

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

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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 hardiest are species in the tribe Exechiini which can stand extreme temperatures down to minus 50°C (Sformo *et al.* 2009). In recent time, Eberhard

Plassmann was among the first to document the high species diversity of fungus gnats in northern Fennoscandia, primarily based on material from Messaure field station in Northern Sweden (e.g. Plassmann 1978, 1979, 1980). Later, important contributions to our knowledge about the northern Fennoscandian fungus gnat fauna have been given by e.g. Gammelmo & Söli (2006), Hedmark (1998, 2000), Jakovlev *et al.* (2006, 2008), Kjærandsen & Jordal (2007), Kjærandsen *et al.* (2007), Kurina *et al.* (2005), Økland & Zaitzev (1997), Polevoi & Jakovlev (2004), Polevoi & Hedmark (2004), Polevoi *et al.* (2006), Söli (1994) and Söli & Kjærandsen (2008).

Today it is recognized that the fauna of fungus gnats in boreal Fennoscandia is at least as species rich as in Central Europe (Jakovlev & Siitonen 2005; Kjærandsen & Bengtson 2005). Moreover, recent findings seem to indicate that Fennoscandia may hold the highest diversity of fungus gnats in Europe, with an estimated 800 species of Mycetophilidae.

Material and methods

This study is mainly based on material from 24 localities (Table 1) sampled in 2010 during the project “*Insects inhabiting freshwater and humid habitats in Finnmark*”, by means of sweep net and Malaise traps. In the result part, these localities are referred to by locality number only. General information about the project, together with a detailed review of the studied localities, can be found in Ekrem *et al.* (2012). In addition, material from previous collecting by Malaise traps in Finnmark has been included (see Table 2). These records are listed as “Additional material” in the result part. Despite that some of these records have previously been published, they have been included to reach a full account for the mycetophilid fauna in Finnmark. For the same reason, we have also included previously published records for seven additional species.

Despite not being aquatic organisms, fungus gnats are dependent upon humid habitats as most species appear to be vulnerable to dehydration. Many species live for several months, and to avoid

desiccation during dry periods they aggregate in humid places like overhanging banks along creeks and rivulets, in caves or crevices between stones, in hollow trees etc. In such periods one may find ten thousands of specimens gathered within a rather small area, representing a wide array of species. Hence, sampling in such habitats yields good results with reduced effort within short time.

All specimens were preserved in alcohol. Subsequently, more than 1000 specimens were air dried (after being stored for at least one hour in 96% alcohol) and pinned. Where needed, the male genitalia was dissected and cleared in lactic acid in a microwave oven for 10–60 seconds, studied under microscope, transferred to glycerol in a microvial, and stored together with the pinned specimen. All specimens are kept in the entomological collection of the Museum of Natural History, University of Oslo (NHMO).

More than 500 specimens have been sent to iBOL in Guelph, Canada, and DNA-barcoded.

The identification of species in the subfamily Mycetophilinae mainly follows Zaitzev (2003).

Results

The list of species follows Kjærandsen *et al.* (2007). Species new to Norway (marked with an asterisk) are commented on, together with rare and uncommon species.

MYCOMYINAE

Mycomya (Mycomya) bialorussica Landrock, 1925

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 1♂.

Remarks. Based on this record, the species was published as new to Norway by Gammelmo & Söli (2006).

Mycomya (Mycomya) bicolor Dziedzicki, 1885

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 1♂.

Remarks. The species has previously been reported from Finnmark (Kvalsund: Skaidi) by Väisänen (1984).

TABLE 1. Localities for Mycetophilidae in the project "Insects inhabiting freshwater and humid habitats in Finnmark" (see Ekrem *et al.* 2012).

Locality abbr.	Strand Region	Municipality, place	Position	Elevation (m a.s.l.)	Note
FinLoc05	FV	Alta, Gargia fjellstue	N69.80525 E23.48937	120	
FinLoc06	FV	Alta, Gåppaelva	N70.02786 E23.39476	3	
FinLoc11	FI	Karasjok, Doaresjavri	N69.67189 E25.26865	300	
FinLoc15	FI	Karasjok, Veahkkava	N69.42701 E24.94451	185	
FinLoc16	FI	Karasjok, Haldeguolbba	N69.44373 E25.29269	160	
FinLoc18	FI	Kautokeino, Kautokeinoelva, Masi	N69.44818 E23.68368	275	
FinLoc21	FI	Kautokeino, Nahpoljohka	N69.21029 E23.76200	320	Malaise 4
FinLoc29	FN	Lebesby, small pond near Baktejavri	N70.44099 E26.80499	80	
FinLoc42	FN	Porsanger, Baukop site 1	N70.20469 E24.90605	26	Malaise 6
FinLoc56	FN	Porsanger, Rørkulpen	N70.15215 E24.76686	28	Malaise 5
FinLoc59	FN	Porsanger, Sarvvesjavri	N70.28661 E25.07341	66	
FinLoc61	FN	Porsanger, Store Bjørnelva	N70.13668 E25.25187	13	
FinLoc64	FN	Porsanger, Øvrevatn	N69.84383 E25.07607	76	
FinLoc65	FØ	Sør-Varanger, Pasvik, Russevang	N69.44497 E29.89904	60	Malaise 7
FinLoc69	FØ	Sør-Varanger, Pasvik, Emanuelbekken	N69.30367 E29.26350	51	
FinLoc71	FØ	Sør-Varanger, Pasvik, Indre Loken	N69.45719 E30.00216	23	
FinLoc72	FØ	Sør-Varanger, Pasvik, Karalampi lake	N69.29613 E29.18719	134	
FinLoc75	FØ	Sør-Varanger, Pasvik, Melkefoss	N69.40509 E29.79536	29	Site 1
FinLoc76	FØ	Sør-Varanger, Pasvik, Melkefoss	N69.39857 E29.78201	40	Site 2
FinLoc77	FØ	Sør-Varanger, Pasvik, Mikkelstad	N69.41121 E29.80667	83	
FinLoc81	FØ	Sør-Varanger, Pasvik, Sametijohka near Sameti	N69.40106 E29.71923	43	Malaise 8
FinLoc89	FØ	Sør-Varanger, Pasvik, Tormajavri	N69.26996 E29.11843	146	
FinLoc92	FØ	Sør-Varanger, Pasvik, Steinbekken (Vaggatem)	N69.23103 E29.16092	63	
FinLoc95	FN	Tana, Šerresgieddi (Searesgieddi),	N70.48173 E28.01378	42	

TABLE 2. Additional localities for Mycetophilidae included in the material sections; not being part of the Finnmark project.

Strand region	Municipality, place	Position	Leg.
FV	Alta, Detsika, Buolamalia	N69.8628° E23.3297° ± 50m	L.O. Hansen & H. Rinden
FV	Alta, Eiby, Valsetmoen	N69.8956° E23.2392° ± 50m	L.O. Hansen & H. Rinden
FV	Alta, Mattisdalen	N69.8487° E22.9034° ± 250m	L.O. Hansen & H. Rinden
FV	Alta, Kåfjord, Møllnes	N69.9503° E23.0578° ± 50m	L.O. Hansen & H. Rinden
FV	Alta, Elvestrand	N69.9519° E23.2656° ± 500m	H. Rinden
FV	Måsøy, Rolvsøya, Gunnarnes	N70.9978° E24.1072° ± 50m	P. Tangen
FN	Porsanger, Gaggavann	N69.8242° E25.2007° ± 10m	Per E. Aas

Mycomya (Mycomya) cinerascens (Macquart, 1826)

Project material. FinLoc71, 8 September 2010, 1♂.

Mycomya (Mycomya) disa Väisänen, 1984

Remarks. The species has been reported from Finnmark (Porsanger: Børselv; Kvalsund: Skaidi; Alta: Leirbotn; Alta: Mattiselva) by Väisänen (1984).

Mycomya (Mycomya) egregia (Dziedzicki, 1885)

Project material. FinLoc92, 7 September 2010, 1♂.

Mycomya (Mycomya) fuscata (Winnertz, 1863)

Additional material. FV, Alta: Detsika, 6 August–25 September 1996, 1♂.

Remarks. Based on this record, the species was published as new to Norway by Søli & Kjærandsen (2008).

Mycomya (Mycomya) griseovittata (Zetterstedt, 1852)

Project material. FinLoc89, 20 June 2010, 2♂♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 2♂♂; Eiby, 6 July–8 August 1995, 1♂.

Remarks. The species was first reported from Finnmark (Alta: Leirbotn; Alta: Mattiselva; Tana: Nedre Storfossen; Kvalsund: Skaidi; Porsanger: Børselv; Sør-Varanger: Emanuelbekken) by Väisänen (1984) (as *M. fasciata* Zetterstedt, 1838).

