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# **Belgian Journal of Entomology**

## **Fungus gnats in the Botanical garden Jean Massart on the outskirts of Brussels: 52 new country records and a pictorial atlas of the genera (Diptera: Sciarioidea)**

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ISSN : 1374-5514 (Print Edition)

ISSN : 2295-0214 (Online Edition)



Le Belgian Journal of Entomology est édité par la Société royale belge d'Entomologie, association sans but lucratif, fondée le 9 avril 1855.

Siège social : rue Vautier 29, B-1000 Bruxelles

De Belgian Journal of Entomology is uitgegeven door de Koninklijke Belgische Vereniging voor Entomologie, vereniging zonder winstoogmerk, opgericht op 9 april 1855.

Sociale zetel : Vautierstraat 29, B-1000 Brussel

Les publications de la Société sont financées avec le concours de la Fondation Universitaire de Belgique

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# Fungus gnats in the Botanical garden Jean Massart on the outskirts of Brussels: 52 new country records and a pictorial atlas of the genera (Diptera: Sciaroidea)

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## Abstract

The species diversity of five fungus gnats' families (Diptera: Sciaroidea: Diadocidiidae, Ditomyiidae, Bolitophilidae, Keroplatidae, Mycetophilidae) are studied, based on material collected in the botanical garden Jean Massart on Brussels outskirts (Auderghem). The collecting was carried out by two Townes type Malaise traps during one year from May 2015 to May 2016. Altogether 2,270 specimens were collected belonging to 148 species. Fifty-two species and five genera were recorded from Belgium for the first time. The general distribution and systematics of these new species have been briefly discussed. A list of the species including complete account of collected material, is provided. Fungus gnats were observed to be active all year around with more species diverse periods in May-June and October. A considerably large and remarkably coloured species, *Greenomyia mongolica*, is discussed to have a possibly invasive character of distribution in Europe. A set of photographs illustrating representatives of all recorded 46 fungus gnats genera has been included.

**Keywords:** Sciaroidea, faunistics, species diversity, Europe, Belgium.

## Introduction

Fungus gnats as a common name assembles seven families of Sciaroidea (Diptera: Nematocera) of which five are occurring in Europe, viz. Diadocidiidae, Ditomyiidae, Bolitophilidae, Keroplatidae and Mycetophilidae. They are small to medium sized nematocerous flies with humpbacked habitus, long coxae and specific wing venation. Details of the appearance, especially of the wing venation, allow usually to distinguish between the genera while the species level morphological identification is based mostly on the structure of male terminalia only. Morphology of the female specimens including their terminalia allow only (sub)genus level identification in most cases. More than 5,400 species of fungus gnats are known world widely (EVENHUIS *et al.*, 2007) while more than 1,200 species are recorded from Europe (CHANDLER, 2004; 2013). An exceptionally high diversity has been documented in boreal and temperate areas with 921 named species known in the Nordic countries of Europe (KJÆRANDSEN, 2012). Mycetophilidae is proved to be the most specious family of fungus gnats with more than 4300 and 970 species in the World and in Europe, respectively (EVENHUIS *et al.*, 2007; CHANDLER, 2013). Fungus gnats are common in forest ecosystems, with an obvious preference to old growth stands (e.g. ØKLAND, 1994), while few species are encountered in more open landscapes (FALK & CHANDLER, 2005). Because of preferring

shady and moist habitats like cavities and root systems of fallen trees, overhanging stream banks, small cavities in soil, undergrowth of woods, etc. (e.g. SØLI *et al.*, 2000), their dispersal ability is considered to be limited (JAKOVLEV, 2012). Majority of species with known larval habitat are associated with either mushrooms or bracket fungi with rearing records for 38% of the European fungus gnats species (JAKOVLEV, 2012).

The first information on Belgian fungus gnats dates back to LAMEERE (1907) while the group was more actively studied in 1930s to 1950s when a number of papers were published prevalently by GOETGHEBUER (e.g. 1931; 1943) and TOLLET (e.g. 1953). TOLLET (1912–1992) described ten new species of fungus gnats from Europe including four of them from Belgian material (TOLLET, 1943; 1948; 1955). After 1950s, only few additions have been made (e.g. GAGNÉ, 1981). The list of Belgian fungus gnats compiled by GOSSERIES (1991) includes 218 species. Subsequently, CHANDLER (2013), considering nomenclatural changes and including several species overlooked by GOSSERIES (1991), reported 244 species from Belgium in the Fauna Europaea Database, viz. 10 species of Bolitophilidae, 2 species of Diadocidiidae, 3 species of Ditomyiidae, 41 species of Keroplatidae and 188 species of Mycetophilidae. As concerns neighbouring countries, there are 273 species known from the Netherlands, 452 from France mainland, 673 from Germany and only 6 species from Luxembourg (BEUK, 2002; CHANDLER, 2013).

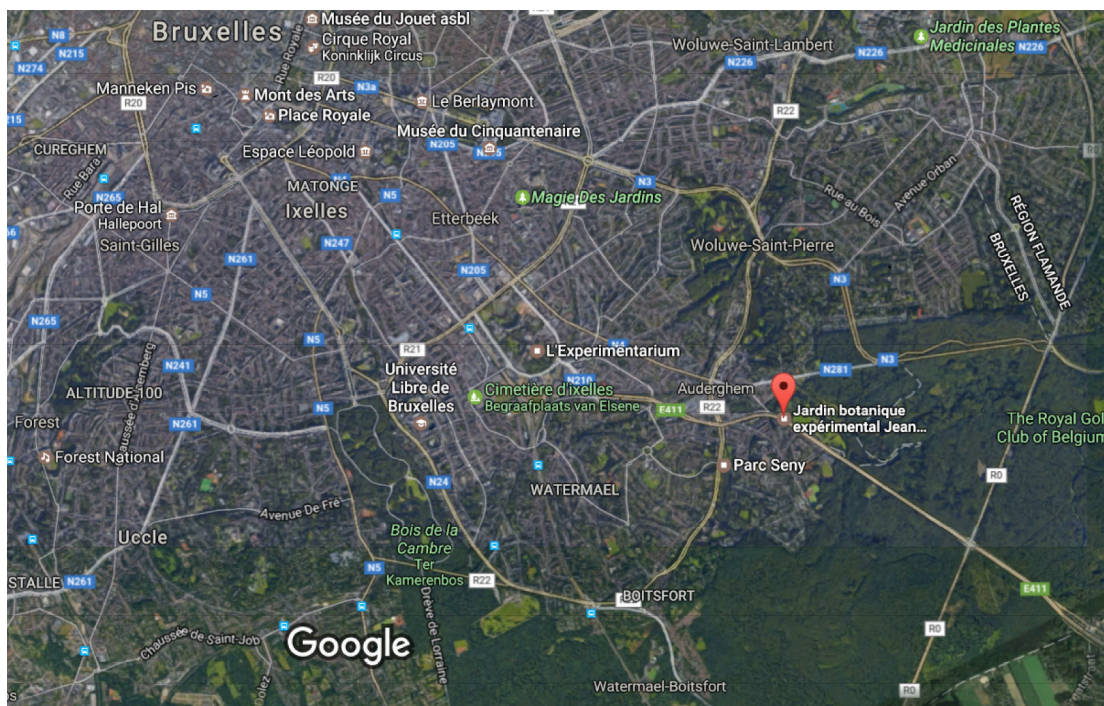
The study site is the Botanical Garden Jean Massart on the outskirts of Brussels. It proved to be a site with an interesting insect fauna as shown by the finding of a new hybotid fly species for science (GROOTAERT, 2016) and numerous other interesting records (DRUMONT *et al.*, 2016; THOMAES *et al.*, 2016; TROUKENS *et al.*, 2016).

There are, beyond single records, only a few more throughout fungus gnats' studies conducted in parks or gardens of urbanized areas, notably those in Buckingham Palace Garden, London (CHANDLER, 2001a) and in several imperial gardens of Tokyo (SASAKAWA, 2005; 2008), which yielded in recording 56 and 50 species, respectively.

The aim of this paper is to present a faunistic survey of the fungus gnats of the Botanical Garden Jean Massart on the outskirts of Brussels and provide a photo gallery of members from all genera collected. A year around collecting allows also insight in the aspects of their diversity and phenology.

## Material and methods

The fungus gnats were collected in the botanical garden: “Jardin botanique Jean Massart” that is situated on the outskirts of the city of Brussels in the suburb town of Auderghem at the border of the Sonian forest. This forest is more than 250 years old and can be considered as a real mature forest. The garden is located in a valley and is surrounded by habitations in the West, a motorway in the South, a small lake borders it in the North (Rouge Cloître) and the East side opens towards the Sonian forest (Fig. 1). The garden, also a Natura 2000 site, is nearly 5 ha, and was created in 1922 by Jean Massart, a botanist and ecologist *avant la lettre*. It contains several areas and thematic collections such as medicinal and aromatic plants, a collection of cultivated plants, an orchard, an arboretum, an evolutionary garden, a wetland and experimental parcels for the students of the Université libre de Bruxelles (ULB). It is now managed by the “Brussels Environment” (BIM, IBGE).



Images ©2016 Google, Données cartographiques ©2016 Google 1 km



Fig. 1. Location of the Jardin Massart on the outskirts of Brussels. Red dot on left is the Malaise trap No 1 (MT1) and that on right side the Malaise trap No 2 (MT2).

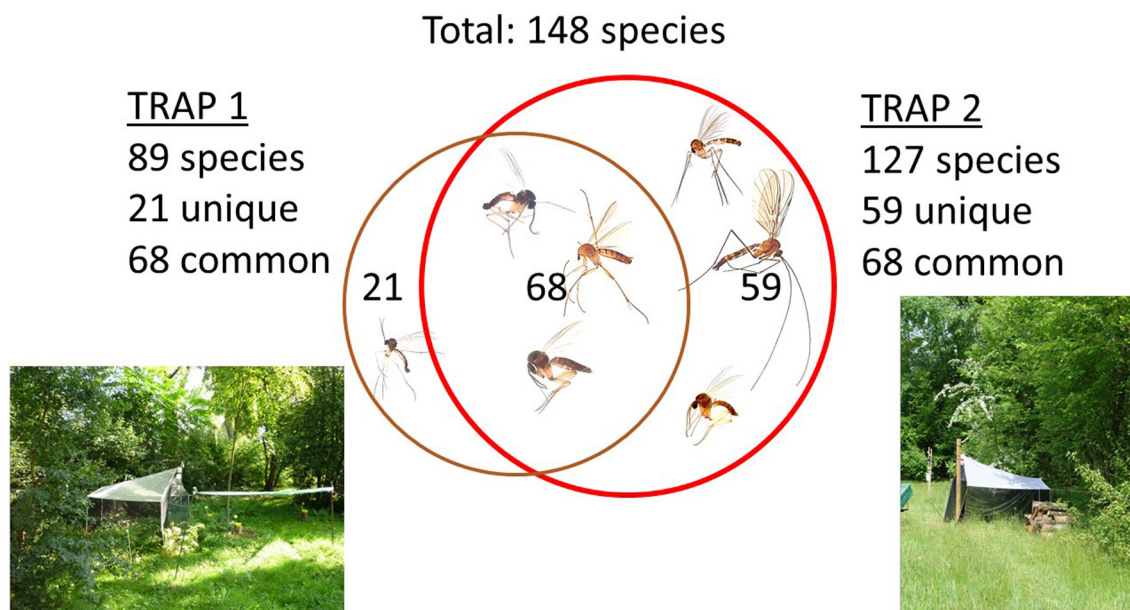


Fig. 2. Malaise traps in Jardin Massart and summarised diversity of species collected with them.

The material was collected by two Townes types Malaise traps (Fig. 2, abbreviated MT1 and MT2 as follows) from 7<sup>th</sup> May 2015 to 11<sup>th</sup> May 2016. The collecting vials were emptied at about week intervals, except for the winter period from November 2015 to February 2016 when they were collected every 2 weeks only. Altogether 42 samples were collected by each trap what resulted in a total of 84 samples. All material was collected into 70% ethyl alcohol, within which it was thereafter sorted and finally identified using a stereomicroscope Leica S8APO. The identified material is preserved in glass tubes in 70% ethyl alcohol arranged per species per sample. In several cases when the detailed study of male terminalia was unavoidable, they were detached from the abdomen and treated in a solution of hot KOH for maceration. Thereafter, the remaining chitinous parts were washed with distilled water and transferred into the glycerine. After examination, terminalia were stored in glycerine in a small plastic microvial together with the rest of body (see also KJÆRANDSEN *et al.*, 2007b).

