

Seventy species of fungus gnats new to Finland (Diptera: Mycetophilidae)

Jevgeni Jakovlev^a, Jostein Kjærandsen^b & Alexei Polevoi^c

Jakovlev, J., Kjærandsen, J. & Polevoi, A. 2006: Seventy species of fungus gnats new to Finland (Diptera: Mycetophilidae). — *Sahlbergia* 11: 22–39. Helsinki, Finland, ISSN 1237-3273.

Seventy species of fungus gnats are reported as new to Finland increasing the known Finnish fauna to 699 species. Eighteen of the species are also new to the Nordic region, viz.: *Mycomya (Mycomya) livida* (Dziedzicki, 1885); *Neoempheria bimaculata* (von Roser, 1840); *Phthinia winnertzi* Mik, 1869; *Sciophila pseudoflexuosa* Kurina, 1991; *Sciophila setosa* Garrett, 1925; *Allodiopsis gracilis* Ševčík & Papp, 2003; *Brevicornu arcticoides* Caspers, 1985; *Exechia pseudofestiva* Lackschewitz, 1937; *Exechia repandooides* Caspers, 1984; *Exechiopsis (Xenexechia) perspicua* (Johannsen, 1912); *Notolopha sibirica* Zaitzev & Maximova, 2000; *Pseudexechia canalicula* (Johannsen, 1912); *Dynatosoma silsiacum* Ševčík, 2001; *Mycetophila extincta* Loew, 1869; *Mycetophila idonea* Lastovka, 1972; *Mycetophila triangularis* Lundström, 1912; *Sceptonia hamata* Ševčík, 2004; *Sceptonia thaya* Ševčík, 2004. Three species are reported for the first time from the Palaearctic region, viz.: *Sciophila setosa*, *Exechiopsis (Xenexechia) perspicua* and *Pseudexechia canalicula*. The new records are based mainly on original material collected in southern Finland in 2003 - 2004. In addition the collections at the Finnish Museum of Natural History, Helsinki were re-examined for the genera *Boletina* (in part), *Allodiopsis*, *Exechia*, *Exechiopsis*, *Myrosia*, *Notolopha Rymosia* and *Synplasta*. Detailed information on Finnish records as well as data on the general distribution and taxonomical notes are given for each species new to Finland.

^a Jevgeni Jakovlev, Finnish Forest Research Institute, Vantaa Research Unit, P.O. Box 18, FIN-01301, Vantaa, Finland. E-mail: jevgeni.jakovlev@metla.fi Telephone/Fax: tel: 010 2112680, mobile 040 8676097. Fax: 010 211 2202.

^b Jostein Kjærandsen, Lund University, Helgonavägen 3, S-22362 Lund, Sweden. E-mail: jostein.kjaerandsen@zool.lu.se

^c Alexei Polevoi, Forest Research Institute, 185910, Pushkinskaya 11, Petrozavodsk, Russia. E-mail: alexei.polevoi@krc.karelia.ru

Introduction

Fungus gnats or mycetophilids in a broad sense (Diptera: Bolitophilidae, Ditomyiidae, Diadocidiidae, Keroplatidae, Mycetophilidae) is one of the most species rich insect groups in the boreal zone. As typical forest dwellers as-

sociated with wood - decomposing, mycorrhizal and saprotrophic fungi they are a very suitable target group for the study of forest ecology, conservation value and vulnerability of different forest habitats. At present the still relatively poorly known Nordic fauna of

fungus gnats is subjected to several intensive taxonomical and ecological investigations (see Polevoi 2000; Jakovlev & Siitonен 2005; Kjærandsen & Bengtson 2005; Kurina et al. 2005; Økland et al. 2005; Kjærandsen, Kurina & Ólafsson *in press*). The total fauna in the Nordic biogeographical region, defined as to include Iceland, The Faroes, Denmark, Norway, Sweden, Finland, and the NW Russian provinces the Kola peninsula (*Lapponia rossica*), the Russian Karelia (*Karelia rossica*) and the Karelian Isthmus (*Regio Viburgensis*), is suggested to number roughly 1000 species (Kjærandsen & Bengtson 2005).

From a geographical perspective the study of the Nordic fungus gnat fauna is still incomplete and the present faunistic knowledge is rather unevenly distributed. However, although there probably is a certain western oceanic element, a southern nemoral element and a northeastern boreal element, the general impression is that the majority of the species is widespread and occur in suitable habitats throughout most of the Nordic region. A significant proportion of the fauna even seems to be transpalaearctic or circumpolar (Gagné 1978, 1981; Väisänen 1984; Zaitzev 1994; Søli 1997; Polevoi 2003; Zaitzev 2003).

In the Nordic region most old records originate from Sweden (see Kjærandsen 2005; Kurina et al. 2005) and Finland (summarized in a check list by Hackman 1980), and the number of known species has increased tremendously in both these countries during the last decades. A Swedish checklist will be presented soon (J. Kjærandsen, K. Hedmark, O. Kurina, A. Polevoi, B. Økland & F. Götmark *in prep.*). In Russian Karelia a still ongoing faunistic survey started in 1977, and the latest checklist by Polevoi (2000) indicated 616 species. Data from the Karelian Isthmus and especially from the Kola peninsula are very scanty, but some scattered records have been published by Lundström (1914), Lundström

& Frey (1912), Krivosheina, Zaitzev & Jakovlev (1986), Kurina (1999) and Zaitzev (1994, 2003). Denmark is still poorly investigated, but a check list of 293 confirmed and 452 expected species was presented by Petersen & Meyer (2001). Norway is relatively poorly investigated except for some major regional contributions given by Kjærandsen (1993), Søli (1994) and Økland & Zaitzev (1997). The Faroes and Iceland are covered by Kjærandsen & Jørgensen (1992) and Kjærandsen, Kurina & Ólafsson (*in press*), respectively.

The checklist of Finnish Diptera by Hackman (1980) incorporated 485 species, five of which were denoted with a question mark, viz.: *Docosia flavicoxa* Strobl, 1900, *Cordyla bergensis* Barendrecht, 1938, *Cordyla murina* Winnertz, 1863, *Mycetophila lunata* Meigen, 1804 and *Phronia petulans* Dziedzicki, 1889. Of these *Cordyla murina* is confirmed with our records listed below. *Cordyla bergensis* is now regarded as a synonym of *C. nitidula* Edwards 1925, which is already present in the checklist. *Mycetophila lunata* was interpreted broadly in old sources, and although it was confirmed by Silfverberg (2001) with a reference to Polevoi (1995) this record has later shown to belong to another related species, *M. sublunata* Zaitzev, 1999. Hence, *M. lunata*, *Docosia flavicoxa* and *Phronia petulans* still need to be confirmed from Finland. *Exechiopsis (Xenexechia) membranacea* (Lundström, 1912) was described from Finland, but synonymized with the related species *Exechiopsis (Xenexechia) leptura* (Meigen, 1830) by Landrock (1940). Hence, it was not included from Finland in the checklist by Hackman (1980) nor in following publications. However, as *E.(X.) membranacea* was correctly restituted as a separate species by Caspers (1984) we have reexamined the holotype and report also some new Finnish records of the species.

After the Hackman's check list new Finnish species have been added by Komö-

Table 1. List of study sites with information on their location and forest type. The locality name is the closest name for each site on a 1:20 000 map. The following abbreviations are used for the site types: og = old-growth forest; mm = mature managed forest, cc = clear-cut; bcc = burnt clear-cut with retention trees.

Site No	Province	Parish	Locality	Coordinates (E27 grid)		Site type	Year
				NORTHING	EASTING		
1	<i>Ab</i>	Karjalohja	Karkali nature reserve	6685084	3322111	og	2004
2	<i>Ta</i>	Lammi	Sudenpesänkangas	6790212	3403382	og	2004
3	<i>Ta</i>	Lammi	Palohonka	6792001	3394753	og	2004
4	<i>Ta</i>	Lammi	Puukkohonka	6791991	3395557	og	2004
5	<i>Ta</i>	Lammi	Kotinen nature reserve	6794400	3396400	og	2004
6	<i>Ta</i>	Lammi	Kotinen nature reserve	6794650	3396561	og	2003
7	<i>Ta</i>	Padasjoki	Vesijako nature reserve	6806100	3398800	og	2004
8	<i>Ta</i>	Lammi	Leipäsuonaho	6790035	3396112	mm	2004
9	<i>Ta</i>	Lammi	Hattukivenmaa	6790273	3400989	mm	2004
10	<i>Ta</i>	Lammi	Niemisjärvi	6791324	3394263	mm	2004
11	<i>Ta</i>	Lammi	Pukkivuori	6791486	3401184	mm	2003
12	<i>Ta</i>	Lammi	Saarijärvi	6792892	3396044	mm	2004
13	<i>Ta</i>	Padasjoki	Siperia	6796890	3401381	mm	2004
14	<i>Ta</i>	Lammi	Leipäsuonaho	6789787	3396041	cc	2004
15	<i>Ta</i>	Lammi	Leipäsuonaho	6789799	3396146	cc	2004
16	<i>Ta</i>	Lammi	Saarijärvi	6792781	3395968	cc	2004
17	<i>Ta</i>	Padasjoki	Siperia	6796887	3401471	cc	2004
18	<i>Ta</i>	Padasjoki	Siperia	6796924	3401490	cc	2004
19	<i>Ta</i>	Lammi	Saarijärvi	6793043	3396255	bcc	2003
20	<i>Ta</i>	Lammi	Tuohimetsä	6788830	3401276	bcc	2004
21	<i>Ta</i>	Lammi	Hankajärvi	6789830	3401276	bcc	2004
22	<i>Ta</i>	Lammi	Leipäsuonaho	6789920	3395865	bcc	2004
23	<i>Ta</i>	Lammi	Hattukivenmaa	6790165	3400888	bcc	2004
24	<i>Ta</i>	Lammi	Lapinjärvi	6793704	3397492	bcc	2004

nen (2001), Kurina (2003a), Polevoi (2000; 2001b; 2001a), Polevoi & Hedmark (2004), Polevoi & Jakovlev (2004), Silfverberg (1981; 1986; 1991; 1996; 2001) and Zaitzev & Polevoi (2001). Polevoi & Jakovlev (2004) summarized new records and raised the total number of Finnish fungus gnats to 589 species, including the four unconfirmed species from Hackman (1980). Polevoi, Jakovlev & Zaitzev (*in press*) presented additional 37 species from materials collected in old-growth forest patches in southern Finland in the period 1997 – 1998, including *Sciarosoma borealis* Chandler, 2002 which is kept without fami-

ly placement (Chandler 2002; Jaschhof et al. 2006) or is placed in the family Sciaridae in its own subfamily (Hippa & Vilkamaa 2005). A recent review of the poorly studied *Boletina nitida*-group (Zaitzev, Jakovlev & Polevoi *in press*), based mainly on materials collected in Finland in 2003 - 2004, has revealed three additional species, viz.: *Boletina bidenticulata* Sasakawa et Kimura, 1974, *Boletina gusakovae* Zaitzev, 1994 and *Boletina nitida* Grzezorzek, 1885. Including these records the total number of species of fungus gnats published from Finland is currently 629.

