Fungus gnats (Diptera: Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae and Mycetophilidae) from Møre og Romsdal

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Faunistic data on fungus gnats from the county of Møre og Romsdal in Norway are presented and all species known from the county are summarized in a checklist. Treatment of some 23000 specimens, collected with one Malaise trap and one window trap for a whole year each, resulted in the identification of 315 species from a single site at Jordalsgrend, Sunndal municipality. Material from three other localities in Møre og Romsdal and a few previously published records adds 42 species, bringing the total up to 357 species belonging to the families Bolitophilidae (11), Diadocidiidae (6), Ditomyiidae (2), Keroplatidae (11) and Mycetophilidae (327). Ten of the species are considered to be new to science and three species represented with single females could not be identified to species level. Records of 57 species are published for the first time from Norway, including three species that have been listed from Norway without any published records. The 34 species included in the Norwegian 2006 Red Data List are commented on. The high species diversity found at Jordalsgrend reveals a new picture when compared with other surveys in the Nordic region, and may have implications for future forest management, as boreal-oceanic, old-growth, deciduous forests are underrepresented in most conservation plans.

Key words: fungus gnats, species diversity, checklist, Red List, Norway, Møre og Romsdal.

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INTRODUCTION

Fungus gnats constitute a rich assemblage of nematocerous flies, traditionally placed in the superfamily Sciaroidea (e.g. Blagoderov & Grimaldi 2004). The family classification is currently under debate, where the latest contribution by Amorim & Rindal (2007) included nine families in the Mycetophiliformia and proposed a new superfamily classification. Five of the families (Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae, and Mycetophilidae) are by most European authors covered together by the informal name fungus gnats. The majority of fungus gnats with known habitat requirements develop as larvae in fungal substrates, like sporocarps of Agaricales living on the ground, wood inhabiting fungi and mycelia in decaying wood (e.g. Hutson et al. 1980, Yakovlev 1994). Adult fungus gnats are especially common and diverse in damp forest environments. From being largely neglected and underestimated in surveys (Ottesen 1993, Hedström 1994) the species diversity of Nordic fungus gnats have gained a

Figure 1A. The sampling site at Jordalsgrend and the traps used. The Malaise trap.

steadily increasing attention during the last two decades. Updated checklists are now available for Karelia (Polevoi 2000), Finland (Polevoi & Jakovlev 2004, Jakovlev et al. 2006), Sweden (Hedmark 2000, Kurina et al. 2005, (Kjærandsen et al. 2007a). Denmark (Petersen & Meier 2001), The Faroes (Kjærandsen & Jørgensen 1992) and Iceland (Kjærandsen et al. 2007b). It has become evident that the Nordic and especially the boreal fauna is very rich and make up a major proportion of the entire European fauna (see Kjærandsen & Bengtson 2005).

In Norway, Gammelmo & Søli (2006) presented a checklist of 473 species of the family Mycetophilidae, Gammelmo & Rindal (2006) summarized the knowledge of the family Ditomyiidae, known with two species, and Rindal & Gammelmo (2007) summarized the knowledge of the family Diadocidiidae, known with four species. It is evident, however, that the present knowledge of Norwegian fungus gnats is still rather scanty and has been concentrated to a few larger surveys. Kjærandsen (1993) reported 50 species of the families Bolitophilidae and Mycetophilidae from cave systems in southern Norway. Søli (1994) reported 214 species of the families Diadocidiidae and Mycetophilidae from Jostedalen. Økland & Zaitzev (1997) reported 320 species of Bolitophilidae, Keroplatidae, Diadocidiidae and Mycetophilidae from a large survey in boreal coniferous forests of southeastern Norway. The fauna and diversity of fungus gnats in the rest of the country remains fragmental and practically unknown, even after Gammelmo & Søli (2006) presented data on 61 species of Mycetophilidae new to Norway. Still, the 2006 Norwegian Red List of Diptera includes

Figure 1B. The window trap. The photos are taken by the second author (JBJ) on the 26 April 2006 when the window trap was replaced by the Malaise trap. Photo: J.B. Jordal

126 species of fungus gnats (Gammelmo et al. 2006).

Only a few records of fungus gnats from the county of Møre og Romsdal have been published to date. Siebke (1877) listed eight species names of which six can be recognized without reasonable doubt, viz. *Boletina dubia* (Meigen, 1804), *Exechia fusca* (Meigen, 1804) as *Mycetophila, Mycetophila fungorum* (De Geer, 1776) as *Mycetophila punctata* Meigen, 1804, *Mycomya (M.) griseovittata* (Zetterstedt, 1852) as *Sciophila fasciata* Zetterstedt, 1838, *Neuratelia nemoralis* (Meigen, 1818) as *Boletina*, and *Urytalpa ochracea* (Meigen, 1818) as *Platyura*. The two other names, *Mycetophila bimaculata* Fabricius, 1805 and *Mycetophila ornaticollis* Meigen, 1818 can not be assigned to modern names with any certainty as Siebke (1877) referred to Zetterstedt (1852) who largely misinterpreted and used these names for a variety of species (see Kjærandsen 2005, Kjærandsen et al. *submitted*). We know of only two additional published records from Møre og Romsdal; a female of *Neuratelia nigricornis* Edwards, 1941 reported by Gammelmo & Søli (2006), and a record of *Sciophila salassea* Matile, 1983 reported by Chandler (2006).

In 2004 the first author (JK) started working with Nordic fungus gnats at the Zoological Museum in Lund, Sweden, funded by the Swedish Taxonomic Initiative (see Miller 2005, Kjærandsen & Bengtson 2005). One of the initial purposes was to obtain a better knowledge of the species diversity of fungus gnat from various parts of the Nordic region. The contact with the second author (JBJ) led to a collecting program for fungus gnats in a boreal-oceanic forest in northwestern Norway, a

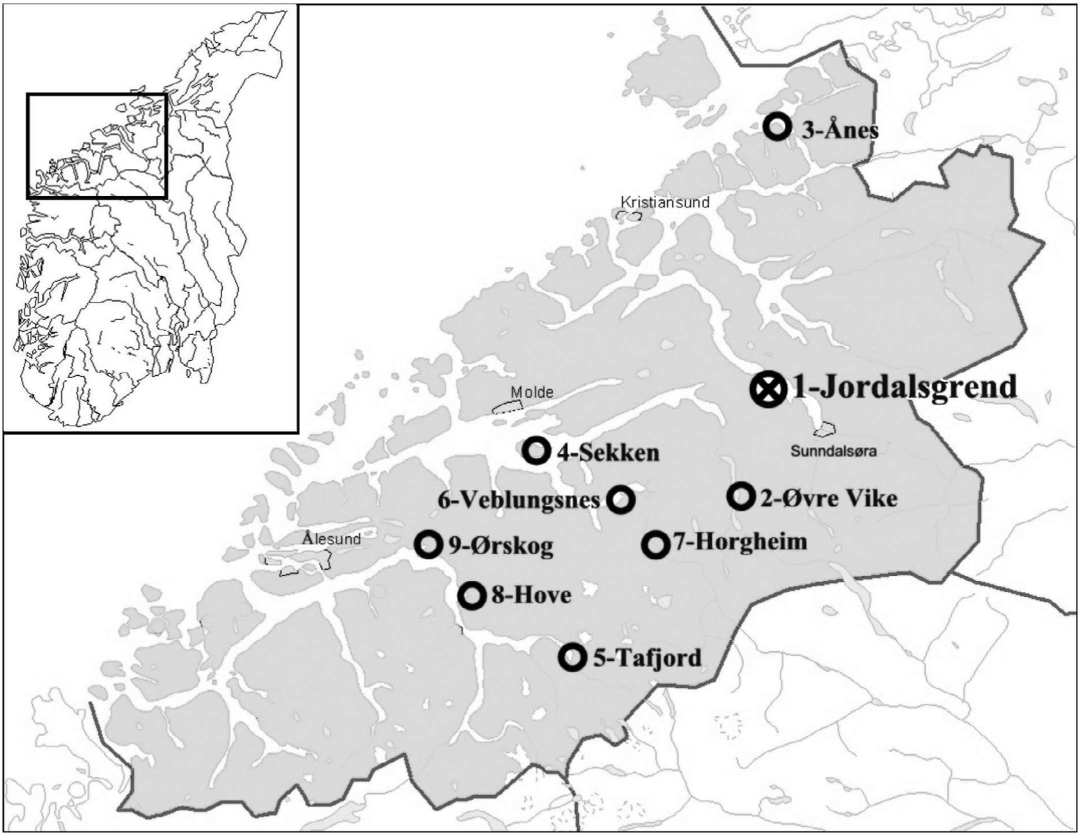

Figure 2. Map of the county of Møre og Romsdal, showing the site at Jordalsgrend and approximated positions of other localities in Møre og Romsdal from where data on fungus gnats are known. The numbers in front of the locality names correspond to the small numbers given after the species names in the checklist.

completely unknown area with regard to this insect group. In this paper we report a high diversity of fungus gnats found in this little studied area of Norway, and give records of and comments on new and redlisted species for Norway.

MATERIAL AND METHODS

Møre og Romsdal is a province with large topographical variation including islands, fjords, valleys and mountains up to nearly 2000 meters. Forests cover 4428 km^2 (29 %) of a total land area of 15104 km^2. Many of the forests grow as narrow bonds in steep slopes between the fjords or rivers and the treeless mountain areas. During the last 400 years, these forests have been cut to a relatively large extent, but not everywhere. During the second half of the 20th century, parts of the steep and less accessible areas have been left undisturbed. Thus, today there are still scattered areas of deciduous or mixed woodlands that can be described as old-growth forests, like in parts of the fjord districts in the rest of western Norway. The climatic gradients from the coast towards the inland are among the steepest in Europe, annual precipitation ranging from 3000 to 700 mm, and January mean temperature from +4 °C to -8 °C over a distance of 100-130 km (www.met.no, data from the period 1961-1990).

Table 1. Localities in the county of Møre og Romsdal from where from data on fungus gnats are known. Abbreviations: Ann. = Annual, BN = boreonemoral, KEYHABMIX = Proportion of forest key habitats within a radius of 1 km, O1 = weakly oceanic, O2 = markedly oceanic, O3 = strongly oceanic SB = southern boreal, OC = transition between oceanic and continental sections, Veg. = Vegetation.

No.	Pro-vince	EIS	Munici-pality	Locality	Collector / Source	Position UTM32V-WGS84	Veg. zone	Veg. section	Ann. prec.	Days with rainfall >0,1 mm	Jan. mean temp.	July mean temp.	KEY HAB MIX
1	MRI	85	Sunndal	Jordalsgrend	Leg. J. B. Jordal	MQ 6518 6022	SB	O2	1500	190	-1 °C	14 °C	30 %
2	MRI	78	Nesset	Øvre Vike	Leg. O. Hanssen	MQ 5798 3621	BN	O2/O1	1100	160	-1 °C	15 °C	40 %
3	MRY	90	Aure	Ånes	Leg. F. Oldervik	MR 7284 1645	SB	O3	1500	220	0 °C	14 °C	20 %
4	MRY	77	Molde	Sekken	Leg. T. Andersen	MQ 09-17, 47-50	SB	O2	1700	200-220	0,5 °C	13 °C	
5	MRI	77	Norddal	Tafjord	Gammelmo & Søli (2006)	MQ 14-18, 00-07	SB (BN)	O1/OC	1000	190	0,5 °C	15 °C	
6	MRI	77	Rauma	Veblungsnes	Siebke (1877)	MQ 31 36	BN	O1	1200	180	-0,5 °C	14 °C	
7	MRI	77	Rauma	Horgheim	Siebke (1877)	MQ 37-38, 26-27	BN	O1	1000	170	-2 °C	13 °C	
8	MRI	76	Stordal	Hove	Siebke (1877)	LQ 95-06, 18-19	BN	O2	1500	200	-0,4 °C	13,5 °C	
9	MRY	76	Ørskog	Ørskog	Siebke (1877)	LQ 84-90, 28-30	BN (SB)	O2	1600	200	0 °C	13 °C	

Sampling sites and material

The majority of the material was collected by the second author (JBJ) at a single site at Jordalsgrend. A single Malaise trap of type Marris House Nets was operated in the period 1 May to 6 October 2004, and again in the period 6 October 2006 to 1 May 2007. The trap was placed near a small rock wall facing towards northeast with the collecting bottle also pointing towards northeast (Figure 1A). A home made window trap with 0,87 m^2 glass area (0,83 x 1,05 m) placed over a piece of rain gutter (Figure 1B) was operated at exactly the same place in the period 26 April 2005 to 26 April 2006. The insects were collected and preserved in 70 % alcohol (2004) or 50 % ethylene glycol mixed with water (2006-2007). The traps were protected against heavy rainfall and snow by a simple roof. The site is situated 130 m a.s.l. in a northeast-faced steep slope (about 30 °) between the Sunndalsfjord and a treeless mountain area, in the middle part of the fjord district (Figure 2). The vegetation in the area belongs to the markedly oceanic vegetation section and the southern boreal vegetation zone (Moen 1998, Table 1). The forest at the site is old deciduous, dominated by *Betula pubescens* and *Populus tremula*, supplemented by smaller amounts of *Sorbus aucuparia, Corylus avellana, Prunus padus, Alnus incana, Salix caprea* and scattered *Pinus sylvestris*. The ground vegetation is dominated mainly by low herbs and ferns, while smaller parts are dominated by *Vaccinium myrtillus*, or by taller ferns. The ground is rough with smaller rock walls and scree material combined with boulders and smaller and larger stones covered by a thick moss carpet. There are considerable amounts of dead and decaying wood of all tree species present, especially of *Populus tremula*. Jordal (2004) characterized the locality as an old-growth forest of high biological value.