Mycomya (Mycomya) hackmani Väisänen, 1984

Remarks. The species was reported from Finnmark (Kvalsund; Tana: Nedre Storfossen; Porsanger: Børselv) by Väisänen (1984).

Mycomya (Mycomya) lambi Edwards, 1941

Project material. FinLoc59, 3 September 2010, 1♂.

Mycomya (Mycomya) levis (Dziedzicki, 1885)

Project material. FinLoc69, 7 September

2010, 1♂; FinLoc76, 8 September 2010, 1♂.

Mycomya (Mycomya) maculata (Meigen, 1804)

Project material. FinLoc72, 7 September 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂.

Mycomya (Mycomya) nigricornis (Zetterstedt, 1852)

Project material. FinLoc11, 3 September 2010, 3♂♂; FinLoc16, 3 September 2010, 2♂♂; FinLoc56, 26 July–25 August 2010, 1♂; FinLoc61, 4 September 2010, 1♂; FinLoc72, 7 September 2010, 2♂♂.

Additional material. FV, Måsøy: Rolvsøya, September 1992, 1♂; Alta: Detsika, 8 August–10 September 1995, 2♂♂; Eiby, 6 July–8 August 1995, 2♂♂; Porsanger: Gaggavann, 7–30 September 2009, 1♂.

Remarks. The species has previously been reported from Finnmark (Alta: Seiland) by Väisänen (1984).

Mycomya (Mycomya) nitida (Zetterstedt, 1852)

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc65, 25 June–20 July 2010, 3♂♂1♀; FinLoc69, 19 June 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 11♂♂; Kåfjord, 3 July–8 August 1995, 1♂; Detsika, 11 June–3 July 1995, 29♂♂; Mattisdalen, 23 June–4 August 1996, 38♂♂10♀♀.

Remarks. The species has previously been reported from Finnmark (Alta: Leirbotn; Alta: Mattiselva; Kvalsund: Skaidi; Tana: Nedre Storfossen; Porsanger: Børselv) by Väisänen (1984).

Mycomya (Mycomya) ornata (Meigen, 1818)

Remarks. The species was reported from Finnmark (Alta: Leirbotn; Kvalsund: Skaidi) by Väisänen (1984).

***Mycomya (Mycomya) ruficollis* Zetterstedt, 1852**

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂.

***Mycomya (Mycomya) shermani* Garrett, 1924**

Project material. FinLoc11, 3 September 2010, 2♂♂; FinLoc15, 3 September 2010, 4♂♂; FinLoc16, 3 September 2010, 2♂♂; FinLoc29, 4 September 2010, 15♂♂; FinLoc56, 26 July–25 August 2010, 3♂♂ 1♀; FinLoc59, 3 September 2009, 250♂♂; FinLoc61, 4 September 2009, 72♂♂; FinLoc69, 7 September 2010, 2♂♂; FinLoc71, 8 September 2010, 23♂♂; FinLoc72, 7 September 2010, 29♂♂; FinLoc75, 8 September 2010, 4♂♂; FinLoc76, 8 September 2010, 26♂♂; FinLoc92, 7 September 2010, 2♂♂; FinLoc95, 4 September 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 60♂♂; Eiby, 6 July–8 August 1995, 3♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 3♂♂.

Remarks. The species has previously been recorded from Finnmark (Alta: Seiland) by Väisänen (1984).

***Mycomya (Mycomya) sigma* Johannsen, 1910**

Project material. FinLoc69, 7 September 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

***Mycomya (Mycomya) subarctica* Väisänen, 1979**

Project material. FinLoc71, 8 September, 1♂; FinLoc72, 7 September, 1♂.

Remarks. This rare species has a northern Palaearctic distribution, and was first recorded from Norway (Troms) by Gammelmo & Søli (2006). The species has previously been recorded northern and northwestern Russia and from Finland (Chandler 2004).

***Mycomya (Mycomya) tenuis* (Walker, 1856)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

***Mycomya (Mycomya) tumida* (Winnertz, 1863)**

Project material. FinLoc81, 19 June 2010, 1♂.

***Mycomya (Mycomya) vittiventris* (Zetterstedt, 1852)**

Project material. FinLoc16, 3 September 2010, 1♂; FinLoc29, 4 September 2010, 78♂♂ 39♀♀; FinLoc56, 26 July–25 August 2010, 2♂♂ 1♀; FinLoc59, 3 September 2010, 33♂♂ 10♀♀; FinLoc61, 4 September 2010, 4♂♂; FinLoc69, 7 September 2010, 1♀; FinLoc71, 8 September 2010, 3♂♂; FinLoc72, 7 September 2010, 1♀; FinLoc76, 8 September 2010, 3♂♂; FinLoc92, 7 September 2010, 2♂♂; FinLoc95, 4 September 2010, 2♂♂ 2♀♀.

***Mycomya (Mycomya) wankowiczii* (Dziedzicki, 1885)**

Project material. FinLoc56, 26 July–25 August 2010, 1♂; FinLoc75, 8 September 2010, 1♂.

Mycomya (Mycomya) sp.

Project material. FinLoc95, 4 September 2010, 2♂♂.

Remarks. The species belongs to the *tenuis*-group, and the male genitalia shows strong similarities to the Nearctic *M. safena* Väisänen, 1984.

***Mycomya (Mycomyopsis) affinis* (Staeger, 1840)**

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 5♂♂.

Remarks. Based on this record, the species was published as new to Norway by Gammelmo & Søli (2006).

***Mycomya (Neomycomya) fimbriata* (Meigen, 1818)**

Project material. FinLoc65, 25 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 1♂.

SCIOPHILINAE

***Allocotocera pulchella* (Curtis, 1837)**

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 9♂♂.

***Azana (Azana) anomala* (Staeger, 1840)**

Project material. FinLoc05, 11–26 June 2010, 1♂ 1♀; FinLoc81, 24 June–24 July 2010, 1♀.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 3♂♂ 1♀; Mattisdalen, 23 June–4 August 1996, 8♂♂9♀♀.

***Polylepta borealis* Lundström, 1912**

Project material. FinLoc21, 25 June–9 July 2010, 2♂♂; FinLoc56, 26 July–25 August 2010, 1♂; FinLoc65, 25 June–20 July 2010, 3♂♂; FinLoc69, 19 June 2010, 1♂; FinLoc77, 19 June 2010, 2♂; FinLoc81, 19 June 2010, 3♂♂; 24 June–20 July 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 2♂♂; Detsika, 11 June – 3 July 1995, 3♂♂.

***Sciophila adamsi* Edwards, 1925**

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Sciophila fenestella* Curtis, 1837**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc56, 26 July–25 August 2010, 1♂.

***Sciophila quadriterga* Hutson, 1979**

Additional material. FV, Alta: Kåfjord, 8 August–10 September 1995, 2♂♂.

Remarks. Based on this record, the species was published as new to Norway by Gammelmo & Søli (2006).

***Sciophila* spp. 1–8**

Remarks. Based on morphology and DNA-barcodes, more than 8 species were sorted out among 30 males. The genus is strongly in need of revision, and for the time, we prefer to report them as unidentified.

GNORISTINAE

***Apolephtisa subincana* (Curtis, 1837)**

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 3♂♂; Detsika, 11 June–3 July 1995, 2♂♂; Mattisdalen, 23 June–4 August

1996, 13♂♂14♀♀, 4 August–26 September 1996, 2♂♂2♀♀.

***Boletina basalis* (Meigen, 1818)**

Project material. FinLoc05, 11–26 June 2010, 3♂♂; FinLoc21, 25 June–9 July 2010, 4♂♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc77, 19 June 2010, 2♂♂; FinLoc81, 24 June–20 July 2010, 3♂♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂; Kåfjord, 3 July–8 August 1995, 2♂♂; Detsika, 11 June–3 July 1995, 29♂♂; Mattisdalen, 23 June–4 August 1996, 8♂♂.

***Boletina borealis* Zetterstedt, 1852**

Project material. FinLoc05, 11–26 June 2010, 4♂♂; FinLoc65, 25 June–20 July 2010, 4♂♂; FinLoc81, 24 June–20 July 2010, 2♂♂.

***Boletina cincticornis* (Walker, 1848)**

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 5♂♂.

***Boletina digitata* Lundström, 1914**

Project material. FinLoc65, 25 June–20 July 2010, 4♂♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂; Kåfjord, 3 July–8 August 1995, 2♂♂; Detsika, 11 June–3 July 1995, 1♂.

Remarks. Based on the material from Eiby, Kåfjord and Detsika, the species was published as new to Norway by Gammelmo & Søli (2006).