The habitus photos have been stacked using the software LAS V.4.1.0. from multiple gradually focused images taken in alcohol medium by a Leica DFC 450 camera attached to a stereomicroscope Leica 205C (see also KURINA *et al.*, 2015). Adobe Photoshop CS5 was used for editing the figures and compiling the plates. The material is deposited in the Royal Belgian Institute of Natural Sciences, Brussels, Belgium (RBINS) and in the Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences [former Institute of Zoology and Botany], Tartu, Estonia (IZBE).

## Results

All in all, 2,770 specimens belonging to five families were collected, 2,389 were determined to species level and are included in the following species list. The remaining 381 females were determined to genus level only.

From the collected material, 148 species of 46 genera were identified, viz. 2 species (1 genus) of Diadocidiidae, 2 species (2 genera) of Ditomyiidae, 4 species (1 genus) of Bolitophilidae, 13 species (7 genera) of Keroplatidae and 127 species (35 genera) of Mycetophilidae. Fifty-two species and 5 genera were recorded from Belgium for the first time.

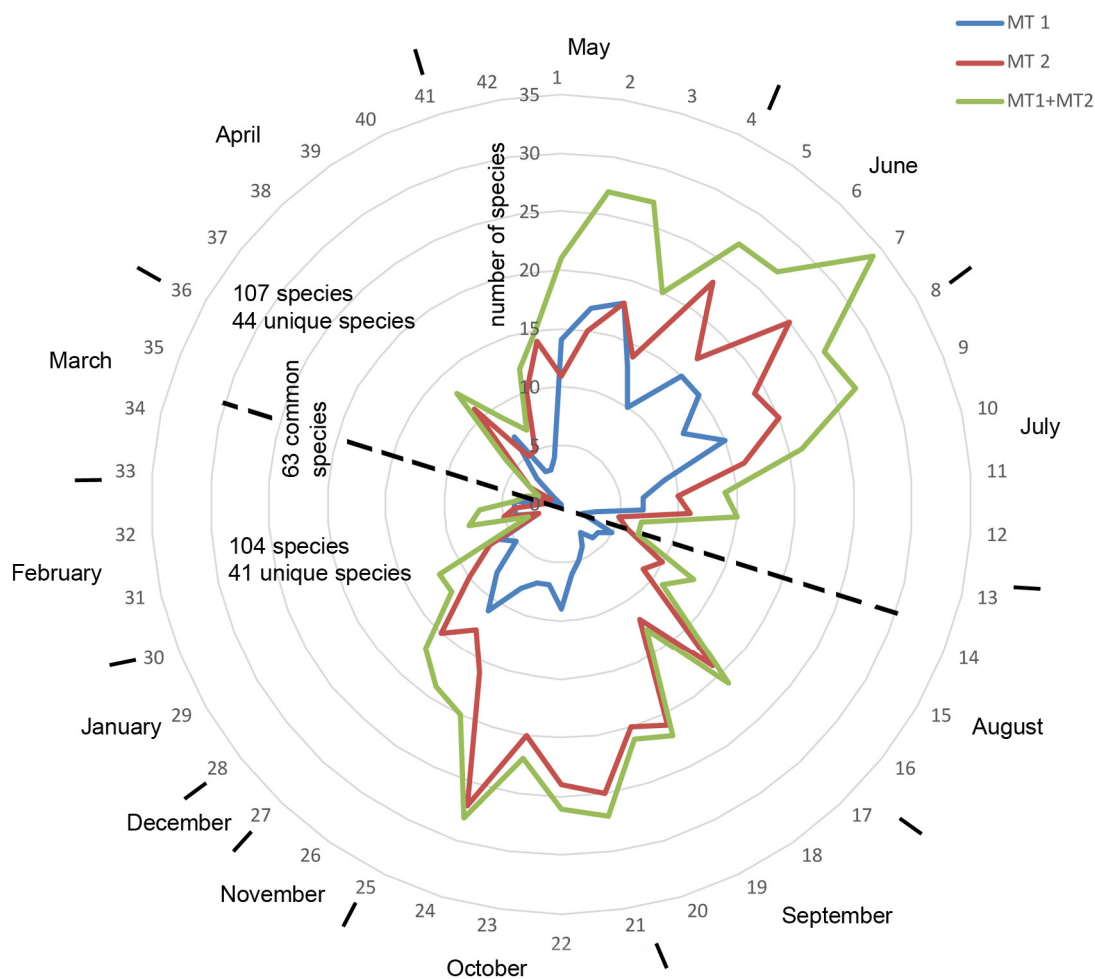


Fig. 3. Fluctuation of species diversity during the whole collecting period. The dotted line separates two more diverse periods. Blue line indicates results from MT1, red line from MT2 and green line summarizes collecting with both traps. Numbers of the outer circle represent these of the subsequent samples.

Fungus gnats were active all year round with two peaks of both abundance and species diversity: one in May-June and a second in October. The lowest diversities, observed in the beginning of August and in the middle of March delimit quite clearly two more specious periods. There were 63 species common in the two periods, while 44 and 41 unique species were recorded in the spring and autumn periods, respectively (Fig. 3). The diversity attained its maximum in the second half of June with 34 species recorded. Trap 2 yielded 1,477 specimens belonging to 127 species, while 1,293 specimens belonging only 89 species were collected by the Trap 1. Sixty-eight species were collected by both traps (Fig. 2).

## Species list

In the following list, the species new to the Belgian fauna are indicated as “**F. belg. sp. nov.**” [abbreviated from “Fauna belgica species nova”]. The distribution, biology and systematics of these, as well as the species of special interest, are briefly discussed. Material is listed separately for both traps and for each collecting period.

### Diadocidiidae

#### 1. *Diadocidia (Diadocidia) ferruginosa* (Meigen, 1830) – Fig. 4F

**MATERIAL.** 6♂♂ 1♀, MT1, 7-13.V.2015; 9♂♂ 2♀♀, MT1, 13-21.V.2015; 5♂♂ 1♀, MT1, 21-28.V.2015; 3♂♂, MT1, 28.V-4.VI.2015; 1♂, MT1, 4-10.VI.2015; 1♀, MT1, 10-17.VI.2015; 3♂♂, MT1, 17-26.VI.2015; 1♂ 2♀♀, MT1, 26.VI-1.VII.2015; 1♂ 1♀, MT1, 1-8.VII.2015; 2♂♂, MT1, 8-15.VII.2015; 2♂♂, MT1, 15-22.VII.2015; 1♂, MT1, 22-30.VII.2015; 1♀, MT1, 12-20.VIII.2015; 1♂, MT1, 10-17.IX.2015; 1♀, MT1, 17-24.IX.2015; 2♂♂, MT1, 1-9.X.2015; 1♂ 1♀, MT1, 14-21.IV.2016; 2♂♂, MT2, 7-13.V.2015; 3♂♂, MT2, 8-15.VII.2015; 1♂, MT2, 15-22.VII.2015; 1♀, MT2, 22-30.VII.2015; 1♂, MT2, 30.VII-6.VIII.2015; 1♀, MT2, 6-12.VIII.2015; 1♀, MT2, 12-20.VIII.2015; 1♂ 1♀, MT2, 27.VIII-4.IX.2015; 1♂ 1♀, MT2, 10-17.IX.2015; 3♂♂ 2♀♀, MT2, 17-24.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 1-9.X.2015; 1♂ 1♀, MT2, 9-20.X.2015; 1♂ 2♀♀, MT2, 20-30.X.2015; 1♀, MT2, 8-14.IV.2016; 1♂, MT2, 14-21.IV.2016; 4♂♂, MT2, 29.IV-4.V.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 60♂♂ 22♀♀.

**REMARKS.** A widely distributed and common Holarctic species, recorded all over Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

#### 2. *Diadocidia (Diadocidia) spinosula* Tollet, 1948

**MATERIAL.** 1♂, MT2, 20-27.VIII.2015.

**Total:** 1♂.

**REMARKS.** A widely distributed but not common Palaearctic species, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013). The species has been described by TOLLET (1948) from material collected in Eastern Belgium (Baraque Michel, Hautes-Fagnes).

### Ditomyiidae

#### 3. *Ditomyia fasciata* (Meigen, 1818) – Fig. 5A

**MATERIAL.** 1♂, MT2, 13-21.V.2015; 1♂, MT2, 4-10.IX.2015.

**Total:** 2♂♂.

#### 4. *Symmerus annulatus* (Meigen, 1830) – Fig. 4B

**MATERIAL.** 3♂♂, MT1, 21-28.V.2015; 4♂♂, MT1, 28.V-4.VI.2015; 1♂, MT1, 17-26.VI.2015; 1♂, MT2, 21-28.V.2015; 1♂, MT2, 28.V-4.VI.2015; 2♂♂, MT2, 4-10.VI.2015; 1♀, MT2, 10-17.VI.2015.

**Total:** 12♂♂ 1♀.

### Bolitophilidae

#### 5. *Bolitophila (Bolitophila) cinerea* Meigen, 1818

**MATERIAL.** 1♀, MT1, 6-21.I.2016; 2♂♂, MT2, 3-17.XII.2015.

**Total:** 2♂♂ 1♀.



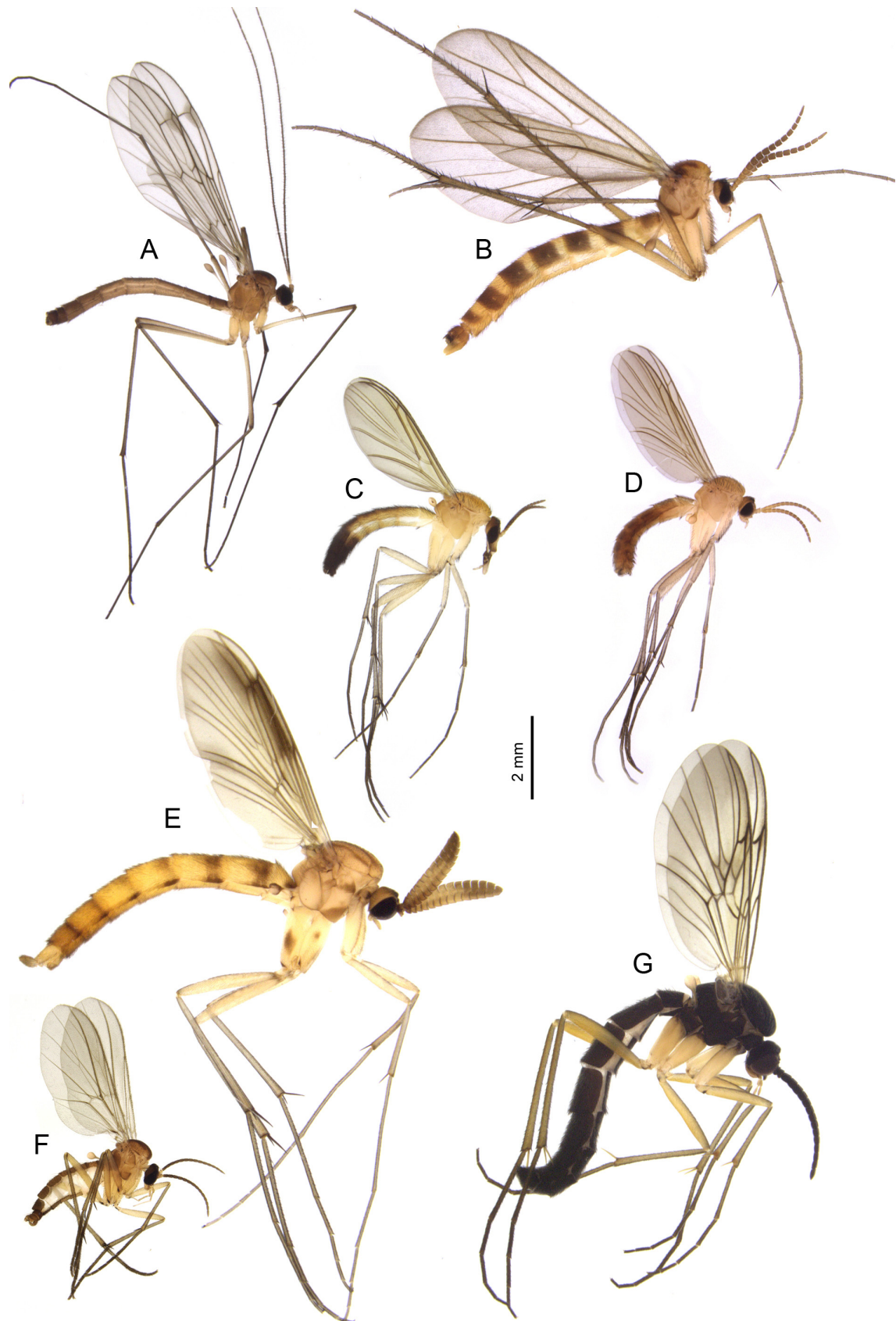


Fig. 4. Habitus of fungus gnats of the families Bolitophilidae (A), Ditomyiidae (B), Diadocidiidae (F) and Keroplatidae (C, D, E, G). A – *Bolitophila (Bolitophila) saundersii*; B – *Symmerus annulatus*; C – *Macrorrhyncha flava*; D – *Neoplatyura modesta*; E – *Keroplatus testaceus*; F – *Diadocidia (Diadocidia) ferruginosa*; G – *Platyura marginata*.