At Øvre Vike, Malaise traps were operated at three sites by O. Hanssen in the period 12 June to 28 July 1999. This is a southwest-faced slope of about 25° at the eastern side of the lake Eikesdalsvatnet below steep treeless mountains (Figure 2). The vegetation in the area belongs to the markedly to weakly oceanic vegetation section and the boreonemoral vegetation zone (Moen 1998, Table

1). The locality is an old, grazed, deciduous and mixed forest dominated by *Corylus avellana* and *Betula verrucosa*, with some large, pollarded *Ulmus glabra*, further with scattered *Betula pubescens, Populus tremula, Salix caprea, Sorbus aucuparia* and *Pinus sylvestris*. The ground is covered mainly by low herbs, moss or naked earth. The locality is described as a forest of high biological value, in earlier times influenced by pollarding, grazing and intensive cultivation of *Corylus avellana* to produce nuts and barrel hoops (Jordal 2005). There is a considerable amount of dead wood, especially of *Betula verrucosa, Corylus avellana* and *Ulmus glabra*.

At Ånes (Figure 2), a window trap was operated by F. Oldervik in the period 26 April 2006 - 26 April 2007. The locality is an old deciduous forest situated in the strongly oceanic vegetation section and the southern boreal vegetation zone (Moen 1998, Table 1). To date only parts of this material has been determined, and here we mostly report species that were not found at other localities.

Additional localities in Møre og Romsdal from where data on fungus gnats are known are given in Table 1 and shown in Figure 2. The division between coastal (**MRY**) and interior (**MRI**) parts of Møre og Romsdal, and other geographical regions of Norway, follows the revised "Strand system" Økland (1981). Acronyms for Swedish provinces follow the Fauna Entomologica Scandinavica series (e.g. Pont & Meier 2002).

Species identification and digitalization

Careful examination of terminalia is usually needed for identification of fungus gnats. The material was identified in alcohol under a Nikon ZMU stereo microscope by the first author (JK). For parts of the material maceration of the terminalia in KOH was needed for secure identification. A few specimens were slide-mounted in Canada balsam as described by Kjærandsen (2006), the rest are stored dark in 80 % alcohol. All specimens were recorded with unique identification codes using the Biota 2 database software (Colwell 2007), and the list of examined material was extracted from this database. For each species the localities are sorted hierarchically within each district, locality and site, respectively. Genera and species are listed alphabetically within a classification basically following Bechev (2000). All examined material is deposited at the Zoological Museum, Lund University (MZLU).

RESULTS

Treatment of some 23000 specimens from the traps operated at Jordalsgrend resulted in the identification of 315 species. The Malaise trap catches from Øvre Vike yielded only 438 specimens, but comprise 82 species of which 24 species were not found at Jordalsgrend. Another 11 species have so far been identified in the samples from Ånes. Screening of literature and additional material from other localities in Møre og Romsdal added 7 species, bringing the total up to 357 species belonging to the families Bolitophilidae (11), Diadocidiidae (6), Ditomyiidae (2), Keroplatidae (11) and Mycetophilidae (327). Ten of the species are considered to be new to science, and three species represented with a single female each could not be identified to species level. Another 57 species (16 %) are recorded for the first time in Norway, and 34 species (10 %) are included in the 2006 Norwegian Red List.

Checklist for Møre og Romsdal

Small numbers after species names correspond to localities as given in Table 1 and Figure 2. Codes: [*] = new to Norway, [©] = first published record or new name interpretation, [N] = new to science. Red List codes: [DD] = Data Deficient, [EN] = Endangered, [NT] = Near Threatened, [VU] = Vulnerable.

Family Bolitophilidae

Genus *Bolitophila*
Subgenus *Bolitophila*
Bolitophila (B.) austriaca (Mayer, 1950) 3
** Bolitophila (B.) basicornis* (Mayer, 1951) 1
** Bolitophila (B.) caspersi* Plassmann, 1986 1
Bolitophila (B.) cinerea Meigen, 1818 1, 3
** Bolitophila (B.) tenella* Winnertz, 1863 1

Subgenus *Cliopisa*
Bolitophila (C.) dubia Siebke, 1863 1, 3
DD *Bolitophila (C.) edwardsiana* Stackelberg, 1969 1
Bolitophila (C.) hybrida (Meigen, 1804) 1
* *Bolitophila (C.) ingrica* Stackelberg, 1969 1
* *Bolitophila (C.) limitis* Polevoi, 1996 1
Bolitophila (C.) occlusa Edwards, 1913 3

Family Diadocidiidae

Genus *Diadocidia*
Subgenus *Adidocidia*
Diadocidia (A.) trispinosa Polevoi, 1996 1
NT *Diadocidia (A.) valida* Mik, 1874 1

Subgenus *Diadocidia*
Diadocidia (D.) ferruginosa (Meigen, 1830) 1, 2
Diadocidia (D.) spinosula Tollet, 1948 1, 2
N *Diadocidia (D.)* sp. A 1
N *Diadocidia (D.)* sp. B 2

Family Ditomyiidae

Genus *Symmerus*
EN *Symmerus annulatus* (Meigen, 1830) 2
EN *Symmerus nobilis* Lackschewitz, 1937 1, 2

Family Keroplatidae
Subfamily Keroplatinae

Genus *Keroplatus*
VU *Keroplatus testaceus* Dalman, 1818 1

Genus *Monocentrota*
DD *Monocentrota lundstroemi* Edwards, 1925 4

Genus Neoplatyura
Neoplatyura flava (Macquart, 1826) 1

Genus *Orfelia*
Orfelia sp. A (unidentified female) 2

Genus Pyratula
Pyratula zonata (Zetterstedt, 1855) 1

Genus *Urytalpa*
Urytalpa ochracea (Meigen, 1818) 6, 7

Subfamily Macrocerinae

Genus *Macrocera*
Macrocera angulata Meigen, 1818 1, 2
Macrocera parva Lundström, 1914 2
Macrocera stigma Curtis, 1837 1, 2
Macrocera stigmoides Edwards, 1925 1
Macrocera zetterstedti Lundström, 1914 1, 3

Family Mycetophilidae
Subfamily Mycomyinae

Genus *Mycomya*
Subgenus *Cymomya*
NT *Mycomya (C.) circumdata* (Staeger, 1840) 1

Subgenus *Mycomya*
Mycomya (M.) annulata (Meigen, 1818) 1, 2
Mycomya (M.) bicolor (Dziedzicki, 1885) 1
Mycomya (M.) cinerascens (Macquart, 1826) 1
* *Mycomya (M.) collini* Edwards, 1941 2
VU *Mycomya (M.) denmax* Väisänen, 1979 1
Mycomya (M.) dziedzickii Väisänen, 1984 1
Mycomya (M.) egregia (Dziedzicki, 1885) 1
Mycomya (M.) griseovittata (Zetterstedt, 1852) 3, 7
* *Mycomya (M.) karelica* Väisänen, 1979 1, 2
Mycomya (M.) marginata (Meigen, 1818) 1
Mycomya (M.) neohyalinata Väisänen, 1984 1
Mycomya (M.) nitida (Zetterstedt, 1852) 1, 2
Mycomya (M.) ornata (Meigen, 1818) 1, 3
Mycomya (M.) prominens (Lundström, 1913) 1
Mycomya (M.) ruficollis (Zetterstedt, 1852) 2
Mycomya (M.) shermani Garrett, 1924 1
Mycomya (M.) sigma Johannsen, 1910 1, 3
Mycomya (M.) tenuis (Walker, 1856) 1, 3
Mycomya (M.) trivittata (Zetterstedt, 1838) 1
Mycomya (M.) tumida (Winnertz, 1863) 1
Mycomya (M.) wankowiczii (Dziedzicki, 1885) 1
Mycomya (M.) winnertzi (Dziedzicki, 1885) 1

Subgenus *Mycomyopsis*
* *Mycomya (MO.) paradentata* Väisänen, 1984 1
Mycomya (MO.) trilineata (Zetterstedt, 1838) 1

Subgenus *Neomycomya*
Mycomya (N.) fimbriata (Meigen, 1818) 1

Genus *Neoempheria*
Neoempheria pictipennis (Haliday, 1833) 1

Subfamily Sciophilinae

Genus *Acnemia*
DD *Acnemia longipes* Winnertz, 1863 1
Acnemia nitidicollis (Meigen, 1818) 1, 2, 3

Genus *Acomoptera*
Acomoptera difficilis (Dziedzicki, 1885) 1

Genus *Allocotocera*
Allocotocera pulchella (Curtis, 1837) 1, 2

Genus *Anaclileia*
Anaclileia dispar (Winnertz, 1863) 1, 3

Genus *Azana*
Azana anomala (Staeger, 1840) 1, 3

Genus *Coelophthinia*
Coelophthinia thoracica (Winnertz, 1863) 1

Genus *Leptomorphus*
Subgenus *Leptomorphus*
*Leptomorphus (L.) forcipatus (*Landrock, 1918) 1, 2

Genus *Megalopelma*
Megalopelma nigroclavatum (Strobl, 1910) 2
Landrock, 1918
Genus *Monoclona*
** Monoclona braueri* (Strobl, 1895) 2
Monoclona rufilatera (Walker, 1836) 1, 2
** Monoclona silvatica* Zaitzev, 1983 1

Genus *Neuratelia*
Neuratelia nemoralis (Meigen, 1818) 1, 3, 9
DD *Neuratelia nigricornis* Edwards, 1941 5

Genus *Phthinia*
Phthinia humilis Winnertz, 1863 1
Phthinia mira (Ostroverkhova, 1977) 1
Phthinia winnertzi Mik, 1869 1, 3

Genus *Polylepta*
Polylepta borealis Lundström, 1912 1
Polylepta guttiventris (Zetterstedt, 1852) 1

Genus *Sciophila*
Sciophila fenestella Curtis, 1837 1, 2
** Sciophila jakutica* Blagoderov, 1992 2
Sciophila nigronitida Landrock, 1925 2
NT *Sciophila nonnisilva* Hutson, 1979 1, 2
** Sciophila pomacea* Chandler 2006 1
Sciophila rufa Meigen, 1830 2
VU *Sciophila salassea* Matile, 1983 1, 2

Genus *Speolepta*
Speolepta leptogaster (Winnertz, 1863*)* 1

Subfamily Gnoristinae

Genus *Apolephthisa*
Apolephthisa subincana (Curtis, 1837) 1, 2

Genus *Boletina*
Boletina basalis (Meigen, 1818) 1, 2
** Boletina bidenticulata* Sasakawa & Kimura, 1974 2
Boletina dispecta Dziedzicki, 1885 1
Boletina dubia (Meigen, 1804) 8
Boletina edwardsi Chandler, 1992 1
Boletina gripha Dziedzicki, 1885 1, 2, 3
Boletina griphoides Edwards, 1925 1
Boletina lundbecki Lundström, 1912 3
Boletina lundstroemi Landrock, 1912 1, 2
Boletina maculata Holmgren, 1870 1
Boletina moravica Landrock, 1912 1
Boletina nigricans Dziedzicki, 1885 1
Boletina nigricoxa Staeger, 1840 1
Boletina nitida Grzegorzek, 1885 1, 2
Boletina plana (Walker, 1856) 1, 2, 3
Boletina rejecta Edwards, 1941 1
Boletina sciarina Staeger, 1840 1, 2
DD *Boletina takagii* Sasakawa & Kimura, 1974 1, 2
Boletina triangularis Polevoi, 1995 1
Boletina trivittata (Meigen, 1818) 1

