Seventy species of fungus gnats new to Finland (Diptera: Mycetophilidae)
Jevgeni Jakovlev a, Jostein Kjærandsen b & Alexei Polevoi c


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); Neoeempheeria bimaculata (von Roser, 1840); Phthinia winnertzi Mik, 1869; Sciophila pseudoflexuosa Kurina, 1991; Sciophila setosa Garrett, 1925; Alloidiopsis gracai Ševčík & Papp, 2003; Brevicornu arcticoides Caspers, 1985; Exechia pseudofestiva Lackschewitz, 1937; Exechia repanoides Caspers, 1984; Exechiopsis (Xenechexia) perspicua (Johannsen, 1912); Notolopha sibirica Zaitsev & 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 for the first time from the Palaeartic region, viz.: Sciophila setosa, Exechiopsis (Xenechexia) 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), Alloidiopsis, 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, Keroplaticidae, Mycetophilidae) is one of the most species rich insect groups in the boreal zone. As typical forest dwellers associated 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 & Siitonen 2005; Kjærandsen & Bengtson 2005; Kurina et al. 2005; Økland et al. 2005; Kjærandsen, Kurina & Ölfsson 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 transpalaeartic or circumpolar (Gagné 1978, 1981; Väisänen 1984; Zaitzev 1994; Soli 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. Göttmark 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), Soli (1994) and Økland & Zaitzev (1997). The Faroes and Iceland are covered by Kjærandsen & Jörgensen (1992) and Kjærandsen, Kurina & Ölfsson (in press), respectively.

The checklist of Finnish Diptera by Hackman (1980) incorporated 485 species, five of which where 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 (Xenechexia) membranacea* (Lundström, 1912) was described from Finland, but synonymized with the related species *Exechiopsis (Xenechexia) 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 Komo-
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.

<table>
<thead>
<tr>
<th>Site No</th>
<th>Province</th>
<th>Parish</th>
<th>Locality</th>
<th>Coordinates (E27 grid)</th>
<th>Site type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NORTHING</td>
<td>EASTING</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Ab</td>
<td>Karjalahja</td>
<td>Karkali nature reserve</td>
<td>6685084</td>
<td>322111</td>
<td>og</td>
</tr>
<tr>
<td>2</td>
<td>Ta</td>
<td>Lammi</td>
<td>Südenpesänkangas</td>
<td>6790212</td>
<td>3403382</td>
<td>og</td>
</tr>
<tr>
<td>3</td>
<td>Ta</td>
<td>Lammi</td>
<td>Palohonka</td>
<td>6792001</td>
<td>3394753</td>
<td>og</td>
</tr>
<tr>
<td>4</td>
<td>Ta</td>
<td>Lammi</td>
<td>Paukkohonka</td>
<td>6791991</td>
<td>3395557</td>
<td>og</td>
</tr>
<tr>
<td>5</td>
<td>Ta</td>
<td>Lammi</td>
<td>Kotinen nature reserve</td>
<td>6794400</td>
<td>3396400</td>
<td>og</td>
</tr>
<tr>
<td>6</td>
<td>Ta</td>
<td>Lammi</td>
<td>Kotinen nature reserve</td>
<td>6794650</td>
<td>3396561</td>
<td>og</td>
</tr>
<tr>
<td>7</td>
<td>Ta</td>
<td>Padasjoki</td>
<td>Vesijako nature reserve</td>
<td>6806100</td>
<td>3398800</td>
<td>og</td>
</tr>
<tr>
<td>8</td>
<td>Ta</td>
<td>Lammi</td>
<td>Leipäsuonaho</td>
<td>6790035</td>
<td>3396112</td>
<td>mm</td>
</tr>
<tr>
<td>9</td>
<td>Ta</td>
<td>Lammi</td>
<td>Hattukivenmaa</td>
<td>6790273</td>
<td>3400989</td>
<td>mm</td>
</tr>
<tr>
<td>10</td>
<td>Ta</td>
<td>Lammi</td>
<td>Niemisjärvi</td>
<td>6791324</td>
<td>3394263</td>
<td>mm</td>
</tr>
<tr>
<td>11</td>
<td>Ta</td>
<td>Lammi</td>
<td>Pukkivuori</td>
<td>6791486</td>
<td>3401184</td>
<td>mm</td>
</tr>
<tr>
<td>12</td>
<td>Ta</td>
<td>Lammi</td>
<td>Saarijärvi</td>
<td>6792892</td>
<td>3396044</td>
<td>mm</td>
</tr>
<tr>
<td>13</td>
<td>Ta</td>
<td>Padasjoki</td>
<td>Siperia</td>
<td>6796890</td>
<td>3401381</td>
<td>mm</td>
</tr>
<tr>
<td>14</td>
<td>Ta</td>
<td>Lammi</td>
<td>Leipäsuonaho</td>
<td>6789787</td>
<td>3396041</td>
<td>cc</td>
</tr>
<tr>
<td>15</td>
<td>Ta</td>
<td>Lammi</td>
<td>Leipäsuonaho</td>
<td>6789799</td>
<td>3396146</td>
<td>cc</td>
</tr>
<tr>
<td>16</td>
<td>Ta</td>
<td>Lammi</td>
<td>Saarijärvi</td>
<td>6792781</td>
<td>3395968</td>
<td>cc</td>
</tr>
<tr>
<td>17</td>
<td>Ta</td>
<td>Padasjoki</td>
<td>Siperia</td>
<td>6796887</td>
<td>3401471</td>
<td>cc</td>
</tr>
<tr>
<td>18</td>
<td>Ta</td>
<td>Padasjoki</td>
<td>Siperia</td>
<td>6796924</td>
<td>3401490</td>
<td>cc</td>
</tr>
<tr>
<td>19</td>
<td>Ta</td>
<td>Lammi</td>
<td>Saarijärvi</td>
<td>6793043</td>
<td>3396255</td>
<td>bcc</td>
</tr>
<tr>
<td>20</td>
<td>Ta</td>
<td>Lammi</td>
<td>Tuohimetä</td>
<td>6788830</td>
<td>3401276</td>
<td>bcc</td>
</tr>
<tr>
<td>21</td>
<td>Ta</td>
<td>Lammi</td>
<td>Hankajärvi</td>
<td>6789830</td>
<td>3401276</td>
<td>bcc</td>
</tr>
<tr>
<td>22</td>
<td>Ta</td>
<td>Lammi</td>
<td>Leipäsuonaho</td>
<td>6789920</td>
<td>3395865</td>
<td>bcc</td>
</tr>
<tr>
<td>23</td>
<td>Ta</td>
<td>Lammi</td>
<td>Hattukivenmaa</td>
<td>6790165</td>
<td>3400888</td>
<td>bcc</td>
</tr>
<tr>
<td>24</td>
<td>Ta</td>
<td>Lammi</td>
<td>Lapinjärvi</td>
<td>6793704</td>
<td>3397492</td>
<td>bcc</td>
</tr>
</tbody>
</table>

