



## Trichoptera — the newest insect order host of temnocephalans (Platyhelminthes, Temnocephalida) and the description of a new species of *Temnocephala* from Brazil

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### Abstract

Trichoptera Kirby, 1813, is the second order of Insecta Linnaeus, 1758 (after Hemiptera Linnaeus, 1758) to be found hosting temnocephalans anywhere in the world. Temnocephalans were found on caddisfly larvae from the genus *Barypenthus* Burmeister, 1839 while collecting aquatic insects from a small creek in Serra do Cipó, State of Minas Gerais, Brazil. Thirty-six larvae and their cases were examined, of which 20 (55.5%) were positive for specimens of *Temnocephala* Blanchard, 1849. Juvenile and adult temnocephalans were always devoid of body pigmentation and were living on the dorsal and ventral body surfaces of the larvae. The eye pigmentation was deep red, disappearing in specimens fixed in ethanol. Eggs were found in larger numbers on the dorsal thoracic segments. The most distinctive characters of the temnocephalans found on caddisfly larvae were found in the cirrus and the vagina. The comparison of the general anatomy and, in particular, the morphology of the cirrus and the vagina with those of *Temnocephala curvicirri* Amato & Amato, 2005, described from aquatic heteropterans (*Belostoma* spp.), from the State of Rio Grande do Sul, which is revisited, showed that although these characters are of the same type and nature they are not equal, differing primarily in size and morphology of the cirrus and the muscularity of the middle portion of the vagina. The egg deposition sites are different and the cirrus and the vagina are characterized for the first time as being ‘complex’.

**Key words:** aquatic insects, *Barypenthus*, *Belostoma*, caddisflies, new host group, new species, taxonomy, *Temnocephala curvicirri* revisited, Temnocephalidae, trichopterans

### Introduction

Until 1978, the host groups of temnocephalans were crustaceans, mollusks, and freshwater turtles. Mollusks and freshwater turtles were first associated with temnocephalans in the Neotropic Region with species described from Brazil at the end of the 19<sup>th</sup> century. *Temnocephala decarloi* Moretto, 1978, was found as ectocommensal on *Belostoma cummingsi* De Carlo in Otamendi, at the Delta del Río Paraná, Province of Buenos Aires, Argentina, and was neither adequately described nor figured originally by Moretto (1978). Damborenea & Cannon (2001) included the species in their review of the Neotropical species of *Temnocephala* Blanchard, 1849, and also collected specimens from the same locality as Moretto (op. cit.), but did not identify the single specimen of *Belostoma* Latreille, 1807 found infested.

Vianna & de Melo (2002) reported as *T. decarloi* the temnocephalan collected from a single specimen of *Belostoma testaceopallidum* Latreille, in the State of Minas Gerais (MG), southeastern Brazil, but neither described nor illustrated the helminths. Their work was an extensive study of aquatic heteropterans and was the first record for