Materials and methods

The majority of the records of species new to Finland result from the treatment of materials collected by J. Jakovlev with Malaise traps and some rearing from larvae during 2003 - 2004 in southern Finland. This project material consists of some 112,000 examined specimens and about 500 species of fungus gnats, of them 91,782 (82%) were males. The study areas were located in the biogeographical provinces of Varsinais-Suomi (*Regio aboensis, Ab*) and Etelä-Häme (*Tavastia australis, Ta*), mainly in the Evo area. A total of 24 sites have been sampled (Table 1). Of these seven sites were in old-growth forest including three strict nature reserves, viz.: Karkali (site 1), Kotinen (sites 5 & 6) and Vesijako (site 7). Six sites were in mature managed forest, five sites in 5 - 12 years old clear-cuts, and six sites in clear-cuts of the same age treated by prescribed burning in 1997 - 2001 and with some retention trees. In 2003 nine Malaise traps (three at each site) were operated from 19 May to 15 October and emptied 8 - 9 times. In 2004 twenty Malaise traps (one at each site) were operated from 26. - 28. April to 3. - 5. October and emptied 7 - 8 times. Preserving fluid was a mixture of water and NaCl with some detergent added.

Additional records of species new to Finland were obtained by reviewing selected parts of the collections of the Zoological Museum, Finnish Museum of Natural History (MZB), including the genera *Boletina* (in part), *Allodiopsis*, *Exechia*, *Exechiopsis*, *Myrosia*, *Notolopha*, *Rymosia* and *Synplasta*. The reviewed museum material amounts to some 2000 specimens and about 100 species.

For each species new to Finland all examined material is listed with full collection data. The species recorded as new to the Nordic region are marked with one asterisk (*) in front of the species name, while species new to the Palaearctic region are marked with two

asterisks. Specimens from the MZH collection are denoted with MZH and the collector's name within brackets, otherwise all material is collected by J. Jakovlev under the project as described above. Pinned voucher specimens of all species new to Finland are deposited in the MZH collections.

Higher taxonomy follows Bechev (2000). The distribution in the Nordic region is presented mainly according to original sources, otherwise we follow the distribution given by the Fauna Europaea online database (Chandler 2005).

Results

Among the examined material 70 species appeared to be new to Finland. Eighteen of the species are new also to the Nordic region, viz.: *Mycomya (Mycomya) livida* (Dziedzicki, 1885); *Neoempheria bimaculata* (von Roser, 1840); *Phthinia winnertzi* Mik, 1869; *Sciophila pseudoflexuosa* Kurina, 1991; *Sciophila setosa* Garrett, 1925; *Allodiopsis gracilis* Ševčík & Papp, 2003; *Brevicornu arcticoides* Caspers, 1985; *Exechia pseudofestiva* Lackschewitz, 1937; *Exechia repandooides* Caspers, 1984; *Exechiopsis (Xenexechia) perspicua* (Johannsen, 1912); *Notolopha sibirica* Zaitzev & Maximova, 2000; *Pseudexechia canalicula* (Johannsen, 1912); *Dynatosoma silesiacum* Ševčík, 2001; *Mycetophila extincta* Loew, 1869; *Mycetophila idonea* Lastovka, 1972; *Mycetophila triangularis* Lundström, 1912; *Sceptonia hamata* Ševčík, 2004; *Sceptonia thaya* Ševčík, 2004. Three species are reported from the Palaearctic region for the first time, viz.: *Sciophila setosa*, *Exechiopsis (Xenexechia) perspicua* and *Pseudexechia canalicula*.

Two additional species, *Cordyla murina* and *Exechiopsis (Xenexechia) membranacea*, are confirmed with new records from Finland and two species, *Cordyla bergensis* (Barendrecht, 1938) and *Pseudorymosia optiva*

(Dziedzicki, 1910), deleted from the Finnish list. Hence, now the list of Finnish fungus gnats comprises 699 species.

Species new to Finland

Family Mycetophilidae

Subfamily Mycomyinae

Genus *Mycomya* Rondani, 1856

Subgenus *Mycomya* Rondani

* *Mycomya (Mycomya) livida* (Dziedzicki, 1885)

Material examined: *Ta*: Lammi, Site 9, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A rare species described from Belarus and later found only in Central Europe: Germany, Czech Republic (Väisänen 1984), Switzerland and from central Russia without indication of location (Chandler 2005). No previous records from the Nordic region.

Mycomya (Mycomya) parva (Dziedzicki, 1885)

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct. 2004, 1 ♂.

Comments: The species is widely distributed in Europe (Chandler 2005) and also found in Russian Far East (Zaitzev 1994). In the Nordic region previously reported from Sweden (Väisänen 1984; Kurina et al. 2005) and Russian Karelia (Polevoi 2000).

Genus *Neoempheria* Osten-Sacken, 1878

* *Neoempheria bimaculata* (von Roser, 1840)

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 9, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: The species is uncommon but widely distributed in Europe (Chandler 2005) including the following regions adjacent to Finland: Estonia (Kurina 1998) and Leningrad province of Russia (Zaitzev 1994). No previous records from the Nordic region.

Subfamily Sciophilinae

Genus *Drepanocercus* Vockeroth, 1980

Drepanocercus spinistylus Søli, 1993

Material examined: *Ta*: Lammi, Site 11, 24 Jun – 22 Jul 2003, 1 ♂; Site 12, 28 Apr – 27

May 2004, 2 ♂♂.

Comments: A rare European species described from Norway. In the Nordic region later found in Russian Karelia (Polevoi 2000) and Sweden (Hedmark 1998). Additional records from the Czech and Slovak republics (Ševčík 2004) and from the Near East (Chandler 2005) indicate a Western Palaearctic distribution.

Genus *Phthinia* Winnertz, 1863

* *Phthinia winnertzi* Mik, 1869

Material examined: *Ta*: Lammi, Site 5, 28 Aug – 4 Oct 2004, 1 ♂; Site 6, 23 Jul – 18 Aug 2003, 1 ♂; Site 11, 10 Sep – 15 Oct 2003, 2 ♂♂; *Ta*: Padasjoki, Site 7, 29 Jun – 26 Jul 2004, 1 ♂; 27 Jul 2005, reared from fallen log of *Alnus glutinosa*, 2 ♂♂.

Comments: An uncommon but widely distributed species in Europe including the Baltic countries Estonia and Latvia (Chandler 2005). No previous records from the Nordic region.

Genus *Sciophila* Meigen, 1818

Sciophila karellica Zaitzev, 1982

Material examined: *Ta*: Lammi, Site 23, 29 Jun – 26 Jul, 1 ♂; 27 Jul – 27 Aug 2004, 2 ♂♂; Site 16, 28 May – 28 Jun 2004, 1 ♂; 27 Jul – 27 Aug 2004, 2 ♂♂; 28 Aug – 4 Oct 2004, 1 ♂; Site 19, 11 Sep – 15 Oct 2003, 1 ♂.

Comments: A Holarctic species described from Russian Karelia. In Europe besides type locality recorded only from Sweden (Hedmark 1998).

Sciophila minuta Zaitzev, 1982

Material examined: *Ta*: Lammi, Site 16, 28 Apr – 27 May 2004, 1 ♂; Site 2, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: A Holarctic species described from North America. In Europe previously recorded only once from Russian Karelia (Polevoi 2000).

* *Sciophila pseudoflexuosa* Kurina, 1991

Material examined: *Ab*: Karjalohja, Site 1, 23 Aug 2004, reared from *Lactarius deliciosus* – 1 ♂.

Comments: This species was described from Estonia and later recorded only from Latvia and Switzerland (Chandler 2005). No previous records from the Nordic region. This is the

second rearing record from the same fungal host after (Kurina 1991) although Rimšaite (2003) has reared *S. pleudoflexuosa* in Lithuania from other species of macrofungi as well.

**** *Sciophila setosa* Garrett, 1925**

Material examined: *Ta*: Lammi, Site 19, 11 Sep – 15 Oct 2003, 5 ♂♂.

Comments: A Holarctic species described from North America. No previous records from the Palaearctic region.

Subfamily Gnoristinae

Genus *Boletina* Staeger, 1840

Boletina cornuta Zaitzev, 1994

Material examined: Site 6, 11 Sep – 15 Oct 2003, 5 ♂♂; Site 11, 11 Sep – 15 Oct 2003, 4 ♂♂; *Ta*: Padasjoki, Site 7, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: The species was known so far only from Russian Karelia by the type material (Zaitzev 1994) and a later finding of a single male (Polevoi 2000). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Boletina kurilensis Zaitzev, 1994

Material examined: *Li*, Utsjoki, undated (MZB, leg. R. Frey), 1 ♂; *Ta*: Lammi, Site 22, 28 Aug – 4 Oct 2004, 1 ♂; Site 24, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: This species was described from the Kuril Islands (Zaitzev 1994) and has later been found only in Russian Karelia (Polevoi 2000).

