Further notes on South American species of Baetidae (Ephemeroptera) assigned to *Moribaetis* Waltz & McCafferty, 1985

PAULO VILELA CRUZ & FREDERICO FALCÃO SALLES
1 Instituto Federal de Educação, Ciência e Tecnologia do Amazonas—IFAM, Lábrea, AM, Brazil / Programa de Pós-graduação em Entomologia, Instituto Nacional de Pesquisas da Amazônia (INPA), CEP 69060–001, Manaus, AM, Brazil
2 Laboratório de Sistemática e Ecologia de Insetos, Depto de Ciências Agrárias e Biológicas, Universidade Federal do Espírito Santo, São Mateus, ES, Brazil. E-mail: ffsalles@gmail.com
3 Corresponding author. E-mail: pvilelacruz@gmail.com

Abstract

The types of the remaining two South American species classified in *Moribaetis* Waltz & McCafferty, 1985 were studied. *Moribaetis comes* (Navás, 1912) is designated as a *nomen dubium* based on the lack of information in the original description, the damaged type and the resultant improbability of assigning specimens to this species. The type-material of *M. aneto* (Traver, 1971), on the other hand, is well-preserved. Based on the morphology of males and females, we propose a *new combination*, *Camelobaetidius aneto*. In conclusion, we consider the genus *Moribaetis* to be absent from South America.

Key words: American Interchange, New Combination, Nomen Dubium, Camelobaetidius

The genus *Moribaetis* Waltz & McCafferty, 1985 was created based on nymphs and imagos in order to include three species originally described in the genus *Baetis* Leach, 1815 and one new species. *Moribaetis* was divided, in the same study, into two subgenera, *Mayobaetis* Waltz & McCafferty, 1985 and *Moribaetis* s.s. Lugo-Ortiz and McCafferty (1996) subsequently elevated the Central and South American *Mayobaetis* to generic rank based on phylogenetic considerations, thereby restricting the genus *Moribaetis* to only the Central American species, *M. maculipennis* (Flowers, 1979), *M. salvini* (Eaton, 1885) and *M. macaferti* Waltz, 1985 (in Waltz & McCafferty, 1985).

Lugo-Ortiz and McCafferty (1999), in an attempt to reassign all remaining South American species originally described in *Baetis* or *Pseudocloeon* Klapálek, 1905, transferred three such species to *Moribaetis*: *Baetis comes* Navás, 1912, *Baetis aneto* Traver, 1971 and *Baetis socius* Needham & Murphy, 1924.

The placement of the South American species in *Moribaetis* by Lugo-Ortiz and McCafferty (1999) was based on hind wing characteristics, such as the presence of three longitudinal veins, with the second vein bifurcate, and a pointed costal projection. Unfortunately, as argued by Domínguez et al. (2006), these characteristics are neither restricted to *Moribaetis* nor present in all species of the genus. The bifurcation of the second vein, for example, does not occur in the most recently described species from southwestern North America, *M. mimbresaurus* McCafferty, 2007. Aside from the lack of unique characters that could place the three species in question with confidence in *Moribaetis*, some species suffer from having type specimens and descriptions that are not helpful for distinguishing them. As a consequence, soon after the placement of these species in *Moribaetis*, McCafferty (2000) proposed *nomen dubium* status for *M. socius*, a species described based on a single female subimago (Needham & Murphy 1924).

A similar impediment also exists for *M. comes*, one of the many problematic species and specimens described by Longinos Navás (e.g., Navás 1915; 1930). Navás’ description is brief, with a poorly informative illustration of a distorted hind wing (as previously indicated by Domínguez 1989; Hubbard 1991 and Hubbard & Peters 1981); the only reference to the type locality is São Paulo, Brazil (an area that comprises a large geographical range) (Fig. 1); and the species was based on a single male subimago (Fig. 4). The type is fragile (Figs. 2 and 3), on a pin, badly damaged, without an abdomen and, more importantly, without the hind wings (as noted by Alba-Tercedor & Peters 1985). Based on the lack of information in the description, the damaged type and the improbability of assigning specimens to this species by
Entomological Research Collection. One male imago on slide and three females (paratypes of *M. aneto*), URUGUAY, Prov. Paysandí, Santa Rita, Rio Uruguay, 8.xi.1955, also deposited in the Purdue University Entomological Research Collection.

Acknowledgements

We are indebted to the Museu de Zoología de Barcelona, the Purdue University Entomological Research Collection and Florida A&M University, especially for the great help of Luke Jacobus, Berta López Caballero, Gregory Curler, Glòria Masó and Janice Peters. Financial support was provided by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)—Protax process number 562188/2010-0. PVC is thankful for the licence granted by Instituto Federal de Educação, Ciência e Tecnologia do Amazonas—IFAM. Campus Lábrea and the great help offered by André Silva Fernandes in Barcelona. FFS is thankful for Research Productivity Scholarship from CNPq.

References


http://dx.doi.org/10.1080/01650428509361222


http://dx.doi.org/10.1111/j.1096-3642.1885.tb01550d.x


http://dx.doi.org/10.2307/1467283


http://dx.doi.org/10.1051/limn/1999034


http://dx.doi.org/10.2307/1468048