***Boletina dissipata* Plassmann, 1986**

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 4♂♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 14♂♂; Eiby, 6 July–8 August 1995, 27♂♂; Porsanger: Gaggavann, 7–30 September 2009, 1♂.

Remarks. Based on the material from Detsika and Eiby, the species was recorded as new to Norway by Gammelmo & Søli (2006).

***Boletina edwardsi* Chandler, 1992**

Project material. FinLoc21, 25 June–9 July 2010, 3♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂; 8 August–10 September 1995, 4♂♂; Eiby, 6 July–8 August 1995, 1♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 8♂♂.

****Boletina fennoscandica* Polevoi & Hedmark, 2004**

Project material. FinLoc11, 3 September 2010, 3♂♂; FinLoc16, 3 September 2010, 2♂♂; FinLoc29, 4 September 2010, 1♂; FinLoc76, 8 September 2010, 2♂♂; FinLoc92, 7 September 2010, 1♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 180♂♂.

Remarks. This rare Palearctic species has not previously been recorded from Norway. The species has a northern, boreal distribution, recorded from northern Russia (Karelia), Finland and Sweden (Kjærandsen *et al.* 2007).

***Boletina gripha* Dziedzicki, 1885**

Project material. FinLoc21, 25 June–9 July 2010, 2♂♂; FinLoc29, 4 September 2010, 4♂♂; FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 26 June–20 July 2010, 3♂♂; FinLoc69, 7 September 2010, 2♂♂; FinLoc72, 7 September 2010, 4♂♂; FinLoc81, 24 June–20 July 2010, 2♂♂; FinLoc92, 7 September 2010, 2♂♂.

Additional material. FV, Måsøy: Rolvsøya, September 1992, 6♂♂; Alta: Detsika, 11 June–3 July 1995, 221♂♂; 8 August–10 September 1995, 648♂♂; Eiby, 6 July–8 August 1995, 804♂♂; Mattisdalen, 23 June–4 August 1996, 15♂♂; 4 August–26 September 1996, 6♂♂; Kåfjord, 3 July–8 August 1995, 6♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 97♂♂.

***Boletina griphoides* Edwards, 1925**

Project material. FinLoc59, 3 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 17♂♂2♀♀; 8 August–10 September 1995, 37♂♂; Eiby, 6 July–8 August 1995, 1♂; Mattisdalen, 23 June–4 August 1996, 3♂♂; 4 August–26 September 1996, 3♂♂.

***Boletina groenlandica* Staeger, 1845**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc77, 19 June 2010, 2♂♂.

***Boletina hedstroemi* Polevoi & Hedmark, 2004**

Project material. FinLoc11, 3 September 2010, 1♂; FinLoc29, 4 September 2010, 10♂♂; FinLoc61, 4 September 2010, 1♂; FinLoc69, 7 September 2010, 1♂; FinLoc76, 8 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 79♂♂; Mattisdalen, 4 August–26 September 1996, 2♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

Remarks. Based on the record from Detsika, the species was published as new to Norway by Søli & Kjærandsen (2008).

****Boletina kivachiana* Polevoi & Hedmark, 2004**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc15, 3 September 2010, 1♂.

Remarks. These findings represent the first records of *B. kivachiana* in Norway. The species has previously been recorded from northern Russia, Finland, Sweden, and Great Britain (Kjærandsen *et al.* 2007).

***Boletina kurilensis* Zaitzev, 1994**

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 2♂♂; Mattisdalen, 4 August–26 September 1996, 1♂.

Remarks. Based on these records, this highly boreal species was recorded new to Norway by Gammelmo & Søli (2006).

***Boletina landrocki* Edwards, 1924**

Additional material. FV, Måsøy: Rolvsøya, September 1992, 1♂.

Remarks. Based on this record the species was published as new to Norway by Gammelmo & Søli (2006).

***Boletina lundbecki* Lundström, 1912**

Project material. FinLoc05, 11–26 June 2010, 4♂♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 24 June–20 July 2010, 4♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂.

***Boletina maculata* Holmgren, 1870**

Project material. FinLoc69, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂; FinLoc89, 20 June 2010, 1♂.

***Boletina minuta* Polevoi, 1995**

Project material. FinLoc29, 4 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 19♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 1♂.

Remarks. Based on the material from Detsika, the species was recorded as new to Norway by Gammelmo & Søli (2006).

***Boletina moravica* Landrock, 1912**

Project material. FinLoc29, 4 September 2010, 1♂; FinLoc59, 3 September 2010, 4♂♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 6♂♂; Detsika, 11 June–3 July 1995, 6♂♂; 8 August–10 September 1995, 35♂♂; Eiby, 6 July–8 August 1995, 2♂♂; Mattisdalen, 23 June–4 August 1996, 16♂♂; 4 August–26 September 1996, 3♂♂.

***Boletina nigricans* Dziedzicki, 1885**

Project material. FinLoc21, 25 June–9 July 2010, 1♂; FinLoc29, 4 September 2010, 1♂; FinLoc42, 17–26 July 2010, 1♂; FinLoc56, 26 July–25 Aug 2010, 2♂♂; FinLoc59, 3 September 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 3♂♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 2♂♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 24 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 2♂♂; 8 August–10 September 1995, 38♂♂; Eiby, 6 July–8 August 1995, 59♂♂; Kåfjord, 3 July–8 August 1995, 1♂; Mattisdalen, 4 August–26 September 1996, 1♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

***Boletina nitida* Grzegorzek, 1885**

Additional material. FV, Alta: Kåfjord, 3

July–8 August 1995, 3♂♂; Detsika, 8 August–10 September 1995, 12♂♂; Mattisdalen, 23 June–4 August 1996, 1♂; 4 August–26 September 1996, 23♂♂.

***Boletina nigrofusca* Dziedzicki, 1885**

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂; 8 August–10 September 1995, 3♂♂; Eiby, 6 July–8 August 1995, 4♂♂; Mattisdalen, 4 August–26 September 1996, 3♂♂.

***Boletina nitiduloides* Zaitzev, 1994**

Project material. FinLoc89, 20 June 2010, 2♂♂.

Remarks. The species has previously been recorded from Finnmark (Sør-Varanger: Pasvik) by Søli & Kjærandsen (2008).

****Boletina pinusia* Maximova, 2001**

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 24♂♂; 8 August–10 September 1995, 27♂♂; Eiby, 6 July–8 August 1995, 27♂♂.

Remarks. The species, described on material from Russia, Kuznetskiy Alatau Nature reserve in West Siberia (Maximova 2001), has previously not been recorded from Fennoscandia.

***Boletina plana* (Walker, 1856)**

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂.

Additional material. FV, Måsøy: Rolvsøya, August 1992, 1♂; Alta: Eiby, 6 July–8 August 1995, 2♂♂; Mattisdalen, 23 June–4 August 1996, 1♂; Detsika, 11 June–3 July 1995, 1♂.

***Boletina polaris* Lundström, 1915**

Additional material. FV, Alta: Mattisdalen, 4 August–26 September 1996, 1♂.

***Boletina populina* Polevoi, 1995**

Project material. FinLoc29, 4 September 2010, 2♂♂; FinLoc76, 8 September 2010, 1♂; FinLoc81, 24 June–20 July 2010, 3♂♂.

Additional material. FV, Alta: Kåfjord, 8 August–10 September 1995, 1♂; Detsika, 11 June–3 July 1995, 46♂♂; 8 August–10 September

1995, 46♂♂; Eiby, 6 July–8 August 1995, 58♂♂; Mattisdalen, 23 June–4 August 1996, 1♂; 4 August–26 September 1996, 9♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

Remarks. Based on the material from Detsika, Eiby and Kåfjord, the species was recorded as new to Norway by Gammelmo & Søli (2006).

****Boletina pseudonitida* Zaitzev, 1994**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc18, 31 August 2010, 1♂; FinLoc21, 25 June–9 July 2010, 3♂♂; FinLoc61, 16 June 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc95, 4 September 2010, 4♂♂.

Remarks. First Norwegian record. This rare, northern species is described from Altai in West Siberia, and later only recorded from Lule Lappmark in Sweden (Kjærandsen *et al.* 2007).

***Boletina rejecta* Edwards, 1941**

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 18♂♂; 8 August–10 September 1995, 5♂♂.

Remarks. Based on these records, the species was published as new to Norway by Gammelmo & Søli (2006).

***Boletina sciarina* Staeger, 1840**

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 8♂♂; Detsika, 11 June–3 July 1995, 11♂♂; 8 August–10 September 1995, 35♂♂; Eiby, 6 July–8 August 1995, 1♂.

***Boletina silvatica* Dziedzicki, 1885**

Project material. FinLoc21, 25 June–9 July 2010, 3♂♂; FinLoc42, 17–26 July 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 12♂♂; 8 August–10 September 1995, 37♂♂; Eiby, 6 July–8 August 1995, 6♂♂; Mattisdalen, 23 June–4 August 1996, 1♂; 4 August–26 September 1996, 1♂.