Boletina minuta Polevoi in Zaitzev & Polevoi, 1995

Material examined: *Ta*: Lammi, Site 6, 11 Sep – 15 Oct 2003, 11 ♂♂; Site 11, 11 Sep – 15 Oct 2003, 4 ♂♂; Site 16, 28 Apr – 27 May 2004, 1 ♂.

Comments: Previously known only by the type material from Russian Karelia (Zaitzev & Polevoi 1995; Polevoi 2000) and by later findings from Great Britain, Poland (Chandler 2001) and Sweden (Hedmark 2000).

Boletina takagii Sasakawa & Kimura, 1974

Material examined: *Li*, Utsjoki, undated (MZB, leg. R. Frey), 4 ♂♂.

Comments: The species was described from

Japan and has been later found on the Kuril Islands (Zaitzev 1994). In Europe previously recorded only from Russian Karelia (Polevoi 2000). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Boletina triangularis Polevoi in Zaitzev & Polevoi, 1995

Material examined: *Ta*: Lammi, Sites 6, 11, 19, 21 Sep – 15 Oct 2003, 47 ♂♂; Sites 4, 14, 15, 16, 21, 22, 23 & 24, 28 May – 4 Oct 2004, 48 ♂♂.

Comments: The species is apparently distributed only in the boreal zone, previously known only from Russian Karelia (Zaitzev & Polevoi 1995; Polevoi 2000) and from Sweden (Hedmark 2000). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Subfamily Leiinae

Genus *Leia* Meigen, 1818

Leia cylindrica Winnertz, 1863

Material examined: *Ab*, Karjalohja, Site 1, 26 Jul – 23 Aug 2004 – 2 ♂♂; *Ta*: Lammi, Sites 6, 11 & 19, 9 Jun – 15 Oct 2003, 309 ♂♂; Sites 2, 3, 4, 5, 8, 9, 10, 14, 15, 16, 20, 21, 23 & 24, 28 May – 4 Oct 2004, 57 ♂♂; *Ta*: Padasjoki, Sites 7, 13, 17 & 18, 29 Jun – 4 Oct 2004, 12 ♂♂.

Comments: A rather common species widely distributed in Europe. In the Nordic region previously reported from Russian Karelia (Polevoi 2000) and Sweden (Kurina et al. 2005). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Subfamily Mycetophilinae

Tribe Exechiini

Genus *Allodia* Winnertz, 1863

Subgenus *Brachycampta* Winnertz, 1863

Allodia (Brachycampta) subpistillata Ševčík, 1999

Material examined: *Ta*: Lammi, Site 22, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: Besides the type material from the Czech Republic this species has so far

been reported only from Russian Karelia (Polevoi 2000). *A. subpistillata* is closely related to *A. pistillata* (Lundström, 1911) and may have been overlooked in the Nordic region.

Genus *Allodiopsis* Tuomikoski, 1966

* *Allodiopsis gracilis* Ševčík & Papp, 2003

Material examined: *Ab*: Karjalohja, Site 1, 26 Jul – 23 Aug 2004, 1 ♂; *Ok*: Kuhmo, 1 Jul 1965 (MZB, leg. R. Tuomikoski), 1 ♂; *Ob*: Pisavaara, 30.6.1964 (MZB, leg. R. Tuomikoski), 1 ♂; *Ta*: Lammi, Site 17, 1 – 15 Jun 2004, 1 ♂; Site 19, 11 Sep – 15 Oct 2003, 1 ♂; Site 22, 28 May – 28 Jun 2004, 1 ♂.

Comments: This species belongs to a small group of closely related species recently segregated from *A. korolevi* Zaitzev, 1982. Previously known only from Hungary and the Czech and Slovak republics (Chandler 2005). No former records from the Nordic region.

Allodiopsis pseudodomestica (Lackschewitz, 1937)

Material examined: *Ta*: Lammi, Site 20, 28 May – 28 Jun 2004, 1 ♂.

Comments: A rare species reported from a few localities in Europe: Belgium, Bulgaria, Estonia, Germany, Italy, Latvia, Poland, Switzerland (Chandler 2005) and in Tomsk province of Western Siberia (Zaitzev 2003). In the Nordic region so far recorded only from Sweden (Plassmann 1980). Former records from Russian Karelia (Krivosheina, Zaitzev & Jakovlev 1986) are not confirmed due to absence of original material.

Genus *Anatella* Winnertz, 1863

Anatella damfi Landrock, 1924

Material examined: *Ta*: Lammi, Site 16, 27 Jul – 27 Aug 2004, 1 ♂; Site 19, 23 Jul – 18 Aug 2003, 4 ♂♂; Site 20, 27 Jul – 27 Aug 2004, 8 ♂♂; Site 24, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: A Holarctic species found in many localities in Europe (Chandler 2005), also in Siberia and Russian Far East (Zaitzev 2003). In the Nordic region previously recorded from Russian Karelia (Polevoi 2000) and Sweden (Chandler 2005).

Anatella dentata Zaitzev, 1989

Material examined: *Ta*: Lammi, Site 11, 19 Aug – 10 Sep 2003, 1 ♂.

Comments: This species was described from Russian Far East (Sakhalin Island) and have later been reported from Austria (Chandler 2005) and Russian Karelia (Polevoi 2000).

Anatella emergens Caspers, 1987

Material examined: *Ab*, Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 7, 28 Apr – 27 May 2004, 1 ♂; Site 18, 28 Aug – 4 Oct 2004, 1 ♂; Site 23, 28 Aug – 4 Oct 2004, 2 ♂♂; Site 24, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: Recorded from Germany, Switzerland and British Isles, Northwest Russia (Leningrad oblast); Siberia and Russian Far East (Zaitzev 2003). In the Nordic region previously found only in Russian Karelia (Polevoi 2000; Zaitzev 2003).

Anatella unguigera Edwards, 1921

Material examined: *Ta*: Lammi, Site 16, 27 Jul – 27 Aug 2004, 2 ♂♂; Site 17, 27 Jul – 27 Aug 2004, 1 ♂; Site 20, 27 Jul – 27 Aug 2004, 13 ♂♂; Site 24, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: Known from many localities in Europe and Russian Far East (Zaitzev 2003). In the Nordic region reported from Denmark (Petersen & Meier 2001), Norway (Økland & Zaitzev 1997) and Russian Karelia (Polevoi 2000).

Genus *Brevicornu* Marshall, 1869

* *Brevicornu arcticoides* Caspers, 1985

Material examined: *Ta*: Lammi, Site 20, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: Recorded from Moscow province (Russia), Transcaucasia (Zaitzev 2003) and several localities in Europe: Germany, France, Switzerland, Netherlands and British Isles, some published records were misidentified as *B. fasciculatum* Lackschewitz (Chandler 2005).

Brevicornu fasciculatum (Lackschewitz, 1937)

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Padasjoki, Site 7, 28 Aug – 4 Oct 2004, 2 ♂♂; Site 9, 28 Aug – 4 Oct 2004, 3 ♂♂; Site 14, 27 Jul – 27 Aug 2004, 1 ♂; Site 16, 27 Jul – 4 Oct 2004, 2 ♂♂.

Comments: Described from Latvia and later recorded from Germany, Czech Republic and Transcaucasia (Chandler 2005). In the Nordic region previously reported from Sweden (Kurina et al. 2005) and as *B. neofasciculatum* from Russian Karelia (Polevoi 2000). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Brevicornu melanderi Zaitzev, 1988

Material examined: *Ta*: Lammi, Site 16, 28 Aug – 4 Oct 2004, 2 ♂♂; Site 18, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: Described from North America. In Europe previously only recorded from Russian Karelia (Polevoi 2000).

Brevicornu parafennicum Zaitzev in Zaitzev & Polevoi, 1995

Material examined: *Ta*: Lammi, Site 20, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: This species was known from Russian Karelia (Zaitzev & Polevoi 1995), and later recorded from Sweden (Kurina et al. 2005).

Genus *Cordyla* Meigen, 1803

Cordyla insons Laštovka & Matile, 1974

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 3, 28 Aug – 4 Oct 2004, 1 ♂; Site 11, 11 Sep – 15 Oct 2003, 6 ♂♂; Site 15, 28 Aug – 4 Oct 2004, 1 ♂; Site 16, 29 Jun – 26 Jul 2004, 1 ♂; Site 20, 28 Aug – 4 Oct 2004, 1 ♂; Site 23, 28 Aug – 4 Oct 2004, 1 ♂; *Ta*: Padasjoki, Site 7, 28 Aug – 4 Oct 2004, 1 ♂; Site 13, 28 Apr – 27 May 2004, 1 ♂.

Comments: Described from Mongolia and later reported from many localities in Europe (Chandler 2005) and in Siberia (Zaitzev 2003). In the Nordic region previously reported from Russian Karelia (Polevoi 2000) and Sweden (Kurina et al. 2005). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Cordyla murina Winnertz, 1863

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 3 ♂♂; *Ta*: Lammi, Sites 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 20, 21, 22, 23, 24, 28 Apr – 4 Oct 2004, 47 ♂♂;

Ta: Padasjoki, Sites 3, 13, 19, 28 Apr – 4 Oct 2004, 11 ♂.

Comments: The species has previously been recorded from Finland with a question mark (Hackman 1980). It was later confirmed by Polevoi (2001) and posted from Finland in the Fauna Europaea database (Chandler 2005) as a doubtful record with a note that “two species are confused under this name and records cannot yet be assigned pending a revision of the genus by O. Kurina”.

The present records of *Cordyla murina* have been confirmed by O. Kurina (pers. comm.).

Genus *Exechia* Winnertz, 1863

Exechia dentata Lundström, 1916

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *N*: Vihti, Vihtijärvi, 19 May 1962 (MZB, leg. R. Tuomikoski), 1 ♂.