Genus *Coelosia*
Coelosia fusca Bezzi, 1892 1
Coelosia truncata Lundström, 1909 1

Genus *Dziedzickia*
Dziedzickia marginata (Dziedzicki, 1885) 1

Genus *Ectrepesthoneura*
Ectrepesthoneura hirta (Winnertz, 1846) 1, 2
Ectrepesthoneura ovata Ostroverkhova, 1977 1
= E. bucera Plassmann, 1980
Ectrepesthoneura pubescens (Zetterstedt, 1860) 1

Genus *Gnoriste*
Gnoriste bilineata Zetterstedt, 1852 1

Genus *Grzegorzekia*
Grzegorzekia collaris (Meigen, 1818) 2

Genus *Palaeodocosia*
VU *Palaeodocosia alpicola* (Strobl, 1895) 1
Palaeodocosia vittata (Coquillett, 1901) 1

Genus *Saigusaia*
Saigusaia flaviventris (Strobl, 1894) 1, 2

Genus *Synapha*
Synapha vitripennis (Meigen, 1818) 1, 2

Genus *Syntemna*
© *Syntemna elegantia* Plassmann, 1978 1, 2
Syntemna hungarica (Lundström, 1912) 1, 2
Syntemna nitidula Edwards, 1925 1, 2
Syntemna relicta (Lundström, 1912) 1, 2
Syntemna stylata Hutson, 1979 1

Genus *Tetragoneura*
Tetragoneura sylvatica (Curtis, 1837) 1, 2

Subfamily Leiinae

Genus *Docosia*
Docosia gilvipes (Haliday in Walker, 1856) 1

Genus Leia
[VU] *Leia bilineata* (Winnertz, 1863) 1
[VU] *Leia cylindrica* (Winnertz, 1863) 1
Leia subfasciata (Meigen, 1818) 1, 2

Genus *Rondaniella*
*Rondaniella dimidiata (*Meigen, 1804) 1

Tribe Exechiini

Genus *Allodia*
Subgenus *Allodia*
Allodia (A.) anglofennica Edwards, 1921 1, 3
Allodia (A.) lugens (Wiedemann, 1817) 1, 3
Allodia (A.) lundstroemi Edwards, 1921 1, 3
Allodia (A.) ornaticollis (Meigen, 1818) 1
Allodia (A.) truncata Edwards, 1921 1, 3
[NT] *Allodia (A.) zaitzevi* Kurina, 1998 1, 3

Subgenus *Brachycampta*
[NT] *Allodia (B.) alternans* (Zetterstedt, 1838) 1, 3
Allodia (B.) czernyi (Landrock, 1912) 1, 3
[NT] *Allodia (B.) foliifera* (Strobl, 1910) 1, 3
* *Allodia (B.) neglecta* Edwards, 1925 1, 2, 3

Genus *Allodiopsis*
Allodiopsis domestica (Meigen, 1830) 1
Allodiopsis rustica (Edwards, 1941) 1, 3

Genus *Anatella*
Anatella ankeli Plassmann, 1977 3
[DD] *Anatella aquila* Zaitzev, 1989 3
Anatella ciliata Winnertz, 1863 1
Anatella flavomaculata Edwards, 1925 3
Anatella lenis Dziedzicki, 1923 1, 3
Anatella longisetosa Dziedzicki, 1923 1
Anatella minuta (Staeger, 1840) 3
* *Anatella pseudogibba* Plassmann, 1977 3
Anatella setigera Edwards, 1921 1
Anatella simpatica Dziedzicki, 1923 1
[NT] *Anatella turi* Dziedzicki, 1923 1
Anatella unguigera Edwards, 1921 4

Genus *Brachypeza*
Subgenus *Brachypeza*
* *Brachypeza (B.) armata* Winnertz, 1863 1
Brachypeza (B.) bisignata Winnertz, 1863 1

Genus *Brevicornu*
* *Brevicornu canescens* (Zetterstedt, 1852) 1
* *Brevicornu fasciculatum* (Lackschewitz, 1937) 1, 2
Brevicornu fuscipenne (Staeger, 1840) 1
Brevicornu griseicolle (Staeger, 1840) 3
Brevicornu griseolum (Zetterstedt, 1852) 1, 2
* *Brevicornu improvisum* Zaitzev, 1992 3
* *Brevicornu nigrofuscum* (Lundström, 1909) 1
Brevicornu ruficorne (Meigen, 1838) 1
[NT] *Brevicornu serenum* (Winnertz, 1863) 1
Brevicornu sericoma (Meigen, 1830) 1, 2
* *Brevicornu verralli* (Edwards, 1925) 1

Genus *Cordyla*
Cordyla bomloensis Kjærandsen & Kurina, 2004 1
Cordyla brevicornis (Staeger, 1840) 1, 2
Cordyla crassicornis Meigen, 1818 1, 2
Cordyla fasciata Meigen, 1830 1
Cordyla fissa Edwards, 1925 1
Cordyla flaviceps (Staeger, 1840) 1
Cordyla fusca Meigen, 1804 2
* *Cordyla insons* Lastovka & Matile, 1974 1
Cordyla murina Winnertz, 1863 1
Cordyla nitens Winnertz, 1863 2
Cordyla parvipalpis Edwards, 1925 1, 3
Cordyla pusilla Edwards, 1925 1
Cordyla semiflava (Staeger, 1840) 1
[N] *Cordyla* sp. A 1
[N] *Cordyla* sp. B 1

Genus *Exechia*
* *Exechia borealis* Lundström, 1912 1
Exechia confinis Winnertz, 1863 1
Exechia contaminata Winnertz, 1863 1, 3
Exechia dizona Edwards, 1924 1
Exechia dorsalis (Staeger, 1840) 1
Exechia exigua Lundström, 1909 1
Exechia festiva Winnertz, 1863 1, 3
Exechia fusca (Meigen, 1804) 1, 3, 6
Exechia nigra Edwards, 1925 1
[VU] *Exechia nigroscutellata* Landrock, 1912 1
Exechia parva Lundström, 1909 1
Exechia parvula (Zetterstedt, 1852) 1
[VU] *Exechia pseudocincta* Strobl, 1910 1
Exechia separata Lundström, 1912 1
Exechia spinuligera Lundström, 1912 1
Exechia sp. A (unidentified female) 1

Genus *Exechiopsis*
Subgenus Exechiopsis
Exechiopsis (E.) aemula Plassmann, 1984 1, 3
Exechiopsis (E.) clypeata (Lundström, 1911) 1, 3
Exechiopsis (E.) distendens (Lackschewitz, 1937) 1
Exechiopsis (E.) furcata (Lundström, 1911) 1
Exechiopsis (E.) hammi (Edwards, 1925) 1
Exechiopsis (E.) indecisa (Walker, 1856) 1, 3
Exechiopsis (E.) januarii (Lundström, 1913) 1, 3
Exechiopsis (E.) lackschewitziana (Stackelberg, 1948) 1, 3
[DD] *Exechiopsis (E.) landrocki* (Lundström, 1912) 1
Exechiopsis (E.) pseudindecisa Lastovka & Matile, 1974 1

Exechiopsis (E.) pseudopulchella (Lundström, 1912) 1, 3
Exechiopsis (E.) pulchella (Winnertz, 1863) 1, 3
Exechiopsis (E.) sagittata Lastovka & Matile, 1974 1, 3
Exechiopsis (E.) subulata (Winnertz, 1863) 1, 3

Subgenus *Xenexechia*
[VU] *Exechiopsis (X.) leptura* (Meigen, 1830) 1, 3
[DD] *Exechiopsis (X.) membranacea* (Lundström, 1912) 1, 3
Exechiopsis (X.) pollicata (Edwards, 1925) 1
* *Exechiopsis (X.) seducta* (Plassmann, 1976) 1

Genus *Myrosia*
Myrosia maculosa (Meigen, 1818) 3

Genus *Notolopha*
Notolopha cristata (Staeger, 1840) 1, 3

Genus *Pseudexechia*
Pseudexechia aurivernica Chandler, 1978 1
Pseudexechia trisignata (Edwards, 1913) 1, 3
[N] *Pseudexechia* sp. A 1

Genus *Pseudobrachypeza*
Pseudobrachypeza helvetica (Walker, 1856) 1, 3

Genus *Pseudorymosia*
Pseudorymosia fovea (Dziedzicki, 1910) 1, 3

Genus *Rymosia*
Rymosia bifida Edwards, 1925 1
Rymosia fasciata (Meigen, 1804) 1
Rymosia placida Winnertz, 1863 1
* *Rymosia spinipes* Winnertz, 1863 1

Genus *Stigmatomeria*
Stigmatomeria crassicornis (Stannius, 1831) 1, 3

Genus *Synplasta*
* *Synplasta gracilis* (Winnertz, 1863) 1, 3
* *Synplasta* sp. A (unidentified female) 1

Genus *Tarnania*
Tarnania fenestralis (Meigen, 1818) 1, 3
Tarnania tarnanii (Dziedzicki, 1910) 1, 3

Tribe Mycetophilini

Genus *Dynatosoma*
Dynatosoma cochleare Strobl, 1895 1
Dynatosoma fuscicorne (Meigen, 1818) 1, 2, 3
Dynatosoma nigromaculatum Lundström, 1913 1, 2
Dynatosoma norwegiense Zaitzev & Økland, 1994 1
Dynatosoma reciprocum (Walker, 1848) 1, 3

Genus *Epicypta*
Epicypta aterrima (Zetterstedt, 1852) 2

Genus *Mycetophila*
[DD] *Mycetophila abbreviata* Landrock, 1914 1
Mycetophila adumbrata Mik, 1884 1
Mycetophila alea Laffoon, 1965 1, 2
Mycetophila attonsa (Laffoon, 1957) 2
Mycetophila autumnalis Lundström, 1909 1, 3
Mycetophila bialorussica Dziedzicki, 1884 1, 2
[©] *Mycetophila biusta* Meigen, 1818 1
* *Mycetophila blanda* Winnertz, 1863 1
Mycetophila bohemica (Lastovka, 1963) 1
Mycetophila brevitarsata (Lastovka, 1963) 1
Mycetophila confluens Dziedzicki, 1884 1
Mycetophila curviseta Lundström, 1911 1, 3
[VU] *Mycetophila edwardsi* Lundström, 1913 1
Mycetophila evanida Lastovka, 1972 1
Mycetophila finlandica Edwards, 1913 1
* *Mycetophila forcipata* Lundström, 1913 1, 3
[VU] *Mycetophila formosa* Lundström, 1911 1
Mycetophila fungorum (De Geer, 1776) 1, 2, 3, 4, 6
* *Mycetophila gentilicia* Zaitzev, 1999 1, 2
[EN] *Mycetophila gibbula* Edwards, 1925 1, 2
Mycetophila hetschkoi Landrock, 1918 1
Mycetophila ichneumonea Say, 1823 1, 2
Mycetophila lubomirskii Dziedzicki, 1884 1
Mycetophila luctuosa Meigen, 1830 4
* *Mycetophila magnicauda* Strobl, 1895 1
Mycetophila marginata Winnertz, 1863 1
Mycetophila mohilevensis Dziedzicki, 1884 1
* *Mycetophila nigrofusca* Dziedzicki, 1884 1, 2
* *Mycetophila occultans* Lundström, 1913 1, 2
Mycetophila ocellus Walker, 1848 1, 4
Mycetophila ornata Stephens, 1829 1
* *Mycetophila perpallida* Chandler, 1993 1
Mycetophila pumila Winnertz, 1863 1
* *Mycetophila quadra* Lundström, 1909 1
Mycetophila schnablii (Dziedzicki, 1884) 1
* *Mycetophila sigmoides* Loew, 1869 2
Mycetophila signata Meigen, 1830 1
Mycetophila signatoides Dziedzicki, 1884 1
Mycetophila sordida van der Wulp, 1874 1
* *Mycetophila stolida* Walker, 1856 1, 2
Mycetophila strigatoides (Landrock, 1927) 1
* *Mycetophila strobli* Lastovka, 1972 1
Mycetophila stylata (Dziedzicki, 1884) 1
* *Mycetophila subsigillata* Zaitzev, 1999 1
Mycetophila sumavica (Lastovka, 1963) 1
* *Mycetophila uliginosa* Chandler, 1988 1
Mycetophila unipunctata Meigen, 1818 1
* *Mycetophila v-nigrum* Lundström, 1913 1, 2
Mycetophila vittipes Zetterstedt, 1852 1
* *Mycetophila zetterstedti* Lundström, 1906 1
[N] *Mycetophila* sp. A 1
[N] *Mycetophila* sp. B 1