****Boletina subtriangularis* Polevoi & Hedmark, 2004**

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 12♂♂.

Remarks. First Norwegian record. The

species has previously been recorded from northern Russia (Karelia), Finland, Sweden and Czech Republic (Kjærandsen *et al.* 2007).

***Boletina takagii* Sasakawa & Kimura, 1974**

Project material. FinLoc11, 3 September 2010, 3♂♂; FinLoc16, 3 September 2010, 2♂♂; FinLoc29, 4 September 2010, 10♂♂; FinLoc56, 26 July–25 August 2010, 3♂♂; FinLoc59, 3 September 2010, 31♂♂; FinLoc61, 4 September 2010, 1♂; FinLoc69, 7 September 2010, 2♂♂; FinLoc71, 8 September 2010, 2♂♂; FinLoc72, 7 September 2010, 10♂♂; FinLoc76, 8 September 2010, 6♂♂; FinLoc92, 7 September 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 8 August–September 1995, 70♂♂; Eiby, 6 July–September 1995, 13♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 65♂♂.

Remarks. Based on the material from Detsika and Eiby, the species was recorded as new to Norway by Gammelmo & Søli (2006).

***Boletina tirolensis* Plassmann, 1980**

Project material. FinLoc15, 3 September 2010, 1♂; FinLoc16, 3 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂.

Additional material. FV, Måsøy: Rolvsøya, Gunnarnes, September 1992, 1♂; Alta: Mattisdalen, 4 August–26 September 1996, 1♂.

Remarks. Based on the material from Mattisdalen, the species was recorded as new to Norway by Gammelmo & Søli (2006).

***Boletina triangularis* Polevoi, 1995**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc76, 8 September 2010, 1♂; FinLoc92, 7 September 2010, 3♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 12♂♂; 8 August–10 September 1995, 51♂♂; Eiby, 6 July–8 August 1995, 1♂; 8 August–10 September 1995, 1♂; Mattisdalen, 4 August–26 September 1996, 2♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

Remarks. Based on the material from Detsika and Eiby, the species was recorded as new to Norway by Gammelmo & Søli (2006).

***Boletina trivittata* (Meigen, 1818)**

Project material. FinLoc05, 11–26 June 2010, 1♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 2♂♂; 4 August–26 September 1996, 3♂♂.

***Boletina* spp. 1–2**

Remarks. Ten specimens, representing two species, of which neither are known by us. The species are likely to be undescribed.

***Coelosia flava* (Staeger, 1840)**

Project material. FinLoc65, 25 June–20 July 2010, 1♂2♀♀.

***Coelosia fusca* Bezzi, 1892**

Additional material. FV, Måsøy: Rolvsøya, September 1992, 1♀.

***Coelosia limpida* Plassmann, 1980**

Project material. FinLoc71, 8 September 2010, 1♂.

Remarks. This rare species has so far only been recorded from the northernmost part of Norway and Sweden.

***Coelosia tenella* (Zetterstedt, 1852)**

Project material. FinLoc65, 25 June–20 July 2010, 4♂♂; FinLoc69, 7 September 2010, 3♂♂; FinLoc71, 8 September 2010, 2♂♂; FinLoc72, 7 September 2010, 2♂♂; FinLoc92, 7 September 2010, 1♂.

Additional material. FV, Måsøy: Rolvsøya, July 1992, 1♀; September 1992, 2♂♂; Alta: Kåfjord, 3 July–8 August 1995, 1♂; Detsika, 8 August–10 September 1995, 21♂♂1♀; Eiby, 6 July–8 August 1995, 2♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 5♂♂.

***Coelosia truncata* Lundström, 1909**

Project material. FinLoc11, 3 September 2010, 1♂; FinLoc16, 3 September 2010, 5♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc69, 7 September 2010, 3♂♂; FinLoc71, 8 September 2010, 5♂♂; FinLoc72, 7 September 2010, 7♂♂; FinLoc76, 8 September 2010, 8♂♂; FinLoc81, 24 June–20

July 2010, 1♂; FinLoc92, 7 September 2010, 3♂♂; FinLoc95, 4 September 2010, 2♂♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂.

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

Project material. FinLoc05, 11–26 June 2010, 1♀; FinLoc11, 3 September 2010, 2♂♂; FinLoc56, 26 July–25 August 2010, 2♂♂1♀; FinLoc59, 3 September 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 2♂♂; Mattisdalen, 4 August–26 September 1996, 4♂♂2♀♀; FN, Porsanger: Gaggavann, 7–30 September 2009, 7♂♂1♀.

***Ectrepesthoneura hirta* (Winnertz, 1846)**

Project material. FinLoc65, 25 June–20 July 2010, 3♂♂; FinLoc81, 24 June–20 July 2010, 1♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 1♂; Detsika, 11 June–3 July 1995, 42♂♂; Mattisdalen, 23 June–4 August 1996, 67♂♂4♀♀.

***Ectrepesthoneura pubescens* (Zetterstedt, 1860)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc42, 17–26 July 2010, 1♂; FinLoc65, 25 June–20 July 2010, 3♂♂; FinLoc81, 24 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 3♂♂; Detsika, 11 June–3 July 1995, 15♂♂; Mattisdalen, 23 June–4 August 1996, 2♂♂.

***Ectrepesthoneura referta* Plassmann, 1976**

Project material. FinLoc05, 11–26 June 2010, 4♂♂; FinLoc65, 25 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 1♂.

***Ectrepesthoneura tori* Zaitzev & Økland, 1994**

Project material. FinLoc89, 20 June 2010, 1♂.

***Ectrepesthoneura* sp.**

Project material. FinLoc65, 25 June–20 July 2010, 1♂.

Remarks. The single male could not be identified with certainty.

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

Project material. FinLoc56, 26 July–25 August 2010, 1♂.

***Hadroneura palmeni* Lundström, 1906**

Project material. FinLoc81, 19 June 2010, 1♀.

Remarks. A conspicuous species, which is rarely collected in Norway. The species is only known from Northern Europe (Kjærandsen *et al.* 2007).

***Katatopygia sahlbergi* (Lundström, 1906)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc11, 3 September 2010, 1♂; FinLoc29, 4 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂2♀.

Additional material. FV, Alta: Detsika, 6 August–25 September 1996, 2♂♂; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

Remarks. Based on the material from Detsika, the species was published as new to Norway by Søli & Kjærandsen (2008) (as *Boletina sahlbergi*).

***Palaeodocosia vittata* (Coquillett, 1901)**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc42, 17–26 July 2010, 1♂; FinLoc56, 26 July–25 August 2010, 1♀; FinLoc81, 24 June–20 July 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂; Mattisdalen, 23 June–4 August 1996, 3♂♂4♀♀.

***Sytemna elegantia* Plassmann, 1978**

Project material. FinLoc65, 25 June–20 July 2010, 1♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 1♂.

***Sytemna hungarica* (Lundström, 1912)**

Project material. FinLoc42, 17–26 July 2010, 1♂; FinLoc65, 25 June–20 July 2010, 3♂♂; FinLoc81, 24 June–20 July 2010, 1♂.

***Sytemna nitidula* Edwards, 1925**

Project material. FinLoc65, 25 June–20 July 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

***Sytemna penicilla* Hutson, 1979**

Project material. FinLoc89, 20 June 2010, 2♂♂1♀.

***Sytemna setigera* (Lundström, 1914)**

Project material. FinLoc65, 25 June–20 July 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

LEIINAE

***Docosia gilvipes* (Haliday, 1856)**

Project material. FinLoc65, 25 June–20 July 2010, 2♂♂; FinLoc81, 24 June–20 July 2010, 1♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 1♂.

****Docosia moravica* Landrock, 1916**

Project material. FinLoc56, 26 July–25 August 2010, 1♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 1♂.

Remarks. The species has not previously been recorded from Norway, but is widely distributed in Europe.

***Leia subfasciata* (Meigen, 1818)**

Project material. FinLoc56, 26 July–25 August 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂5♀♀.

***Leia winthemii* Lehmann, 1822**

Project material. FinLoc56, 26 July–25 August 2010, 1♂.

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

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂1♀; FinLoc72, 7 September 2010, 1♂.

Additional material. FV, Alta: Eiby, 6 July–8 August 1995, 1♂.

MYCETOPHILINAE

Tribe Exechiini

Allodia (Allodia) anglofennica Edwards, 1921

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc06, 13 June 2010, 3♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc76, 8 September 2010, 1♂; FinLoc77, 19 June 2010, 1♂. FinLoc81; 24 June–20 July 2010, 1♂.