Comments: This species, described from Slovakia (Lundström 1916), has until recently been synonymized and mixed with *E. cincta* Winnertz, 1863. Reinstated as a valid species by Ševčík (2001b). Previously reported from Czech Republic, Hungary, Switzerland and Sweden (Chandler 2005).

* *Exechia pseudofestiva* Lackschewitz, 1937

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 17, 1 – 15 Oct 2003, 1 ♂.

Comments: A rare and little known species described from Latvia and later recorded from several localities in Europe (Chandler 2005) and Russian Far East (Zaitzev 2003). New to the Nordic region.

* *Exechia repandooides* Caspers, 1984

Material examined: *Ta*: Lammi, Site 17, 19 Aug – 10 Sep 2003, 1 ♂.

Comments: A little known species described from Austria and later recorded from several localities in Europe (Chandler 2005). New to the Nordic region.

Genus *Exechiopsis* Tuomikoski, 1966

Subgenus *Exechiopsis* Tuomikoski

Exechiopsis (Exechiopsis) aemula Plassmann, 1984

Material examined: *Ab*: Dragsfjärd, Örö, 25 – 15 Oct 1990 (MZB, leg. I. Kullberg) – 3 ♂♂; Karjalohja, (Site 1), 24 Aug – 5

Oct 2004 – 2 ♂♂; Vihti, Vihtijärvi, 12 May 1962 (MZB, leg. R. Tuomikoski) – 3 ♀♀, 2 ♂♂; 19 May 1962 (MZB, leg. R. Tuomikoski) – 2 ♀♀, 1 ♂; 15 Jul 1962 (MZB, leg. R. Tuomikoski) – 1 ♂; 17 Aug 1962 (MZB, leg. R. Tuomikoski) – 1 ♂; 24 Aug 1962 (MZB, leg. R. Tuomikoski) – 2 ♀♀; 27 Aug 1963 (MZB, leg. R. Tuomikoski) – 2 ♀♀, 1 ♂; **Al:** Lemland, Flaka, 14 Jun 1962 (MZB, leg. R. Tuomikoski) – 1 ♀; 5 May 1964 (MZB, leg. K. Mikkola) – 1 ♂; **Ka:** Valkeala, Utti, 16 Sep 1965 (MZB, leg. K. Mikkola) – 1 ♂; Vehkalahti, 15 Sep 1971 (MZB, leg. L. Tiensuu) – 1 ♂; 9 Oct 1971 (MZB, leg. L. Tiensuu) – 1 ♂; **N:** Esbo, Kolmperä, 10 May 1964 (MZB, leg. W. Hackman) – 1 ♀; Esbo, Westend, Småholmen, 2 Jun 1962 (MZB, leg. W. Hackman) – 1 ♀; 16 Aug 1962 (MZB, leg. W. Hackman) – 1 ♀; Hangö, Russard, 15 – 25 Sep 1990 (MZB, leg. I. Kullberg) – 1 ♂; 14 – 23 Oct 1990 (MZB, leg. I. Kullberg) – 2 ♂♂; 24 Oct – 17 Nov 1990 (MZB, leg. I. Kullberg) – 1 ♂; Helsinge, Nordsjö, 20 May 1962 (MZB, leg. W. Hackman) – 2 ♀♀; Sipoo, Hindsby, 19 Jul 1988 (MZB, leg. P. Ahlroth) – 1 ♂; **Ok:** Sotkamo, 15 Aug 1962 (MZB, leg. A. V. V. Mikkola) – 1 ♂; Sotkamo, Aarreniemi, 8 Jun 1964 (MZB, leg. A. V. V. Mikkola) – 1 ♀; 11 Jun 1964 (MZB, leg. A. V. V. Mikkola) – 1 ♂; **Ta:** Lammi, Sites 4, 10, 11, 12, 14, 15, 19, 20, 21& 24, 28 Apr – 4 Oct 2004, 27 ♂♂; **Ta:** Padasjoki, Sites 7, 17 & 18, 28 Aug – 4 Oct 2004, 7 ♂♂.

Comments: After having been described from Sweden (Plassmann 1984) this common species has been largely overlooked due to confusion with the closely related *E. pulchella* (Winnertz, 1863) (see Kurina 2003b). Now known from several localities in Europe including Sweden (Kurina 2003b; Kurina et al. 2005) and Norway (Kurina 2003b). Also recorded from Russian Karelia (Krivosheina, Zaitzev & Yakovlev 1986) under the name *E. pulchella* (see Zaitzev 2003). Posted from Finland in the Fauna Europaea database (Chandler 2005) partly based on the present records.

Exechiopsis (Exechiopsis) dumitrescae (Burgherle-Balacesco, 1972)

Material examined: **Ks:** Kuusamo, Rukavaara, 9 Jul 1965 (MZB, leg. R. Tuomikoski) – 1 ♀; **Li:** Inari, Laanila, 2 Jul 1964 (MZB, leg. R. Tuomikoski), 1 ♀; 16 Jul 1965 (MZB, leg. R. Tuomikoski), 1 ♂.

Comments: A widespread but rare Palaearctic species reported from Austria, Great Britain, Bulgaria, Czech and Slovak Republics, Estonia, Germany, Ireland, Poland, Romania, Switzerland, Kostroma province of Northwest Russia, Krasnoyarski Krai (Eastern Siberia) and Mongolia. In the Nordic region previously recorded only from Russian Karelia (Krivosheina, Zaitzev & Jakovlev 1986, Polevoi 2000).

Exechiopsis (Exechiopsis) forcipata (Lackschewitz, 1937)

Material examined: **Ab:** Karjalohja, Site 1, 27 Jul – 23 Aug 2004 – 1 ♂; **Kb:** Pielisjärvi, Koli, 5 Jul 1965 (MZB, leg. R. Tuomikoski) – 1 ♂; **Ok:** Sotkamo, Aarreniemi, 22 – 28 Jul 1965 (MZB, leg. R. Tuomikoski) – 1 ♀; **Ok:** Kuhmo, 1 Jul 1965 (MZB, leg. R. Tuomikoski) – 1 ♂; **Ta:** Lammi, Sites 6, 11 & 19, 19 May – 10 Sep 2003, 40 ♂♂; Sites 3, 16, 17, 19, 20, 21 & 23, 28 May – 4 Oct 2004, 16 ♂♂; **Ta:** Padasjoki, Site 18, 28 May – 28 Jun 2004 – 2 ♂♂.

Comments: This species is widely distributed in Europe (Chandler 2005) and found also in Altai and Russian Far East (Zaitzev 2003). In the Nordic region it has previously been reported from Sweden (Plassmann 1974; Hedmark 1998; Kurina et al. 2005), Norway (Økland & Zaitzev 1997) and Russian Karelia (Polevoi 2000).

Exechiopsis (Exechiopsis) grassatura (Plassmann, 1978)

Material examined: **Kb:** Pielisjärvi, Koli, 15 – 16 Aug 1964 (MZB, leg. R. Tuomikoski), 2 ♀♀; **Ks:** Kuusamo, Juuma, Jäkälävuoma, 2 Aug 1964 (MZB, leg. K. Mikkola & R. Tuomikoski), 2 ♀♀; Kuusamo, Kiutaköngäs, 21 Aug 1964 (MZB, leg. K. Mikkola & R. Tuomikoski), 1 ♂; **Li:** Inari, Laanila, 16 Jul

1965 (MZB, leg. R. Tuomikoski) – 1 ♂; **Ab:** Vihti, Viitijärvi, 17 Aug 1962 (MZB, leg. R. Tuomikoski), 1 ♀.

Comments: Originally described from Sweden (Plassmann 1978) and further reported from Norway (Kjærandsen 1992), this little known species is possibly endemic to the Nordic region.

Subgenus *Xenexechia* Tuomikoski

Exechiopsis (Xenexechia) davatchii Matile, 1969

Material examined: **Ta:** Lammi, Site 3, 27 Jul – 27 Aug 2004, 1 ♂; Site 6, 19 Aug – 15 Oct 2003, 2 ♂♂; Site 21, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known species described from France and later reported from a few localities in Europe (Chandler 2005). In the Nordic region previously recorded only from Sweden (Hedmark 2000).

Exechiopsis (Xenexechia) membranacea (Lundström, 1912)

Holotype ♂: **LkW:** Muonio, 26 Jun 1911 (MZB, leg. R. Frey).

Other material examined: **Ab:** Kuustö (MZB, leg. C. Lundström), 1 ♂; **Ka:** Valkeala, 16 Sep 1965 (MZB, leg. K. Mikkola), 1 ♂; **Ks:** Kuusamo, Liikasenvaara, 6 Jul 1965 (MZB, leg. K. Mikkola), 1 ♂; **Sa:** Punkasalmi, 17 May 1964 (MZB, leg. R. Tuomikoski), 1 ♂; **Ta:** Lammi Site 15, 27 Jul – 27 Aug 2004, 2 ♂♂; Site 19, 11 Sep – 15 Oct 2003, 2 ♂♂.

Comments: A little known species so far reported only in a few localities in Europe. The species was described from Finland, but synonymized with the related species *Exechiopsis (Xenexechia) leptura* (Meigen, 1830) by Landrock (1940). Following Caspers (1984) we reconfirm this species from Finland.

** *Exechiopsis (Xenexechia) perspicua* (Johannsen, 1912)

Material examined: **Ta:** Lammi, Site 24, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: Re-examination of the single male determined as this species in the MZH collection and published by Hackman (1980) has shown to belong to the closely related

species *E. (X.) praedita* (Plassmann, 1976) (see below). Nevertheless, now rediscovered in new material and hereby correctly reported in the Palaearctic region for the first time.

Exechiopsis (Xenexechia) praedita (Plassmann, 1976)

Material examined: **Ok:** Sotkamo, 12 Jul 1962 (MZB, leg. A. V. V. Mikkola) – 1 ♂.

