

## Species of *Oukuriella* Epler (Diptera, Chironomidae) inside freshwater sponges in Brazil

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**ABSTRACT.** Larvae of *Oukuriella* Epler, 1986 (Diptera, Chironomidae) inside freshwater sponges are reported for the first time in Brazil.

**KEYWORDS.** *Oukuriella*; Chironomidae; Diptera; freshwater sponges; Porifera.

**RESUMO.** Espécies de *Oukuriella* Epler (Diptera, Chironomidae) no interior de esponjas de água doce no Brasil. Larvas de *Oukuriella* Epler, 1986 no interior de esponjas de água doce são registradas pela primeira vez no Brasil.

**PALAVRAS-CHAVE.** Chironomidae; Diptera; esponjas de água doce; *Oukuriella*; Porifera.

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The present work is part of a study on Chironomidae living inside freshwater sponges in Brazilian aquatic systems that is carried on. Chironomidae found in freshwater sponges in the River Paraná, reservoirs in the State of São Paulo, and in Amazonian streams have many unusual larvae with strongly sclerotised structures, which make the identification very difficult. After rearing the larvae in laboratory to obtain pupae and adults, we identified them as belonging to *Oukuriella* Epler, 1986. The specimens are deposited in the collection of the Laboratório de Entomologia Aquática da Universidade Federal de São Carlos (SP) and Coleção Entomológica do Instituto Nacional de Pesquisas da Amazônia, Manaus (AM), Brazil. The freshwater sponges are deposited in the Museu de Ciências Naturais da Fundação Zoobotânica do Rio Grande do Sul (RS), Brazil.

After the genus *Oukuriella* has been established (EPLER 1986) the taxonomic knowledge was increased by successive studies: EPLER (1996), MESSIAS & FITTKAU (1997), MESSIAS (1998), MESSIAS & OLIVEIRA (1999), MESSIAS *et al.* (2000). However, there are few ecological reports on the genus and of the 17 *Oukuriella* species described, the larval stage is known only for *O. intermedia* Messias, Fittkau & Oliveira, 2000.

The *Oukuriella* spp. larvae living inside six species of freshwater sponges were analyzed (Table I). All the species belong to the “third group” which, according to MESSIAS (1998), is characterized by marked wings and abdominal tergites with setal tufts.

All the sponges collected have been reported to South

America freshwater systems by VOLKMER-RIBEIRO (1981), but there are few ecological studies about their association with macroinvertebrates (VOLKMER-RIBEIRO & ROSA-BARBOSA 1974; MELÃO & ROCHA 1996).

Chironomidae larvae in freshwater sponges have been studied by different authors (STEFFAN 1967; ROBACK 1968; TOKESHI 1993; TOKESHI 1995; MATTESON & JACOBI 1980; MELÃO & ROCHA 1996). Although many chironomid larvae have been found in sponges, only *Demeijerea* Kruseman, 1933 and *Xenochironomus* Kieffer, 1921 are recognized as associated with them. According to TOKESHI (1995) association between chironomid larvae and animal hosts, like sponges, is poorly studied and often lack sufficient analytical rigor to establish the association. However, in the case of *Oukuriella* several factors point out to an undeniable association with freshwater sponges: high occurrence of spicules in the gut contents of the larvae; occurrence of different species in different sponges from a wide area of Brazil (Table I); increase in the sclerotisation of larval structures during their development; restriction of *Oukuriella* larvae to sponges (in all the places where the sponges were collected, we have also searched for larvae in other habitats, such as macrophytes, stones and sediments, but no larvae were found).

Finally, we would like to emphasize that evolutionary approach to the study of the relationship between *Oukuriella* and sponges may contribute to the phylogenetic and biogeographic knowledge of both groups.

**Table I.** *Oukuriella* spp. in freshwater sponges from different Brazilian aquatic systems.

Chironomidae	Freshwater sponge	River basin (Aquatic system)	Locality	Geographical coordinates
<i>Oukuriella</i> spp.	<i>Oncosclera navicela</i> (Carter, 1881) and <i>Corvospongilla seckti</i> Bonetto & Ezcurra de Drago, 1966	Paraná (River)	Três Lagoas - São Paulo/Mato Grosso do Sul	20°45'S; 51°40'W
<i>Oukuriella</i>	<i>Metania spinata</i> Carter, 1881	Jacaré - Tiête (Reservoir)	Brotas – São Paulo	22°11'33"S; 17°55'2" W
<i>Oukuriella epleri</i> Messias & Fittkau, 1997	<i>Metania spinata</i>	Urubu – Igarapé do Km 121 (Stream)	Presidente Figueiredo - Amazonas	01° 75' 47"S; 60°03'00"W
<i>Oukuriella</i>	<i>Metania reticulata</i> (Bowerbank, 1863); <i>Trochospongilla pauluta</i> (Bowerbank, 1863); <i>Acalle recurvata</i> (Bowerbank, 1863); <i>Oncosclera navicella</i> (Carter, 1881)	Negro – Igapó do Tarumã-Mirim (flooded Forest)	Manaus - Amazonas	03° 02' 19"S; 60°11'24"W

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