Allodia (Allodia) confusa Zaitzev, 2003

Project material. FinLoc81, 19 June 2010, 1♂.

Allodia (Allodia) embla Hackman, 1971

Project material. FinLoc69, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂.

Allodia (Allodia) lugens (Wiedemann, 1817)

Project material. FinLoc06, 13 June 2010, 4♂♂; FinLoc61, 13 June 2010, 1♂; FinLoc69, 19 June 2010, 2♂♂; 7 September 2010, 2♂♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc77, 19 June 2010, 3♂♂; FinLoc81, 19 June 2010, 2♂♂; FinLoc89, 20 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 1♂.

Allodia (Allodia) ornaticollis (Meigen, 1818)

Project material. FinLoc16, 3 September 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂.

Allodia (Allodia) pyxidiiformis Zaitzev, 1982

Project material. FinLoc05, 11–26 June 2010, 5♂♂; FinLoc06, 13 June 2010, 9♂♂; FinLoc77, 19 June 2010, 5♂♂.

Allodia (Allodia) septentrionalis Hackman, 1971

Project material. FinLoc05, 11–26 June 2010, 5♂♂; FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 2♂♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂; FinLoc89, 20 June 2010, 1♂.



FIGURE 1. This male of *Allodia*, from Alta in Finnmark, could not be ascribed any species known by the authors, and probably represents an undescribed species. (Photo: Karsten Sund, Natural History Museum, Oslo).

Allodia (Allodia) truncata Edwards, 1921

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc06, 13 June 2010, 2♂♂; FinLoc69, 7 September 2010, 1♂; FinLoc77, 19 June 2010, 2♂♂; FinLoc95, 4 September 2010, 1♂.

Allodia (Allodia) tuomikoskii Hackman, 1971

Project material. FinLoc05, 11–26 June 2010, 4♂♂; FinLoc06, 13 June 2010, 4♂♂; FinLoc77, 19 June 2010, 3♂♂; FinLoc81, 19 June 2010, 2♂♂; 24 June–20 July 2010, 3♂♂; FinLoc89, 20 June 2010, 2♂♂.

Allodia (Allodia) zaitzevi Kurina, 1998

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc06, 13 June 2010, 2♂♂; FinLoc59, 3 September 2010, 4♂♂; FinLoc69, 7 September 2010, 4♂♂; FinLoc72, 7 September 2010, 1♂; FinLoc76, 8 September 2010, 1♂.

Allodia (Allodia) spp. 1–2

Remarks. Ten specimens, representing two species, of which neither are known by us (Figure 1). The species are likely to be undescribed.

****Allodia (Brachycampta) adunca Zaitzev, 1992***

Project material. FinLoc69, 19 June 2010, 1♂; 7 September 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

Remarks. This rare, Holarctic species, recorded from Alaska, northern Russia, Finland and Sweden, has not previously been recorded from Norway.

Allodia (Brachycampta) neglecta Edwards, 1925

Project material. FinLoc05, 11–26 June 2010, 4♂♂.

Allodia (Brachycampta) protenta Laštovka & Matile, 1974

Additional material. FV, Alta: Elvestrand, 18 July–16 September 1996, 2♂♂.

Remarks. Based on this record, the species was published as new to Norway by Søli & Kjærandsen (2008).

Allodia (Brachycampta) rindeni Kjaerandsen, 2007

Remarks. The species was reported from Finnmark (Alta: Elvestrand) by Kjærandsen (2007).

Anatella aquila Zaitzev, 1989

Project material. FinLoc61, 16 June 2010, 1♂.

Anatella laffooni Plassmann, 1977

Project material. FinLoc61, 16 June 2010, 1♂.

Anatella minuta (Staeger, 1840)

Project material. FinLoc05, 11–26 June 2010, 3♂♂.

Anatella setigera Edwards, 1921

Project material. FinLoc06, 13 June 2010, 1♂.

Anatella simpatica Dzedzicki, 1923

Project material. FinLoc06, 13 June 2010, 1♂; FinLoc61, 16 June 2010, 1♂.

****Brevicornu auriculatum (Edwards, 1925)***

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc06, 13 June 2010, 1♂.

Brevicornu bipartitum Lastovka & Matile, 1974

Project material. FinLoc56, 26 July–25 August 2010, 11♂♂; FinLoc81, 19 June 2010, 1♂.

Brevicornu fasciculatum (Lackschewitz, 1937)

Project material. FinLoc59, 3 September 2010, 1♂.

Brevicornu foliatum (Edwards, 1925)

Project material. FinLoc05, 11–26 June 2010, 2♂; FinLoc06, 13 June 2010, 1♂.

Brevicornu fuscipenne (Staeger, 1840)

Additional material. FN, Porsanger: Gagga-vann, 7–30 September 2009, 2♂♂.

Brevicornu griseicolle (Staeger, 1840)

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc69, 7 September 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

Brevicornu improvisum Zaitzev, 1992

Project material. FinLoc05, 11–26 June 2010, 3♂♂.

Brevicornu kingi (Edwards, 1925)

Project material. FinLoc21, 25 June–9 July 2010, 1♂.

Brevicornu ruficorne (Meigen, 1838)

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 1♂.

Brevicornu serenum (Winnertz, 1863)

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Brevicornu sericomae* (Meigen, 1830)**

Project material. FinLoc05, 11–26 June 2010, 1♂.

****Brevicornu setigerum* Zaitzev in Zaitzev & Polevoi, 1995**

Project material. FinLoc05, 11–26 June 2010, 3♂♂.

Remarks. This species, known from northern Russia, has not previously been recorded from Norway, or Fennoscandia.

****Brevicornu setulosum* Zaitzev, 1988**

Project material. FinLoc21, 25 June–9 July 2010, 4♂♂; FinLoc81, 24 June–20 July 2010, 1♂.

Remarks. This Holarctic species, known from northern Russia, Finland and Sweden in the Palaearctic, has not previously been recorded from Norway.

***Brevicornu* spp. 1–2**

Remarks. Two males, representing two species, that could not with certainty be ascribed any species known by us.

***Cordyla brevicornis* (Staeger, 1840)**

Project material. FinLoc69, 7 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂.

***Cordyla fusca* Meigen, 1804**

Project material. FinLoc69, 7 September 2010, 1♂.

***Cordyla insons* Laštovka & Matile, 1974**

Project material. FinLoc16, 3 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc71, 8 September 2010, 2♂♂; FinLoc72, 7 September 2010, 1♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 5♂♂.

***Cordyla nitens* Winnertz, 1863**

Project material: FinLoc72, 7 September 2010, 1♂.

Additional material. FV, Alta: Kåfjord, 21 June–4 August 1996, 2♂♂.

Remarks. Based on the material from Kåfjord,

the species was published as new to Norway by Søli & Kjærandsen (2008).

***Cordyla pusilla* Edwards, 1925**

Project material. FinLoc21, 25 June–9 July 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

***Cordyla* sp.**

Project material. FinLoc89, 20 June 2010, 2♂♂.

Remarks. These two males could at present not be ascribed any species known by us.

***Exechia confinis* Winnertz, 1863**

Project material. FinLoc06, 13 June 2010, 7♂♂.

***Exechia contaminata* Winnertz, 1863**

Project material. FinLoc61, 16 June 2010, 3♂♂.

***Exechia cornuta* Lundström, 1914**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc61, 16 June 2010, 3♂♂; FinLoc71, 8 September 2010, 1♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 1♂.

***Exechia dizona* Edwards, 1924**

Project material. FinLoc69, 19 June 2010, 1♂; 7 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂.

***Exechia dorsalis* (Staeger, 1840)**

Project material. FinLoc06, 13 June 2010, 2♂♂; FinLoc69, 7 September 2010, 1♂; FinLoc72, 7 September 2010, 3♂♂; FinLoc92, 7 September 2010, 1♂.

***Exechia exigua* Lundström, 1909**

Project material. FinLoc06, 13 June 2010, 3♂♂; FinLoc61, 16 June 2010, 2♂♂; FinLoc69, 7 September 2010, 1♂.

***Exechia frigida* (Boheman, 1865)**

Project material. FinLoc15, 3 September 2010, 3♂♂; FinLoc16, 3 September 2010, 2♂♂;

FinLoc29, 4 September 2010, 2♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 7♂♂; 4 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc89, 20 June 2010, 2♂♂; FinLoc92, 7 Sept. 2010, 1♂.

***Exechia fusca* (Meigen, 1804)**

Project material. FinLoc06, 13 June 2010, 5♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 3♂♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 1♂.

***Exechia nigra* Edwards, 1925**

Project material. FinLoc59, 3 September 2010, 2♂♂.

***Exechia nigroscutellata* Landrock, 1912**

Project material. FinLoc81, 24 June–20 July 2010, 1♂.