Genus *Phronia*
Phronia biarcuata (Becker, 1908) 1
Phronia braueri Dziedzicki, 1889 1

Phronia caliginosa Dziedzicki, 1889 [1]
Phronia cinerascens Winnertz, 1863 [1]
Phronia conformis (Walker, 1856) [1]
* *Phronia coritanica* Chandler, 1992 [1]
Phronia digitata Hackman, 1970 [1]
Phronia disgrega Dziedzicki, 1889 [1]
[VU] *Phronia dziedzickii* Lundström, 1906 [1]
Phronia egregia Dziedzicki, 1889 [1]
Phronia exigua (Zetterstedt, 1852) [1]
Phronia flavipes Winnertz, 1863 [1]
Phronia forcipata Winnertz, 1863 [1]
Phronia humeralis Winnertz, 1863 [1]
Phronia interstincta Dziedzicki, 1889 [1]
* *Phronia maculata* Dziedzicki, 1889 [1]
Phronia mutabilis Dziedzicki, 1889 [1]
Phronia nigricornis (Zetterstedt, 1852) [1]
Phronia nigripalpis Lundström, 1909 [1]
Phronia nitidiventris (van der Wulp, 1859) [1]
Phronia notata Dziedzicki, 1889 [1]
[NT] *Phronia obtusa* Winnertz, 1863 [1]
Phronia peculiaris Dziedzicki, 1889 [1]
Phronia petulans Dziedzicki, 1889 [1]
Phronia siebeckii Dziedzicki, 1889 [1, 4]
Phronia strenua Winnertz, 1863 [1]
Phronia tenuis Winnertz, 1863 [1]
Phronia tiefii Dziedzicki, 1889 [1]
* *Phronia triangularis* Winnertz, 1863 [1]
[DD] *Phronia unica* Dziedzicki, 1889 [1]
[©] *Phronia vitrea* Plassmann, 1999 [1]
Phronia willistoni Dziedzicki, 1889 [1]
[N] *Phronia* sp. A [1]
[N] *Phronia* sp. B [1]
[N] *Phronia* sp. C [1]

Genus *Platurocypta*
Platurocypta testata (Edwards, 1925) [1]

Genus *Sceptonia*
Sceptonia costata (van der Wulp, 1859) [1]
* *Sceptonia demeijerei* Bechev, 1997 [2]
Sceptonia fumipes Edwards, 1925 [1, 2]
Sceptonia fuscipalpis Edwards, 1925 [1]
Sceptonia nigra (Meigen, 1804) [1, 2]
* *Sceptonia pughi* Chandler, 1991 [2]
Sceptonia regni Chandler, 1991 [1]
* *Sceptonia thaya* Sevcik, 2004 [2]

Genus *Trichonta*
* *Trichonta apicalis* Strobl, 1898 [1]
Trichonta atricauda (Zetterstedt, 1852) [1, 2]
Trichonta brevicauda Lundström, 1906 [1]
Trichonta comica Gagné, 1981 [1]
* *Trichonta excisa* Lundström, 1916 [2]
Trichonta falcata Lundström, 1911 [2]
* *Trichonta girschneri* Landrock, 1912 [1]
Trichonta hamata Mik, 1880 [1, 2]
Trichonta melanura (Staeger, 1840) [1]
Trichonta subfusca Lundström, 1909 [1, 2]
Trichonta submaculata (Staeger, 1840) [1, 2]
* *Trichonta subterminalis* Zaitzev & Menzel, 1996 [2, 3]
Trichonta terminalis (Walker, 1856) [1, 2, 3]
Trichonta venosa (Staeger, 1840) [1, 3]
Trichonta vulcani (Dziedzicki, 1889) [1]

Genus *Zygomyia*
* *Zygomyia angusta* Plassmann, 1977 [1]
Zygomyia humeralis (Wiedemann, 1817) [1]
Zygomyia kiddi Chandler, 1991 [1]
Zygomyia notata (Stannius, 1831) [1]
Zygomyia pictipennis (Staeger, 1840) [1, 2]
Zygomyia pseudohumeralis Caspers, 1980 [1]
Zygomyia semifusca (Meigen, 1818) [1]
* *Zygomyia valeriae* Chandler, 1991 [1]
Zygomyia valida Winnertz, 1863 [1]
Zygomyia vara (Staeger, 1840) [1]

Notes on the species considered to be new to science

Two species of *Diadocidia* appear to be new to science but need further verification. One is close to *D. (D.) fissa* Zaitzev, 1994 and *D. (D.) furnacea* Chandler, 1994 in the structure of the male terminalia. The other is very close to *D. (D.) ferruginosa*, but has distinctly more triangular ninth tergite and slightly more slender gonostylus. The two undescribed species of *Cordyla* are already known from several areas in the Nordic region, but their description is pending on a forthcoming revision (O. Kurina in prep.). The undescribed species of *Pseudexechia* is close to *P. trisignata* and will be described in a forthcoming European revision (J. Kjærandsen in prep.). Three species of *Phronia* apparently await description, one of which will be described by Jakovlev & Polevoi (*submitted*). Finally, two species of *Mycetophila* could not be assigned to any known species.

Species new to Norway

Codes: MT = Malaise trap, WT = window trap.

Allodia (B.) neglecta Edwards, 1925
MRI, Sunndal, Jordalsgrend, 31 May-14 Jun 2005 (WT) — 1 ♂; 29 Jul-12 Aug 2005 (WT) — 1 ♂; 25 Aug-15 Sep 2005 (WT) — 1 ♂; Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♂; **MRY**, Aure, Ånes, 31 May-14 Jun 2006 (WT) — 1 ♂.

A Palaearctic species, widely distributed in Europe.

Anatella pseudogibba Plassmann, 1977
MRY, Aure, Ånes, 1 Mar-1 Apr 2007 — 1 ♂ (WT).
A European species, known from western parts and Estonia.

Boletina bidenticulata Sasakawa & Kimura, 1974
MRI, Nesset, Øvre Vike, site 1, 12 Jun-28 Jul 1999 (MT) — 6 ♂♂.
This species, originally described from Japan, was recently reported from the European part of Russia and Finland (Zaitzev et al. 2006). It has previously been confused with *B. dispecta* in Europe.

Bolitophila (Bolitophila) basicornis (Mayer, 1951)
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 14 Jun-3 Jul 2005 (WT) — 1 ♂.
This widely distributed Palaearctic species has to our knowledge not previously been published from Norway.

Bolitophila (Bolitophila) caspersi Plassmann, 1986
MRI, Sunndal, Jordalsgrend, 1-31 May 2004 (MT) — 1 ♂.
A little known Palaearctic and probably strictly boreal species, in Europe previously recorded only from northern Sweden (type material) and Finland (Polevoi et al. 2006).

Bolitophila (Bolitophila) tenella Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 6-11 Nov 2005 (WT) — 5 ♂♂; 1 Feb-1 Mar 2006 (WT) — 1 ♂.
This widely distributed Palaearctic species has to our knowledge not previously been published from Norway.

Bolitophila (Cliopisa) ingrica Stackelberg, 1969
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
This widely distributed Palaearctic species has to our knowledge not previously been published from Norway.

Bolitophila (Cliopisa) limitis Polevoi, 1996
MRI, Sunndal, Jordalsgrend, 13-31 May 2005 (WT) — 1 ♂.
A little known species previously reported from the type locality in southeastern Finland only (Polevoi 1996).

Brachypeza (Brachypeza) armata Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 29 Jul-25 Aug 2005 (WT) — 2 ♂♂.
A Palaearctic species with a mainly northwestern distribution in Europe.

Brevicornu canescens (Zetterstedt, 1852)
= *Brevicornu griseolum* auct. nec (Zetterstedt, 1852)
MRI, Sunndal, Jordalsgrend, 6-23 Oct 2005 (WT) — 1 ♂.
This species name was reinstated by Kjærandsen (2005), but not implemented in the Norwegian checklist by Gammelmo & Søli (2006). Hence, previous Norwegian records of *B. griseolum* now most likely refers to *B. canescens*, while *B. boreale* (Lundström, 1914) is a junior synonym of the true *B. griseolum* sensu auctore (see Kjærandsen 2005).

Brevicornu fasciculatum (Lackschewitz, 1937)
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 26 Aug-6 Oct 2004 (MT) — 4 ♂♂; 25 Aug-15 Sep 2005 (WT) — 1 ♂; Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♂; site 3 (MT) — 1 ♂.
This European species was previously known from Karelia, Finland, Sweden, Latvia, Germany and the Czech Republic (Chandler 2005).

Brevicornu improvisum Zaitzev, 1992
MRY, Aure, Ånes, 31 May-14 Jun 2006 (WT) — 1 ♂.
A Holarctic species with a northwestern distribution in Europe.

Brevicornu nigrofuscum (Lundström, 1909)
MRI, Sunndal, Jordalsgrend, 1-6 Oct 2004 26 (MT) — 10 ♂♂; 13-31 May 2005 (WT) — 1 ♂; 15-12 Aug 2005 (WT) — 5 ♂♂.
A European species with a western distribution.

Brevicornu verralli (Edwards, 1925)
MRI, Sunndal, Jordalsgrend, 6-23 Oct 2005 (WT) — 1 ♂.
This Western Palaearctic species is widespread in Europe.

Cordyla insons Lastovka & Matile, 1974
MRI, Sunndal, Jordalsgrend, 1-May-13 Jul 2004 (MT) — 5 ♂♂; 26 Aug-6 Oct 2004 (MT) — 3 ♂♂; 13 May 2005-14 Jun 2005 (WT) — 4 ♂♂; 25 Aug-1 Dec 2005 (WT) — 10 ♂♂.
A Palaearctic species, widely distributed in Europe.

Exechia borealis Lundström, 1912
MRI, Sunndal, Jordalsgrend, 11 Nov-1 Dec 2005 (WT) — 1 ♂.
This species was recently reinstated as separate from *E. spinuligera* and mentioned from Norway by (Kjærandsen et al. 2007b)

Exechiopsis (Xenexechia) seducta (Plassmann, 1976)
MRI, Sunndal, Jordalsgrend, 1-26 Apr 2006 (WT) — 1 ♂.
This European species was previously known only from Karelia (Polevoi 2000), Finland (Jakovlev et al. 2006), Sweden (type) and Hungary (Chandler 2005).

Macrocera angulata Meigen, 1818
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂; Nesset, Øvre Vike, site 3, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
A Western Palaearctic species, widely distributed in Europe.

Monoclona braueri (Strobl, 1895)
MRI, Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♂; site 3 (MT) — 1 ♂.
This Palaearctic species has a northern and central distribution in Europe. Confusion is possible with the closely related and Holarctic *Monoclona furcata* Johannsen, 1910, in Europe reported only from Norway (Økland & Zaitzev 1997) and Romania (Chandler 2005).

Monoclona silvatica Zaitzev, 1983
? = *Monoclona mikii* Kertesz, 1898
MRI, Sunndal, Jordalsgrend, 31 May-26 Aug 2004 (MT) — 1 ♀, 3 ♂♂.
A little known Palaearctic species, in Europe previously reported from eastern and central parts (Chandler 2005). According to Chandler (2005) this species is an unconfirmed junior synonym of *Monoclona mikii* Kertesz, 1898 (not known from Norway). An old record of *M. mikii* from Finland by C. Lundström is incorrect and rather belongs to *M. braueri* (J. Jakovlev pers. com.).

Mycetophila biusta Meigen, 1818
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
This western European species was listed without any known Norwegian records by Gammelmo & Søli (2006).

Mycetophila blanda Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 12-25 Aug 2005 (WT) — 1 ♂; 6-23 Oct 2005 (WT) — 1 ♂.
This Palaearctic species is widely distributed in Europe.