Comments: A rare species previously known only by type material from northern Sweden (Plassmann 1976). Published from Finland by Hackman (1980) under the name of the closely related species *E. (X.) perspicua*.

Exechiopsis (Xenexechia) seducta (Plassmann, 1976)

Material examined: **Ab:** Karjalohja, Site 1, 23 Aug – 5 Oct 2004, 1 ♂; **Ta:** Lammi, Sites 3, 8, 10, 11, 15 & 16, 28 Aug – 5 Oct 2004, 10 ♂♂; **Ta:** Padasjoki, Site 17, 27 Jul – 27 Aug 2004 – 1 ♂.

Comments: A little known species described from northern Sweden (Plassmann 1976) and later found in Russian Karelia (Polevoi 2000), Hungary (Ševčík & Papp 2001), Kostroma province, northern Russia (Zaitzev 2003), and southern Sweden (Kurina et al. 2005).

Exechiopsis (Xenexechia) stylata Laštovka & Matile, 1974

Material examined: **Ks:** Kuusamo, Kiutaköngäs, 19 – 24 Jul 1967 (MZB, leg. R. Tuomikoski), 1 ♂.

Comments: A rare species described from Mongolia and later reported from Italy (Chandler 2005) and Sweden (Hedmark 2000).

Genus *Notolopha* Tuomikoski, 1966

Notolopha brachycera (Zetterstedt, 1852)

Material examined: **LkE:** Sodankylä, Peurasaari, 8 Jul 1957 (MZB, leg. K. Keynäs), 3 ♂♂; **LkW:** Kittilä, Pallas, 29 Jul 1967 (MZB, leg. R. Tuomikoski), 1 ♂; **N:** Vihti, Viitijärvi, 23 Jun 1962 (MZB, leg. R. Tuomikoski), 1 ♂; **Ta:** Lammi, Site 10, 28 Apr – 27 May 2004, 1 ♂; Site 11, 19 Aug – 10 Sep 2003, 1 ♂; Site 15, 28 Aug – 4 Oct 2004 – 1 ♂; Site 22, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known species differing from the common and widely distributed *Notolopha cristata* (Staeger, 1840) by shape and distribution of setae on the mesoscutum

and in details of the terminalia as illustrated by Zaitzev & Maximova (2000) and Kjærandsen (2005). Tuomikoski (1966: 173) mentioned allied species close to *N. cristata* and placed the deviated specimens in the MZH collections under the informal name “*A. (N.) subcristata*”. Zaitzev & Maximova (2000) described *Allodiopsis (N.) tuomikoskii* Zaitzev et Maximova, 2000 from Siberia (Kemerovo province), and the species has later been reported also from Altai and Far East (Zaitzev 2003). Kjærandsen (2005) synonymized *N. tuomikoskii* with the restituted name *N. brachycera* Zetterstedt, 1852, confirmed other Swedish records by Poppius, Lundström & Frey (1917), Hedmark (2000) and (Chandler 2005), and noted that “*A. (N.) subcristata*” of Tuomikoski consisted of a mixture of *N. brachycera* and *N. sibirica* Zaitzev & Maximova, 2000.

- * *Notolopha sibirica* Zaitzev & Maximova, 2000
Material examined: *LkE*: Sodankylä, Peurasuvanto, 8 Jul 1957 (MZH, leg. K. Keynäs), 2 ♂♂; 2 ♀♀; *LkW*: Kittilä, Pallas, 29 Jul 1967 (MZH, leg. R. Tuomikoski), 1 ♂, 1 ♀.

Comments: New to the Nordic region. See comments under *N. brachycera*.

Genus *Pseudexechia* Tuomikoski, 1966

- ** *Pseudexechia canalicula* (Johannsen, 1912)

Material examined: *N*: Tvärminne, 14 Jun 1966 (MZH, leg. K. Keynäs), 1 ♂.

Comments: This little known species was described from North America and is hereby reported from the Palaearctic region for the first time based on comparison with type material (J. Kjærandsen in prep.).

Pseudexechia tristriata (Stackelberg in Ostroverkhova & Stackelberg, 1969)

Material examined: *N*: Esbo, Bodom, 9 Oct 1962 (MZH, leg. W. Hackman), 1 ♂; Helsinki, Nordsjö, 22 Apr 1962 (MZH, leg. R. Tuomikoski), 1 ♂; Vihti, Vihtijärvi, 26 Apr 1964 (MZH, leg. R. Tuomikoski), 1 ♂; *Ta*: Lammi, Site 11, 18 Aug – 2 Sep 2003, 1 ♂; Site 19, 10 Sep – 3 Oct 2003, 1 ♂.

Comments: A rare species previously known with scattered records from Northwest Russia,

Leningrad and Vologda provinces (Zaitzev 2003), Russian Karelia (Polevoi 2000), Hungary (Chandler 2005), the Czech Republik (Ševěák & Martinovský 1999), and Estonia (Kurina 1998).

Genus *Pseudorymosia* Tuomikoski, 1966

- Pseudorymosia fovea* (Dziedzicki, 1910)

Material examined: *Ab*: Karjalohja, Site 1, 23 Aug – 5 Oct 2004, 3 ♂♂; *Al*: Lemland, Flaka, 8 Jun 1962 (MZH, leg. R. Tuomikoski), 1 ♀, 2 ♂♂; *Sa*: Punkasalmi, 13 Aug 1964 (MZH, leg. R. Tuomikoski), 1 ♂; *Ta*: Lammi, Site 11, 4 Aug – 3 Oct 2003, 3 ♂♂; Sites 3, 15 20, 21 & 22, 27 Jul – 4 Oct 2004, 9 ♂♂; Site 6, 19 May – 9 Jun 2003, 2 ♂♂; *Ta*: Padajoki, Site 7, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: The small genus *Pseudorymosia* contains only two known Palaearctic species, *P. fovea* (Dziedzicki, 1910) and *P. optiva* (Dziedzicki, 1910), that in fact might be only one species. As noted by Zaitzev (2003) diagnostic characters given by Dziedzicki (1910) are not reliable and the type material is regarded as lost. Re-examination of specimens in the MZH collections formerly identified as *P. optiva* (Dziedzicki, 1910) and published by Hackman (1980) revealed that all of them are in fact the widely distributed *P. fovea* as interpreted in newer determination sources (e.g. Zaitzev 2003). *P. optiva* is hereby removed from the Finnish check-list.

Genus *Rymosia* Winnertz, 1863

- Rymosia acta* Dziedzicki, 1910

Material examined: *N*: Hangö, Russarö, 14 – 23 Oct 1990 (MZH, leg. I. Kullberg), 1 ♂; *Ta*: Lammi, Site 10, 28 Aug – 4 Oct 2004, 1 ♂; Site 11, 19 Aug – 10 Sep 2003, 1 ♂; Site 15, 28 Aug – 4 Oct 2004, 1 ♂; Site 22, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known species recorded from a few localities in Europe. In the Nordic region previously reported from Norway (Søli 1994) and Russian Karelia only (Polevoi 2000). Posted from Finland in the Fauna Europaea database (Chandler 2005) based on the present records.

Rymosia batava (Barendrecht, 1938)

Material examined: *N*: Esbo, 29 Jun 1976 (MZB, leg. W. Hackman), 1 ♂.

Comments: A rare species which was described from Netherlands and later was collected only by rearings from agaric fungi of the genus *Inocybe*, viz: *I. aeruginascens*, *I. agardhii*, *I. dulcamara*, *I. gogeyi* in Hungary (Dely-Draskovits 1974) and from *I. lacera* in Russian Karelia (Krivosheina, Zaitzev & Yakovlev 1986; Polevoi 2000).

Genus *Synplasta* Skuse, 1890*Synplasta dulcia* (Dziedzicki, 1910)

Material examined: *Kb*: Tohmajärvi, Piilovaara, 13 Jun 1964 (MZB, leg. R. Tuomikoski), 1 ♀, 1 ♂.

Comments: A little known species found in a few localities in Central Europe and in Russia (Tuva). In the Nordic region previously recorded only from Russian Karelia (Polevoi 2000; Zaitzev 2003).

Synplasta ingeniosa (Kidd, 1969)

Material examined: *Ab*: Karjalohja, Site 1, 1 – 15 Jun 2004, 1 ♂; *Ta*: Lammi, Site 23, 26 Jul – 23 Aug 2004, 1 ♂.

Comments: The species is known from several localities in Europe. In the Nordic region previously recorded from Sweden (Plassmann 1979) and Russian Karelia (Krivosheina, Zaitzev & Yakovlev 1986; Polevoi 2000).

Tribe Mycetophilini

Genus *Dynatosoma* Winnertz, 1863* *Dynatosoma silesiacum* Ševčík, 2001

Material examined: *Ta*: Lammi, Site 2, 28 Apr – 27 May 2004 – 1 ♂; Site 4, 28 Apr – 27 May 2004, 1 ♂; 29 Jun – 26 Jul 2004, 1 ♂; 27 Jul – 27 Aug 2004, 1 ♂; *Ta*: Padasjoki, Site 7, 28 May – 28 Jun 2004, 1 ♂.

Comments: This species was known only by type material from the Czech Republic (Ševčík 2001a) and, hence, new to the Nordic region.

Genus *Epicyppta* Winnertz, 1863*Epicyppta fumigata* (Dziedzicki, 1923)

Material examined: *Ta*: Lammi, Site 5, 19 May – 23 Jun 2003 – 1 ♂; Site 6, 29 Jun – 26

Jul 2004, 1 ♂; Site 8, 28 Aug – 4 Oct 2004, 1 ♂; Site 11, 3 – 15 Oct 2003, 1 ♂; Site 16, 28 May – 28 Jun 2004, 1 ♂; 28 Aug – 4 Oct 2004, 1 ♂; *Ta*: Padasjoki, Site 7, 29 Jun – 26 Jul 2004, 5 ♂♂; 27 Jul – 27 Aug 2004, 1 ♂; 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known species known from Austria (type material), Switzerland (Chandler 1998), Russian Karelia (Polevoi 2000), and Leningrad province, Altai and Far East Russia (Zaitzev 2003).