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 (MZH), including the genera Boletina (in part), Alloboletina, Exechia, Exechiopsis, Myrosporidium, Notolophia, Rynchosia and Synplastia. 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 Palaeartic 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); Neopregheria bimaculata (von Roser, 1840); Phthiina winnertzii Mik, 1869; Scophilodes pseudoflexuosa Kurina, 1991; Scophilodes setosa Garrett, 1925; Alloboletina gracilis Ševčík & Papp, 2003; Brevicornu arcticoides Caspers, 1985; Exechia pseudofestiva Lackschewitz, 1937; Exechia repandoides Caspers, 1984; Exechiopsis (Xenexechia) perspicua (Johannsen, 1912); Notolophia sibirica Zaitzov & Maximova, 2000; Pseudexechia canalicula (Johannsen, 1912); Dynatosoma silesiacum Ševčík, 201; 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 Palaeartic region for the first time, viz.: Scophilodes setosa, Exechiopsis (Xenexechia) perspicua and Pseudexechia canalicula.

Two additional species, Cordyla murina and Exechiopsis (Xenexechia) membranacea, are confirmed with new records from Finland. Two additional species, Cordyla bergensis (Barendrecht, 1938) and Pseudorymosia optima
(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)
  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)
  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)
  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
  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 (Sevek 2004) and from the Near East (Chandler 2005) indicate a Western Palearctic distribution.

Genus Phthinia Winnertz, 1863

* Phthinia winnertzi Mik, 1869
  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 Sciophilia Meigen, 1818

Sciophilia karelica Zaitzev, 1982
  Comments: A Holarctic species described from Russian Karelia. In Europe besides type locality recorded only from Sweden (Hedmark 1998).

Sciophilia minuta Zaitzev, 1982
  Comments: A Holarctic species described from North America. In Europe previously recorded only once from Russian Karelia (Polevoi 2000).

* Sciophilia pseudoflexuosa Kurina, 1991
  Comments: This species was described from Estonia and later found 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 Rimšaitė (2003) has reared *S. pleuroflexiosa* in Lithuania from other species of macrofungi as well.

**Sciophila setosa** Garrett, 1925  
**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  
**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 kurileensis* Zaitzev, 1994  
**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  
**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 (MZH, 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  
**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 Leiiinae

**Genus Leia** Meigen, 1818

*Leia cylindrica* (Winnertz, 1863)  
**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) subpellistata* Ševčík, 1999  
**Comments**: Besides the type material from the Czech Republic this species has so far
been reported only from Russian Karelia (Polevoi 2000). \textit{A. subpistillata} is closely related to \textit{A. pistillata} (Lundström, 1911) and may have been overlooked in the Nordic region.

**Genus Allodiopsis** Tuomikoski, 1966

*Allodiopsis gracil* Ševčík & Papp, 2003

**Material examined:** \textit{Ab}: Karjalohja, Site 1, 26 Jul – 23 Aug 2004, 1 ♀; \textit{Ok}: Kuhmo, 1 Jul 1965 (MZH, leg. R. Tuomikoski), 1 ♂; \textit{Ob}: Pisavaara, 30.6.1964 (MZH, leg. R. Tuomikoski), 1 ♀; \textit{Ta}: Lammi, Site17, 1 – 15 Jun 2004,1 ♀; Site19, 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 \textit{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 pseudodometica** (Lackschewitz, 1937)

**Material examined:** \textit{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 dam** Landrock, 1924


**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:** \textit{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


**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


**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

*Breviceornu arcticoides* Caspers, 1985

**Material examined:** \textit{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 \textit{B. fasciculatum} Lackschewitz (Chandler 2005).

