



Catalogue of the Bolitophilidae and Diadocidiidae of the World (Insecta: Diptera)

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Abstract

The catalogue includes all available and unavailable names that apply to the recent and fossil members of the families Bolitophilidae and Diadocidiidae occurring in the world. Taxonomic references given after each name pertain to the original description with author, year and pages; type locality; type depository and chronological list of synonyms. Complete distributional information from the literature is listed for each species. A total of 81 species-group names in 2 genera are listed for Bolitophilidae, of which 65 are taxonomically valid. For Diadocidiidae, 31 species-group names in 2 genera are listed, of which 26 are taxonomically valid. The following taxonomic changes are made: *Bolitophila pulveris* Lewis, 1969 is removed from Bolitophilidae, *Palaeodocidia* Sasakawa, 2004 is treated as **syn. nov.** of *Diadocidia* Ruthe, 1831, *Diadocidia bifurcata* Fedotova & Perkovsky, 2004 is removed from Diadocidiidae and transferred to Cecidomyiidae.

Key words: Diptera, catalogue, synonymy, distribution

Introduction

Fungus gnats of the families Bolitophilidae and Diadocidiidae are medium-sized flies (3-10 mm), common and diverse in forest habitats. Adults are mostly found in dark, damp places, especially steep overhanging banks in woods, cliffs, the mouths of caves, under overhanging rocks, the root systems of fallen trees, along banks of streams, etc. Some species of *Bolitophila* aestivate and hibernate in caves. Larvae of all species of Bolitophilidae, where the biology is known, are mycophagous and develop in the sporocarps of basidiomycete fungi (Krivosheina *et al.* 1986, Yakovlev 1994, Ševčík 2006). The larvae of *Diadocidia* are associated with decaying wood and develop within a mucous tube under rotting logs, where they feed on the hymenium of higher fungi (Hutson *et al.* 1980, Yakovlev 1994, Zaitzev 1994). The larvae of *D. ferruginosa* are known to feed on the fungus *Peniophora* sp. (Hutson *et al.* 1980).

With the exclusion of fossil taxa that had been placed in Bolitophilidae (see below under Taxa excluded from Bolitophilidae), the only known fossil taxa are the diadocidiids: *Diadocidia parallela* Evenhuis, 1994 from the Eocene/Oligocene amber of Baltic Region and *Docidiadia* Blagoderov & Grimaldi, 2004 with the species *Docidiadia burmitica* Blagoderov & Grimaldi, 2004 from Cretaceous amber of Myanmar.

Recent known distribution of Bolitophilidae is mainly Holarctic, excluding three species in Taiwan (Oriental Region). Diadocidiidae is known from Holarctic, Oriental, Australasian/Oceanian and Neotropical realms.