6. *Bolitophila (Bolitophila) saundersii* (Curtis, 1836) – Fig. 4A

**MATERIAL.** 1♂, MT1, 30.X-12.XI.2015; 1♂, MT1, 12.XI-3.XII.2015; 2♂♂, MT1, 3-17.II.2016; 1♂ 1♀, MT1, 17.II-3.III.2016; 1♂, MT2, 12.XI-3.XII.2015; 1♂ 1♀, MT2, 17.XII.2015-6.I.2016; 2♂♂, MT2, 6.-21.I.2016; 1♂ 1♀, MT2, 3-17.II.2016; 1♂, MT2, 17.II-3.III.2016.

**Total:** 11♂♂ 3♀♀.

7. *Bolitophila (Cliopisa) hybrida* (Meigen, 1804)

**MATERIAL.** 1♂, MT2, 4-10.VI.2015.

**Total:** 1♂.

8. *Bolitophila (Cliopisa)* sp.

**MATERIAL.** 1♂, MT2, 3-17.XII.2015.

**Total:** 1♂.

**REMARKS.** The studied specimen is not conspecific to any European species of the subgenus *Cliopisa* Enderlein. The terminalia are most similar to those of *B. (C.) modesta* Lackschewitz, 1937, but can be distinguished by the aedeagal structure and the gonostylus, especially in posterior view. The specimen might be identical to *B. (C.) latipes* Tollet, 1943 described from Grasdelle (Forêt de Soignes, Belgium), a site in the same forest complex as the Botanical garden Jean Massart and so far known by females only. The study of this putative conspecificity is ongoing and the results will be published elsewhere.

## Keroplastidae

9. *Macrocera phalerata* Meigen, 1818 – Fig. 5M

**MATERIAL.** 1♂, MT1, 1-8.VII.2015.

**Total:** 1♂.

10. *Keroplastus testaceus* Dalman, 1818 – Fig. 4E

**MATERIAL.** 1♂, MT2, 17-26.VI.2015; 2♂♂, MT2, 12-20.VIII.2015; 1♂, MT2, 17-24.IX.2015.

**Total:** 4♂♂.

11. *Macrorrhyncha flava* Winnertz, 1846 – Fig. 4C

**MATERIAL.** 1♂, MT1, 17-26.VI.2015; 2♂♂, MT1, 26.VI-1.VII.2015; 2♂♂, MT1, 1-8.VII.2015; 1♂, MT2, 17-26.VI.2015; 11♂♂, MT2, 26.VI-1.VII.2015; 2♂♂ 3♀♀, MT2, 1-8.VII.2015.

**Total:** 19♂♂ 3♀♀.

12. *Neoplatyura modesta* (Winnertz, 1863)

**MATERIAL.** 1♂, MT1, 20-27.VIII.2015; 1♂, MT2, 6-12.VIII.2015; 1♀, MT2, 12-20.VIII.2015; 3♂♂ 1♀, MT2, 20-27.VIII.2015; 3♂♂, MT2, 27.VIII-4.IX.2015; 2♂♂, MT2, 4-10.IX.2015.

**Total:** 10♂♂ 2♀♀.

13. *Neoplatyura nigricauda* (Strobl, 1893)

**MATERIAL.** 1♂, MT2, 6-12.VIII.2015.

**Total:** 1♂.

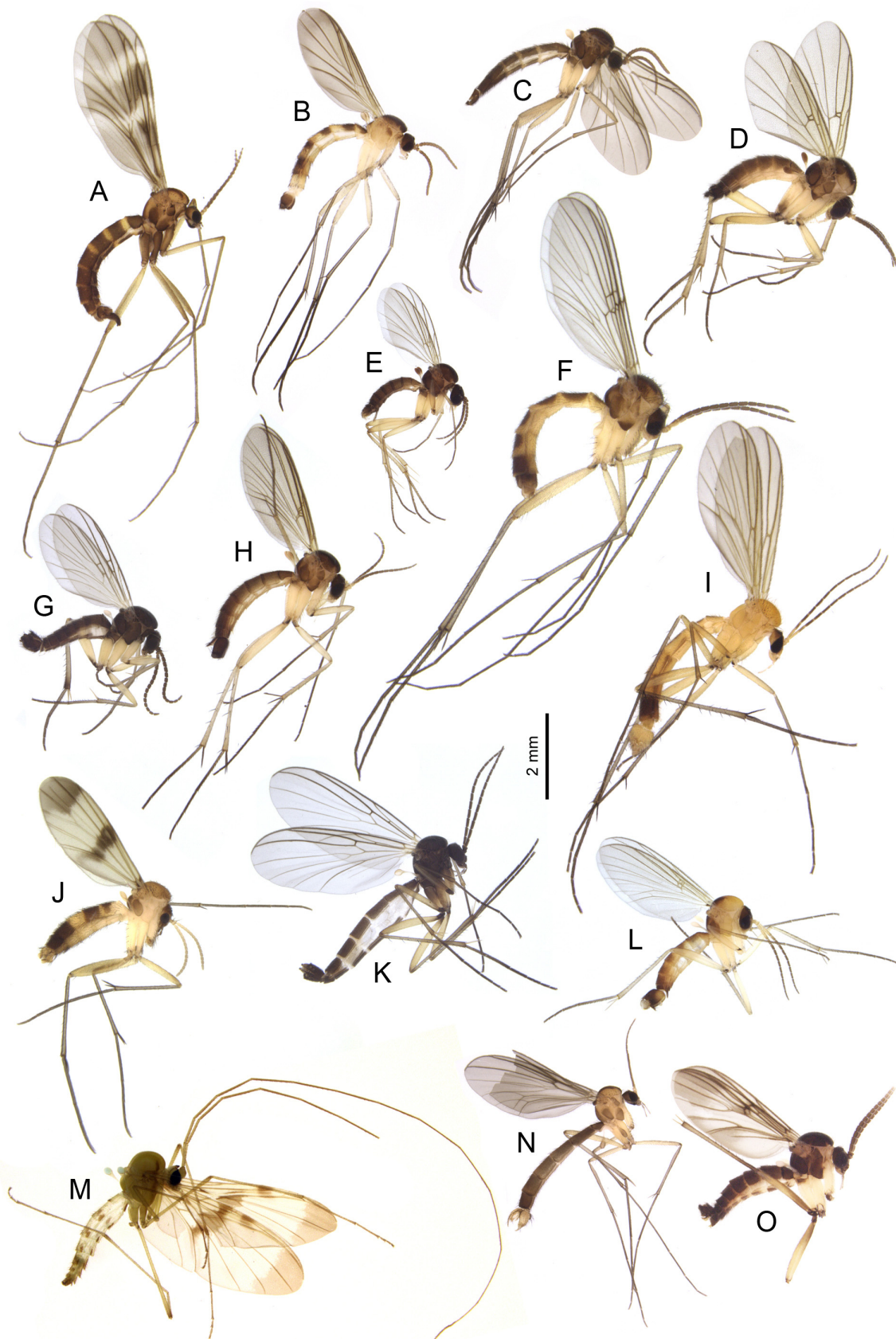


Fig. 5. Habitus of fungus gnats of the families Ditomyiidae (A), Keroplatidae (B, C, M) and Mycetophilidae (D, E, F, G, H, I, J, K, L, N, O). A – *Ditomyia fasciata*; B – *Orfelia bicolor*; C – *Pyratula zonata*; D – *Monoclona rufilatera*; E – *Acnemia nitidicollis*; F – *Mycomya (Mycomya) cinerascens*; G – *Apolephthisa subincana*; H – *Megalopelma nigroclavatum*; I – *Coelosia flava*; J – *Neoempheria pictipennis*; K – *Boletina gripa*; L – *Sciophila fenestella*; M – *Macrocera phalerata*; N – *Coelophthina thoracica*; O – *Grzegorzekia collaris*.

14. *Orfelia bicolor* (Macquart, 1826) – Fig. 5B

**MATERIAL.** 1♂, MT1, 1-8.VII.2015; 1♂, MT2, 4-10.VI.2015; 3♂♂, MT2, 10-17.VI.2015; 3♂♂, MT2, 26.VI-1.VII.2015; 1♂ 1♀, MT2, 1-8.VII.2015; 2♂♂, MT2, 8-15.VII.2015; 2♂♂, MT2, 15-22.VII.2015.

**Total:** 13♂♂ 1♀.

15. *Orfelia discoloria* (Meigen, 1818)

**MATERIAL.** 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 26.VI-1.VII.2015; 1♂, MT2, 27.VIII-4.IX.2015.

**Total:** 3♂♂.

16. *Orfelia lugubris* (Zetterstedt, 1851)

**MATERIAL.** 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 26.VI-1.VII.2015; 4♂♂, MT2, 1-8.VII.2015.

**Total:** 7♂♂.

17. *Orfelia nemoralis* (Meigen, 1818)

**MATERIAL.** 3♂♂, MT1, 7-13.V.2015; 2♂♂, MT1, 13-21.V.2015; 6♂♂ 1♀, MT1, 21-28.V.2015; 4♂♂, MT1, 28.V-4.VI.2015; 2♂♂, MT1, 4-10.VI.2015; 2♂♂, MT1, 10-17.VI.2015; 1♂, MT1, 17-26.VI.2015; 1♂, MT1, 1-8.VII.2015; 7♂♂, MT2, 7-13.V.2015; 14♂♂ 2♀♀, MT2, 13-21.V.2015; 20♂♂ 2♀♀, MT2, 21-28.V.2015; 22♂♂, MT2, 28.V-4.VI.2015; 21♂♂, MT2, 4-10.VI.2015; 9♂♂, MT2, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 3♂♂, MT2, 26.VI-1.VII.2015; 1♂, MT2, 6-11.V.2016.

**Total:** 119♂♂ 5♀♀.

18. *Orfelia nigricornis* (Fabricius, 1805)

**MATERIAL.** 1♂ 1♀, MT2, 1-8.VII.2015.

**Total:** 1♂ 1♀.

19. *Orfelia unicolor* (Stæger, 1840)

**MATERIAL.** 1♂, MT2, 15-22.VII.2015.

**Total:** 1♂.

20. *Platyura marginata* Meigen, 1804 – Fig. 4G

**MATERIAL.** 1♂, MT2, 7-13.V.2015; 4♂♂, MT2, 13-21.V.2015; 1♂ 1♀, MT2, 21-28.V.2015; 1♂, MT2, 10-17.VI.2015.

**Total:** 7♂♂ 1♀.

21. *Pyratula zonata* (Zetterstedt, 1855) – Fig. 5C

**MATERIAL.** 1♂, MT2, 28.V-4.VI.2015; 1♂, MT2, 10-17.VI.2015.

**Total:** 2♂♂.

## Mycetophilidae

## Mycomyinae

22. *Mycomya (Cymomya) circumdata* (Stæger, 1840)

**MATERIAL.** 2♂♂, MT1, 7-13.V.2015; 1♂, MT1, 13-21.V.2015; 1♂, MT1, 21-28.V.2015.

**Total:** 4♂♂.

23. *Mycomya (Mycomya) annulata* (Meigen, 1818)

**MATERIAL.** 1♂, MT2, 24.IX-1.X.2015.

**Total:** 1♂.

24. *Mycomya (Mycomya) marginata* (Meigen, 1818)

**MATERIAL.** 1♂, MT1, 21-28.V.2015; 1♂, MT2, 8-14.IV.2016.

**Total:** 2♂♂.

25. *Mycomya (Mycomya) cinerascens* (Macquart, 1826) – Fig. 5F

**MATERIAL.** 1♂, MT1, 17-26.VI.2015; 1♂, MT1, 15-22.VII.2015.

**Total:** 2♂♂.

26. *Mycomya (Mycomya) occultans* (Winnertz, 1863) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 22-30.VII.2015; 1♂, MT2, 10-17.IX.2015; 1♂, MT2, 30.X-12.XI.2015.