Mycetophila forcipata Lundström, 1913
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♀; 25 Aug-6 Oct 2005 (WT) — 2 ♀♀, 1 ♂; 1-26 Apr 2006 (WT) — 6 ♀♀, 5 ♂♂. MRY, Aure, Ånes, 13-31 May 2006 (MT) — 1 ♂.
A widely distributed Palaearctic species.

Mycetophila gentilicia Zaitzev, 1999
MRI, Sunndal, Jordalsgrend, 31 May-6 Oct 2004 (MT) — 5 ♂♂; 26 Apr-14 Jun 2005 (WT) — 2 ♂♂; 25 Aug-15 Sep 2005 (WT) — 2 ♂♂; 6 Oct-11 Nov 2005 (WT) — 16 ♂♂; 1-26 Apr 2006 (WT) — 4 ♂♂; Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 1 ♂.
Identification of species in the *M. vittipes* group is difficult and several species have been described based only on minute details of the male gonostylus. Using Zaitzev (1999, 2003) we find the specimens to belong to *M. gentilicia*, previously known only from the Moscow and Kostroma provinces and Altai Mountains of Russia (Zaitzev 2003). However, it is likely to be an overlooked species.

Mycetophila magnicauda Strobl, 1895
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 6-23 Oct 2005 (WT) — 4 ♂♂; 1-26 Apr 2006 (WT) — 1 ♀, 2 ♂♂.
A widely distributed European species.

Mycetophila nigrofusca Dziedzicki, 1884
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂; 6-23 Oct 2005 (WT) — 2 ♂♂; Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
This Palaearctic species has a mainly northwestern distribution in Europe.

Mycetophila occultans Lundström, 1913
MRI, Sunndal, Jordalsgrend, 1-26 Apr 2006 (WT) — 1 ♂; Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 3 ♂♂.
A widely distributed European species.

Mycetophila perpallida Chandler, 1993
MRI, Sunndal, Jordalsgrend, 15 Sep-23 Oct 2005 (WT) — 5 ♂♂.
This Western Palaearctic species is widespread in Europe but has previously been confused with *M. fungorum*.

Mycetophila quadra Lundström, 1909
MRI, Sunndal, Jordalsgrend, 1-26 Apr 2006 (WT) — 1 ♂; 6-23 Oct 2006 (MT) — 1 ♂.
A Palaearctic species, in Europe previously reported from Karelia, Finland, Sweden, Germany, Switzerland and Hungary (Chandler 2005). The two ♀♀ from Jordalsgrend differ from the illustrated type material (Lundström 1909) and illustration by Zaitzev (2003) in having two instead of three large spoon shaped setae apically on the ventral branch of the gonostylus.

Mycetophila sigmoides Loew, 1869
MRI, Nesset, Øvre Vike, site 1, 12 Jun-28 Jul 1999 (MT) — 2 ♂♂.
This Holarctic species has in Europe previously been reported only from the Czech Republic and Hungary (Chandler 2005).

Mycetophila stolida Walker, 1856
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂; Nesset, Øvre Vike, site 3, 2-28 Jul 1999 (MT) — 1 ♂.
This Holarctic species is widely distributed in Europe.

Mycetophila strobli Lastovka, 1972
MRI, Sunndal, Jordalsgrend, 23 Oct-1 Dec 2006 (MT) — 3 ♂♂.
This Palaearctic species is widely distributed in Europe.

Mycetophila subsigillata Zaitzev, 1999
MRI, Sunndal, Jordalsgrend, 31 May-6 Oct 2004 (MT) — 17 ♀♀, 21 ♂♂.
Of this Palaearctic species there are so far only scattered records in Europe. Some earlier European records of *M. sigillata* Dziedzicki, 1884 (not known from Norway) may refer to this species.

Mycetophila uliginosa Chandler, 1988
MRI, Sunndal, Jordalsgrend, 31 May-6 Oct 2004 (MT) — 7 ♂♂.
This European species is previously reported only from Great Britain, Spain and France (Chandler 2005).

Mycetophila v-nigrum Lundström, 1913
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♂; 6-23 Oct 2005 (WT) — 1 ♂; Nesset, Øvre Vike, site 3, 2-28 Jul 1999 (MT) — 1 ♂.
This Palaearctic species is widely distributed in Europe.

Mycetophila zetterstedti Lundström, 1906
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♂; 6 Oct-11 Nov 2005 (WT) — 11 ♂♂.
This Palaearctic species is in Europe reported from northern and central parts (Chandler 2005).

Mycomya (Mycomya) collini Edwards, 1941
MRI, Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 1 ♂.
A poorly known European species with unknown biology, previously recorded at a few localities in England, Germany, Switzerland, Estonia and Finland (Väisänen 1984, Chandler 2005, Falk &

Chandler 2005). May be under-recorded due to low population size (Falk & Chandler 2005).

Mycomya (Mycomya) karelica Väisänen, 1979
MRI, Sunndal, Jordalsgrend, 31 May-14 Jun 2005 (WT) — 1 ♂; 15 Sep-23 Oct 2005 (WT) — 3 ♂♂; Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 1 ♂.
A little known Palaearctic species, in Europe previously known with a northeastern distribution recorded from Karelia, Finland, Estonia and Poland (Chandler 2005).

Mycomya (Mycomyopsis) paradentata Väisänen, 1984
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂.
A Palaearctic species, in Europe widely distributed north of the Mediterranean area (Chandler 2005).

Phronia coritanica Chandler, 1992
MRI, Sunndal, Jordalsgrend, 31 May-6 Oct 2004 (MT) — 8 ♂♂; 25 Aug-1 Dec 2005 (WT) — 31 ♂♂; 1-26 Apr 2006 (WT) — 11 ♂♂.
This European species has mainly a westerly distribution (Chandler 2005).

Phronia maculata Dziedzicki, 1889
MRI, Sunndal, Jordalsgrend, 1 May-6 Oct 2004 (MT) — 32 ♂♂; 29 Jul-12 Aug 2005 (WT) — 1 ♂; 25 Aug-15 Sep 2005 (WT) — 4 ♂♂; 6-23 Oct 2005 (WT) — 1 ♂.
This Palaearctic species in widely distributed in Europe.

Phronia triangularis Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 26 Aug-6 Oct 2004 (MT) — 3 ♂♂; 26 Apr-13 May 2005 (WT) — 1 ♂; 25 Aug-11 Nov 2005 (WT) — 12 ♂♂; 1-26 Apr 2006 (WT) — 5 ♂♂.
A widely distributed European species.

Phronia vitrea Plassmann, 1999
MRI, Sunndal, Jordalsgrend, 13 Jul-6 Oct 2004 (MT) — 7 ♂♂.
This European species has a mainly northwesterly distribution. Listed without known records by Gammelmo & Søli (2006). Might have been reported under the name *P. longelamellata* by Søli (1994) (see Kallweit 1998, Chandler 2001).

Rymosia spinipes Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♂.
A widespread Palaearctic species, seemingly uncommon and local throughout its range.

Sceptonia demeijerei Bechev, 1997
MRI, Nesset, Øvre Vike, site 3, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
A mainly northwestern European species.

Sceptonia pughi Chandler, 1991
MRI, Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♀, 1 ♂.
This European species is known from Finland (Jakovlev et al. 2006), Sweden (Kurina et al. 2005), Great Britain, France, Slovakia, Hungary and Bulgaria (Chandler 2005).

Sceptonia thaya Sevcik, 2004
MRI, Nesset, Øvre Vike, site 2, 2-28 Jul 1999 (MT) — 1 ♂.
This European species is so far reported only from The Czech Republic (type) and Finland (Jakovlev et al. 2006).

Sciophila jakutica Blagoderov, 1992
MRI, Nesset, Øvre Vike, site 3, 2-28 Jul 1999 (MT) — 1 ♂.
A Palaearctic species described from Siberia (Blagoderov 1992), in Europe previously recorded from Karelia, Finland, Sweden, The Czech Republic and Switzerland (Chandler 2005).

Sciophila pomacea Chandler 2006
= *S. ochracea* Stephens in Walker, 1856 [homonym]
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
A Holarctic species, in Europe previously recorded from Russia N (Karelia) and S. Finland, Denmark, Germany, Great Britain and France (Chandler 2005). A replacement name was suggested by Chandler (2006) due to homonymy.

Synplasta gracilis (Winnertz, 1863)
MRI, Sunndal, Jordalsgrend, 13-31 May 2005 (WT) — 1 ♀; **MRY**, Aure, Ånes, 13 May-14 Jun 2006 (WT) — 4 ♀♀, 6 ♂♂; 1-26 Apr 2007 (WT) — 1 ♀.
First records of this genus from Norway, a second yet unidentified species of *Synplasta* also present with a single female from Jordalsgrend. *S. gracilis* is widely distributed in Europe.

Syntemna elegantia Plassmann, 1978
MRI, Sunndal, Jordalsgrend, 6-23 Oct 2005 (WT) — 3 ♂♂; Nesset, Øvre Vike, site 1, 12 Jun-28 Jul 1999 (MT) — 1♀, 4 ♂♂; site 2, 12 Jun-2 Jul 1999 (MT) — 2 ♂♂.
This species is known from northern and central parts of Europe.

Trichonta apicalis Strobl, 1898
MRI, Sunndal, Jordalsgrend, 1-26 Apr 2006 (WT) — 2 ♂♂.
A widely distributed European species.

Trichonta excisa Lundström, 1916
MRI, Nesset, Øvre Vike, site 3, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
A Holarctic species, in Europe previously known only from Karelia, Poland and Romania (Chandler 2005).

Trichonta girschneri Landrock, 1912
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
This Holarctic species is widely distributed in Europe.

Trichonta subterminalis Zaitzev & Menzel, 1996
MRI, Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 — 2 ♂♂; **MRY**, Aure, Ånes, 26 Apr-14 Jun 2006 — 6 ♂♂.
A Palaearctic species; in Europe previously known from Ukraine, Russia C, Estonia (Chandler 2005), and Finland (Polevoi et al. 2006).

Zygomyia angusta Plassmann, 1977
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♀, 1 ♂.
This European species is previously known only from Karelia, Estonia and Germany (Chandler 2005), and from Finland (Jakovlev et al. 2006).

Zygomyia valeriae Chandler, 1991
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
This species is previously known with a mainly southwestern distribution in Europe.

Species on the 2006 Norwegian Red List

Acnemia longipes Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 13 Jul-6 Oct 2004 (MT) — 1 ♀, 61 ♂♂; 25 Aug-11 Nov 2005 (WT) — 4 ♀♀, 14 ♂♂.
This wide Palaearctic species has mainly a northwestern distribution in Europe. Redlisted (DD) in Norway based on a single record from western Norway (HOY) (Gammelmo et al. 2006). Probably a common species in southern Norway.

Allodia (Allodia) zaitzevi Kurina, 1998
MRI, Sunndal, Jordalsgrend, 26 Apr-31 May 2005 (WT) — 20 ♂♂; 25 Aug-11 Nov 2005 (WT) — 39 ♂♂; 1-26 Apr 2006 (WT) — 36 ♂♂; **MRY**, Aure, Ånes, 26 Apr-13 May 2006 (WT) — 6 ♂♂.
Listed without known records by Gammelmo & Søli (2006), and redlisted (NT) based on a single record from southeastern Norway (VE) (Gammelmo et al. 2006). Probably a common and widespread species in Norway, possibly partly reported as *A. (A.) pyxidiiformis* Zaitzev, 1983 by Økland & Zaitzev (1997).

Allodia (Brachycampta) alternans (Zetterstedt, 1838)
MRI, Sunndal, Jordalsgrend, 14 Jun-3 Jul 2005 (WT) — 1 ♂; **MRY**, Aure, Ånes, Stølhaugen, 15 m a.s.l., 26 Apr-31 May 2006 (WT) — 4 ♂♂.
Redlisted (NT) based on records from two localities in southeastern Norway (AK, VE).

Allodia (Brachycampta) foliifera (Strobl, 1910)
MRI, Sunndal, Jordalsgrend, 1-31 May 2004 (MT) — 1 ♂; 25 Aug-15 Sep 2005 (WT) — 1 ♂; **MRY**, Aure, Ånes, Stølhaugen, 15 m a.s.l., 13-31

May 2006 (WT) — 10 ♂♂; 31 May-14 Jun 2006 (WT) — 7 ♂♂.
Redlisted (NT) based on a single record from southeastern Norway (VE).

