Two new species of Cloeodes Traver (Ephemeroptera: Baetidae)
from Espírito Santo, Southeastern Brazil

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Abstract

In the present work, two new species of Cloeodes Traver are described based on nymphs and adults collected in the State of Espírito Santo, Southeastern Brazil. The main characteristics that distinguish the new species from its congeners are, in C. itajara sp. nov.: a) labrum with dorsal arc of setae composed of 12 setae, b) segment III of labial palp with robust and pectinate setae on inner margin, c) fore femur with apex projected, with 5−6 blunt setae, d) male imago with abdominal terga V−VII with a anterolateral triangular black mark; in C. aymore sp. nov.: a) labrum with dorsal arc of setae composed of 1 + 0 + 3 setae, b) fore femur with apex projected, with 2 blunt setae, c) male imago with abdominal terga IV with kidney-like median brown mark.

Key words: taxonomy, new species, South America, mayfly, macroinvertebrate

Introduction

The genus Cloeodes Traver, 1938 (Ephemeroptera: Baetidae) has a widespread pantropical distribution with representatives in North America (Wiersema & Baumgardner 1999), Central (Traver 1938) and South America (Nieto & Richard 2008), Africa (Waltz & McCafferty 1994, Jacobus et al. 2006), Madagascar (Lugo-Ortiz et al. 1999) and Southeast Asia (Soldán & Yang 2003).

Despite being one of the genus of the family with a higher number of representatives in South America, Cloeodes is poorly documented in Brazil. In South America the following species has been recorded so far: Cloeodes anduzei Traver 1943; C. auwe Salles & Batista, 2004; C. barituensis Nieto & Richard, 2008; C. binocularis Needham & Murphy 1924; C. espinillo Nieto & Richard, 2008; C. hydation McCafferty & Lugo-Ortiz, 1995; C. incus Waltz & McCafferty 1987; C. irvingi Waltz & McCafferty, 1987; C. jaragua Salles & Lugo-Ortiz, 2003; C. nocturnus Navas 1923; C. opacus Nieto & Richard, 2008; C. penai Morihara & Edmunds, 1980; C. redactus Waltz & McCafferty, 1987; C. turbinopsis Needham & Murphy, 1924. Of theses, only five species have been recorded from Brazil: Cloeodes hydation described from nymphs and adults of Mato Grosso and later recorded from Minas Gerais (McCafferty & Lugo-Ortiz 1995; Salles et al. 2004a); C. irvingi described only from nymphs from Paraguay and later recorded from all states of Southeastern Brazil (Lugo-Ortiz et al. 2002; Salles et al. 2003; Salles et al. 2004a); C. jaragua known from nymphs and adults exclusively from the State of Rio de Janeiro (Salles & Lugo-Ortiz 2003; Gonçalves et al. 2010); C. auwe described based on nymphs from Mato Grosso; and C. opacus, a species described from nymphs, originally from Argentina, and recently recorded from the State of Espírito Santo (Salles et al. 2010).

Recently, during a survey of mayflies from the State of Espírito Santo, two new species of Cloeodes were found; the aim of this paper is to describe the new species based on nymphs and adults.