**Total:** 3♂♂.

**REMARKS.** A Palaearctic species extending also to the Oriental region (VÄISÄNEN, 1984). Widely distributed in Europe, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

27. *Mycomya (Mycomya) prominens* (Lundstrom, 1913) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 13-21.V.2015.

**Total:** 1♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe (CHANDLER, 2013). Recorded also from France and Germany but not found in the Netherlands and Luxembourg so far (CHANDLER, 2013; BEUK, 2002).

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

**MATERIAL.** 1♂, MT1, 1-8.IV.2016; 1♂, MT2, 9-20.X.2015.

**Total:** 2♂♂.

29. *Mycomya (Mycomya) winnertzi* (Dziedzicki, 1885)

**MATERIAL.** 1♂, MT1, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 26.VI-1.VII.2015.

**Total:** 3♂♂.

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

**MATERIAL.** 1♂, MT2, 21-28.V.2015; 1♂, MT2, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 20-27.VIII.2015; 1♂, MT2, 4-10.IX.2015; 2♂♂, MT2, 10-17.IX.2015; 3♂♂, MT2, 17-24.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 1-9.X.2015.

**Total:** 12♂♂.

31. *Neoempheria pictipennis* (Haliday, 1833) – Fig. 5J

**MATERIAL.** 1♂, MT2, 10-17.IX.2015.

**Total:** 1♂.

## Sciophilinae

32. *Acnemia nitidicollis* (Meigen, 1818) – Fig. 5E

**MATERIAL.** 5♂♂, MT1, 7-13.V.2015; 3♂♂, MT1, 21-28.V.2015; 3♂♂, MT1, 28.V-4.VI.2015; 2♂♂, MT1, 4-10.VI.2015; 3♂♂, MT1, 10-17.VI.2015; 3♂♂, MT1, 17-26.VI.2015; 6♂♂, MT1, 1-8.VII.2015; 4♂♂, MT1, 8-15.VII.2015; 1♂, MT1, 15-22.VII.2015; 1♀, MT1, 6-12.VIII.2015; 4♂♂, MT2, 13-21.V.2015; 1♂, MT2, 21-28.V.2015; 3♂♂, MT2, 28.V-4.VI.2015; 4♂♂, MT2, 4-10.VI.2015; 2♂♂, MT2, 17-26.VI.2015; 1♂, MT2, 26.VI-1.VII.2015; 3♂♂, MT2, 1-8.VII.2015; 3♂♂, MT2, 8-15.VII.2015; 1♂, MT2, 15-22.VII.2015; 1♂, MT2, 22-30.VII.2015; 1♂, MT2, 27.VIII-4.IX.2015; 2♂♂, MT2, 3-11.III.2016; 2♂♂ 1♀, MT2, 14-21.IV.2016; 3♂♂, MT2, 29.IV-4.V.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 62♂♂ 2♀♀.

33. *Monoclona rufilatera* (Walker, 1837) – Fig. 5D

**MATERIAL.** 17♂♂ 6♀♀, MT1, 7-13.V.2015; 28♂♂ 1♀, MT1, 13-21.V.2015; 14♂♂ 2♀♀, MT1, 21-28.V.2015; 5♂♂ 1♀, MT1, 28.V-4.VI.2015; 4♂♂, MT1, 4-10.VI.2015; 6♂♂ 2♀♀, MT1, 10-17.VI.2015; 25♂♂ 1♀, MT1, 17-26.VI.2015; 10♂♂ 1♀, MT1, 26.VI-1.VII.2015; 47♂♂ 1♀, MT1, 1-8.VII.2015; 18♂♂, MT1, 8-15.VII.2015; 4♂♂, MT1, 15-22.VII.2015; 1♂, MT1, 22-30.VII.2015; 5♂♂, MT1, 30.VII-6.VIII.2015; 9♂♂ 1♀, MT1, 6-12.VIII.2015; 10♂♂ 1♀, MT1, 12-20.VIII.2015; 2♂♂ 1♀, MT1, 20-27.VIII.2015; 15♂♂, MT1, 27.VIII-4.IX.2015; 5♂♂, MT1, 4-10.IX.2015; 12♂♂, MT1, 10-17.IX.2015; 7♂♂ 1♀, MT1, 17-24.IX.2015; 8♂♂ 1♀, MT1, 24.IX-1.X.2015; 9♂♂ 1♀, MT1, 1-9.X.2015; 4♂♂, MT1, 9-20.X.2015; 14♂♂, MT1, 20-30.X.2015; 6♂♂ 1♀, MT1, 30.X-12.XI.2015; 3♂♂, MT1, 8-14.IV.2016; 6♂♂, MT1, 14-21.IV.2016; 1♂ 1♀, MT1, 21-29.IV.2016; 10♂♂ 5♀♀, MT1, 29.IV-4.V.2016; 22♂♂ 4♀♀, MT1, 6-11.V.2016; 3♂♂ 2♀♀, MT2, 7-13.V.2015; 1♂, MT2, 13-21.V.2015; 3♂♂, MT2, 21-28.V.2015; 5♂♂ 1♀, MT2, 26.VI-1.VII.2015; 8♂♂, MT2, 1-8.VII.2015; 2♂♂ 3♀♀, MT2, 8-15.VII.2015; 2♂♂, MT2, 15-22.VII.2015; 1♂, MT2, 22-30.VII.2015; 4♂♂, MT2, 30.VII-6.VIII.2015; 3♂♂, MT2, 6-12.VIII.2015; 4♂♂, MT2, 12-20.VIII.2015; 1♂ 1♀, MT2, 20-27.VIII.2015; 7♂♂ 1♀, MT2, 27.VIII-4.IX.2015; 1♂ 1♀, MT2, 4-10.IX.2015; 3♂♂ 2♀♀, MT2, 10-17.IX.2015; 6♂♂, MT2, 17-24.IX.2015; 6♂♂ 3♀♀, MT2, 24.IX-1.X.2015; 12♂♂ 1♀, MT2, 1-9.X.2015; 4♂♂, MT2, 9-20.X.2015; 3♂♂ 1♀, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 6♂♂, MT2, 14-21.IV.2016; 7♂♂ 2♀♀, MT2, 21-29.IV.2016; 2♂♂, MT2, 29.IV-4.V.2016; 6♂♂ 2♀♀, MT2, 6-11.V.2016.

**Total:** 428♂♂ 52♀♀.

**REMARKS.** A common Palaearctic species, widely distributed in Europe, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

34. *Megalopelma nigroclavatum* (Strobl, 1910) – Fig. 5H

**MATERIAL.** 1♂, MT1, 4-10.VI.2015; 1♂, MT1, 26.VI-1.VII.2015; 1♂, MT1, 12.XI-3.XII.2015; 1♂, MT2, 4-10.IX.2015; 1♀, MT2, 17.-24.IX.2015.

**Total:** 4♂♂ 1♀.

35. *Sciophila fenestella* Curtis, 1837 – **F. belg. sp. nov.** – Fig. 5L

**MATERIAL.** 1♂, MT1, 26.VI-1.VII.2015; 1♂, MT1, 10-17.IX.2015; 1♂, MT1, 1-9.X.2015; 1♂, MT2, 21-28.V.2015; 1♂, MT2, 28.V-4.VI.2015; 1♂, MT2, 8-15.VII.2015.

**Total:** 6♂♂.

**REMARKS.** A Holarctic species, widely distributed in Europe, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

36. *Sciophila hirta* Meigen, 1818

**MATERIAL.** 1♂, MT2, 17-24.IX.2015; 1♂, MT2, 8-14.IV.2016.

**Total:** 2♂♂.

Gnoristinae

37. *Apolephthisa subincana* (Curtis, 1837) – Fig. 5G

**MATERIAL.** 1♂, MT1, 30.VII-6.VIII.2015; 1♀, MT1, 14-21.IV.2016; 1♀, MT2, 21-28.V.2015; 2♀♀, MT2, 14-21.IV.2016; 1♀, MT2, 29.IV-4.V.2016.

**Total:** 1♂ 5♀♀.

38. *Boletina gripha* Dziedzicki, 1885 – Fig. 5K

**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT1, 12.XI-3.XII.2015; 1♂, MT1, 17.XII.2016-6.I.2016; 1♂, MT1, 6-21.I.2016; 1♂, MT1, 21-29.IV.2016; 1♂, MT2, 12.XI-3.XII.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.II-3.III.2016; 1♂, MT2, 25.III-1.IV.2016.

**Total:** 9♂♂.

39. *Boletina nitida* Grzegorzek, 1885 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 10-17.VI.2015; 2♂♂, MT1, 1-9.X.2015; 1♂, MT1, 9-20.X.2015; 2♂♂, MT2, 21-28.V.2015; 1♂, MT2, 28.V-4.VI.2015; 2♂♂, MT2, 4-10.VI.2015; 1♂, MT2, 17-26.VI.2015; 2♂♂, MT2, 26.VI-1.VII.2015; 1♂, MT2, 8-15.VII.2015; 1♂, MT2, 17-24.IX.2015; 2♂♂, MT2, 24.IX-1.X.2015.

**Total:** 16♂♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013). However, some earlier records can represent other species in the *B. nitida* species-group with several allied species distinguishable by details of male terminalia only (cf. ZAITZEV *et al.*, 2006; JAKOVLEV & PENTTINEN, 2007).

40. *Boletina sciarina* Stæger, 1840 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 30.X-12.XI.2015.

**Total:** 1♂.

**REMARKS.** A Holarctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

41. *Coelosia flava* (Stæger 1840) – **F. belg. sp. nov.** – Fig. 5I

**MATERIAL.** 3♂♂, MT1, 17-26.VI.2015; 1♂, MT2, 4-10.VI.2015.

**Total:** 4♂♂.

**REMARKS.** A widely distributed and locally common European species, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

42. *Coelosia fusca* Bezzi, 1892

**MATERIAL.** 1♂, MT1, 12.XI-3.XII.2015; 4♂♂, MT1, 3-17.XII.2015; 1♂, MT1, 17.XII.2015-6.I.2016; 2♂♂, MT1, 6-21.I.2016; 1♂ 1♀, MT1, 3-17.II.2016; 4♂♂, MT2, 3-17.XII.2015.

**Total:** 13♂♂ 1♀.

43. *Coelophthina thoracica* (Winnertz, 1863) – **F. belg. sp. nov.** – Fig. 5N

**MATERIAL.** 1♀, MT1, 20-30.X.2015; 1♂, MT1, 3-17.XII.2015; 1♀, MT2, 20-30.X.2015.

**Total:** 1♂ 2♀♀.

**REMARKS.** A considerably rare European species. In neighbouring countries recorded only from Germany (CHANDLER, 2013).

44. *Grzegorzekia collaris* (Meigen, 1818) – **F. belg. sp. nov.** – Fig. 5O

**MATERIAL.** 1♂, MT1, 1-8.VII.2015; 1♀, MT1, 27.VIII-4.IX.2015; 1♂, MT2, 8-15.VII.2015.

**Total:** 2♂♂ 1♀.

**REMARKS.** A widely distributed but rare Palaearctic species, recorded also from neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013).

45. *Saigusaia flaviventris* (Strobl, 1894) – Fig. 6A

**MATERIAL.** 1♂, MT2, 7-13.V.2015; 1♂, MT2, 21-28.V.2015; 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 6-11.V.2016.