Anatella aquila Zaitzev, 1989
MRY, Aure, Ånes, 26 Apr-31 May 2006 (WT) — 4 ♂♂.
Redlisted (DD) based on a single record from western Norway (SFI) (Søli 1994).

Anatella turi Dziedzicki, 1923
MRI, Sunndal, Jordalsgrend, 3-15 Jul 2005 (WT) — 1 ♂.
Redlisted (NT) based on records from two localities (SFI, AK).

Boletina takagii Sasakawa & Kimura, 1974
MRI, Sunndal, Jordalsgrend, 15 Sep-6 Oct 2005 (WT) — 1 ♂; 11 Nov-1 Dec 2005 (WT) — 1 ♂; Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 4 ♂♂; site 2 (MT) — 1 ♂; site 3 (MT) — 1 ♂.
A little known Palaearctic and probably strictly boreal species, in Europe previously recorded only from northern parts of Karelia (Polevoi 2000), northern Finland (Jakovlev et al. 2006) and Norway (FV) (Gammelmo & Søli 2006). Redlisted (DD) and suggested by Gammelmo et al. (2006) to be associated with sandy pine forests. The present records represent the most western and southern locality in Europe. Type material from Hokkaido, Japan has been studied by the first author to confirm the identity of this species.

Bolitophila (Cliopisa) edwardsiana Stackelberg, 1969
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂.
This species is redlisted (DD) based on a single record from southeastern Norway (HES) (Økland & Zaitzev 1997).

Brevicornu serenum (Winnertz, 1863)
MRI, Sunndal, Jordalsgrend, 1-31 May 2004 (MT) — 3 ♂♂; 13 Jul-6 Oct 2004 (MT) — 3 ♀♀, 3 ♂.
Redlisted (NT) based on a single record from southeastern Norway (VE) (Gammelmo & Søli 2006).

Diadocidia (Adidocidia) valida Mik, 1874
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 25 Aug-23 Oct 2005 (WT) — 5 ♀♀.
Redlisted (NT) and previously known only from three localities (TEY, VE, SFI) (Rindal & Gammelmo 2007).

Exechia nigroscutellata Landrock, 1912
MRI, Sunndal, Jordalsgrend, 23 Oct-11 Nov 2005 (WT) — 2 ♀♀, 5 ♂♂.
Redlisted (VU) based on a single record from southeastern Norway (AK) (Gammelmo & Søli 2006).

Exechia pseudocincta Strobl, 1910
MRI, Sunndal, Jordalsgrend, 12 Aug-6 Oct 2005 (WT) — 1 ♀, 4 ♂♂.
Redlisted (VU) based on a single record from southeastern Norway (AK) (Gammelmo & Søli 2006).

Exechiopsis (Exechiopsis) landrocki (Lundström, 1912)
MRI, Sunndal, Jordalsgrend, 25 Aug-15 Sep 2005 (WT) — 1 ♀; 6-23 Oct 2005 (WT) — 1 ♀.
Redlisted (DD) based on a single female record from southwestern Norway (HOI). Although only females have been published from Norway, the single record from mine galleries in Atramadalen by Kjærandsen (1993) has been confirmed later by more material of both sexes, and the female terminalia conforms to illustrations provided by Burghele-Balacesco (1967).

Exechiopsis (Xenexechia) leptura (Meigen, 1830)
MRI, Sunndal, Jordalsgrend, 26 Apr-13 May 2005 (WT) — 1 ♂; 31 May-14 Jun 2005 (WT) — 1 ♂; 25 Aug-15 Sep 2005 (WT) — 2 ♂♂; 23 Oct-11 Nov 2005 (WT) — 1 ♀, 1 ♂; 1-26 Apr 2006 (WT) — 6 ♂♂; **MRY**, Aure, Ånes, Stølhaugen, 15 m a.s.l., 13 May-14 Jun 2006 (WT) — 4 ♂♂; 1 Mar-1 Apr 2007 (WT) — 1 ♂.
Redlisted (VU) based on a single record from southeastern Norway (AK) (Økland & Zaitzev 1997). Probably a common species in western Norway.

Exechiopsis (Xenexechia) membranacea (Lundström, 1912)
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 26 Apr-14 Jun 2005 (WT) — 1 ♀, 3 ♂♂; 3-15 Jul 2005 (WT) — 1 ♂; 25 Aug-23 Oct 2005 (WT) — 7 ♀♀, 13 ♂♂; 1-26 Apr 2006 (WT) — 4 ♂♂; **MRY**, Aure, Ånes, 26 Apr-31 May 2006 (WT) — 4 ♂♂.
Redlisted (DD) based on a single record from western Norway (SFI) (Søli 1994). Probably a common species in western Norway.

Keroplatus testaceus Dalman, 1818
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂; 3-15 Jul 2005 (WT) — 1 ♂; 29 Jul-15 Sep 2005 (WT) — 2 ♂♂.
This large conspicuous species is redlisted (VU), likely to have a strong preference for old-growth forests, and known from few localities only (Økland & Søli 1992).

Leia bilineata (Winnertz, 1863)
MRI, Sunndal, Jordalsgrend, 23 Oct-11 Nov 2005 (WT) — 1 ♂.
Redlisted (VU) based on a single record from southeastern Norway (TEY) (Gammelmo et al. 2006).

Leia cylindrica (Winnertz, 1863)
MRI, Sunndal, Jordalsgrend, 6-23 Oct 2005 (WT) — 1 ♀, 4 ♂♂.
Redlisted (VU) based on records from two localities in southeastern Norway (AK, VE) (Gammelmo et al. 2006).

Monocentrota lundstroemi Edwards, 1925
MRY, Molde, Sekken, Jul 1980 (light trap, leg. T. Andersen) — 1 ♂.
Redlisted (DD) based on a record from one locality only (HOY) (Gammelmo et al. 2006).

Mycetophila abbreviata Landrock, 1914
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♂.
Redlisted (DD) based on a single record from western Norway (SFI) (Søli 1994).

Mycetophila gibbula Edwards, 1925
MRI, Sunndal, Jordalsgrend, 1 May-13 Jul 2004 (MT) — 2 ♂♂; 6 Oct-11 Nov 2005 (WT) — 2 ♂♂; 1-26 Apr 2006 (WT) — 1 ♂; Nesset, Øvre Vike, site 1, 2-28 Jul 1999 (MT) — 1 ♂.
Redlisted (EN) based on a single record from southeastern Norway (AK) (Gammelmo et al. 2006).

Mycetophila formosa Lundström, 1911
MRI, Sunndal, Jordalsgrend, 6-23 Oct 2005 (WT) — 2 ♂♂; 11 Nov-1 Dec 2005 (WT) — 1 ♂; 1 Feb-1 Mar 2006 (WT) — 1 ♂.
Redlisted (VU) based on a single record from southeastern Norway (VE) (Gammelmo & Søli 2006).

Mycetophila edwardsi Lundström, 1913
MRI, Sunndal, Jordalsgrend, 31 May-6 Oct 2004 (MT) — 7 ♀♀, 16 ♂♂; 3-15 Jul 2005 (WT) — 1 ♂; 25 Aug-15 Sep 2005 (WT) — 2 ♂♂; 6 Oct-1 Dec 2005 (WT) — 3 ♂♂.
Redlisted (VU) based on a single record from southeastern Norway (VE) (Gammelmo & Søli 2006).

Mycomya (Cymomya) circumdata (Staeger, 1840)
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 2 ♂♂; 15 Sep-23 Oct 2005 (WT) — 2 ♂♂.
This widely distributed Palaearctic species is redlisted (NT) based on one record only from southeastern Norway (TEY) (Gammelmo & Søli 2006).

Mycomya (Mycomya) denmax Väisänen, 1979
MRI, Sunndal, Jordalsgrend, 15 Sep-6 Oct 2005 (WT) — 1 ♂.
This wide Holarctic species has mainly a northwestern distribution in Europe. Redlisted (VU) based on a single record from southeastern Norway (AK) (Gammelmo et al. 2006).

Neuratelia nigricornis Edwards, 1941
A little known species, in Norway known only with one ♀ from **MRI**: Norddal, Tafjord, 15 Jun 1989 (Gammelmo & Søli 2006) and redlisted (DD) by Gammelmo et al. (2006).

Palaeodocosia alpicola (Strobl, 1895)
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 3 ♂♂; 15 Jul-12 Aug 2005 (WT) — 1 ♀, 4 ♂♂.
Redlisted (VU) based on a single record from southeastern Norway (TEY) (Gammelmo & Søli 2006).

Phronia dziedzickii Lundström, 1906
MRI, Sunndal, Jordalsgrend, 31 May-13 Jul 2004 (MT) — 1 ♂; 25 Aug-6 Oct 2005 (WT) — 5 ♂♂.
Redlisted (VU) based on a single record from southeastern Norway (OS) (Økland & Zaitzev 1997).

Phronia obtusa Winnertz, 1863
MRI, Sunndal, Jordalsgrend, 13 Jul-26 Aug 2004 (MT) — 1 ♂; 1-26 Apr 2006 (WT) — 1 ♂.
Redlisted (NT) based on records from two localities in southeastern Norway (AK) (Gammelmo et al. 2006, Økland & Zaitzev 1997)

Phronia unica Dziedzicki, 1889
MRI, Sunndal, Jordalsgrend, 1-26 Apr 2006 (WT) — 3 ♂♂.
Redlisted (DD) based on a single record from western Norway (HOY) (Gammelmo & Søli 2006).

Sciophila nonnisilva Hutson, 1979
MRI, Sunndal, Jordalsgrend, 1-31 May 2004 (MT) — 1 ♂; 13 Jul-26 Aug 2004 (MT) — 1 ♂; Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
Redlisted (NT) based on a few records in southeastern Norway (OS) (Økland & Zaitzev 1997).

Sciophila salassea Matile, 1983
MRI, Sunndal, Jordalsgrend, 1-31 May 2004 (MT) — 1 ♂; Nesset, Øvre Vike, site 1, 12 Jun-2 Jul 1999 (MT) — 9 ♂♂ (2 ♂♂ deposited NMS and 1 ♂ coll. Chandler); site 2 (MT) — 2 ♂♂.
Redlisted (VU) based on a few records from southeastern Norway (OS) (Økland & Zaitzev 1997). The record from Øvre Vike published by Chandler (2006) concerns the same material as listed above.

Symmerus annulatus (Meigen, 1830)
MRI, Nesset, Øvre Vike, site 3, 12 Jun-2 Jul 1999 (MT) — 1 ♂.
Redlisted (EN) and previously known only from four localities in southeastern Norway (AK, TEY) (Gammelmo & Rindal 2006).

Symmerus nobilis Lackschewitz, 1937
MRI, Sunndal, Jordalsgrend, 31 May-26 Aug 2004 (MT) — 2 ♀♀, 5 ♂♂; 15-29 Jul 2005 (WT) — 3 ♂♂; Nesset, Øvre Vike, site 3, 2-28 Jul 1999 (MT) — 2 ♂♂.
Redlisted (EN) and previously known only from two localities in southeastern Norway (AK, TEY) (Gammelmo & Rindal 2006). Gammelmo & Rindal (2006) suggested the *Symmerus* species to have a preference for south facing warm broadleaved forests. While the site at Øvre Vike can be characterized as such, the site at Jordalsgrend is facing NW and is hardly a typical warm, broadleaved forest.

Other noteworthy species

Diadocidia (Adidocidia) trispinosa Polevoi, 1996
Diadocidia (Adidocidia) borealis auct. nec Coquillett, 1900
MRI, Sunndal, Jordalsgrend, 1 May-13 Jul 2004 (MT) — 1 ♀, 4 ♂♂.
Published under the name *D. (A.) borealis* by Økland & Zaitzev (1997), and previously known from a number of sites in SE Norway (AK, BØ, OS, HEN, HES) (Rindal & Gammelmo 2007).

Cordyla bomloensis Kjærandsen & Kurina, 2004
MRI, Sunndal, Jordalsgrend, 26 Aug-6 Oct 2004 (MT) — 1 ♂; 29 Jul-12 Aug 2005 (WT) — 1 ♀.
The first record of this species after the original description from localities further south in western Norway (HOY, RY) (Kjærandsen & Kurina 2004). After screening large amounts of European *Cordyla* this unique species has only been found at a few oceanic localities in western Norway and in a boreal-alpine area of the Italian Alps (Kurina submitted, pers. comm.).