**Brevicornu fasciculatum** (Lackschewitz, 1937)

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.

Brevicormus melanderi Zaitzev, 1988


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

Brevicormus parafennicum Zaitzev in Zaitzev & Polevoi, 1995


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


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 Winnecc., 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 ♂♂;


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 Winnecc., 1863

Exechia dentata Lundström, 1916


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

* Exechia pseudofestiva Lackschewitz, 1937


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 repandoides Caspers, 1984


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

Genus Exechiosis Tuomikoski, 1966

Subgenus Exechiosis Tuomikoski

Exechiosis (Exechiosis) aemula Plassmann, 1984

Exechiopsis (Exechiopsis) dumitrescuae (Burghelu-Balacescu, 1972)


Comments: A widespread but rare Palearctic 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 (Krivoshheina, Zaitzev & Jakovlev 1986, Polevoi 2000).

Exechiopsis (Exechiopsis) forcipata (Lackschewitz, 1937)


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 (Ökland & Zaitzev 1997) and Russian Karelia (Polevoi 2000).

Exechiopsis (Exechiopsis) grassatura (Plassmann, 1978)


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* (Winnett, 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 (Krivoshheina, 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.

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


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 (MZH, leg. R. Frey).


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) leitura (Meigen, 1830) by Landrock (1940). Following Caspers (1984) we reconfirm this species from Finland.

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


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.) praeedita (Plassmann, 1976) (see below). Nevertheless, now rediscovered in new material and hereby correctly reported in the Palaeartic region for the first time.

Exechiopsis (Xenexechia) praeedita (Plassmann, 1976)


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)


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

Exechiopsis (Xenexechia) stylata Laštovka & Matile, 1974


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

Genus Notolophia Tuomikoski, 1966

Notolophia brachycera (Zetterstedt, 1852)


Comments: A little known species differing from the common and widely distributed Notolophia 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 *Alloidiopsis (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.

*Notolothpa sibirica* Zaitzev & Maximova, 2000

**Material examined:** *LKE:* Sodankylä, Peura- suvanto, 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** (Johanssen, 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 Republic (Ševěk & Martinovsky 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 ♀; *Af:** 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:* Padasjoki, 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


**Comments:** A little known species recorded from a few localities in Europe. In the Nordic region previously reported from Norway (Soli 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 (MZH, leg. W. Hackman), 1 ♂.

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

**Genus Synplasta Skuse, 1890**

*Synplasta dulcia* (Dziedzicki, 1910)

**Material examined:** Kb: Tohmajärvi, Piilo-vaara, 13 Jun 1964 (MZH, 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 ingenirosa* (Kidd, 1969)


**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


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

**Genus Epicypta Winnertz, 1863**

*Epicypta fumigata* (Dziedzicki, 1923)


**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).

**Epicypta 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


**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. mikir* Dziedzicki. In Northern Europe recorded only from Estonia (Kurina 1998). No previous records from the Nordic region.

**Mycetophila gibbona** 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


**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; Pulevoi 2000).

*Mycetophila ruficollis* Meigen, 1818


**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 (Pulevoi 2000) and Denmark (Petersen & Meier 2001).

*Mycetophila stolida* Walker, 1856


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

*Mycetophila subsigillata* Zaitzev, 1999


**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; Pulevoi & Humala 2005) and southern Sweden (Kurina et al. 2005).

*Myctophila triangularis* Lundström, 1912


**Comments:** A little known European species described from Körösmező, 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 (Ókland & Zaitzev 1997).

*Mycetophila xanthopyga* Winnertz, 1863


**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


**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 pughii* 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


**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 Zygomyia** Winnertz, 1863

*Zygomyia 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).

*Zygomyia notata* (Staniamius, 1831)


**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


**Comments:** The species seems to be widely distributed in the Nordic Region and has been previously recorded from Norway (Oklund & 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 (MZH) for the opportunity to work with the collections and for the loan of material, to Juha Siitonen (Finnish Forest Research Institute, Vantaa) for comments to the manuscript, and to Olavi Kurina (Institute of Zoology and Botany, Tartu, Estonia) for confirming Cordyla species.

**References**


Hackman, W. 1980: A check list of the Finnish
Jakovlev, Kjærandsen & Polevoi: Fungus gnats


Öklund, B., Götmark, F., Nordén, B., Frank, N.,


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]


Rimšaitė, J. 2003: Fauna and trophic relations, distribution and development regularities of fungus gnats (Diptera, Mycetophilidae) and their parasitoids (Hymenoptera, Ichneumonidae, Orthocentrinae) in Lithuania. — PhD
thesis, Vilnius. [English summary]
Ševčik, 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.