**Total:** 7♂♂.

46. *Synapha fasciata* Meigen, 1818 – Fig. 6B

**MATERIAL.** 1♂, MT1, 4-10.VI.2015; 2♂♂, MT1, 17-26.VI.2015; 3♂♂, MT2, 4-10.VI.2015; 1♂, MT2, 17-26.VI.2015; 2♂♂, MT2, 26.VI-1.VII.2015.

**Total:** 9♂♂.

47. *Synapha vitripennis* (Meigen, 1818)

**MATERIAL.** 4♂♂, MT1, 7-13.V.2015; 4♂♂, MT1, 13-21.V.2015; 3♂♂ 1♀, MT1, 21-28.V.2015; 2♂♂ 1♀, MT1, 28.V-4.VI.2015; 1♂, MT1, 4-10.VI.2015; 3♂♂, MT1, 10-17.VI.2015; 3♂♂, MT1, 26.VI-1.VII.2015; 2♂♂, MT1, 1-8.VII.2015; 5♂♂, MT1, 6-11.V.2016; 1♂, MT2, 13-21.V.2015; 1♂ 1♀, MT2, 21-28.V.2015; 1♂, MT2, 28.V-4.VI.2015; 1♂, MT2, 10-17.VI.2015; 4♂♂, MT2, 26.VI-1.VII.2015; 2♂♂, MT2, 1-8.VII.2015; 2♂♂, MT2, 8-15.VII.2015; 1♂, MT2, 22-30.VII.2015; 2♂♂, MT2, 20-27.VIII.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 10-17.IX.2015; 2♂♂, MT2, 1-9.X.2015; 1♂, MT2, 9-20.X.2015; 1♀, MT2, 30.X-12.XI.2015; 1♂, MT2, 29.IV-4.V.2016; 1♀, MT2, 6-11.V.2016.

**Total:** 48♂♂ 5♀♀.

48. *Tetragoneura sylvatica* (Curtis, 1837) – Fig. 6C

**MATERIAL.** 2♂♂, MT1, 7-13.V.2015; 4♂♂ 2♀♀, MT1, 13-21.V.2015; 6♀♀, MT1, 21-28.V.2015; 3♀♀, MT1, 28.V-4.VI.2015; 6♂♂ 4♀♀, MT1, 4-10.VI.2015; 2♂♂ 2♀♀, MT1, 10-17.VI.2015; 3♀♀, MT1, 26.VI-1.VII.2015; 2♀♀, MT1, 1-8.VII.2015; 1♀, MT1, 15-22.VII.2015; 1♀, MT1, 1-9.X.2015; 1♀, MT1, 20-30.X.2015; 7♂♂ 3♀♀, MT1, 29.IV-4.V.2016; 2♂♂ 1♀, MT1, 6-11.V.2016; 1♂ 2♀♀, MT2, 7-13.V.2015; 5♂♂ 6♀♀, MT2, 13-21.V.2015; 1♂ 20♀♀, MT2, 21-28.V.2015; 3♂♂ 7♀♀, MT2, 28.V-4.VI.2015; 6♂♂ 12♀♀, MT2, 4-10.VI.2015; 3♂♂ 6♀♀, MT2, 10-17.VI.2015; 4♀♀, MT2, 1-8.VII.2015; 2♀♀, MT2, 10-17.IX.2015; 1♂ 3♀♀, MT2, 24.IX-1.X.2015; 3♀♀, MT2, 1-9.X.2015.

**Total:** 43♂♂ 94♀♀.

## Leiinae

49. *Docosia flavicoxa* Strobl, 1900 – **F. belg. sp. nov.** – Fig. 6I

**MATERIAL.** 2♂♂, MT1, 17-26.VI.2015; 3♂♂, MT1, 26.VI-1.VII.2015; 4♂♂ 1♀, MT1, 1-8.VII.2015; 2♂♂, MT1, 8-15.VII.2015; 1♂, MT2, 26.VI-1.VII.2015; 1♂ 2♀♀, MT2, 1-8.VII.2015; 5♂♂ 1♀, MT2, 8-15.VII.2015; 2♂♂ 2♀♀, MT2, 15-22.VII.2015; 1♂, MT2, 12-20.VIII.2015.

**Total:** 21♂♂ 6♀♀.

**REMARKS.** A not common European species with scattered distribution, recorded also from neighbouring countries except the Netherlands and Luxembourg (KJERANDSEN *et al.*, 2007a; CHANDLER, 2013).



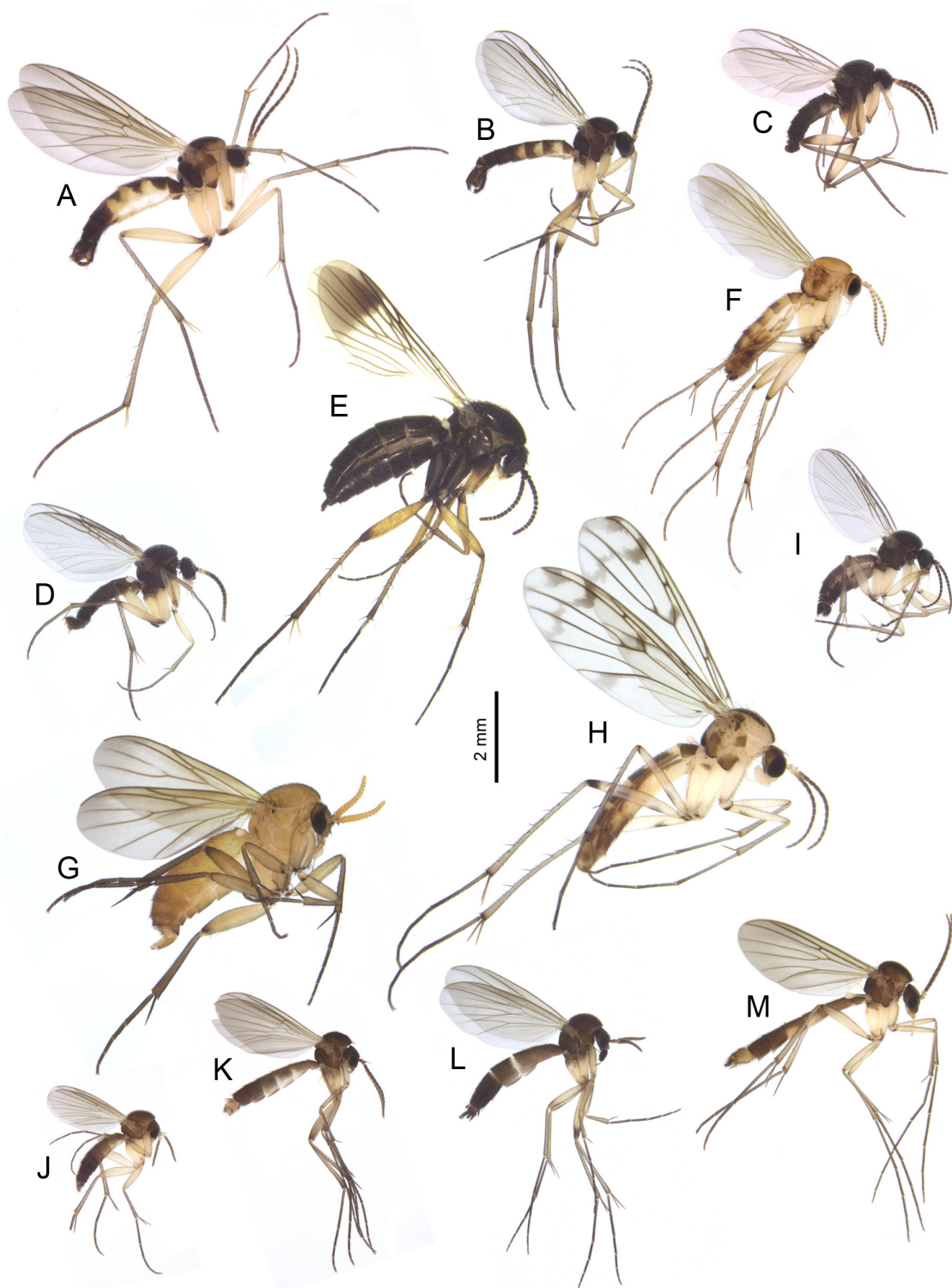


Fig. 6. Habitus of fungus gnats of the family Mycetophilidae. A – *Saigusaia flaviventris*; B – *Synapha fasciata*; C – *Tetragoneura sylvatica*; D – *Ectrepesthoneura hirta*; E – *Greenomyia mongolica*; F – *Clastobasis loici*; G – *Megophthalmidia crassicornis*; H – *Leia winthemii*; I – *Docosia flavicoxa*; J – *Brevicornu proximum*; K – *Anatella simpatica*; L – *Cordyla fissa*; M – *Allodia (Allodia) lugens*.

50. *Docosia gilvipes* (Haliday in Walker, 1856)

**MATERIAL.** 1♂, MT1, 21-28.V.2015; 1♀, MT1, 28.V-4.VI.2015; 1♂, MT1, 17.XII.2015-6.I.2016; 1♂ 3♀♀, MT2, 7-13.V.2015; 1♀, MT2, 21-28.V.2015; 1♀, MT2, 28.V-4.VI.2015; 1♀, MT2, 10-17.VI.2015; 1♂ 1♀, MT2, 26.VI-1.VII.2015; 1♂, MT2, 8-15.VII.2015; 1♂, MT2, 15-22.VII.2015; 1♂, MT2, 6-12.VIII.2015; 2♀♀, MT2, 12-20.VIII.2015; 2♂♂ 1♀, MT2, 10-17.IX.2015; 1♀, MT2, 17-24.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂ 1♀, MT2, 20-30.X.2015; 3♂♂ 1♀, MT2, 30.X-12.XI.2015; 1♂, MT2, 12.XI-3.XII.2015; 1♂ 3♀♀, MT2, 17.XII.2015-6.I.2016; 1♀, MT2, 6-21.I.2016; 1♀, MT2, 3-17.II.2016; 1♂, MT2, 17.II-3.III.2016; 1♀, MT2, 1-8.IV.2016; 1♂, MT2, 29.IV-4.V.2016; 1♀, MT2, 6-11.V.2016.

**Total:** 18♂♂ 21♀♀.

51. *Docosia sciarina* (Meigen, 1830)

**MATERIAL.** 1♂, MT1, 21-29.IV.2016; 1♂, MT2, 8-14.IV.2016.

**Total:** 2♂♂.

52. *Clastobasis loici* Chandler, 2001 – **F. belg. sp. nov.** – Fig. 6F

**MATERIAL.** 1♂, MT1, 17-26.VI.2015; 2♂♂ 1♀, MT1, 1-8.VII.2015; 1♀, MT1, 12-20.VIII.2015; 1♀, MT2, 26.VI-1.VII.2015; 1♀, MT2, 4-10.IX.2015; 1♀, MT2, 1-9.X.2015.

**Total:** 3♂♂ 5♀♀.

**REMARKS.** The species was recently described in both sexes by material from Switzerland, Jersey (Channel Islands) and Czech Republic (CHANDLER, 2001b), and subsequently recorded from Hungary (ŠEVČÍK & PAPP, 2002). In addition, there are unpublished records from Georgia suggesting its wider distribution in the Western Palaearctic (KURINA, *in prep.*). Morphologically, *C. loici* is close to the widely distributed Palaearctic congener *C. alternans* (Winnertz, 1863), and is reliably distinguishable by structure of male and female terminalia only.

53. *Ectrepesthoneura hirta* (Winnertz, 1846) – Fig. 6D

**MATERIAL.** 1♂, MT1, 10-17.VI.2015; 1♂, MT1, 26.VI-1.VII.2015; 3♂♂ 2♀♀, MT2, 7-13.V.2015; 1♂, MT2, 13-21.V.2015; 1♀, MT2, 21-28.V.2015; 1♂ 1♀, MT2, 28.V-4.VI.2015; 1♂, MT2, 15-22.VII.2015; 3♂♂, MT2, 21-29.IV.2016; 6♂♂, MT2, 29.IV-4.V.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 18♂♂ 4♀♀.