DISCUSSION

High species diversity at a single site

By using two complementary trapping methods throughout the year in a practically unstudied area of Norway we revealed a high diversity of fungus gnats at a single site. Altogether 315 species of fungus gnats entering an area of roughly 1 square meter over a two years timeframe may be characterized as exceptionally high species richness. Møre og Romsdal and the site at Jordalsgrend now have 63 % and 56 %, respectively, of the known Norwegian fauna of the family Mycetophilidae. Some 16 % of the species are new to the Norwegian fauna a year after updated checklists have been published, and 3 % are new to science. Yet, the actual number of fungus gnats in Møre og Romsdal is probably considerably larger.

The story is not new. Every time a larger survey of fungus gnats have been undertaken in the Nordic region surprisingly new and higher levels of species diversity have been revealed (Plassmann 1978, 1979, 1980, Søli 1994, Økland & Zaitzev 1997, Hedmark 1998, 2000, Polevoi 2000, Kurina et al. 2005, Jakovlev & Siitonen 2005, Jakovlev et al. 2006). Many little known species from remote areas turn up as rarities, later often to become known as widely distributed and even common. A smaller proportion of species are usually also claimed to be new to science (typically 4-10 %). This might be seen as a normal description of the knowledge accumulation for a diverse and little known insect group with few active taxonomists, but after some 200 years of taxonomic work on fungus gnats in Europe, and several larger surveys in the Nordic region, one would expect the knowledge of the fauna to have reached a saturated level where the rate of new discoveries are on the decline. This seems not to be the case as yet (see Kjærandsen et al. 2007a) and this contribution brings us very fast towards the estimated fauna of 550 Norwegian species of Mycetophilidae (Gammelmo & Søli 2006).

The species richness at Jordalsgrend is considerably higher than Søli (1994) reported using extensive sweep netting, one Malaise trap and two light traps during one season at 11 localities at Jostedalen. It is about the same species richness that Økland & Zaitzev (1997) reported based on numerous Malaise and window trap catches over a three year period at 38 localities spread over boreal and boreonemoral forests of southeastern Norway. It is a considerably higher diversity than Kurina et al. (2005) reported using Malaise and window traps at 17 localities over a two years period in boreonemoral, oak-dominated forests in Sweden. The Messaure area with boreal mixed-deciduous forest in northern Sweden (LU) is known to have higher species richness (Hedmark 2000, (Kjærandsen et al. 2007a) and in boreal areas of southern Finland (Ta) 433 species of fungus gnats have been caught in old spruce-dominated forests using 20 Malaise traps at 10 sites during one season (J. Jakovlev pers. com.). If we compare the species composition from Jordalsgrend with other surveys we find only 43 % of the species in common with Jostedalen, 56 % of the species in common with the mainly boreal forests of southeastern Norway, 75 % of the species in common with boreal forests of northern Sweden (LU), and 48 % of the species in common with boreonemoral forests of southern Sweden. Still, 9 % of the species from Jordalsgrend were not reported in any of the areas mentioned above, and 8 % seem to form a group of species mainly distributed in the boreonemoral and/or nemoral zone. The latter group include species like *Cordyla bomloensis, Monoclona silvatica, Mycetophila adumbrata, Mycetophila forcipata, Mycetophila gentilicia, Palaeodocosia alpicola, Phronia conformis, Phronia coritanica, Phronia maculata, Phronia triangularis, Phthinia winnertzi* and *Zygomyia valeriae*. Another four species in this group were also reported from nearby Jostedalen, viz. *Anatella longisetosa, Mycetophila mohilevensis, Mycetophila ornata* and *Phronia humeralis*.

There are several plausible explanations for the high species diversity found at Jordalsgrend. As opposed to many other insects groups fungus gnats seem to display an increasing diversity towards the north in Europe (Jakovlev & Siitonen 2005, Kjærandsen & Bengtson 2005), possibly with the exception of some southern high altitude forests (see Kurina *submitted*). Being mainly crepuscular, drought intolerant forests dwellers, fungus gnats are well adapted to the largely cool and wet climate in the Nordic region. The major vegetation zones in the Nordic countries (nemoral, boreonemoral, boreal and arctic/alpine) can be explained largely by variation in summer temperatures from south to north or from lowland to higher altitudes. In addition, there are vegetation sections following a gradient from oceanic (warm winters, humid, small temperature range) to continental climate (cold winters, dry, large temperature range) (Moen 1998). In Norway, only southern parts of the boreal and the boreonemoral zone having a more or less continental (or weakly oceanic) climate are reasonably well studied with respect to fungus gnats. The present paper represents the first larger survey in the boreal-oceanic (Atlantic) area along the coast of Norway where the boreal, mixed or deciduous forests at some places may be climatologically considered to be temperate rain forest (see Holien & Tønsberg 1996, Gaarder 2004). It seems reasonable to assume that such a "rain forest element", with boreal, old-growth deciduous and mixed forests, is a particularly suitable habitat for fungus gnats. Jostedalen, surveyed by Søli (1994), is situated only about 150 km south of Jordalsgrend and has some similarities, but this area has a less oceanic climate (Moen 1998), and the forest is dominated by birch (Søli 1994).

Økland (1996) found the proportion of old-growth forest in the surrounding 100 km^2 landscape to show the strongest influence on species richness of fungus gnats in southeastern Norway. The environmental variable OLDGRWTH used by Økland (1996) is difficult to evaluate at Jordalsgrend due to the complexity of the surrounding landscape with a high proportion of sea surface and alpine areas. The variable KEYHABMIX defined as the proportion of key habitats and protected areas of mixed forests within a circle of radius 1 km and used by Økland et al. (2005) is easier to evaluate. 40 % of this circle is covered by sea (fjord) at Jordalsgrend, but in the remaining land area, KEYHABMIX is

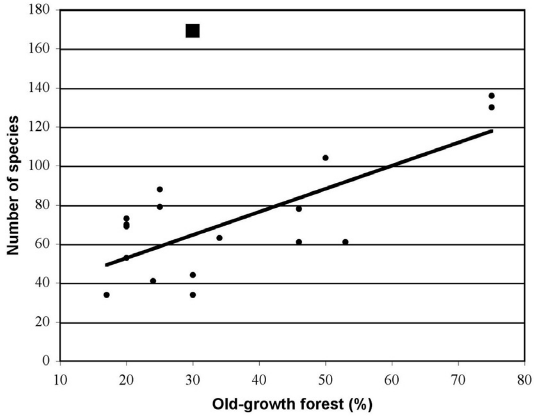

Figure 3. Number of fungus gnat species expressed as proportion of old-growth forest in the surrounding landscape. A comparison between the 17 Malaise trap collections from boreal and boreonemoral, spruce-dominated forests of southeastern Norway (dots and trendline) reproduced from Økland (1996), and the closest comparable Malaise trap sample (31 May - 26 Aug 2004) from the boreal-oceanic, old deciduous forest at Jordalsgrend in the present study (big square).

assumed to be approximately 30 %. A comparison between the 17 Malaise trap collections from boreal and boreonemoral, spruce-dominated forests of southeastern Norway (Økland 1996), and the closest comparable Malaise trap sample from Jordalsgrend (31 May - 26 August 2004) reveals a large gap in favour of Jordalsgrend with 169 recorded species, way above the trend observed in forests of southeastern Norway (Figure 3). Økland et al. (2005) studied a region generally poor in old-growth forest (southern Sweden). There they found precipitation (generally intercorrelated with altitude and oceanity) to be the strongest factor explaining the variation in species richness. The positive correlation to precipitation is consistent with our results from Jordalsgrend where the average yearly precipitation (1500 mm) is considerably higher than in southeastern Norway and in the boreonemoral zone in Sweden (roughly ranging between 500 and 1000 mm).

On the redlisted species

Many fungus gnats are undoubtly dependent on the restricted and threatened occurrence of undisturbed old-growth forests in Norway, and with their high species diversity they can serve as an excellent model group for biomonitoring. With 126 species included in the 2006 Norwegian Red List, a welcome and rightful attention is brought to the group. In light of the discussion above, however, fungus gnats representing 54 % of all redlisted Diptera in Norway might be partly unjustified at our present state of knowledge. While the current Red List of fungus gnats seems to be based mainly on the fauna studied in southeastern Norway, the rich fauna of fungus gnats further north and west in Norway might reveal a rather different picture. We demonstrate here that investigations in new areas and using alternative methods of sampling reveal that some of the redlisted fungus gnats may be widespread and common. For comparison, only fungus gnats of the family Keroplatidae were considered well enough known to be evaluated in the 2005 Swedish Red List, resulting in only 4 % of the redlisted Diptera being fungus gnats (Gärdenfors 2005).

The finding of 30 redlisted species at Jordalsgrend and four additional species from other localities in Møre og Romsdal, is a high number, even taking into consideration the qualities of the forest at Jordalsgrend. Three of the species found in Møre og Romsdal are considered to be endangered (EN) in Norway. Our findings of both species of *Symmerus* give a completely new perspective on the distribution of the family Ditomyiidae in Norway, previously reported from southeastern parts only (Gammelmo & Rindal 2006), and redlisted due to restricted extent of occurrence and occupancy. The species *Mycetophila gibbula* is listed as endangered in Norway due to restricted area of occupancy, based on a single record from southeastern Norway. This species is widespread in Europe and also characterized as widespread in Sweden (Kjærandsen et al. submitted). Altogether 9 of the 12 species considered to be vulnerable (VU), and all redlisted due to restricted area of occupancy, are previously known only with one record each from southeastern Norway. The species *Exechia nigroscutellata, E. pseudocincta* and *Leia cylindrica* appear to be quite widespread and common in Sweden (Kjærandsen et al. 2007a) and Finland (J. Jakovlev pers. com.). Four of the 9 species considered to be near threatened (NT) are previously known only with one record each in Norway. Several of them are found in high numbers and at more than one locality in Møre og Romsdal. For instance, *Allodia zaitzevi*, found in abundance at Jordalsgrend and Ånes, is a common species in boreal and boreonemoral areas of Sweden (Kjærandsen et al. 2007a) and one of the most common species in southern Finland (J. Jakovlev pers. com.). Among the 10 species considered to be data deficient (DD), at least *Acnemia longipes* and *Exechiopsis (X.) membranacea* might prove to be common and widespread in Norway.

Implications for forest management

At this stage, rather than focusing on redlisted fungus gnats, we recommend documentation of species diversity of the group as a better criterion for forest management. As pointed out by Økland & Zaitzev (1997), boreal deciduous forests are underrepresented in investigations of fungus gnats, and this is especially true for the old deciduous forests with continuity in dead wood. The high species diversity found at Jordalsgrend reveals a new picture when compared with other surveys in the Nordic region, and the old, (sub)oceanic forests dominated by deciduous trees may form important "hot spots" for both fungus gnats and other organisms. In addition to normal processes creating dead wood, snow avalanches and rock falls break down trees in the steep West Norwegian mountain slopes, thus speeding up the process of creating decaying wood. Populations of many species dependent on dead wood may be larger here than elsewhere. Our results indicate that there may exist a new and hitherto unknown boreal element of fungus gnats that could be especially present in humid, old-growth deciduous or mixed forests, a possible "boreal rainforest element". However, we will not speculate further on this pending on a better understanding of the distribution pattern of fungus gnats in the entire Nordic region. Alternatively, these oceanic forests may have high species diversity, consisting of a mixture of widespread boreal and boreonemoral species, mainly due to the favourable climate and especially where the proportion of dead and decaying wood is high. In any case, there are several reasons to underline the significance of the oceanic forests of western Norway as important areas for the conservation of biological diversity in a regional perspective, and this may have implications for future forest management as these forests are underrepresented in most conservation plans. Further investigations in the "rain forests" of Norway are highly recommended.

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REFERENCES

Amorim, D. S. & Rindal, E. 2007. Phylogeny of the Mycetophiliformia, with proposal of the subfamilies Heterotrichinae, Ohakuneinae, and Chiletrichinae for the Rangomaramidae (Diptera, Bibionomorpha). Zootaxa 1535, 1-92.

Bechev, D. 2000. World distribution of the genera of fungus gnats (Diptera: Sciaroidea, excluding Sciaridae). Studia dipt. 7, 543-552.

Blagoderov, V. A. 1992. A preliminary list of Fungus-gnats of Yakutia (Siberia) with descriptions of two new species (Diptera: Mycetophiloidea). Ann. Upper Silesian Mus. Ent. 3, 45-50.

