



Description of a new *Psychoda* Latreille species from Fennoscandia (Diptera: Psychodidae)

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Abstract

Psychoda cultella **sp. n.** is described. The new species is characterized by 16-segmented antennae with the three apical flagellomeres globular, very short and partially fused; labellum with five terminal digital projections; aedeagus ca 1.7 times the length of gonostylus; distiphallus bipartite, composed of a ventral phallomere with a roundish blunt tip and a dorsal phallomere with pointed tip; basiphallus in lateral view sub-basally widened. The new species is known from Finland (29 localities) and Norway (6 localities), ranging from the southern boreal ecoregion to the subalpine zone. *Psychoda cultella* **sp. n.** is mainly found in Malaise trap samples collected from moist coniferous forests and spruce mires (riparian forests, springs) and rarely from fens and subalpine heaths. Two male specimens from Norway were reared from fruiting bodies of polypore fungi (either *Fomes fomentarius* or *Piptoporus betulinus*).

Key words: Finland, Norway, Boreal zone, moth flies, taxonomy, saproxylic species, DNA barcode

Introduction

The Psychodinae form the most species-rich subfamily of Psychodidae with more than 2000 species described from all over the world. The most widespread and abundant genus in the group is *Psychoda* Latreille, 1796; which comprises about 450 species worldwide and around 40 in Europe.

Many of the most common *Psychoda* species have a global distribution, and populations of certain species may attain very high densities in artificial or natural habitats (e.g. Vaillant 1973; Ali & Koh-Yokomi 1991; Svensson 2009). Their larvae are mostly saprotrophic, living in vertebrate excrements or in other habitats rich in organic material. However, some species have been found in fungal fruiting bodies, carrion or phytotelmata (Withers 1988; Svensson 2009).

Since *Psychoda* Latreille, 1796 is a very species-rich and diverse taxon, it will probably eventually need subdivision. Several alternative classifications have been proposed for the group, however in the absence of a good phylogenetic basis these are to be considered premature (see discussion in Cordeiro *et al.* 2011). Ježek (1977; 1983; 1984; 2007) and Ježek & van Harten (1996; 2005) subdivide the genus into a total of 13 genera; which are treated as subgenera by Withers (1986) and Bravo *et al.* (2006). However, Withers (1989), in his treatise on British Psychodidae, considered the splitting of *Psychoda* unnecessary and recently Cordeiro *et al.* (2011) chose to disregard this subgeneric classification altogether. A majority of species, especially in the tropics, are not readily placed in any described subgenus and no phylogenetic framework exists for a robust new classification (Cordeiro *et al.* 2011).

In the present paper we describe a new European *Psychoda* species that cannot with confidence be placed in any of the (sub)genera diagnosed by Ježek (2007 and references therein). Its affinity to other members of *Psychoda* is briefly discussed.