54. *Greenomyia mongolica* Laštovka & Matile, 1974 – **F. belg. sp. nov.** – Fig. 6E

**MATERIAL.** 1♀, MT1, 30.X-12.XI.2015; 1♀, MT2, 1-9.X.2015.

**Total:** 2♀♀.

**REMARKS.** Having been described from Mongolian material (LAŠTOVKA & MATILE, 1974), the species has been subsequently widely recorded in Europe and found also in Russian Far East (KURINA *et al.*, 2011 see references therein). All known European specimens are collected after 1980, suggesting the possible invasive distribution of the species. Because *G. mongolica* is a distinctive, considerably large and brightly coloured species (see Fig. 3E), it's not likely to have been totally overlooked during active fungus gnats' studies in Europe before 1980's.

55. *Leia winthemii* Lehmann, 1822 – Fig. 6H

**MATERIAL.** 1♂ 1♀, MT1, 8-15.VII.2015; 1♂, MT1, 30.X-12.XI.2015; 1♂, MT1, 12.XI-3.XII.2015; 1♀, MT2, 13-21.V.2015; 1♀, MT2, 4-10.VI.2015; 1♀, MT2, 1-9.X.2015.

**Total:** 3♂♂ 4♀♀.

56. *Megophthalmidia crassicornis* (Curtis, 1837) – **F. belg. sp. nov.** – Fig. 6G

**MATERIAL.** 1♂, MT1, 20-27.VIII.2015; 1♀, MT2, 4-10.VI.2015.

**Total:** 1♂ 1♀.

**REMARKS.** A not common European species with mainly western distribution, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

Mycetophilinae

57. *Allodia (Allodia) lugens* (Wiedemann, 1817) – Fig. 6M

**MATERIAL.** 1♂, MT1, 12.XI-3.XII.2015; 1♂, MT1, 3-17.XII.2015; 1♂, MT1, 17.XII.2015-6.I.2016; 1♂, MT1, 6-21.I.2016; 2♂♂, MT1, 21.I-3.II.2016; 1♂, MT1, 3-11.III.2016; 1♂, MT2, 24.IX-1.X.2015; 2♂♂, MT2, 1-9.X.2015; 2♂♂, MT2, 9-20.X.2015; 1♂, MT2, 12.XI-3.XII.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.XII.2015-6.I.2016; 2♂♂, MT2, 6-21.I.2016; 1♂, MT1, 21.I-3.II.2016; 1♂, MT2, 8-14.IV.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 20♂♂.

58. *Allodia (Allodia) ornaticollis* (Meigen, 1818)

**MATERIAL.** 1♂, MT1, 12.XI-3.XII.2015; 1♂, MT1, 17.II-3.III.2016; 1♂, MT2, 12.XI-3.XII.2015.

**Total:** 3♂♂.

59. *Allodia (Brachycampta) barbata* (Lundstrom, 1909) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 15-22.VII.2015; 1♂, MT2, 24.IX-1.X.2015.

**Total:** 4♂♂.

**REMARKS.** A not common Holarctic species, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

60. *Allodia (Brachycampta) silvatica* (Landrock, 1912) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 17-26.VI.2015; 1♂, MT2, 13-21.V.2015; 1♂, MT2, 1-9.X.2015.

**Total:** 3♂♂.

**REMARKS.** A Palaearctic species with rather scattered distribution in Europe, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

61. *Anatella ciliata* Winnertz, 1863 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 1-8.IV.2016.

**Total:** 1♂.

**REMARKS.** A Holarctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

62. *Anatella simpatica* Dziedzicki, 1923 – **F. belg. sp. nov.** – Fig. 6K

**MATERIAL.** 1♂, MT2, 12-20.VIII.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 17.XII.2015-6.I.2016.

**Total:** 3♂♂.

**REMARKS.** A Holarctic species, widely distributed in Europe including neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013).

63. *Brevicornu fissicauda* (Lundstrom, 1911)**MATERIAL.** 1♂, MT1, 13-21.V.2015.**Total:** 1♂.64. *Brevicornu griseicolle* (Stæger, 1840)**MATERIAL.** 1♂, MT2, 30.X-12.XI.2015.**Total:** 1♂.65. *Brevicornu intermedium* (Santos Abreu, 1920)**MATERIAL.** 1♂, MT1, 30.X-12.XI.2015; 1♂, MT2, 6-21.I.2016; 1♂, MT2, 18-25.III.2016.**Total:** 3♂♂.66. *Brevicornu proximum* (Stæger, 1840) – **F. belg. sp. nov.** – Fig. 6J**MATERIAL.** 1♂, MT1, 14-21.IV.2016; 2♂♂, MT2, 8-15.VII.2015.**Total:** 3♂♂.**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013).67. *Brevicornu sericoma* (Meigen, 1830)**MATERIAL.** 1♂, MT1, 6-21.I.2016.**Total:** 1♂.68. *Cordyla brevicornis* (Stæger, 1840) – **F. belg. sp. nov.****MATERIAL.** 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 20-30.X.2015.**Total:** 2♂♂.**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).69. *Cordyla crassicornis* Meigen, 1818**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT1, 8-15.VII.2015; 1♂, MT1, 12-20.VIII.2015; 1♂, MT1, 3-17.XII.2015; 1♂, MT2, 28.V-4.VI.2015; 2♂♂, MT2, 4-10.VI.2015; 3♂♂, MT2, 10-17.VI.2015; 2♂♂, MT2, 17-26.VI.2015; 2♂♂, MT2, 26.VI-1.VII.2015; 2♂♂, MT2, 1-8.VII.2015; 2♂♂, MT2, 27.VIII-4.IX.2015; 2♂♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 1-9.X.2015; 2♂♂, MT2, 9-20.X.2015; 4♂♂, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 2♂♂, MT2, 12.XI-3.XII.2015; 1♂, MT2, 3-17.XII.2015; 4♂♂, MT2, 17.XII.2015-6.I.2016; 1♂, MT2, 6-21.I.2016.**Total:** 36♂♂.70. *Cordyla fasciata* Meigen, 1830 – **F. belg. sp. nov.****MATERIAL.** 1♂, MT2, 9-20.X.2015; 2♂♂, MT2, 20-30.X.2015.**Total:** 3♂♂.**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).71. *Cordyla flaviceps* (Stæger, 1840)**MATERIAL.** 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 17-24.IX.2015; 2♂♂, MT2, 1-9.X.2015.**Total:** 4♂♂.

72. *Cordyla fissa* Edwards, 1925 – **F. belg. sp. nov.** – Fig. 6L

**MATERIAL.** 1♂, MT1, 21-28.V.2015; 1♂, MT2, 21-28.V.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 26.VI-1.VII.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 3-17.II.2016; 2♂♂, MT2, 17.II-3.III.2016.

**Total:** 9♂♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

73. *Cordyla fusca* Meigen, 1804

**MATERIAL.** 1♂, MT2, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 20-27.VIII.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 9-20.X.2015.

**Total:** 5♂♂.

74. *Cordyla murina* Winnertz, 1863

**MATERIAL.** 1♂, MT1, 26.VI-1.VII.2015; 1♂, MT1, 6-21.I.2016; 1♂, MT1, 3-17.II.2016; 1♂, MT2, 21-28.V.2015.

**Total:** 4♂♂.

75. *Cordyla pusilla* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 4♂♂, MT2, 13-21.V.2015; 5♂♂, MT2, 21-28.V.2015; 8♂♂, MT2, 28.V-4.VI.2015; 13♂♂, MT2, 4-10.VI.2015; 12♂♂, MT2, 10-17.VI.2015; 23♂♂, MT2, 17-26.VI.2015; 13♂♂, MT2, 26.VI-1.VII.2015; 10♂♂, MT2, 1-8.VII.2015; 3♂♂, MT2, 8-15.VII.2015; 4♂♂, MT2, 15-22.VII.2015; 1♂, MT2, 22-30.VII.2015; 2♂♂, MT2, 30.VII-6.VIII.2015; 1♂, MT2, 6-12.VIII.2015; 3♂♂, MT2, 12-20.VIII.2015; 4♂♂, MT2, 20-27.VIII.2015; 3♂♂, MT2, 27.VIII-4.IX.2015; 2♂♂, MT2, 4-10.IX.2015; 1♂, MT2, 10-17.IX.2015; 4♂♂, MT2, 17-24.IX.2015; 2♂♂, MT2, 24.IX-1.X.2015; 4♂♂, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 8-14.IV.2016; 1♂, MT2, 29.IV-4.V.2016.

**Total:** 126♂♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except France and Luxembourg (CHANDLER, 2013).

76. *Exechia chandleri* Caspers, 1987 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 1-9.X.2015.

**Total:** 1♂.

**REMARKS.** A rare European species, recorded only from Germany, Austria, Switzerland, Czech Republic, Slovenia, Italy, Britain and Sweden (CASPER, 1987; ŠEVČÍK, 2006; KJÆRANDSEN *et al.*, 2007a; KURINA, 2008; CHANDLER, 2013).

77. *Exechia cincta* Winnertz, 1863 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 1-8.IV.2016.

**Total:** 1♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

78. *Exechia contaminata* Winnertz, 1863 – Fig. 7A

**MATERIAL.** 1♂, MT2, 20-30.X.2015.

**Total:** 1♂.

79. *Exechia fusca* (Meigen, 1804)

**MATERIAL.** 2♂♂ 1♀, MT1, 9-20.X.2015; 1♂, MT2, 8-15.VII.2015; 1♂, MT2, 9-20.X.2015; 9♂♂, MT2, 20-30.X.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.XII.2015-6.I.2016.

**Total:** 15♂♂ 1♀.

80. *Exechia nigroscutellata* Landrock, 1912

**MATERIAL.** 4♂♂, MT2, 9-20.X.2015.

**Total:** 4♂♂.

81. *Exechia parva* Lundstrom, 1909

**MATERIAL.** 1♂, MT1, 7-13.V.2015.

**Total:** 1♂.

82. *Exechia pseudofestiva* Lackschewitz, 1937 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 17-24.IX.2015.

**Total:** 1♂.

**REMARKS.** A not common Palaearctic species, distributed rather north-westerly in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

83. *Exechia spinuligera* Lundstrom, 1912 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 9-20.X.2015; 2♂♂, MT2, 20-30.X.2015.

**Total:** 3♂♂.

**REMARKS.** A Palaearctic species, widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013). Some earlier findings may refer, however, to other allied species. The identification of the current material follows ZAITZEV (2003).

84. *Exechiopsis (Exechiopsis) fimbriata* (Lundstrom, 1909) – Fig. 7B

**MATERIAL.** 1♂, MT1, 9-20.X.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 10-17.IX.2015; 1♂, MT2, 1-9.X.2015; 1♂, MT2, 9-20.X.2015.

**Total:** 5♂♂.

85. *Exechiopsis (Xenexechia) crucigera* (Lundstrom, 1909) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 8-15.VII.2015; 1♂, MT2, 10-17.IX.2015.

**Total:** 2♂♂.

**REMARKS.** A widely distributed European species, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013).

86. *Exechiopsis (Xenexechia) leptura* (Meigen, 1830) – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 6-21.I.2016.

**Total:** 1♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except France and Luxembourg (CHANDLER, 2013).

87. *Rymosia bifida* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 1-9.X.2015; 1♂, MT2, 20-30.X.2015.