Blagoderov, V. A. & Grimaldi, D. 2004. Fossil Sciaroidea (Diptera) in Cretaceous ambers, exclusive of Cecidomyiidae, Sciaridae, and Keroplatidae. Am. Mus. Novit. 3433, 1-76.

Burghele-Balacesco, A. 1967. Les Mycetophilidae (Diptères) cavernicoles de la collection Biospeologica (IV^e-VIII^e séries des "Grottes visitées"). Int. J. Speleol. 2, 319-334.

Chandler, P. J. 2001. Fungus gnats (Diptera: Sciaroidea) new to Britain. Br. J. Ent. Nat. Hist. 13, 215-243.

Chandler, P. J. 2005. Fauna Europaea: Mycetophilidae. In H. de Jong (ed.), Fauna Europaea: Diptera, Nematocera. Fauna Europaea, version 1.2. [Available via http://www.faunaeur.org]

Chandler, P. J. 2006. Additions and changes to the British fauna of fungus gnats (Diptera: Mycetophilidae). Br. J. Ent. Nat. Hist. 19, 77-89.

Colwell, R. K. 2007. Biota 2.04 - the biodiversity database manager. Sinauer Associates, Sunderland MA. [available via http://viceroy.eeb.uconn.edu/biota]

Falk, S. J. & Chandler, P. J. 2005. A review of the scarce and threatened flies of Great Britain. Part 2: Nematocera and Aschiza not dealt with by Falk (1991). Joint Nature Conservation Committee, 1-189.

Gaarder, G. 2004. Regnskog på Nordvestlandet - finnes det? [Rain forest in NW Norway - does it exist?] Rallus 33, 112-121. [in Norwegian]

Gammelmo, Ø., Nielsen, T. R., Falck, M., Greve, L. & Søli, G. E. E. 2006. Tovinger Diptera. Pp. 285-296 in J. A. Kålås, Å. Viken & T. Bakken (eds.), Norsk Rødliste 2006 – 2006 Norwegian Red List. Artsdatabanken, Norway. [Also available with additional information on species at www.artsdatabanken.no]

Gammelmo, Ø. & Rindal, E. 2006. On the family Ditomyiidae (Diptera, Sciaroidea) in Norway. Norw. J. Entomol. 53, 47-49.

Gammelmo, Ø. & Søli, G. E. E. 2006. Norwegian fungus gnats of the family Mycetophilidae (Diptera, Nematocera). Norw. J. Entomol. 53, 57-69.

Gärdenfors, U. (ed) 2005. Rödlistade arter i Sverige 2005 – The 2005 Red List of Swedish species. ArtDatabanken, SLU, Uppsala. 496 pp.

Hedmark, K. 1998. Svampmyggor – nya arter för Sverige och Finland (Diptera: Mycetophilidae s. lat.). Ent. Tidskr. 119, 1-12. [in Swedish with English summary]

Hedmark, K. 2000. Svampmyggor i tajgan – nya arter för Sverige i ett fennoskandiskt perspektiv (Diptera: Sciaroidea exkl. Sciaridae). Ent. Tidskr. 121, 73-89. [in Swedish with English summary]

Hedström, L. 1994. Hur många arter av myggor och flugor har vi i Sverige? Ent. Tidskr. 115, 11-22. [in Swedish with English symmary]

Holien, H. & Tønsberg, T. 1996. Boreal regnskog i

Norge - habitatet for trøndelagselementets lavarter [Boreal rain forest in Norway - the habitat for an element of lichen species in Trøndelag]. Blyttia 54, 157-177. [in Norwegian]

Hutson, A. M., Ackland, D. M. & Kidd, L. N. 1980. Mycetophilidae (Bolitophilinae, Ditomyiinae, Diadocidiinae, Keroplatinae, Sciophilinae and Manotinae) Diptera, Nematocera. 111 pp. Royal Entomological Society of London, London.

Jakovlev, J., Kjærandsen, J. & Polevoi, A. V. 2006. Seventy species of fungus gnats new to Finland (Diptera: Mycetophilidae). Sahlbergia 11, 22-39.

Jakovlev, J. & Polevoi, A. V. *submitted*. Two new species of the genus *Phronia* Winnertz (Diptera: Mycetophilidae) from Finland and Russian Karelia. Entomol. Fenn.

Jakovlev, J. & Siitonen, J. 2005. Finnish fungus gnats (Diptera, Mycetophilidae etc.): Faunistics, habitat requirements and threat status. Lammi Notes 30, 3-7.

Jordal, J. B. 2004. Et gløtt inn i Sunndalsnaturen – en kartlegging av viktige naturtyper. [A glance upon the nature of Sunndal – mapping of important areas for nature management]. Sunndal kommune, rapport, 262 pp. [in Norwegian]

Jordal, J. B. 2005. Kartlegging av naturtypar i Nesset kommune. [Mapping of important areas for for nature management in Nesset municipality] Rapport J. B. Jordal nr. 6-2005, 162 pp. [in Norwegian]

Kallweit, U. 1998. Notes on some types of Mycetophilidae (Diptera) described by G. Strobl. Studia dipt. 5, 153-157.

Kjærandsen, J. 1993. Diptera in mines and cave systems in southern Norway. Entomol. Fenn. 4, 151-160.

Kjærandsen, J. 2005. A review of fungus gnats in the tribe Exechiini (Diptera, Mycetophilidae) from the J. W. Zetterstedt collection at the Museum of Zoology in Lund, Sweden. Zootaxa 856, 1-35.

Kjærandsen, J. 2006. Review of fungus gnats of the genus *Tarnania* Tuomikoski, with a phylogeny of the *Rymosia* s.l. genus group (Diptera: Mycetophilidae). Insect Syst. Evol. 37, 121-148.

Kjærandsen, J. & Bengtson, S.-A. 2005. Svampmyggor - artrik insektsgrupp som trivs så in i Norden. Fauna och Flora (Stockh.) 100, 26-34. [in Swedish]

Kjærandsen, J. & Jørgensen, L. L. 1992. Fungus-gnats from the Faroes (Diptera, Mycetophilidae). Entomol. Medd. 60, 85-87.

Kjærandsen, J., Hedmark, K., Kurina, O., Polevoi, A., Økland, B. & Götmark, F. 2007a. Annotated checklist of fungus gnats from Sweden (Diptera: Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae and Mycetophilidae). Insect Syst. Evol. 65, 1-127.

Kjærandsen, J. & Kurina, O. 2004. A new species of *Cordyla* Meigen from Norway (Diptera: Mycetophilidae). Norw. J. Entomol. 51, 137-143.

Kjærandsen, J., Kurina, O. & Ólafsson, E. 2007b. The fungus gnats of Iceland (Diptera, Keroplatidae & Mycetophilidae). Insect Syst. Evol. Suppl. 64, 61-96.

Kurina, O. *submitted*. Fungus gnats (Diptera: Sciaroidea excl. Sciaridae) in Stilfserjoch National Park, south Tyrol, Italy. Studia dipt.

Kurina, O., Polevoi, A., Götmark, F., Økland, B., Frank, N., Nordén, B. & Hedmark, K. 2005. Fungus gnats (Diptera: Sciaroidea excl. Sciaridae) in the Swedish boreonemoral forests. Studia dipt. 11, 471-488.

Lundström, C. 1909. Beiträge zur Kenntnis der Dipteren Finland. IV. Supplement Mycetophilidae. Acta Soc. Fauna Flora Fennica 32, 1-67.

Miller, G. 2005. Linnaeus's Legacy Carries On. Science 307, 1038-1039.

Moen, A. 1998. Vegetation. National Atlas of Norway. 199 pp. Statens kartverk, Hønefoss. [English edition]

Økland, B. 1996. Unlogged forests: Important sites for preserving the diversity of mycetophilids (Diptera: Sciaroidea). Biol. Conserv. 76, 297-310.

Økland, B., Götmark, F., Nordén, B., Franc, N., Kurina, O. & Polevoi, A. 2005. Regional diversity of mycetophilids (Diptera: Sciaroidea) in Scandinavian oak-dominated forests. Biol. Conserv. 121, 9-20.

Økland, B. & Søli, G. E. E. 1992. The genus *Keroplatus* Bosc, 1792 - an interesting addition to the Norwegian fauna (Diptera, Keroplatidae). Fauna Norv. Ser. B 39, 85-88.

Økland, B. & Zaitzev, A. I. 1997. Mycetophilids (Diptera, Sciaroidea) from southeastern Norway. Fauna Norv. Ser. B 44, 27-37.

Økland, K. A. 1981. Inndeling av Norge til bruk ved biogeografiske oppgaver - et revidert Strand-system. [Division of Norway for use in biogeographic work - a revision of the Strand-system]. Fauna 34, 167-178. [in Norwegian]

Ottesen, P. 1993. Norske insektfamilier og deres artsantall [Norwegian insect families and their species numbers]. NINA Utredning 55, 1-40. [in Norwegian with English Summary]

Petersen, F. T. & Meier, R. 2001. A preliminary list of the Diptera of Denmark. Stenstrupia 26, 119–276.

Plassmann, E. 1978. Pilzmücken aus Messaure in Schweden. I. Barberfallenfänge (Diptera: Mycetophilidae). Senckenb. Biol. 58, 147-156.

Plassmann, E. 1979. Pilzmücken aus Messaure in Schweden. II. Luftstrom-Fallenfänge (Insecta: Diptera: Mycetophilidae). Senckenb. Biol. 59, 371-388.

Plassmann, E. 1980. Pilzmücken aus Messaure in Schweden. III. Lichtfallenfänge (Insecta: Diptera: Mycetophilidae). Senckenb. Biol. 60, 175-189.

Polevoi, A. V. 1996. New and poorly known fungus gnats of the families Bolitophilidae, Diadocidiidae and Keroplatidae from Eastern Fennoscandia (Diptera, Nematocera). Zoosyst. Ross. 4, 177-182.

Polevoi, A. V. 2000. Fungus gnats (Diptera: Bolitophilidae, Ditomyiidae, Keroplatidae, Diadocidiidae, Mycetophilidae) in Karelia. 84 pp. Karelian Research Centre, Russian Academy of Sciences, Petrozavodsk. [in Russian with English summary]

Polevoi, A. V. & Jakovlev, J. 2004. Changes in the Finnish fauna of fungus gnats (Diptera: Mycetophilidae s. l.) since Hackman's checklist. Sahlbergia 9, 135-140.

Polevoi, A. V., Jakovlev, J. & Zaitzev, A. I. 2006. Fungus gnats (Bolitophilidae, Keroplatidae and Mycetophilidae) new to Finland. Entomol. Fenn. 17, 161-169.

Pont, A. C. & Meier, R. 2002. The Sepsidae (Diptera) of Europe. Fauna Entomol. Scand. 37, 1-221.

Rindal, E. & Gammelmo, Ø. 2007. On the family Diadocidiidae (Diptera, Sciaroidea) in Norway. Norw. J. Entomol. 54, 69-74.

Siebke, H. 1877. Enumeratio Insectorum Norwegicum, Fasculum IV, Catalogum Dipterorum continentem. 255 pp. A. W. Brøgger, Christiania.

Søli, G. E. E. 1994. Fungus gnats from Jostedalen, West Norway (Diptera; Diadocidiidae and Mycetophilidae). Fauna Norv. Ser. B 41, 1-12.

Väisänen, R. 1984. A monograph of the genus Mycomya Rondani in the Holarctic region (Diptera, Mycetophilidae). Acta Zool. Fenn. 177, 1-346.

Yakovlev, E. B. 1994. Palearctic Diptera associated with fungi and myxomycetes. 127 pp. Karelian Research Center, Russian Academy of sciences, Forest Research Institute, Petrozavodsk. [In Russian, with English summary]

Zaitzev, A. I. 1999. New species of the *Mycetophila vittipes*-group from Russia (Diptera: Mycetophilidae). Zoosyst. Ross. 8, 183-187.

Zaitzev, A. I. 2003. Fungus gnats (Diptera, Sciaroidea) of the fauna of Russia and adjacent regions. Part II. Int. J. Dipterol. Res. 14, 77-386.

Zaitzev, A. I., Jakovlev, J. & Polevoi, A. V. 2006. Palaearctic species of the *Boletina nitida*-group (Diptera: Mycetophilidae) including the description of a new species. Studia dipt. 12, 243-253.

Zetterstedt, J. W. 1852. Diptera scandinaviae disposita et descripta. Lundae 11, xii + 4091-4545.

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