Epicyppta scatophora (Perris, 1849)

Material examined: *Ta*: Lammi, Site 11, 19 Aug – 10 Sep 2003, 2 ♂♂.

Comments: A Holarctic species known from Central Europe, Far East and North America. The only previous record from the Nordic region is from Russian Karelia (Zaitzev 1987), but Polevoi (2000) was not able to locate and re-examine the original material.

Genus *Mycetophila* Meigen, 1803* *Mycetophila extincta* Loew, 1869

Material examined: *Ta*: Lammi, Site 21, 29 Jun – 26 Jul 2004, 2 ♂♂; 27 Jul – 27 Aug 2004, 11 ♂♂.

Comments: A Holarctic species recorded from many localities of Central Europe, Siberia, Far East, North America and Near East. Most of the records were published under the name *M. mikii* Dziedzicki. In Northern Europe recorded only from Estonia (Kurina 1998). No previous records from the Nordic region.

Mycetophila gibbula Edwards, 1925

Material examined: *Ta*: Padasjoki, Site 7, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: Known from many localities in Europe (Chandler 2005) and also from Siberia, Russian Far East and Iran (Zaitzev 2003). In the Nordic region previously known from Sweden (Kurina et al. 2005) and Russian Karelia (Polevoi 2000).

* *Mycetophila idonea* Lastovka, 1972

Material examined: *Ta*: Lammi, Site 8, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: A species of the *M. ruficollis*-group recorded from several localities in Central Europe (Chandler 2005), Russia, Ukraine

and also in Russian Far East (Zaitzev 2003). No previous records from the Nordic region, in Northern Europe recorded from Estonia only (Kurina 1998).

Mycetophila nigrofusca Dziedzicki, 1884

Material examined: *Ab*: Karjalohja, Site 1, 27 Jul – 23 Aug 2004, 2 ♂♂; *Ta*: Lammi, Site 23, 28 Aug 2004 – 5 Oct 2005, 2 ♂♂.

Comments: Known from many localities in Europe (Chandler 2005) and from Altai (Zaitzev 2003). In the Nordic region previously recorded only from Russian Karelia (Krivosheina, Zaitzev & Yakovlev 1986; Polevoi 2000).

Mycetophila ruficollis Meigen, 1818

Material examined: *Ab*: Karjalohja, Site 1, 29 Jun – 26 Jul 2004, 1 ♂; 27 Jul – 23 Aug 2004, 2 ♂♂;

Ta: Lammi, Site 4, 27 Jul – 27 Aug 2004, 1 ♂; Site 5, 28 Aug – 4 Oct 2004, 1 ♂; Site 6, 23 Jul – 18 Aug 2003, 1 ♂; Site 8, 28 Aug 2004 – 5 Oct 2005, 1 ♂; Site 9, 28 Aug 2004 – 5 Oct 2005, 2 ♂♂; Site 11, 19 Aug – 10 Sep 2003, 4 ♂♂; Site 12, 29 Jun – 26 Jul 2004, 2 ♂♂; 27 Jul – 27 Aug 2004, 1 ♂; Site 23, 29 Jun – 26 Jul 2004, 2 ♂♂; 28 Aug 2004 – 5 Oct 2005, 1 ♂.

Comments: This species is widely distributed in Europe (Chandler 2005) and also recorded from Altai, Russian Far East, Japan, North America and Iran (Zaitzev 2003). In the Nordic region previously recorded from Russian Karelia (Polevoi 2000) and Denmark (Petersen & Meier 2001).

Mycetophila stolida Walker, 1856

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 5, 27 Jul – 27 Aug 2004, 1 ♂.

Comments: A widely distributed Holarctic species. In the Nordic region it has been recorded from Russian Karelia (Polevoi 2000), Denmark (Petersen & Meier 2001) and Sweden (Kurina et al. 2005).

Mycetophila subsigillata Zaitzev, 1999

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 10, 27 Jul – 27 Aug 2004, 1 ♂; Site 22, 27 Jul

– 27 Aug 2004, 1 ♂.

Comments: This species has recently been segregated from the closely related *M. sigillata* Dziedzicki, 1884. Subsequently found in several localities in Europe, Altai and Russian Far East (Zaitzev 2003). In the Nordic region previously recorded from Russian Karelia (Zaitzev 2003; Polevoi & Humala 2005) and southern Sweden (Kurina et al. 2005).

* *Mycetophila triangularis* Lundström, 1912

Material examined: *Ta*: Lammi, Site 21, 28 Aug – 4 Oct 2004, 1 ♂; Site 22, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known European species described from Körösmezö, Hungary (now Yasinya, Ukraine) and later reported from the Czech and Slovak Republics (Chandler 2005), Leningrad oblast in the Northwest Russia (Krivosheina, Zaitzev & Jakovlev 1986) and Altai (Zaitzev 2003). No previous records from the Nordic region.

Mycetophila unguiculata Lundström, 1913

Material examined: *Ta*: Lammi, Site 9, 28 Aug – 4 Oct 2004, 1 ♂.

Comments: A little known European species described from Felsőbanya, Hungary (now Baia Sprie, Romania) and later reported from adjacent countries: Bulgaria, Czech Republic, Germany and Poland (Chandler 2005). In Russia it has been found in Vologda province, Altai and Far East (Zaitzev 2003). In the Nordic region previously recorded only from Norway (Økland & Zaitzev 1997).

Mycetophila xanthopyga Winnertz, 1863

Material examined: *Ab*: Karjalohja, Site 1, 24 Aug – 5 Oct 2004, 1 ♂; *Ta*: Lammi, Site 3, 27 Jul – 27 Aug 2004, 1 ♂; Site 5, 27 Jul – 27 Aug 2004, 1 ♂; Site 6, 24 Jun – 22 Jul 2003, 2 ♂♂; Site 9, 28 Apr – 27 May 2004, 1 ♂; 27 Jul – 27 Aug 2004, 1 ♂; Site 14, 1 ♂; 28 Aug – 4 Oct 2004, 1 ♂; Site 21, 29 Jun – 26 Jul 2004, 5 ♂♂; 27 Jul – 27 Aug 2004, 6 ♂♂; *Ta*: Padasjoki, Site 7, 27 Jul – 27 Aug 2004, 1 ♂; Site 13, 27 Jul – 27 Aug 2004, 1 ♂; 28 Aug – 4 Oct 2004, 1 ♂.

Comments: Widely distributed in Europe, including the Nordic region where it is previously recorded from Norway, Sweden and

Russian Karelia (Chandler 2005).

Genus *Sceptonia* Winnertz, 1863

Sceptonia demejerei Bechev, 1997

Material examined: *Ta*: Lammi, Site 22, 28 Aug – 4 Oct 2004, 1♂; Site 23, 29 Jun – 26 Jul 2004, 2♂♂.

Comments: Known from several localities in Central Europe. In the Nordic region it has previously been found only once in Russian Karelia (Polevoi 2000).

* *Sceptonia hamata* Ševčík, 2004

Material examined: *Ta*: Lammi, Site 5, 28 Apr – 27 May 2004, 1♂.

Comments: The species is so far known only by type material from Bohemia (Ševčík 2004) and, hence, new to the Nordic region.

Sceptonia longisetosa Ševčík, 2004

Material examined: *Ta*: Lammi, Site 5, 29 Jun – 26 Jul 2004, 1♂; Site 11, 19 May – 23 Jun 2003, 2♂♂; Site 12, 29 Jun – 27 Aug 2004, 2♂♂; Site 14, 28 Aug – 4 Oct 2004, 1♂; Site 15, 28 May – 28 Jun 2004, 2♂; 28 Aug – 4 Oct 2004, 14♂♂; Site 16, 27 Jul – 27 Aug 2004, 2♂♂; 28 Aug – 4 Oct 2004, 1♂; 27 Jul – 27 Aug 2004, 2♂♂; 28 Aug – 4 Oct 2004, 1♂; Site 21, 27 Jul – 27 Aug 2004, 1♂; Site 22, 27 Jul – 27 Aug 2004, 4♂♂; Site 23, 27 Jul – 27 Aug 2004, 1♂; 28 Aug – 4 Oct 2004 – 1♂; Site 24, 27 Jul – 27 Aug 2004, 1♂; 28 Aug – 4 Oct 2004, 1♂; *Ta*: Padasjoki, Site 18, 28 May – 28 Jun 2004, 2♂♂; Site 19, 28 Apr – 27 May 2004, 1♂; 27 Jul – 27 Aug 2004, 1♂.

Comments: The species is so far known only by type material from Bohemia (Ševčík 2004) and from new findings in southern Sweden (Kurina et al. 2005).

Sceptonia pughi Chandler, 1991

Material examined: *Ta*: Lammi, Site 4, 27 Jul – 27 Aug 2004, 1♂.

Comments: Known from the British Isles, France, Hungary, Slovak Republic and Bulgaria (Chandler 2005). In the Nordic region it has been recorded from Russian Karelia (Zaitzev 2003) and southern Sweden (Kurina et al. 2005).

Sceptonia regni Chandler, 1991

Material examined: *Ta*: Lammi, Site 4, 27 Jul – 27 Aug 2004, 2♂♂; Site 8, 29 Jun – 26 Jul 2004, 11♂♂; Site 14, 29 Jun – 26 Jul 2004, 2♂♂; 28 Aug – 4 Oct 2004, 8♂♂; Site 15, 27 Jul – 27 Aug 2004, 10♂♂; 28 Aug – 4 Oct 2004, 6♂♂; Site 16, 27 Jul – 27 Aug 2004, 2♂♂; 28 Aug – 4 Oct 2004, 1♂; Site 20, 27 Jul – 27 Aug 2004 – 10♂♂; Site 23, 27 Jul – 27 Aug 2004, 2♂♂; 28 Aug – 4 Oct 2004, 13♂♂; *Ta*: Padasjoki, Site 7, 28 Aug – 4 Oct 2004 – 2♂♂; Site 13, 27 Jul – 27 Aug 2004, 1♂.

