed into any previously described genus. After rearing pupae and obtaining associated adults, we could identify them as belonging to *Oukuriella*, but this new species does not fit into any of the recognized species groups. Here we describe this new species based on all life stages except eggs, and we discuss implications of our findings for phylogeny and for the *Oukuriella* species-group diagnosis.

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