

# Diptera associated with sporocarps of *Meripilus giganteus* in an urban habitat

Research Article

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**Abstract:** The Diptera community associated with fruit bodies of the wood-decaying fungus *Meripilus giganteus* (Pers.) P. Karst., 1882 was investigated in two city parks in Opava (Czech Republic, Central Europe) during the years 2009 and 2010. A total of 10,451 adult specimens of Diptera belonging to 66 species and 17 families emerged from this fungus during our rearing experiments. The six most dominant species, *Coboldia fuscipes* (Meigen, 1830) (D=50.70%), *Drosophila funebris* (Fabricius, 1787) (D=21.40%), *Logima satchelli* (Quate, 1955) (D = 14.16%), *Forcipomyia squamigera* Kieffer, 1916 (D=5.48%), *Lycoriella ingenua* (Dufour, 1839) (D=2.96%) and *Apteromyia claviventris* (Strobl, 1909) (D=0.95%) represented 95.65% of all reared specimens. Altogether 59 species were reared from *M. giganteus* for the first time. Comments on host specialization, degree of synanthropy and other aspects of biology of particular species are provided. The qualitative composition of the fly community associated with *M. giganteus* in an urban habitat, causes of high species richness, and the predominance of polysaprophagous species in the reared material are discussed. The accidentally reared *Ornitholeria nidicola* Frey, 1930 (Chiropteromyzidae) represents the first family record from the Czech Republic and the first record of the species from Central Europe.

**Keywords:** Insecta • Diptera (17 families) • Fungi (Meripilaceae) • Mycophagy • Synanthropy • Rearing • Czech Republic

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## 1. Introduction

Polypores and other lignicolous fungi represent an important habitat and food source for insects, especially for beetles (Coleoptera) and flies (Diptera). While beetles live mostly in older fruit bodies, flies usually attack both fresh and decaying fungi. Little attention has so far been devoted to the insect fauna of the polypore family Meripilaceae. It includes more than 60 species of mostly large polypores classified in 6 genera: *Grifola* Gray (10 species), *Henningsia* A.Møller (1 species), *Hydnopolyporus* D. A. Reid (3 species), *Meripilus* P. Karst. (6 species), *Physisporinus* P. Karst. (3 species) and *Rigidoporus* Murrill (40 species). In Central Europe, *Meripilus* is represented by only one Palaearctic species, *Meripilus giganteus* (Pers.) P. Karst., 1882. This fungus is rather commonly found also in urban habitats, like old city parks. It was, for

example, recorded as the most common wood-decay fungus in Hamburg [1].

More than 20 families of Diptera with various degree of trophic specialization have already been recorded to develop in wood-destroying fungi (for recent reviews see [2-6]). Concerning the family Meripilaceae, the rearing records are rather scarce. The highest number of Diptera species (belonging to Trichoceridae, Pediciidae, Ditomiyidae, Mycetophilidae, Sciaridae, Cecidomyiidae, Phoridae, Heleomyzidae, Sphaeroceridae, and Drosophilidae) were reared from *Meripilus giganteus*, cf. [2,7-14], and Ševčík [6] found that this fungus was the most attractive one for Diptera in the Czech Republic with 27 associated species of Diptera. Three species of nematoceros Diptera were reared from *Grifola frondosa* (Dicks.) Gray and two Diptera species were reared from *Rigidoporus sanguinolentus* (Alb. & Schwein.) Donk [6]. There is also a rearing record of one species of

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