**Total:** 3♂♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

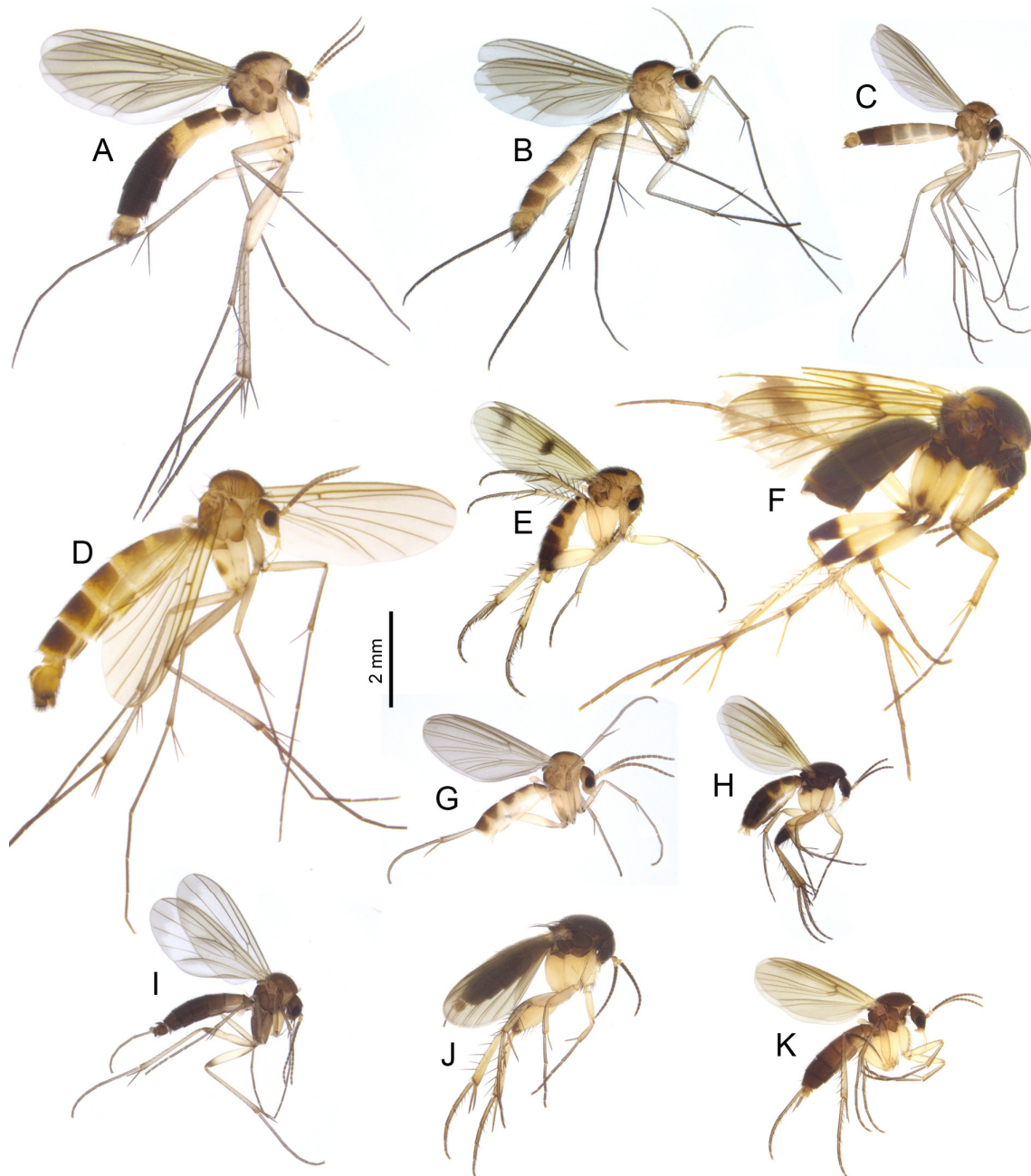


Fig. 7. Habitus of fungus gnats of the family Mycetophilidae. A – *Exechia contaminata*; B – *Exechiopsis (Exechiopsis) fimbriata*; C – *Rymosia spinipes*; D – *Tarnania fenestralis*; E – *Mycetophila signatoides*; F – *Dynatosoma fuscicorne* (terminalia detached); G – *Trichonta fragilis* (terminalia detached); H – *Sceptonia cryptocauda*; I – *Phronia biarcuata*; J – *Platurocypta punctum*; K – *Zygomia valida*.

88. *Rymosia fasciata* (Meigen, 1804)

**MATERIAL.** 1♂, MT1, 21-28.V.2015; 1♂, MT1, 17-24.IX.2015; 2♂♂, MT1, 24.IX-1.X.2015; 1♂, MT1, 1-9.X.2015; 1♂, MT1, 9-20.X.2015; 3♂♂, MT1, 30.X-12.XI.2015; 1♂, MT2, 7-13.V.2015; 4♂♂, MT2, 13-21.V.2015; 1♂, MT2, 4-10.VI.2015; 2♂♂, MT2, 17-26.VI.2015; 1♂, MT2, 8-15.VII.2015; 1♂, MT2, 30.VII-6.VIII.2015; 1♂, MT2, 20-27.VIII.2015; 9♂♂, MT2, 27.VIII-4.IX.2015; 3♂♂, MT2, 4-10.IX.2015; 4♂♂, MT2, 10-17.IX.2015; 13♂♂, MT2, 17-24.IX.2015; 11♂♂, MT2, 24.IX-1.X.2015; 9♂♂, MT2, 1-9.X.2015; 10♂♂, MT2, 9-20.X.2015; 10♂♂, MT2, 20-30.X.2015; 4♂♂, MT2, 30.X-12.XI.2015; 2♂♂, MT2, 12.XI-3.XII.2015; 3♂♂, MT2, 6-11.V.2016.

**Total:** 98♂♂.

89. *Rymosia spinipes* Winnertz, 1863 – Fig. 7C

**MATERIAL.** 1♂, MT1, 20-30.X.2015; 1♂, MT1, 3-17.XII.2015; 1♂, MT1, 3-11.III.2016; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 1♂, MT2, 3-17.XII.2015.

**Total:** 7♂♂.

90. *Tarnania fenestralis* (Meigen, 1838) – Fig. 7D

**MATERIAL.** 1♂, MT2, 6-11.V.2016.

**Total:** 1♂.

91. *Dynatosoma fuscicorne* (Meigen, 1818) – Fig. 7F

**MATERIAL.** 1♀, MT1, 10-17.VI.2015.

**Total:** 1♀.

92. *Mycetophila alea* Laffoon, 1965

**MATERIAL.** 1♂, MT1, 21-28.V.2015; 1♂, MT2, 30.X-12.XI.2015.

**Total:** 2♂♂.

93. *Mycetophila britannica* Laštovka & Kidd, 1975 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 20-30.X.2015; 1♂, MT2, 12.XI-3.XII.2015; 1♂, MT2, 8-14.IV.2016.

**Total:** 3♂♂.

**REMARKS.** A European species of the *Mycetophila ruficollis* species-group widely distributed in Western Europe especially in the Mediterranean region but also in Russian Karelia (JÜRGENSTEIN *et al.*, 2015 and references therein). Recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013). Members of the species-group are reliably identifiable only by details of male terminalia and those with known biology are mycetophagous at their larval stage (cf. JÜRGENSTEIN *et al.*, 2015).

94. *Mycetophila cingulum* Meigen, 1830

**MATERIAL.** 1♂, MT1, 28.V-4.VI.2015; 1♂, MT1, 26.VI-1.VII.2015; 1♂, MT1, 1-8.VII.2015; 1♂, MT1, 8-15.VII.2015; 1♂, MT1, 22-30.VII.2015.

**Total:** 5♂♂.

95. *Mycetophila curviseta* Lundstrom, 1911

**MATERIAL.** 1♂, MT1, 30.X-12.XI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 10-17.IX.2015; 1♂, MT2, 9-20.X.2015; 4♂♂, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 1♂, MT2, 12.XI-3.XII.2015.

**Total:** 10♂♂.



96. *Mycetophila distigma* Meigen, 1830 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 24.IX-1.X.2015.

**Total:** 1♂.

**REMARKS.** A not common species, distributed in Central, Northern and Eastern Europe (CHANDLER, 2013; KJÆRANDSEN, 2012). From neighbouring countries recorded only in Germany (CHANDLER, 2013).

97. *Mycetophila evanida* Laštovka, 1972 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 17-26.VI.2015.

**Total:** 1♂.

**REMARKS.** A not common Palaearctic species with rather scattered distribution in Europe. From neighbouring countries recorded only from Germany (CHANDLER, 2013). A member of the *M. ruficollis* species-group (see remarks for *M. britannica*).

98. *Mycetophila formosa* Lundstrom, 1911

**MATERIAL.** 1♂, MT1, 24.IX-1.X.2015; 1♂, MT1, 12.XI-3.XII.2015.

**Total:** 2♂♂.

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

**MATERIAL.** 10♂♂ 12♀♀, MT1, 7-13.V.2015; 48♂♂ 56♀♀, MT1, 13-21.V.2015; 4♂♂ 10♀♀, MT1, 21-28.V.2015; 7♂♂ 16♀♀, MT1, 28.V-4.VI.2015; 8♂♂ 23♀♀, MT1, 4-10.VI.2015; 30♂♂ 23♀♀, MT1, 10-17.VI.2015; 19♂♂ 35♀♀, MT1, 17-26.VI.2015; 2♂♂, MT1, 26.VI-1.VII.2015; 2♂♂ 1♀, MT1, 1-8.VII.2015; 4♂♂ 6♀♀, MT1, 8-15.VII.2015; 2♂♂, MT1, 15-22.VII.2015; 3♂♂ 9♀♀, MT1, 22-30.VII.2015; 1♂ 1♀, MT1, 30.VII-6.VIII.2015; 6♂♂ 3♀♀, MT1, 20-27.VIII.2015; 2♂♂ 4♀♀, MT1, 27.VIII-4.IX.2015; 1♂ 1♀, MT1, 4-10.IX.2015; 1♂ 5♀♀, MT1, 10-17.IX.2015; 1♀, MT1, 17-24.IX.2015; 3♀♀, MT1, 24.IX-1.X.2015; 1♂ 4♀♀, MT1, 1-9.X.2015; 2♂♂ 1♀, MT1, 9-20.X.2015; 5♂♂ 6♀♀, MT1, 20-30.X.2015; 1♂ 1♀, MT1, 30.X-12.XI.2015; 5♂♂ 8♀♀, MT1, 12.XI-3.XII.2015; 3♀♀, MT1, 3-17.XII.2015; 1♂ 1♀, MT1, 17.XII.2015-6.I.2016; 1♂, MT1, 17.II-3.III.2016; 1♀, MT1, 8-14.IV.2016; 1♂, MT1, 14-21.IV.2016; 4♀♀, MT1, 29.IV-4.V.2016; 2♂♂ 1♀, MT1, 6-11.V.2016; 1♂ 2♀♀, MT2, 13-21.V.2015; 1♂, MT2, 21-28.V.2015; 1♂, MT2, 28.V-4.VI.2015; 1♂ 4♀♀, MT2, 4-10.VI.2015; 7♂♂ 3♀♀, MT2, 10-17.VI.2015; 7♂♂ 19♀♀, MT2, 17-26.VI.2015; 4♂♂ 4♀♀, MT2, 26.VI-1.VII.2015; 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 22-30.VII.2015; 1♀, MT2, 27.VIII-4.IX.2015; 1♂ 1♀, MT2, 4-10.IX.2015; 3♀♀, MT2, 10-17.IX.2015; 2♂♂ 2♀♀, MT2, 17-24.IX.2015; 2♀♀, MT2, 24.IX-1.X.2015; 2♂♂ 4♀♀, MT2, 1-9.X.2015; 1♂ 2♀♀, MT2, 9-20.X.2015; 2♂♂ 5♀♀, MT2, 20-30.X.2015; 1♀, MT2, 30.X-12.XI.2015; 2♂♂ 1♀, MT2, 12.XI-3.XII.2015; 2♂♂, MT2, 3-17.XII.2015; 2♂♂ 2♀♀, MT2, 17.XII.2015-6.I.2016; 1♂, MT2, 3-17.II.2016; 1♀, MT2, 8-14.IV.2016; 1♀, MT2, 21-29.IV.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 209♂♂ 297♀♀.

**REMARKS.** A Holarctic species extending also to the Oriental region (CHANDLER, 2013). One of the most common species of fungus gnats in Europe. However, some earlier records may refer to *M. perpallida* Chandler, 1993 from which it can be distinguished only by details of the male terminalia.

100. *Mycetophila gibbula* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 13-21.V.2015.

**Total:** 1♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

101. *Mycetophila ichneumonea* Say, 1823 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 7-13.V.2015; 1♂, MT2, 24.IX-1.X.2015.

**Total:** 2♂♂.

**REMARKS.** A Holarctic species widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013). One of the most frequent and abundant members of the *M. ruficollis* species-group (see remarks for *M. britannica*).

102. *Mycetophila idonea* Laštovka, 1972 – **F. belg. sp. nov.**

**MATERIAL.** 2♂♂ MT1, 7-13.V.2015; 1♂, MT1, 21-28.V.2015; 1♂, MT1, 28.V-4.VI.2015; 2♂♂, MT1, 17-26.VI.2015; 1♂, MT1, 15-22.VII.2015; 1♂, MT1, 20-30.X.2015; 1♂, MT2, 4-10.VI.2015; 3♂♂, MT2, 10-17.VI.2015; 2♂♂, MT2, 17-26.VI.2015; 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 10-17.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 20-30.X.2015.

