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Revision of the Brazilian Amazon Basin species of *Porphyrochroa* Melander (Diptera: Empididae)

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Abstract

The Brazilian Amazon Basin species of *Porphyrochroa* Melander are revised and include seventeen species: *P. aliena*, **sp. nov.**, *P. amazonica*, **sp. nov.**, *P. bifida*, **sp. nov.**, *P. cercosingularis*, **sp. nov.**, *P. dactiloides*, **sp. nov.**, *P. distincta*, **sp. nov.**, *P. epandrialis*, **sp. nov.**, *P. grandis*, **sp. nov.**, *P. longiseta*, **sp. nov.**, *P. manauara*, **sp. nov.**, *P. neblina*, **sp. nov.**, *P. pacaraima*, **sp. nov.**, *P. platypoderis*, **sp. nov.**, *P. quadrilamelaris*, **sp. nov.**, *P. roraimensis*, **sp. nov.**, *P. simplex* **sp. nov.** and *P. xavieri* **sp. nov.** All species are described and male genitalia illustrated; these structures presented many characters with great systematic values.

Key words: biodiversity; Empidinae; Neotropical; new records; taxonomy

Introduction

The family Empididae includes more than 4000 described species worldwide and it is estimated that the total diversity of the group may exceed 7500 species, making them one of the largest families within Diptera (Smith 1989). This family includes the following generic groupings, tribes and subfamilies. The recently revalidated genus *Porphyrochroa* Melander (Rafael 2001; Rafael & Ale-Rocha 2002; Sinclair & Cumming 2006), one of the 30 genera in the subfamily Empidinae, it is only known under the taxonomic aspect, occurs throughout the Neotropical region (except Chile) north through Middle America to the southern United States (Texas) and is a monophyletic lineage within the tribe Empidini. Rafael and Cumming (2004) listed 32 species and recently Mendonça *et al*. 2007 described an additional three species occurring in the Amazon Basin. Here, seventeen new species are described and figured from Amazon Basin, increasing the number of known *Porphyrochroa* species to fifty-two. This number is presumed to increase to more than 100 species and perhaps may reach nearly 200. This paper includes an identification key to all known species of *Porphyrochroa*, from Amazon Basin.

Material and methods

This study was based on the examination of around 500 specimens, collected mainly with flight interception traps, or Malaise traps and deposited in the following institutions or collections: Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia—INPA (Manaus, Amazonas, Brazil); Museu Paraense Emílio Goeldi—MPEG (Belém, Pará, Brazil); Museu de Zoologia da Universidade de São Paulo—MZUSP (São Paulo, São Paulo, Brazil). Terms used for adult structures primarily follow McAlpine (1981), except for male terminalia where the terms of Cumming *et al*. 1995 and Sinclair (2000) are used. To facilitate observation, terminalia were macerated in hot 85% lactic acid and immersed in glycerin according to Cumming (1992). The holotype label data are cited in full, with original spelling, punctuation and date. A backslash (/) separates data quoted from different labels and information presented within square brackets is complementary data absent from labels. Paratypes and additional material are also listed.

Wings were mounted on microslides in Canada balsam. The microslides were glued on the edge of a piece of resistant paper and thereafter, attached at the same pin of the specimen. In this way, the piece is maintained detached next to the specimen.

Most female specimens were not associated with males and could not be identified.