Comments: Recorded from Great Britain and the Czech Republic (Chandler 2005). In the Nordic region it has been recorded from Norway (Økland & Zaitzev 1997) and Russian Karelia (Zaitzev 2003; Polevoi & Humala 2005).

* *Sceptonia thaya* Ševčík, 2004

Material examined: *Ta*: Lammi, Site 14, 29 Jun – 26 Jul 2004, 1♂; Site 20, 27 Jul – 27 Aug 2004, 2♂♂.

Comments: The species is so far known only by type material from Bohemia (Ševčík 2004) and, hence, new to the Nordic region.

Genus *Zygomya* Winnertz, 1863

Zygomya angusta Plassmann, 1977

Material examined: *Ta*: Lammi, Site 6, 11 Sep – 15 Oct 2003, 3♂♂; Site 16, 28 Aug – 4 Oct 2004, 1♂.

Comments: A little known species described from Germany and later recorded from Estonia (Kurina 1998), Russian Karelia (Polevoi 2000) and Sweden (Kurina et al. 2005).

Zygomya notata (Stannius, 1831)

Material examined: *Ta*: Lammi, Site 4, 29 Jun – 26 Jul 2004, 9♂♂; *Ta*: Padasjoki, Site 7, 27 Jul – 27 Aug 2004, 7♂♂.

Comments: This species is widely distributed in Europe and has also been recorded from the Near East region (Chandler 2005), Siberia and Russian Far East (Zaitzev 2003). In the Nordic region it has previously been recorded from Norway (Økland & Zaitzev 1997), Russian Karelia (Polevoi 2000) and Sweden (Chandler 2005).

Zygomyia zaitzevi Chandler, 1991

Material examined: *Ab*: Karjalohja, Site 1, 27 Jul – 23 Aug 2004, 1♂; 24 Aug – 5 Oct 2004, 1♂; *Ta*: Lammi, Site 5, 28 Apr – 27 May 2004, 1♂; 29 Jun – 26 Jul 2004, 1♂; 27 Jul – 27 Aug 2004, 4♂♂; Site 6, 24 Jun – 22 Jul 2003, 2♂♂; Site 8, 28 Aug – 4 Oct 2004, 2♂♂; Site 14, 28 May – 28 Jun 2004, 1♂; 28 Aug – 4 Oct 2004, 6♂♂; Site 15, 27 Jul – 27 Aug 2004, – 2♂♂; Site 9, 28 Aug – 4 Oct 2004, 4♂♂; Site 11, 19 Aug – 10 Sep 2003, 1♂; Site 12, 29 Jun – 26 Jul 2004, 1♂; Site 20, 27 Jul – 27 Aug 2004, 1♂; Site 21, 27 Jul – 27 Aug 2004, 4♂♂; 28 Aug – 4 Oct 2004, 1♂; Site 23, 27 Jul – 27 Aug 2004, 5♂♂; 28 Aug – 4 Oct 2004, 16♂♂; Site 24, 28 Apr – 27 May 2004, 1♂; 27 Jul – 27 Aug 2004, 1♂; 28 Aug – 4 Oct 2004, 1♂; Padasjoki, Site 7, 28 Apr – 27 May 2004, 1♂; 27 Jul – 27 Aug 2004, 2♂♂; 28 Aug – 4 Oct 2004, 1♂; Site 19, 28 May – 28 Jun 2004, 1♂; 28 Aug – 4 Oct 2004, 3♂♂

Comments: The species seems to be widely distributed in the Nordic Region and has been previously recorded from Norway (Økland & Zaitzev 1997), Russian Karelia (Polevoi 2000; Zaitzev 2003) and Sweden (Kurina et al. 2005). Other European records are scanty, but *Z. zaitzevi* could be overlooked due to mixing with the closely related *Z. pictipennis* (Staeger, 1840) also widely distributed in Europe.

Acknowledgements

This paper is a part of the project "Finnish fungus gnats (Diptera, Mycetophilidae, etc.): faunistics, habitat requirements and threat status". The financial support from the Finnish Ministry of Environment is hereby acknowledged. J. Kjærandsen is financially supported by the Swedish Taxonomy Initiative (see Miller 2005). We are indebted to Pasi Sihvonen (MZB) for the opportunity to work with the collections and for the loan of material, to Juha Siitonens (Finnish Forest Research Insti-

tute, Vantaa) for comments to the manuscript, and to Olavi Kurina (Institute of Zoology and Botany, Tartu, Estonia) for confirming *Cordyla* species.

References

- Bechev, D. 2000: World distribution of the genera of fungus gnats (Diptera: Sciaroidea, excluding Sciaridae). — *Studia dipt.* 7: 543-552.
- Caspers, N. 1984: Mycetophiliden aus Lunz, Niederösterreich (Diptera, Nematocera, Mycetophilidae). — *Entomofauna* 5: 173-205.
- Chandler, P. J. 1998: Mycetophilidae. — Pp. 113–125 in: Merz, B., Bächli, G., Haenni, J.-P. & Gonseth, Y. [eds.]: *Fauna Helvetica* 1. Diptera-Checklist. Schweizerische Entomologische Gesellschaft, Neuchatel.
- Chandler, P. J. 2001: Fungus gnats (Diptera: Sciaroidea) new to Britain. — *Br. J. Ent. Nat. Hist.* 13: 215-243.
- Chandler, P. J. 2002: *Heterotrichia* Loew and allied genera (Diptera, Sciaroidea): offshoots of the stem group of Mycetophilidae and/or Sciaridae? — *Ann. Soc. Entomol. Fr.* (n.s.) 38: 101-144.
- Chandler, P. J. 2005: Fauna Europaea: Mycetophilidae. — In: de Jong, H. [ed.]: *Fauna Europaea*: Diptera, Nematocera. Fauna Europaea, version 1.2. Available from: <http://www.fau-naeur.org> (7 March 2005).
- Dely-Draskovits, A. 1974: Systematische und ökologische Untersuchungen an den in Ungarn als Schädlinge der Hutpilze auftretenden Fliegen. Part VI. Mycetophilidae (Diptera). — *Folia. Entomol. Hung.* (n.s.) 27: 29-41.
- Dziedzicki, H. 1910: Zur Monographie der Gattung *Rymosia* Winn. — *Horae Soc. ent ross.* 77: 89-104.
- Gagné, R. J. 1978: A hypothesis for the distribution of Holarctic groups of fungus gnats (Diptera, Mycetophilidae). — *J. N. Y. Entomol. Soc.* 86: 289.
- Gagné, R. J. 1981: A Monograph of Trichonta with a Model for the Distribution of Holarctic Mycetophilidae (Diptera). — *Techn. Bull. U. S. Dept. Agric.* 1638: 1-64.
- Hackman, W. 1980: A check list of the Finnish

- Diptera I. Nematocera and Brachycera (s.str.). — Notulae Entomol. 60: 17-48.
- Hedmark, K. 1998: Svampmyggor – nya arter för Sverige och Finland (Diptera: Mycetophilidae s. lat.). — Ent. Tidskr. 119: 1-12.
- Hedmark, K. 2000: Svampmyggor i tajgan – nya arter för Sverige i ett fennoskandiskt perspektiv (Diptera: Sciaroidea exkl. Sciaridae). — Ent. Tidskr. 121: 73-89.
- Hippa, H. & Vilkamaa, P. 2005: The genus *Sciarotricha* gen. n. (Sciaridae) and the phylogeny of recent and fossil Sciaroidea (Diptera). — Insect Syst. Evol. 36: 121-144.
- Jakovlev, J. & Siiton, J. 2005: Finnish fungus gnats (Diptera, Mycetophilidae etc.): faunistics, habitat requirements and threat status. — Lammi Notes 30: 3-7.
- Jaschhof, M., Jashhof, C., Viklund, B. & Kallweit, U. 2006: On the morphology and systematic position of *Sciarosoma borealis* Chandler, based on new material from Fennoscandia (Diptera: Sciaroidea). — Studia dipt. 12: 231-241.
- Kjærandsen, J. 1992: Hulelevende tovinger, med hovedvekt på soppmygg (Diptera: Mycetophilidae). — Cand. scient. thesis, Bergen University, Norway, Bergen. [introduction in Norwegian]
- Kjærandsen, J. 1993: Diptera in mines and cave systems in southern Norway. — Entomol. Fennica 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. & Bengtson, S.-A. 2005: Svampmyggor - artrik insektsgrupp som trivs så i Norden. — Fauna & Flora (Stockh.) 100: 26-34. [in Swedish]
- Kjærandsen, J. & Jørgensen, L. L. 1992: Fungusgnats from the Faroes (Diptera, Mycetophilidae). — Entomol. Medd. 60: 85-87.
- Kjærandsen, J., Kurina, O. & Ólafsson, E. *in press*: The fungus gnats of Iceland (Diptera, Keroplatidae & Mycetophilidae). — Insect Syst. Evol. Suppl.: (MS 53 pp).
- Komonen, A. 2001: Structure of insect communities inhabiting old-growth forest specialist bracket fungi. — Ecol. Entomol. 26: 63-75.
- Krivosheina, N. P., Zaitzev, A. I. & Jakovlev, J. B. 1986: Insects inhabiting fruiting bodies of macrofungi in the forest zone of the European part of USSR. Moscow. 309 pp. [In Russian]
- Kurina, O. 1991: Mycetophilidae (Diptera) reared from macrofungi in Estonia. — Proc. Est. Acad. Sci. Biol. Ecol. 40: 84-90.
- Kurina, O. 1998: Fungus gnats in Estonia (Diptera: Bolitophilidae, Keroplatidae, Macroceridae, Ditomyiidae, Diadocidiidae, Mycetophilidae). — PhD thesis, Tartu.
- Kurina, O. 1999: Notes of fungus gnats (Diptera, Mycetophiloidea) in northeastern Fennoscandia. — Int. J. Dipterol. Res. 10: 151-154.
- Kurina, O. 2003a: Notes on fungus gnats from the Lemmenlaakso area in southern Finland, including six species new to the Finnish list (Diptera: Sciaroidea excl. Sciaridae). — Sahlbergia 8: 84-88.
- Kurina, O. 2003b: On the validity of the species *Exechiopsis aemula* Plassmann and *Exechiopsis pulchella* (Winnertz) (Diptera, Mycetophilidae). — Nor. J. Entomol. 50: 3-10.
- 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.
- Landrock, K. 1940: Zweiflüger oder Diptera VI: Pilzmücken oder Fungivoridae (Mycetophilidae). — Pp. 1-166 in: Dahl, F. & Bischoff, H. [eds.]: Die Tierwelt Deutschlands und der angrenzenden Meeresteile nach ihren Merkmalen und nach ihrer Lebensweise. Verlag von Gustav Fisher, Jena.
- Lundström, C. 1914: Beiträge zur Kenntnis der Dipteren Finlands. IX. Supplement 3. Mycetophilidae. — Acta Societas pro Fauna et Flora Fennica 39: 1-26.
- Lundström, C. & Frey, R. 1912: Beiträge zur Kenntnis der Dipteren-fauna des nördl. europäische Russlands. — Acta Societas pro Fauna et Flora Fennica 37: 1-20.
- Miller, G. 2005: Linnaeus's Legacy Carries On. — Science 307: 1038-1039.
- Økland, B., Götmark, F., Nordén, B., Frank, N.,

