

Phylogeny of the subfamily Mycetophilinae (Diptera: Mycetophilidae)

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Abstract

A phylogenetic analysis of the Mycetophilinae is presented and discussed. The analysis is based on morphological characters for 27 genera. Fourteen equally parsimonious trees were found. The monophyly of the Mycetophilinae and the two tribes, Exechiini and Mycetophilini, is well supported. Within the Exechiini, good support for the sister-group relationship of *Exechia* and *Exechiopsis* was found, as was support for the inclusion of *Cordyla* in the tribe. The analysis provides good resolution within the Mycetophilini, with *Trichonta* as the sister group of the remaining taxa.

Key words: Mycetophilidae, Mycetophilinae, Exechiini, Mycetophilini, phylogeny, morphology

Introduction

The Mycetophilidae are a large family of medium-sized gnats. Their biology is still insufficiently known; most described larvae, however, seem to feed on mycelium, either sporophores or hyphae penetrating rotting organic material. Members of the family are known throughout the world, except Antarctica. Based on present knowledge, the family is represented by more genera in cool and temperate areas than in the tropics.

The classification and systematics of the family Mycetophilidae have varied much through time. The subfamily Mycetophilinae was first introduced by Edwards (1925). Although several genera have later been included, they all comply with his original description of the subfamily. Edwards (1925) recognized two tribes, Mycetophilini and Exechiini, based on the following sets of characters: “Anepisternal and pteropleural bristles absent; hind coxa with a fairly strong bristle at base; empodia absent or