***Exechia parva* Lundström, 1909**

Project material. FinLoc16, 3 September 2010, 2♂♂.

***Exechia parvula* (Zetterstedt, 1852)**

Project material. FinLoc06, 13 June 2010, 8♂♂; FinLoc69, 19 June 2010, 1♂; 7 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

***Exechia repanda* Johannsen, 1912**

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 2♂♂.

***Exechia separata* Lundström, 1912**

Project material. FinLoc61, 16 June 2010, 2♂♂; FinLoc69, 19 June 2010, 4♂♂; 7 September 2010, 2♂♂; FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 3♂♂.

****Exechia similis* Laštovka & Matile, 1974**

Project material. FinLoc06, 13 June 2010, 1♂; FinLoc15, 3 September 2010, 1♂; FinLoc16, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 1♂; 7 September 2010, 2♂♂; FinLoc72, 7 September 2010, 1♂;

FinLoc76, 8 September 2010, 1♂; FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 2♂♂.

Remarks. This species, described from Mongolia, and later recorded from northern Russia, Finland, Sweden and possibly Germany, has not previously been reported from Norway.

***Exechia spinigera* Winnertz, 1863**

Project material. FinLoc06, 13 June 2010, 1♂; FinLoc77, 19 June 2010, 2♂♂.

***Exechia spinuligera* Lundström, 1912**

Project material. FinLoc77, 19 June 2010, 1♂.

***Exechia subfrigida* Laštovka & Matile, 1974**

Project material. FinLoc06, 13 June 2010, 8♂♂; FinLoc16, 3 September 2010, 4♂♂; FinLoc18, 31 August 2010, 1♂; FinLoc61, 16 June 2010, 10♂♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂; FinLoc89, 20 June 2010, 2♂♂.

***Exechia unifasciata* Lackschewitz, 1937**

Project material. FinLoc06, 13 June 2010, 1♂.

***Exechia unimaculata* (Zetterstedt, 1860)**

Project material. FinLoc11, 3 September 2010, 1♂; FinLoc59, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 5♂♂.

***Exechia* spp. 1–2**

Remarks. Two males, representing two species, that could not with certainty be ascribed any species known by us.

***Exechiopsis (Exechiopsis) dimitrescae* (Burghela-Balacesco, 1972)**

Additional material. FV, Alta: Detsika, 6 August–25 September 1996, 1♂.

Remarks. Based on this record, the species was published as new to Norway by Søli & Kjærandsen (2008).

Exechiopsis (Exechiopsis) indecisa
(Walker, 1856)

Project material. FinLoc15, 3 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂.

Additional material: FN, Porsanger: Gagga-vann, 7–30 September 2009, 2♂♂.

Exechiopsis (Exechiopsis) pseudindecisa
Laštovka & Matile, 1974

Project material. FinLoc61, 16 June 2010, 1♂.

Exechiopsis (Exechiopsis) pulchella
(Winnertz, 1863)

Project material. FinLoc61, 16 June 2010, 1♂. FinLoc69, 19 June 2010, 2♂♂.

Exechiopsis (Xenexechia) membranacea
(Lundström, 1912)

Project material. FinLoc05, 11–26 June 2010, 1♂.

Notolopha brachycera (Zetterstedt, 1852)

Project material. FinLoc06, 13 June 2010, 4♂♂.

Notolopha cristata (Staeger, 1840)

Project material. FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 3♂♂; FinLoc77, 16 June 2010, 1♀; FinLoc89, 20 June 2010, 1♂; FinLoc95, 4 September 2010, 1♂.

Notolopha sibirica Zaitzev & Maximova, 2000

Remarks. The species was reported from Finnmark (Sør-Varanger: Pasvik) by Søli & Kjærandsen (2008).

Pseudoexechia trisignata (Edwards, 1913)

Project material. FinLoc61, 16 June 2010, 2♂♂.

Pseudexechia tuomikoskii Kjaerandsen, 2009

Remarks. The species was reported from Finnmark (Alta: Mattisdalen; Alta: Elvestrand; Tana: Nedre Storfossen; Kvalsund: Skaidi) by Kjærandsen (2009).

**Rymosia britteni* Edwards, 1925

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc61, 16 June 2010, 1♂.

Remarks. This northern European species has previously not been recorded from Norway.

Rymosia istrae Zaitzev, 1993

Additional material. FV, Alta: Elvestrand, 18 July–16 September 1996.

Remarks. Based on the material from Elvestrand, the species was published as new to Norway Søli & Kjærandsen (2008).

Rymosia setiger Dziedzicki, 1910

Remarks. The species was reported from Finnmark (Kvalsund: Skaidi; Porsanger: Børselv) by Søli & Kjærandsen (2008).

Rymosia sp. 1

Project material. FinLoc69, 19 June 2010, 1♂.

Remarks. The species, also recorded from Sweden, will be described in the near future (Kjærandsen *pers. com.*).

Stigmatomeria crassicornis (Stannius, 1831)

Project material. FinLoc05, 11–26 June 2010, 3♂♂.

Synplasta sp.

Project material. FinLoc05, 11–26 June 2010, 1♂.

Remarks. This single male could not with certainty be ascribed any species known by us.

Tarnania fenestralis (Meigen, 1838)

Remarks. The species was reported from Finnmark (Alta: Gargia; Alta: Elvestrand; Hasvik: Sørvær) by Kjærandsen (2006).

Tarnania tarnanii (Dziedzicki, 1910)

Project material. FinLoc16, 3 September 2010, 2♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 3♂♂; FinLoc72, 7 September 2010, 1♂; FinLoc81, 19 June 2010, 1♂.

Additional material. FN, Porsanger: Gagga-vann, 7–30 September 2009, 1♂.

Remarks. The species has previously been recorded from Finnmark (Berlevåg; Alta: Vassbotndalen; Alta: Elvestrand) by Kjærandsen (2006).

Tribe Mycetophilini

***Dynatosoma nigromaculatum* Lundström, 1913**

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Dynatosoma reciprocum* (Walker, 1848)**

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Dynatosoma* sp.**

Project material: FinLoc05, 11–26 June 2010, 1♂1♀; FinLoc42, 17–26 June 2010, 1♂.

Remarks. These specimens could not with certainty be ascribed any species known by us.

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

Project material. FinLoc89, 20 June 2010, 1♂.

***Mycetophila abbreviata* Landrock, 1914**

Project material. FinLoc61, 4 September 2010, 1♂.

***Mycetophila abiecta* (Laštovka, 1963)**

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Mycetophila bialorussica* Dziedzicki, 1884**

Project material. FinLoc05, 11–26 June 2010, 1♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 2♂♂.

***Mycetophila bohémica* (Laštovka, 1963)**

Project material. FinLoc89, 20 June 2010, 1♂.

****Mycetophila boreocruciator* Sevcík, 2003**

Project material. FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂.

Remarks. New to Norway. The species was described from Slovakia, and has later been found

in Sweden and Estonia.

***Mycetophila brevitarsata* (Laštovka, 1963)**

Project material. FinLoc89, 20 June 2010, 2♂♂.

***Mycetophila cingulum* Meigen, 1830**

Additional material. FV, Alta: Elvestrand, 18 July–16 September 1996, 1♂.

Remarks. Based on this record, the species was published as new to Norway by Søli & Kjærandsen (2008).

***Mycetophila confluens* Dziedzicki, 1884**

Project material. FinLoc65, 25 June–20 July 2010, 3♂♂.

Additional material: FV, Alta: Detsika, 8 August–10 September 1995, 1♂.

***Mycetophila fungorum* (De Geer, 1776)**

Project material. FinLoc61, 16 June 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc69, 7 September 2010, 1♂; FinLoc81, 19 June 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 8♂♂8♀♀; FN, Porsanger: Gaggavann, 7–30 September 2009, 4♂♂.

***Mycetophila haruspica* Plassmann, 1990**

Additional material. FV, Alta: Elvestrand, 18 July–16 September 1996, 5♂♂.

Remarks. Based on this record, the species was published as new to Norway by Søli & Kjærandsen (2008).

***Mycetophila hetschkoi* Landrock, 1918**

Project material. FinLoc21, 25 June–9 July 2010, 1♂.

***Mycetophila lapponica* Lundström, 1906**

Project material. FinLoc81, 24 June–20 July 2010, 1♂.

***Mycetophila luctuosa* Meigen, 1830**

Project material. FinLoc16, 3 September 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 2♂♂; FinLoc77, 19 June 2010, 1♂;

FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

***Mycetophila marginata* Winnertz, 1863**

Project material. FinLoc72, 7 September 2010, 1♂.

***Mycetophila mitis* (Johannsen, 1912)**

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂.

