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New species of *Pseudosmittia* Edwards, 1932 and new records of *Allocladius* Kieffer, 1913 (Diptera: Chironomidae, Orthoclaadiinae) from South America

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Abstract

Three new species of *Pseudosmittia* Edwards from the Neotropical region, *P. sætheri*, *P. larga* and *P. trapezoidea*, are described and figured as males. *Allocladius fortispinatus* (Edwards), *A. globosus* Andersen *et al.* and *A. quadrus* Andersen *et al.* are redescribed on the basis of new material and their geographical distribution updated. A phylogenetic analysis was performed in order to assess the phylogenetic relationships of the new species. As a result, the species *P. sætheri* and *P. larga* are found to be sister species belonging to the *angusta* group. The species *P. trapezoidea* is the sister group of the clade ((*P. propetropis* (*P. tropis* – *P. lamellata*)) and belongs to the *brevifurcata* group sensu lato.

Key words: *Pseudosmittia*, *Allocladius*, Orthoclaadiinae, phylogeny, Sierra de la Ventana, Patagonia, Andes, Argentina, Neotropical region

Introduction

The genus *Pseudosmittia* Edwards was recently reviewed (Ferrington & Sæther, 2011). In that revision, the genus was divided into three genera supported by parsimony analysis. The genera *Pseudosmittia* and *Allocladius* Kieffer are worldwide in distribution and the genus *Hydrosmittia* Ferrington & Sæther is Holarctic and Afrotropical. The cladistic analysis showed that most of the Neotropical and Afrotropical *Allocladius* species together with most of the Holarctic and Afrotropical *Hydrosmittia* species are the sister group of the more widespread *Pseudosmittia*, and this last genus was divided into 13 species groups.

The genus *Pseudosmittia* is one of the representatives of the subfamily Orthoclaadiinae whose larvae are terrestrial or semiterrestrial (Strenzke, 1950) and some species live in the marine intertidal zone. Apparently, there are no fully aquatic species within the genus (Ferrington & Sæther, 2011). The genus *Pseudosmittia*, as a part of the genera within the subfamily with these ecological requirements, is very important since it shows adaptations found both among the more primitive and among the most derived groups of Chironomidae (Andersen *et al.*, 2010). The knowledge of the genus *Pseudosmittia* in the Neotropical region has increased during the last few years; five species were recorded for that time (Spies & Reiss, 1996) and after the revision of the Neotropical species made by Andersen *et al.* (2010) there are nowadays 23 species.

The genus *Allocladius* is represented by six species in the Neotropical region and are found in both fully aquatic environments and in moist earth (Ferrington & Sæther, 2011). Most of these species have restricted distributions except *A. bilobulatus* (Edwards) and *A. neobilobulatus* (Paggi). The former species is found living in North Patagonia in Argentina and Central Chile between 520 m to 1.842 m a.s.l., and in Peru at 1.900 m a.s.l. The latter species is found in North Patagonia and Pampean grasslands in Argentina (Paggi, 1993), a high mountain dam in Bolivia, the Valdivian forest and Central Chile. The last species shows the highest altitude range between 200 to 3.000 m a.s.l. along its distribution.

Three new species of the genus *Pseudosmittia* are here described and their phylogenetic relationships in the context of the cladistic setting proposed by Ferrington & Sæther (2011) are assessed. In addition, new material