Review of *Xenochironomus* Kieffer, 1921 (Diptera: Chironomidae) with description of six new species

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Abstract

The genus *Xenochironomus* Kieffer is reviewed. Five new species are described from Brazil, *X. alaidae*, *X. amazonensis* and *X. martini* as male; *X. grini* and *X. mendesi* as male, pupa and larva, and *X. ethiopensis* from Ethiopia is described as adult male. *X. canterburyensis* (Freeman) is redescribed as male, pupa and larva; *X. trochanteratus* (Thompson), *X. trisetosus* (Kieffer), *X. ugandae* (Goetghebuer) and *X. tuberosus* Wang as males; notes on *X. xenolabis* (Kieffer), *X. flaviventris* (Kieffer), *X. longicrus* (Kieffer), *X. lacertus* Dutta et Chaudhuri and *X. ceciliae* Roque et Trivinho-Strixino are also given. The species *X. nigricaudus* Hashimoto is recognized as nomen dubium. Keys to males, pupae and larvae are presented.

Key words: Diptera, Chironomidae, *Xenochironomus*, new species, biodiversity, ecology, Porifera

Introduction

Chironomidae larvae in freshwater sponges have been studied by several authors (Steffan 1967; Roback 1968; Tokeshi 1993, 1995; Matteson & Jacobi 1980; Melão & Rocha 1996; Roque et al. 2004, 2010; Fusari et al. 2008, 2009, 2012). Although representatives of many genera of Chironomidae were found in sponges, the associations were recognized only in some species of *Xenochironomus* Kieffer, 1921, *Demeijerea* Kruseman, 1933 and *Oukuriella* Epler, 1986.


*Xenochironomus* has a wide zoogeographical distribution (Ashe et al. 1987; Cranston et al. 1989; Spies & Reiss 1996). Eleven species are recognized in the genus, however five of which have insufficient descriptions and, in some cases, no illustrations: *X. flavidentris* (Kieffer, 1911), *X. longicrus* (Kieffer, 1911), *X. trochanteratus* (Thomson, 1969), *X. trisetosus* (Kieffer, 1922) and *X. ugandae* (Goetghebuer, 1936), and types of species *X. nigricaudus* Hashimoto, 1981 were reported as lost.

The immatures of *Xenochironomus* can be found in freshwater sponges with the exception of *Xenochironomus canterburyensis* (Freeman, 1959), which has been reported in association with Mollusca (Forsyth & McCallum 1978b). According to Roque et al. (2010), chironomids associated with freshwater sponges are a priority group for taxonomic and ecological studies and for conservation strategies due to many red-listed freshwater sponges.

Over the last decade, we have surveyed insects living in freshwater sponges in several biomes in Brazil, which has resulted in the description of one *Xenochironomus* species (Roque & Trivinho-Strixino 2005), two *Oukuriella* species (Fusari et al. 2008, 2009) and one *Ablabesmyia* species (Fusari et al. 2012). Here, we revise the genus