



Six new species of *Paraleia* Tonnoir (Diptera, Mycetophilidae): amphiotic elements at the northern range of the Andes

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Abstract

Paraleia was originally described by Tonnoir for *P. fulvescens*, known from Australia. More recently, eleven Neotropical species were added to the genus—nine of which are from Chile and southern Argentina, one from Bolivia, and one from Peru. This distribution pattern is typical of many mycetophilid genera. Six new Neotropical species of *Paraleia* from the Andean Colombia and Ecuador are herein described. Male terminalia of *P. bolivari* sp. n., *P. denticulata* sp. n., *P. fumosa* sp. n., and *P. tonnoiri* sp. n., as well as female terminalia of *P. bolivari* sp. n., *P. denticulata* sp. n., *P. fumosa* sp. n., *P. nidorosa* sp. n., *P. sharkeyi* sp. n., and *Paraleia* sp. are illustrated. High-resolution photos of wings for all species are presented. An identification key for world species of *Paraleia* is provided.

Key words: *Paraleia*, Mycetophilidae, Diptera, Neotropics, taxonomy

Introduction

The Mycetophilidae (fungus gnats) contain about 151 extant genera and 4,100 species worldwide (Thompson & Pape 2011) and there was considerable diversification of the family in the Cretaceous (Blagoderov & Grimaldi 2004). The known Neotropical diversity of the family is close to 1,000 species now (Thompson & Pape 2011).

There is a consensus about the monophyly of the Mycetophilidae (Søli 1997, Tozoni 1998, Amorim & Rindal 2007, Rindal *et al.* 2009), but a robust phylogeny for the family is still wanting. Most recent classifications of the Mycetophilidae include as subfamilies Sciophilinae, Gnoristinae, Mycomyiinae, Leiinae, Manotinae, Allactoneuriinae, and Mycetophilinae (Tuomikoski 1966, Hennig 1973, Väisänen 1984, Matile 1989, Rindal *et al.* 2009). The “Metanepsiinae”, erected by Matile (1971) as a tribe of Gnoristinae, has an uncertain position within the family and is sometimes treated as subfamily (Väisänen 1984, Ševčík & Hippa 2010). It most certainly constitutes a smaller clade of the Gnoristinae and without a phylogeny of the subfamily it would possibly make the “Gnoristini” paraphyletic (Kallweit 1998).

The delimitation of the Leiinae is still not well established in the literature. Edwards (1925) indicated two features to define the group, a short R₁ and a rather longitudinal r-m. Despite exceptions among the leiine genera, a sinuous CuA has been also taken as a synapomorphy for the subfamily (Baxter & Poinar 1994, Jaschhof & Kallweit 2009). This set of characters, however, corresponds to synapomorphies at different levels, some of them of more inclusive groups. The discussion about the subfamily composition, hence, is recurrent (e.g., Søli 1997, Søli *et al.* 2000, Hippa *et al.* 2005, Jaschhof & Kallweit 2009), suggesting that the monophyly of the Leiinae in a wider sense may be questionable. The delimitation of the group proposed by Edwards (1925), Hackman *et al.* (1988), Søli (1997), and Kurina (2004) comprises 32 recent genera and almost 550 species. The fossil record assigned to the subfamily is considerably rich, with eight genera in Cretaceous amber and 54 extinct species (Evenhuis 1994, Baxter & Poinar 1994, Blagoderov 1998, Blagoderov & Grimaldi 2004).

There is no doubt about the placement of *Paraleia* within the Leiinae. The genus has the typical displacement of the base of the radial sector to a more distal position in the wing, with a consequent shortening of R₁ (Edwards