Remarks. Based on this record, the species was published as new to Norway by Gammelmo & Søli (2006).

***Mycetophila mohilivensis* Dziedzicki, 1882**

Project material. FinLoc11, 3 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 1♂.

***Mycetophila morosa* Winnertz, 1863**

Project material. FinLoc05, 11–26 June 2010, 3♂♂.

***Mycetophila ocellus* Walker, 1848**

Project material. FinLoc61, 16 June 2010, 1♂; FinLoc69, 19 June 2010, 2♂♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 3♂♂; FinLoc92, 7 September 2010, 3♂♂.

****Mycetophila quadra* Lundström, 1909**

Project material. FinLoc81, 19 June 2010, 2♂♂.

Remarks. First record from Norway. This Palaearctic species has previously been known from northern Russia, Finland, Sweden, Germany, Switzerland and Hungary.

***Mycetophila ruficollis*-group spp. 1–2**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc06, 13 June 2010, 4♂♂; FinLoc15, 3 September 2010, 1♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc61, 16 June 2010, 10♂♂; FinLoc69, 7 September 2010, 2♂♂; FinLoc77, 19 June 2010, 1♂.

Remarks. Based on preliminary barcode data, at least two species of this species group are present in Finnmark.

***Mycetophila sordida* van der Wulp, 1874**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc06, 13 June 2010, 1♂; FinLoc69, 19 June 2010, 2♂♂; FinLoc81, 19 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

***Mycetophila strigatoides* Landrock, 1927**

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 3♂♂; Detsika, 8 August–10 September 1995, 1♂1♀; Mattisdalen, 23 June–4 August 1996, 21♂♂.

***Mycetophila uninotata* Zetterstedt, 1852**

Project material. FinLoc21, 25 June–9 July 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂.

***Mycetophila vittipes*-group spp. 1–3**

Project material. FinLoc05, 11–26 June 2010, 5♂♂; FinLoc06, 13 June 2010, 1♂; FinLoc16, 3 September 2010, 4♂♂; FinLoc89, 20 June 2010, 1♂.

Remarks. Based on preliminary barcode data, at least three species of this species group are present in Finnmark.

***Mycetophila* spp. 1–5**

Remarks. Twelve specimens, representing 5 species, that could not with certainty be ascribed any species known by us.

***Phronia aviculata* Lundström, 1914**

Project material. FinLoc89, 20 June 2010, 2♂♂.

***Phronia biarcuata* (Becker, 1908)**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc69, 19 June 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 1♂; FinLoc95, 4 September 2010, 1♂.

***Phronia bicolor* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc69, 7 September 2010, 2♂♂.

***Phronia braueri* Dziedzicki, 1889**

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 4♂♂.

***Phronia caliginosa* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 4♂♂; FinLoc56, 26 July–25 August 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 2♂♂.

***Phronia cinerascens* Winnertz, 1863**

Project material. FinLoc06, 13 June 2010, 2♂♂; FinLoc59, 3 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 2♂♂; FinLoc69, 19 June 2010, 1♂; 7 September 2010, 2♂♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 5♂♂; FinLoc89, 20 June 2010, 2♂♂.

***Phronia disgrega* Dziedzicki, 1889**

Project material. FinLoc56, 26 July–25 August 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc72, 7 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 2♂♂.

****Phronia distincta* Hackman, 1970**

Project material. FinLoc89, 20 June 2010, 1♂.

Remarks. The species has not previously been recorded from Norway. The species is known only from northern Russia, Finland, Estonia and Sweden.

***Phronia egregia* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 6♂♂; FinLoc69, 7 September 2010, 1♂; FinLoc 81, 19 June 2010, 1♂.

***Phronia exigua* (Zetterstedt, 1852)**

Project material. FinLoc06, 13 June 2010, 1♂; FinLoc69, 19 June 2010, 1♂.

Additional material. FV, Alta: Kåfjord, 3

July–8 August 1995, 1♂.

***Phronia flavipes* Winnertz, 1863**

Project material. FinLoc61, 16 June 2010, 1♂; FinLoc69, 7 September 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 1♂.

***Phronia forcipata* Winnertz, 1863**

Project material. FinLoc15, 3 September 2010, 1♂; FinLoc16, 3 September 2010, 1♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc61, 4 September 2010, 1♂; FinLoc65, 25 June–20 July 2010, 2♂♂; FinLoc69, 7 September 2010, 2♂♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc76, 8 September 2010, 1♂; FinLoc77, 19 June 2010, 1♂; FinLoc81, 19 June 2010, 2♂♂; 24 June–20 July 2010, 1♂; FinLoc89, 20 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂; FinLoc95, 4 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂; 8 August–10 September 1995, 3♂♂.

***Phronia forcipula* Winnertz, 1863**

Project material. FinLoc69, 7 September 2010, 1♂; FinLoc81, 19 June 2010, 1♂.

***Phronia humeralis* Winnertz, 1863**

Project material. FinLoc06, 13 June 2010, 2♂♂.

***Phronia interstincta* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 1♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 1♂.

***Phronia mutabilis* Dziedzicki, 1889**

Project material. FinLoc06, 13 June 2010, 1♂.

***Phronia nigricornis* (Zetterstedt, 1852)**

Project material. FinLoc61, 4 September 2010, 1♂; FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 2♂♂.

***Phronia nigripalpis* Lundström, 1909**

Project material. FinLoc42, 17–26 July 2010, 1♂; FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 4♂♂; FinLoc81, 24 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 3♂♂.

***Phronia notata* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 1♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 2♂♂.

***Phronia obtusa* Winnertz, 1863**

Project material. FinLoc05, 11–26 June 2010, 1♂.

***Phronia peculiaris* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 2♂♂.

***Phronia persimilis* Hackman, 1970**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc42, 17–26 July 2010, 1♂; FinLoc56, 26 July–25 August 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 1♂.

***Phronia porschinskyi* Dziedzicki, 1889**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc42, 17–26 July 2010, 3♂♂; FinLoc56, 26 July–25 August 2010, 7♂♂.

***Phronia signata* Winnertz, 1863**

Project material. FinLoc06, 13 June 2010, 1♂.

***Phronia strenua* Winnertz, 1863**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc06, 13 June 2010, 1♂.

***Phronia tenuis* Winnertz, 1863**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc56, 26 July–25 August 2010, 3♂♂.

***Phronia triangularis* Winnertz, 1863**

Project material. FinLoc59, 3 September 2010, 1♂.

***Phronia* spp. 1–4**

Remarks. Thirteen specimens, representing 4 species, that could not with certainty be ascribed any species known by us.

***Platurocypta punctum* (Stannius, 1831)**

Project material. FinLoc65, 25 June–20 July 2010, 1♂.

***Sceptonia concolor* Winnertz, 1863**

Project material. FinLoc21, 25 June–9 July 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

***Sceptonia costata* (van der Wulp, 1858)**

Project material. FinLoc71, 8 September 2010, 3♂♂; FinLoc76, 8 September 2010, 2♂♂.

***Sceptonia fumipes* Edwards, 1925**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc81, 24 June–20 July 2010, 5♂♂.

***Sceptonia fuscipalpis* Edwards, 1925**

Project material. FinLoc05, 11–26 June 2010, 2♂♂; FinLoc21, 25 June–9 July 2010, 1♂.

***Sceptonia nigra* (Meigen, 1804)**

Project material. FinLoc05, 11–26 June 2010, 5♂♂; FinLoc21, 25 June–9 July 2010, 1♂; FinLoc29, 4 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

Additional material. FN, Porsanger: Gagga-vann, 7–30 September 2009, 10♂♂.

***Trichonta atricauda* (Zetterstedt, 1852)**

Project material. FinLoc56, 26 July–25 August 2010, 2♂♂; FinLoc65, 25 June–20 July 2010, 2♂♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 2♂♂; 8 August–10 September 1995, 1♂.

***Trichonta bicolor* Landrock, 1912**

Project material. FinLoc06, 13 June 2010, 1♂.

***Trichonta bifida* Lundström, 1909**

Project material. FinLoc81, 19 June 2010, 1♂.

***Trichonta brevicauda* Lundström, 1906**

Project material. FinLoc29, 4 September 2010, 1♂; FinLoc81, 19 June 2010, 3♂♂.

***Trichonta facilis* Gagné, 1981**

Project material. FinLoc42, 17–26 July 2010, 1♂; FinLoc64, 16 June 2010, 1♂; FinLoc81, 19 June 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

***Trichonta generosa* Gagné, 1981**

Project material. FinLoc77, 19 June 2010, 1♂.

Remarks. This Holarctic species has so far only been recorded from SE Norway outside the Nearctic (Økland & Zaitzev 1997).

***Trichonta girschneri* Landrock, 1912**

Project material. FinLoc81, 19 June 2010, 1♂.

