
OCCURENCE OF OLIGOCHAETA LIVING ON LARVAE OF ODONATA FROM IPEÚNA (SÃO PAULO STATE, BRAZIL)

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Abstract

The occurrence of oligochaetes species living on larvae of Odonata is reported for the first time. There were found *Nais variabilis* (Piguet, 1906) (Oligochaeta: Naididae) and *Chaetogaster diastrophus* (Gruithuisen, 1828) (Oligochaeta: Naididae) living on *Elasmothermis cannaerioides* (Calvert, 1906) (Anisoptera: Libellulidae) and on *Mnesarete* (Cowley, 1934) (Zygoptera: Calopterygidae).

Key words: *Oligochaeta*, *Odonata larvae*, *occurrence*.

Resumo

A ocorrência de oligochaeta vivendo sobre Odonata é relatada pela primeira vez. Foram encontrados *Nais variabilis* (Piguet, 1906) (Oligochaeta: Naididae) e *Chaetogaster diastrophus* (Gruithuisen, 1828) (Oligochaeta: Naididae) vivendo sobre *Elasmothermis cannaerioides* (Calvert, 1906) (Anisoptera: Libellulidae) e sobre *Mnesarete* (Cowley, 1934) (Zygoptera: Calopterygidae).

Palavras-chave: *Oligochaeta*, *larvas de Odonata*, *ocorrência*.

1. Introduction

Species of oligochaetes inhabiting on other freshwater animals have been cited by Marcus 1941, Brinkhurst & Jamieson 1980, Kahl & Konopacka 1981, Righi 1984, Anderson & Holm 1987, Fernandez et al. 1991, Brinkhurst & Marchese 1991, Corbi et al. (2005). However, there are few published studies concerning Brazilian species (Righi 1984). Here, we report for the first time the presence of oligochaetes species inhabiting on Odonata larvae.

2. Material and Methods

The organisms were collected manually, using a manual network 1,50m x 1,0m (0.5 mm of mesh), in the Lapa and Cantagalo streams. These aquatic systems are located in the town of Ipeúna (São Paulo, Brazil) within the hydrographic basin of the Piracicaba-Capivari-Jundiá (22° 22'S and 47° 46'W). The Lapa stream is characterized by the presence of forested and pasture areas in its surroundings. The water has high values of dissolved oxygen (8,7 mg/L), low electric conductivity (40 mS/cm) and slightly acid pH values (6,0). The Cantagalo stream is characterized by deforestation margin with pasture areas. Dissolved oxygen values are high (8,7mg/l), electric conductivity is low (40 mS/cm) and the pH is less acid (6,4).

The aquatic worms were sorted under stereoscopic microscope and optic microscopy, processed and identified following Brinkhurst & Jamieson (1980), Righi (1984) and Brinkhurst & Marchese (1991) techniques. The Odonata identification was Patricia Santos Ferreira Peruquetti's courtesy. The specimens have been duly deposited in the collection of the Aquatic Entomology Laboratory of the Federal University of São Carlos, SP, Brazil.

3. Results and Discussion

We recorded two species of aquatic oligochaetes of the Naididae family: *Nais variabilis* (Piguet, 1906) and *Chaetogaster diastrophus* (Gruithuisen, 1828). These species are living on larvae of the Odonata *Elasmothermis cannaerioides* (Calvert, 1906) and *Mnesarete* (Cowley, 1934) (Fig. 1). Among the 320 Odonata collected, we observed that 6 percent were inhabited by the oligochaetes species living mainly below and above the wing cases and on the superior part of the Odonata abdomen. Along with the Oligochaetes species we found 25 worms, among which *N. variabilis* was the most abundant species followed by *Ch. diastrophus*.

Other authors have also found Naididae inhabiting aquatic animals, specially belonging at the genus *Chaetogaster* and *Nais*. More detailed information on this subject will be published elsewhere (Corbi et al. 2005).

The oligochaetes probably are neither particularly characteristic of nor strongly connected with their hosts, as has been pointed out for sponges by Kahl & Konopacka (1981). Therefore, more information is required on this theme, especially considering that the symbiosis in freshwater may involve evolutionary advantages, such as better feeding opportunities, increased mobility, protection from disturbances and reduced risk of predation (Tokesshi 1999).



Figure 1. A. *Chaetogaster diastrophus* on the dorsal side of *Mnesarete*. B. Zoom in *Chaetogaster diastrophus*.

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