



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

FABIANA CRISTE MASSARIOL<sup>1</sup> & FREDERICO FALCÃO SALLES<sup>2</sup>

<sup>1</sup>Programa de Pós-graduação em Biodiversidade Tropical, Universidade Federal do Espírito Santo, CEP 29.933-415, São Mateus, ES, Brazil. E-mail: fmassariol@gmail.com

<sup>2</sup>Laboratório de Sistemática e Ecologia de Insetos, Depto de Ciências Agrárias e Biológicas, Universidade Federal do Espírito Santo, CEP 29.933-415, São Mateus, ES, Brazil. E-mail: ffsalles@gmail.com

### 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. hydatation* 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 these, only five species have been recorded from Brazil: *Cloeodes hydatation* 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.