



The genus *Cloeodes* (Ephemeroptera: Baetidae) in Argentina with new generic synonymy and new species

CAROLINA NIETO¹ & BARTON RICHARD²

¹CONICET-INSUE-Facultad de Ciencias Naturales e IML, Miguel Lillo 205, S. M. Tucumán (4000), Tucumán, Argentina.

E-mail: macarolina_nieto@yahoo.com.ar

²Entomology, 409 Perry-Paige Building, Florida A&M University, Tallahassee, Florida, USA 32307.

E-mail: barton.richard@fam.u.edu

Abstract

Three new species of *Cloeodes* are described from Argentina (*C. barituensis*, *C. espinillo* and *C. opacus*), based on nymphs and from adults for the first two species. Two species, *C. stelzneri* and *C. nocturnus*, are proposed as *nomen dubia*. The only other species from Argentina, *C. penai*, is revised. The validity of the monotypic genus *Bernerius* is analyzed. A cladistic analysis including five species of the genus *Cloeodes* and *Bernerius* is presented and the synonymy of the latter is confirmed. A key for South American species of *Cloeodes* is presented.

Key words: Ephemeroptera, Baetidae, *Cloeodes*, *Bernerius*, South America

Introduction

The genus *Cloeodes* was originally established by Traver in 1938. In this paper three species were described from Puerto Rico, although only one, *Cloeodes maculipes*, remains in the genus. The genus has been revised and updated in several papers in recent years. Waltz & McCafferty (1987a,b), redefined the genus, described several new species and transferred species placed in other genera. They also synonymized *Centroptella* (Braasch & Soldan, 1980) and established two subgenera, placing *Notobaetis* (Moriyama & Edmunds, 1980) as one of them. In 1995, the subgenera were removed by McCafferty & Lugo-Ortiz when they described a new species. Finally, two genera: *Maliqua* Lugo-Ortiz & McCafferty (1997) and *Potamocloeon* Gillies (1990) were synonymized with *Cloeodes* (Jacobus *et al.*, 2006).

Cloeodes has a widespread pantropical distribution in South America, North and Central America, Africa, Madagascar, Southeast Asia and Australia. In South America 13 species are known for this genus, 7 of them described from adults, 4 from nymphs and 2 from both adults and nymphs. These species are distributed in Argentina, Bolivia, Brazil, Guyana, Paraguay, Peru, Uruguay and Venezuela. Three species are previously known from Argentina, two of them described from adults and only *Cloeodes penai* from both nymphs and adults.

Bernerius is a monotypic South American genus, established by Waltz & McCafferty (1987a). This genus was described based on nymphs from Peru, previously placed in *Baetis* (?) sp. B by Berner (1980). This genus was considered to be the sister group of *Cloeodes* based on, among other characters, the presence of a subproximal arc of long fine setae on each tibia. In this paper, after examination of type material of *Bernerius* and based on a cladistic analysis, this genus is proposed as a synonym of *Cloeodes*.