- Kurina, O. & Polevoi, A. 2005: Regional diversity of mycetophilids (Diptera: Sciaroidea) in Scandinavian oak-dominated forests. — Biol. Conserv. 121: 9-20.
- Økland, B. & Zaitzev, A. I. 1997: Mycetophilids (Diptera, Sciaroidea) from southeastern Norway. — Fauna Norv. Ser. B 44: 27-37.
- Petersen, F. T. & Meier, R. E. 2001: A preliminary list of the Diptera of Denmark. — Steenstrupia 26: 119-276.
- Plassmann, E. 1974: Dritter Narchtrag zu der Mycetophiliden-Sammlung des Senckenberg-Museums Frankfurt am Main. — Senckenb. Biol. 55: 351-352.
- Plassmann, E. 1976: Vier neue Mycetophiliden aus der ökologischen Station Messaure/Schweden. — Senckenb. Biol. 57: 73-76.
- Plassmann, E. 1978: Neue Pilzmücken aus Schweden und Bulgarien (Insecta: Diptera: Mycetophilidae). — Senckenb. Biol. 59: 205-214.
- 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.
- Plassmann, E. 1984: Sechs neue Pilzmücken aus Schweden, Österreich, Griechenland und Brasilien (Diptera, Nematocera, Mycetophilidae). — Nachrichtenbl. Bayer. Entomol. 33: 44-49.
- Polevoi, A. V. 1995: Fungus gnats (Diptera, Mycetophilidae) in Pirhu and Tapionaho (Ilomantsi, Finland). — Pp. 159-166 in: Hokkanen, T. J. & Ieshko, E. [eds.]: Karelian biosphere reserve studies. Joensuu.
- Polevoi, A. V. 2000: Fungus gnats (Diptera: Bolitophilidae, Ditomyiidae, Keroplatidae, Diadocidiidae, Mycetophilidae) in Karelia. — Karelian Research Centre, Russian Academy of Sciences, Petrozavodsk. 84 pp. [in Russian]
- Polevoi, A. V. 2001a: New and little known species of the fungus gnats subfamilies Mycomyinae and Sciophilinae (Diptera, Mycetophilidae) from eastern Fennoscandia. — Entomol. Obozr. 80: 518-526. . [in Russian with English summary]
- Polevoi, A. V. 2001b: The study of forest Diptera fauna in Koitajoki area. — Pp. 72-85 in: Hokkanen, T. J. [ed.]: Diversity studies in Koitajoki area (North Karelian Biosphere Reserve, Ilomantsi, Finland). Nature Protection Publications of the Finnish Forest and Park Service. A., 131.
- Polevoi, A. V. 2003: Zoogeographical notes on the Fennoscandian fauna of fungus gnats (Diptera, Mycetophilidae s.l.). — Pp. 197- 201 in: Heikkilä, R. & Lindholm, T. [eds.]: Biodiversity and conservation of boreal nature, Proceedings of the 10 years anniversary symposium of the Nature Reserve Friendship. The Finnish Environment 485, Vantaa, Finland.
- Polevoi, A. V. & Hedmark, K. 2004: New species of the genus *Boletina* Winnertz (Diptera, Mycetophilidae) from Fennoscandia. — Entomol. Fennica 15: 23-33.
- Polevoi, A. V. & Humala, A. E. 2005: Insects. — Pp. 172-186 in: Gromtsev, A. N. [ed.]: Natural complexes of the Vepsian Volost: features, present day status, conservation and management. Karelian Centre RAS, 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. — Sahlberga 9: 135-140.
- Polevoi, A. V., Jakovlev, J. & Zaitzev, A. I. *in press*: Fungus gnats (Bolitophilidae, Keroplatidae and Mycetophilidae) new to Finland. — Entomol. Fennica 17: 000-000.
- Poppius, B., Lundström, C. & Frey, R. 1917: Dipteren aus dem Sarekgebiet. — Pp. 665-697 in: Hamberg, A. [ed.]: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland. Band IV, Zoologie. C. E. Fritzes Bokförlags-aktiebolag & R. Friedländer & Sohn, Stockholm & Berlin.
- Rimšaite, J. 2003: Fauna and trophic relations, distribution and development regularities of fungus gnats (Diptera, Mycetophiloidea) and their parasitoids (Hymenoptera, Ichneumonidae, Orthocentrinae) in Lithuania. — PhD

- thesis, Vilnius. [English summary]
- Ševčík, J. 2001a: A new species of *Dynatosoma*, fourteen new synonyms and other data on fungus gnats (Diptera: Mycetophilidae) from central and northern Europe. — *Studia dipt.* 8: 143-152.
- Ševčík, J. 2001b: New records of Diadocidiidae, Keroplatidae and Mycetophilidae (Diptera: Sciaroidea) from the Czech Republic. — *Čas. Slez. Mus. Opava (A)* 50: 159-169.
- Ševčík, J. 2004: New data on Sciaroidea (Diptera) from the Czech and Slovak Republics, with description of seven new species of Mycetophilidae. — *Čas. Slez. Mus. Opava (A)* 53: 49-74.
- Ševěk, J. & Martinovský, J. 1999: Faunistic records from the Czech Republic and Slovakia. Keroplatidae, Mycetophilidae. — *Dipterologica bohemoslovaca* 9: 189-193.
- Ševčík, J. & Papp, L. 2001: Bolitophilidae and Mycetophilidae (Diptera): genera and species new to Hungary. — *Folia. Entomol. Hung.* (n.s.) 62: 217-229.
- Silfverberg, H. 1981: Additions to the Finnish insect fauna during the years 1976 – 1980. — *Notulae Entomol.* 61: 45-61.
- Silfverberg, H. 1986: Additions to the Finnish insect fauna during the years 1981 – 1985. — *Notulae Entomol.* 66: 131-152.
- Silfverberg, H. 1991: Changes 1986–1990 in the list of Finnish insects. — *Entomol. Fennica* 2: 9-17.
- Silfverberg, H. 1996: Changes 1991–1995 in the list of Finnish insects. — *Entomol. Fennica* 7: 39-49.
- Silfverberg, H. 2001: Changes 1996 – 2000 in the list of Finnish insects. — *Entomol. Fennica* 12: 227-243.
- Søli, G. E. E. 1994: Fungus gnats from Jostedalen, West Norway (Diptera; Diadocidiidae and Mycetophilidae). — *Fauna Norv. Ser. B* 41: 1-2.
- Søli, G. E. E. 1997: The systematics and phylogeny of *Coelosia* Winnertz, 1863 (Diptera, Mycetophilidae). — *Entomol. Scand. Suppl.* 50: 57-139.
- Tuomikoski, R. 1966: Generic taxonomy of the Exechiini (Dipt., Mycetophilidae). — *Ann. Entomol. Fenn.* 32: 159-194.
- Väisänen, R. 1984: A monograph of the genus *Mycomya* Rondani in the Holarctic region (Diptera, Mycetophilidae). — *Acta Zool. Fennica* 177: 1-346.
- Zaitzev, A. I. 1987: New and little-known species of fungi eaters of the genus *Epicypta* Winn. (Diptera, Mycetophilidae) from Primorsky Krai. — Pp. 89-93, 131 in: Kapustina, O. G. [ed.]: *Taxonomy of the insects of Siberia and Soviet Far East. AN SSSR, Vladivostok.* [in Russian].
- Zaitzev, A. I. 1994: Fungus gnats of the fauna of Russia and adjacent regions. Part 1. Moscow. 288p. [in Russian].
- 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. *in press*: Palaearctic species of the *Boletina nitida*-group (Diptera: Mycetophilidae). — *Studia dipt.* 12: 000-000.
- Zaitzev, A. I. & Maximova, Y. V. 2000: The Palaearctic species of subgenus *Notolopha* Tuomik. (Diptera, Mycetophilidae). — *Int. J. Dipterol. Res.* 11: 175-179.
- Zaitzev, A. I. & Polevoi, A. V. 1995: New species of fungus gnats (Diptera: Mycetophilidae) from the Kivach Nature Reserve, Russian Karelia. — *Entomol. Fennica* 6: 185-195.
- Zaitzev, A. I. & Polevoi, A. V. 2001: Holarctic species of the *Boletina erythropyga*-group (Diptera, Mycetophilidae). — *Studia dipt.* 8: 639-644.