

# Fungus gnats (Diptera, Mycetophilidae) from Finnmark, northern Norway

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Søli, G. & Rindal, E. 2012. Fungus gnats (Diptera, Mycetophilidae) from Finnmark, northern Norway. *Norwegian Journal of Entomology* 59, 158–181.

In this paper 277 species belonging to the family Mycetophilidae are reported from Finnmark. The majority of records are based on extensive fieldwork in 2010. Fifteen species have not previously been recorded from Norway, viz. *Boletina fennoscandica* Polevoi & Hedmark, 2004, *B. kivachiana* Polevoi & Hedmark, 2004, *B. pinusia* Maximova, 2001, *B. pseudonitida* Zaitzev, 1994, *B. subtriangularis* Polevoi & Hedmark, 2004, *Docosia moravica* Landrock, 1916, *Allodia (Brachycampta) adunca* Zaitzev, 1992, *Brevicornu auriculatum* (Edwards, 1925), *B. setigerum* Zaitzev in Zaitzev & Polevoi, 1995, *B. setulosum* Zaitzev, 1988, *Exechia similis* Laštovka & Matile, 1974, *Rymosia britteni* Edwards, 1925, *Mycetophila boreocruciator* Sevcík, 2003, *M. quadra* Lundström, 1909, and *Phronia distincta* Hackman, 1970. The species composition is briefly commented on, and the species distribution is compared to that reported from Sweden. Based on the present records, 17 species appear to have a more northern, boreal distribution than indicated by the Swedish records. 39 species could not be identified with certainty, of which the majority are likely to represent undescribed species. Most of the unidentified species belong to species rich genera like *Sciophila* Meigen 1818, *Mycetophila* Meigen, 1803, *Phronia* Winnertz, 1863 and *Trichonta* Winnertz, 1863. Specimens representing these species were among the 500 specimens sent to BOLD for DNA-barcoding, and the preliminary results confirm their isolated position.

Key words: Mycetophilidae, distribution, Finnmark, Norway.

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## Introduction

The first records of mycetophilids from Finnmark date back to 1848 when Walker described *Mycetophila apicalis* Walker, 1848 (= *Boletina maculata* Holmgren, 1870) and *Mycetophila concolor* (= *Boletina sciarina* Staeger, 1840) from Hammerfest, based on material in the collection of the Natural History Museum in London. Then a long time elapsed until Väisänen (1984) published numerous records from Finnmark in his Holarctic revision of the genus *Mycomya*

Rondani, 1856. More recently, scattered records have been published by Gammelmo & Søli (2006), Kjærandsen (2006, 2007, 2009) and Søli & Kjærandsen (2008). No attempts, however, have been made to compile a full account of the mycetophilid fauna of Finnmark.

Fungus gnats thrive in northern regions, and are well adapted to a cold climate. Several species overwinter as adults, and among the hardest are species in the tribe Exechiini which can stand extreme temperatures down to minus 50°C (Sformo *et al.* 2009). In recent time, Eberhard