



Revision and cladistic analysis of Neotropical genus *Psilochlorops* Duda (Diptera: Chloropidae)

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Abstract

Five new species are described herein for the Neotropical genus *Psilochlorops*, up to now known only from the type-species, *P. clavitibia* Duda—*P. brunneus* sp. n., *P. elongatum* sp. n., *P. flavisoma* sp. n., *P. nigrifemur* sp. n. and *P. paganelliae* sp. n. All new species are described in detail and illustrated. A key to the species of the genus is provided. The diagnosis of *Psilochlorops*, after the addition of these species, is emended. A cladistic analysis of the genus indicates that *Psilochlorops* is monophyletic and show the affinities between the species.

Key words: Chloropinae, neotropics, taxonomy, biodiversity, phylogeny

Introduction

Psilochlorops Duda 1930 is a rather obscure genus of the chloropid subfamily Chloropinae, until now restricted to the Neotropical region. The genus was known to date only from the type-species, *Psilochlorops clavitibia* Duda 1931, described based only on the holotype, from Bolivia. Paganelli (2002) proposed a phylogeny for the Neotropical genera of Chloropinae. In her phylogeny, *Psilochlorops* and *Bricelochlorops* Paganelli are sister genera, both within the Chloropini. Both these genera share characters including long body pilosity (which is unusual in the chloropines), presence of tibial organ and some male genitalia features. The clade with this pair of genera stands in a large polytomy within the phylogeny of the tribe. We have found five undescribed Neotropical species of *Psilochlorops*—from Peru, Ecuador, and Brazil. In this paper, we describe these new species, provide a key for the species of the genus and emend the diagnosis of *Psilochlorops* considering the inclusion of these new species. As well, we perform a cladistic analysis of the genus in order to check the monophyly of the genus and to know the relationships among the species.

Material and methods

All material examined in this paper belongs to the Museu de Zoologia da Universidade de São Paulo (MZUSP), except for the holotype of *Psilochlorops brunneus*, which belongs to United States National Museum of Natural History at the Smithsonian Institution (USNM) and *P. clavitibia*, which belongs to Senckenberg Naturhistorische Sammlungen Dresden (SNSD). The male terminalia were treated with KOH at 40 °C for 15 minutes, then rinsed in acetic acid, and transferred to microvials with glycerin. Microphotographs were made using a Leica M16 stereomicroscope, Leica DC 500 camera, and assembled using the software Auto-Montage Pro v5.02.0096. Drawings were made under *camera lucida* and redrawn using Adobe Illustrator 11.0. Morphological nomenclature follows MCAD (Cumming & Wood, 2009).

The cladistic analysis was performed using NONA (Goloboff, 1993), and the program Winclada (Nixon, 2004) provided the Windows format to NONA. Multistate characters were treated as unordered in the analyses and