***Trichonta hamata* Mik, 1880**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc56, 26 July–25 August 2010, 4♂♂; FinLoc61, 16 June 2010, 1♂.

Additional material. FV, Alta: Mattisdalen, 23 June–4 August 1996, 1♂.

***Trichonta melanura* (Staeger, 1840)**

Project material. FinLoc56, 26 July–25 August 2010, 1♂.

Additional material. FV, Alta: Kåfjord, 3 July–8 August 1995, 1♂; Detsika, 8 August–10 September 1995, 1♂; Mattisdalen, 23 June–4 August 1996, 3♂♂.

***Trichonta patens* Johannsen, 1912**

Additional material. FV, Alta: Detsika, 8 August–10 September 1995, 2♂♂.

Remarks. Based on this record, the species was published as new to Norway by Gammelfmo

& Søli (2006).

***Trichonta subfusca* Lundström, 1909**

Project material. FinLoc21, 25 June–9 July 2010, 1♂; FinLoc59, 3 September 2010, 1♂; FinLoc69, 19 June 2010, 1♂; FinLoc77, 19 June 2010, 2♂♂; FinLoc81, 19 June 2010, 4♂♂; FinLoc92, 7 September 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 7♂♂; 8 August–10 September 1995, 3♂♂.

***Trichonta submaculata* (Staeger, 1840)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc29, 4 September 2010, 1♂; FinLoc71, 8 September 2010, 1♂; FinLoc72, 7 September 2010, 1♂; FinLoc89, 20 June 2010, 1♂.

Additional material. FV, Alta: Detsika, 11 June–3 July 1995, 4♂♂; 8 August–10 September 1995, 27♂♂.

***Trichonta terminalis* (Walker, 1856)**

Project material. FinLoc75, 8 September 2010, 1♂.

***Trichonta venosa* (Staeger, 1840)**

Project material. FinLoc77, 19 June 2010, 1♂; FinLoc92, 7 September 2010, 1♂.

Additional material: FV, Alta: Mattisdalen, 23 June–4 August 1996, 2♂♂.

***Trichonta vitta* (Meigen, 1830)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc56, 26 July–25 August 2010, 1♂; FinLoc65, 25 June–20 July 2010, 2♂♂.

***Trichonta* spp. 1–3**

Remarks. Seven males, representing 3 species, that could not with certainty be ascribed any species known by us.

***Zygomyia notata* (Stannius, 1831)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc61, 16 June 2010, 1♂; FinLoc76, 8 September 2010, 1♂; FinLoc81, 24 June–20 July 2010, 1♂.

***Zygomya semifusca* (Meigen, 1818)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc65, 25 June–20 July 2010, 1♂.

***Zygomya vara* (Staeger, 1840)**

Project material. FinLoc05, 11–26 June 2010, 1♂; FinLoc61, 4 September 2010, 1♂.

***Zygomya zaitzevi* Chandler, 1991**

Project material. FinLoc69, 7 September 2010, 2♂♂.

Additional material. FN, Porsanger: Gaggavann, 7–30 September 2009, 1♂.

Discussion

The present study reveals 277 species of Mycetophilidae from Finnmark, of which 39 are still unidentified. Fifteen species has not previously been recorded from Norway, which rise the number of species of Mycetophilidae in Norway to 603 from 588 (Søli *et al.* 2009), compared to 645 species reported from Sweden (Kjærandsen *et al.* 2007). The new species are *Boletina fennoscandica*, *B. kivachiana*, *B. pinusia*, *B. pseudonitida*, *B. subtriangularis*, *Docosia moravica*, *Allodia (Brachycampta) adunca*, *Brevicornu auriculatum*, *B. setigerum*, *B. setulosum*, *Exechia similis*, *Rymosia britteni*, *Mycetophila boreocruciator*, *M. quadra*, and *Phronia distincta*. Of these, *B. pinusia*, has not previously been recorded from Fennoscandia or NE Europe.

Among the few comparable studies dealing with local or regional faunas of Mycetophilidae in Norway, Kjærandsen & Jordal (2007) reported 285 species from Jordalsgrend, northwestern Norway, Økland & Zaitzev (1997) 289 species from southeastern Norway; and Søli (1994) 211 species from Jostedalen in western Norway. Compared to these numbers, the number of species from Finnmark is higher than one would expect intuitively taken the harsh and cold climate into consideration. In fact, the number of identified species in Finnmark corresponds to about 40 per cent of the Norwegian fauna.

These findings, however, are well in

accordance with those reached in northern, boreal regions of Sweden, Finland and Russia (Hedmark 1998, 2000, Jakovlev & Siitonen 2005, Kjærandsen *et al.* 2007, Polevoi 2003), confirming the high species diversity of fungus gnats in northern regions (Kjærandsen & Bengtson 2005). This picture is well illustrated with data from the biogeographical province Lule Lappmark in Northern Sweden with as many as 505 species of Mycetophilidae, which equals 78% of all known species in Sweden (Hedmark 2000). Lule Lappmark is situated well south of Finnmark with a more favorable climate, and the fungus gnat fauna is thus likely to have a higher representation of southern, or boreonemoral species.

Estimated from the high number of species recorded, more intensive collecting in Finnmark will undoubtedly unveil yet more species. The extensive field work in 2010 covered a wide array of localities, but as humid habitats were at target, species adapted to dryer areas are likely to have been overlooked. Even the better studied sites are likely to hold more species than documented as a high percentage of the recorded species was represented by single specimens only.

The majority of species recorded from Finnmark, are described by Kjærandsen *et al.* (2007) as having a wide (71 species), a boreal-boreonemoral (65) or a boreal (60) distribution in Sweden. This is well in accordance with their occurrence in Finnmark. Two of the species recorded, however, were described as nemoral, viz. *Mycomya egregia* and *Phronia notata*; another three as nemoral-boreonemoral, viz. *Mycomya tenuis*, *Phronia humeralis*, and *Trichonta submaculata*; and 12 as boreo-nemoral, viz. *Boletina griphoides*, *B. nitida*, *Ectrepesthoneura tori*, *Brevicornu fasciculatum*, *B. serenum*, *Mycetophila mohilivensis*, *M. quadra*, *M. sordida*, *Phronia distincta*, *P. signata*, *Sceptonia concolor* and *Zygomya zaitzevi*. Following their occurrence in Finnmark, these species appear to have a more northern, or boreal distribution than indicated by Kjærandsen *et al.* (2007) based on their known distribution patterns in Sweden. Most noteworthy is the record *Mycomya egregia*, which is likely to represent the northernmost record of this species, by Kjærandsen *et al.* (2007) regarded to have a

southern, nemoral distribution in Sweden.

As pointed out by Polevoi (2003), recent studies of Mycetophilidae in northern Europe, have documented a much wider distribution for many species than previously anticipated. Typical cases are species originally described from Far East Russia, West Siberia or Mongolia. In the present material, *Exechia similis* and *Brevicornu bipartitum* are good examples; both originally described from Mongolia and later recorded from Fennoscandia and northern Russia. The distribution of such species may appear disjunctive, but for several of them, more extensive collecting in Siberia and NE Europe is likely to fill the gap. With the exception of *Boletina pinusia*, all species recorded from Finnmark have previously been recorded from Fennoscandia. *B. pinusia*, however, described on material from Russia, Kuznetskiy Alatau Nature reserve in West Siberia (Maximova 2001), have so far no published records outside West Siberia.

The material from Finnmark includes several unidentified species. We are still working on this material, both with traditional methods and by using DNA-barcoding. Preliminary results received from iBOL concord with results from other groups and neatly grouped conspecific specimens together, but also clearly demonstrated that certain species names contain more than one taxon. Hence, the present material represents more species than could, at the present stage, be identified from the available literature.

Of the unidentified species, 8 belong to *Sciophila*, 3 to *Trichonta* and 5 to *Phronia*. They are all specious genera, each with 50 or more species in the Palearctic region, and with the majority of species living in northern, temperate regions. Males of all genera have highly complex genitalia, featuring good diagnostic characters. Identification of these species is difficult, not due to the lack of good characters, but to the absence of good and unambiguous drawings which makes comparison the species possible. The most recent reviews of these genera are all more than 30 years old (Hackman 1970; Gagné 1975, 1981; Zaitzev 1982), and as numerous new species have been described since then, they are all strongly in need of revisions.

Mycetophila is the largest genus within the family, represented with 131 species in the Palearctic (Chandler 2004), and no attempts have been made to revise the entire genus. In the present survey, species belonging to the *vittipes*-group and the *ruficollis*-group were not identified as we consider the delineations of the included species to vague. For several of them, good genital characters are wanting, so hopefully molecular characters will prove valuable in future revisions.

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