**Total:** 19♂♂.

**REMARKS.** A Palaearctic species with scattered distribution in Europe. Recorded also from neighbouring countries except France and Luxembourg (CHANDLER, 2013; JÜRGENSTEIN *et al.*, 2015). A locally abundant member of the *M. ruficollis* species-group (see remarks for *M. britannica*).

103. *Mycetophila luctuosa* Meigen, 1830

**MATERIAL.** 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 4-10.IX.2015; 2♂♂, MT2, 10-17.IX.2015; 2♂♂, MT2, 17-24.IX.2015; 1♂, MT2, 1-9.X.2015; 1♂, MT2, 12.XI-3.XII.2015; 1♂, MT2, 11-18.III.2016.

**Total:** 9♂♂.

104. *Mycetophila marginata* Winnertz, 1863

**MATERIAL.** 1♂, MT2, 14-21.IV.2016.

**Total:** 1♂.

105. *Mycetophila nigrofusca* Dziedzicki, 1884 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 14-21.IV.2016.

**Total:** 1♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

106. *Mycetophila mitis* (Johannsen, 1912)

**MATERIAL.** 1♂, MT1, 27.VIII-4.IX.2015.

**Total:** 1♂.

107. *Mycetophila occultans* Lundstrom, 1913 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 4-10.VI.2015; 1♂, MT1, 1-8.VII.2015; 1♂, MT1, 27.VIII-4.IX.2015.

**Total:** 3♂♂.

**REMARKS.** A widely distributed European species, recorded also from neighbouring countries except Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

108. *Mycetophila ocellus* Walker, 1848

**MATERIAL.** 1♂, MT2, 7-13.V.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 4-10.IX.2015; 1♂, MT2, 17-24.IX.2015; 1♂, MT2, 9-20.X.2015.

**Total:** 5♂♂.

109. *Mycetophila ornata* Stephens, 1846

**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT1, 22-30.VII.2015.

**Total:** 2♂♂.

110. *Mycetophila pictula* Meigen, 1830

**MATERIAL.** 1♂, MT1, 8-14.IV.2016; 1♂, MT2, 3-17.II.2016.

**Total:** 2♂♂.

111. *Mycetophila pumila* Winnertz, 1863

**MATERIAL.** 1♂, MT1, 22-30.VII.2015.

**Total:** 1♂.

112. *Mycetophila ruficollis* Meigen, 1818

**MATERIAL.** 1♂, MT1, 7-13.V.2015; 1♂, MT1, 21-28.V.2015; 1♂, MT1, 4-10.VI.2015; 2♂♂, MT1, 10-17.VI.2015; 1♂, MT2, 4-10.VI.2015; 1♂, MT2, 26.VI-1.VII.2015; 1♂, MT2, 8-15.VII.2015.

**Total:** 8♂♂.

113. *Mycetophila signatoides* Dziedzicki, 1884 – **F. belg. sp. nov.** – Fig. 7E

**MATERIAL.** 1♂, MT1, 4-10.IX.2015; 1♂, MT1, 24.IX-1.X.2015; 1♂, MT1, 1-9.X.2015; 1♂, MT2, 12-20.VIII.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 10-17.IX.2015; 1♂, MT2, 17-24.IX.2015; 2♂♂, MT2, 24.IX-1.X.2015; 2♂♂, MT2, 1-9.X.2015; 1♂, MT2, 12.XI-3.XII.2015.

**Total:** 12♂♂.

**REMARKS.** A Western-Palaeartic species widely distributed in Europe including all neighbouring countries (CHANDLER, 2013). Systematics of the species has been discussed by KJÆRANDSEN *et al.* (2007a).

114. *Mycetophila stolidus* Walker, 1856

**MATERIAL.** 1♂, MT1, 7-13.V.2015; 1♂, MT1, 21-28.V.2015; 1♂, MT2, 24.IX-1.X.2015.

**Total:** 3♂♂.

115. *Mycetophila strigata* Stæger, 1840 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT1, 9-20.X.2015.

**Total:** 2♂♂.

**REMARKS.** A Holarctic species widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

116. *Mycetophila strigatoides* Landrock, 1927 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015.

**Total:** 2♂♂.

**REMARKS.** A Palaeartic species widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

117. *Mycetophila subsigillata* Zaitzev, 1999 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 1-8.VII.2015.

**Total:** 1♂.

**REMARKS.** A Palaeartic species with scattered distribution in Europe, so far not recorded from neighbouring countries (CHANDLER, 2013). The species is very close to *M. sigillata* Dziedzicki, 1884,

a sibling species, widely distributed in Europe. These two species can be distinguished only by details of male terminalia and, therefore, many earlier records of *M. sigillata* may actually refer to *M. subsigillata* (see also KJÆRANDSEN *et al.*, 2007a).

118. *Mycetophila trinotata* Stæger, 1840

**MATERIAL.** 1♂, MT1, 3-17.II.2016; 1♂, MT2, 8-14.IV.2016.

**Total:** 2♂♂.

119. *Mycetophila unicolor* Stannius, 1831

**MATERIAL.** 2♂♂, MT1, 7-13.V.2015; 1♂, MT1, 21-28.V.2015; 1♂, MT1, 10-17.VI.2015; 1♂, MT2, 13-21.V.2015; 1♂, MT2, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 22-30.VII.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 4-10.IX.2015; 5♂♂, MT2, 10-17.IX.2015; 3♂♂, MT2, 17-24.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 1♂, MT2, 1-9.X.2015.

**Total:** 21♂♂.

120. *Mycetophila xanthopyga* Winnertz, 1863

**MATERIAL.** 1♂, MT1, 3-17.XII.2015.

**Total:** 1♂.

121. *Phronia basalis* Winnertz, 1863

**MATERIAL.** 1♂, MT1, 3-11.III.2016; 1♂, MT2, 8-14.IV.2016.

**Total:** 2♂♂.

122. *Phronia biarcuata* (Becker, 1908) – Fig. 7I

**MATERIAL.** 1♂, MT2, 12-20.VIII.2015; 1♂, MT2, 9-20.X.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 21.I-3.II.2016.

**Total:** 4♂♂.

123. *Phronia conformis* (Walker, 1856)

**MATERIAL.** 1♂, MT2, 13-21.V.2015; 1♂, MT2, 1-9.X.2015; 1♂, MT2, 25.III-1.IV.2016; 1♂, MT2, 21-29.IV.2016.

**Total:** 4♂♂.

124. *Phronia coritanica* Chandler, 1992

**MATERIAL.** 1♂, MT2, 17-24.IX.2015.

**Total:** 1♂.

125. *Phronia forcipula* Winnertz, 1863 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 9-20.X.2015.

**Total:** 2♂♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except Luxembourg (CHANDLER, 2013).

126. *Phronia humeralis* Winnertz, 1863

**MATERIAL.** 1♂, MT1, 12.XI-3.XII.2015; 1♂, MT1, 21.I-3.II.2016; 1♂, MT1, 17.II-3.III.2016; 1♂, MT2, 30.X-12.XI.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 6-21.I.2016.

**Total:** 6♂♂.

127. *Phronia nitidiventris* (van der Wulp, 1859)

**MATERIAL.** 2♂♂, MT2, 1-9.X.2015; 1♂, MT2, 9-20.X.2015; 1♂, MT2, 20-30.X.2015.

**Total:** 4♂♂.

128. *Phronia notata* Dziedzicki, 1889 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 12-20.VIII.2015; 1♂, MT2, 28.V-4.VI.2015; 1♂, MT2, 30.VII-6.VIII.2015; 2♂♂, MT2, 20-30.X.2015; 1♂, MT2, 12.XI-3.XII.2015; 2♂♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.XII.2015-6.I.2016; 1♂, MT2, 11-18.III.2016.

**Total:** 10♂♂.

**REMARKS.** A Palaearctic species widely distributed in Europe including neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

129. *Phronia siebeckii* Dziedzicki, 1889 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 20-30.X.2015.

**Total:** 1♂.

**REMARKS.** A Palaearctic species, with more central and northern distribution in Europe (CHANDLER, 2013; KJÆRANDSEN, 2012). From neighbouring countries recorded only in Germany (CHANDLER, 2013).

130. *Phronia sylvatica* Dziedzicki, 1889 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 6-11.V.2016.

**Total:** 1♂.

**REMARKS.** A Holarctic species, with more central and northern distribution in Europe (CHANDLER, 2013; KJÆRANDSEN, 2012). From neighbouring countries recorded only in Germany (CHANDLER, 2013).

131. *Phronia tenuis* Winnertz, 1863

**MATERIAL.** 1♂, MT2, 20-30.X.2015.

**Total:** 1♂.

132. *Platurocypta punctum* (Stannius, 1831) – Fig. 7J

**MATERIAL.** 1♂, MT2, 1-8.VII.2015; 1♂, MT2, 8-15.VII.2015; 1♂, MT2, 22-30.VII.2015; 1♀, MT2, 20-27.VIII.2015; 1♂, MT2, 10-17.IX.2015.

**Total:** 4♂♂ 1♀.

133. *Platurocypta testata* (Edwards, 1925)

**MATERIAL.** 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 22-30.VII.2015; 1♂, MT2, 17-24.IX.2015.

**Total:** 3♂♂.

134. *Sceptonia cryptocauda* Chandler, 1991 – Fig. 7H

**MATERIAL.** 1♂, MT1, 17-24.IX.2015; 2♂♂, MT1, 12.XI-3.XII.2015; 3♂♂, MT2, 10-17.VI.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 30.X-12.XI.2015; 3♂♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.XII.2015-6.I.2016; 1♂, MT2, 8-14.IV.2016.

**Total:** 14♂♂.

135. *Sceptonia flavipuncta* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 28.V-4.VI.2015; 1♂, MT1, 22-30.VII.2015; 2♂♂, MT1, 1-9.X.2015; 1♂, MT1, 20-30.X.2015; 2♂♂, MT2, 7-13.V.2015; 1♂, MT2, 17-24.IX.2015; 1♂, MT2, 24.IX-1.X.2015; 4♂♂, MT2, 1-9.X.2015; 1♂, MT2, 9-20.X.2015; 1♂, MT2, 20-30.X.2015; 1♂, MT2, 21-29.IV.2016; 1♂, MT2, 29.IV-4.V.2016; 1♂, MT2, 6-11.V.2016.

**Total:** 18♂♂.

**REMARKS.** A widely distributed European species, recorded also from neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

136. *Sceptonia fumipes* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 2♂♂, MT2, 17-26.VI.2015.

**Total:** 2♂♂.

**REMARKS.** A widely distributed European species, recorded also from neighbouring countries except France and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

137. *Sceptonia hamata* Ševčík, 2004 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 10-17.VI.2015; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 1-8.IV.2016.

**Total:** 3♂♂.

**REMARKS.** Having been described recently from Czech material (ŠEVČÍK, 2004), the species is subsequently recorded only from Bosnia and Herzegovina, Sweden, and Finland (CHANDLER, 2013; KJÆRANDSEN, 2012)

138. *Sceptonia nigra* (Meigen, 1804)

**MATERIAL.** 1♂, MT1, 24.IX-1.X.2015; 1♂, MT2, 1-8.IV.2016.

**Total:** 2♂♂.

139. *Sceptonia tenuis* Edwards, 1925 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 17-26.VI.2015; 1♂, MT1, 1-8.VII.2015; 1♂, MT2, 24.IX-1.X.2015.

**Total:** 3♂♂.

**REMARKS.** A widely distributed European species, recorded also from neighbouring countries except the Netherlands and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

140. *Trichonta foeda* Loew, 1869 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 18-25.III.2016.

**Total:** 1♂.

**REMARKS.** A Holarctic species with rather scattered distribution in Europe. From neighbouring countries recorded only in Germany (CHANDLER, 2013).

141. *Trichonta fragilis* Gagne, 1981 – **F. belg. sp. nov.** – Fig. 7G

**MATERIAL.** 1♂, MT1, 13-21.V.2015.

**Total:** 1♂.

**REMARKS.** A Holarctic species with rather scattered distribution in Europe. Recorded also from neighbouring countries except France and Luxembourg (CHANDLER, 2013; KJÆRANDSEN, 2012).

142. *Trichonta subterminalis* Zaitzev & Menzel, 1996 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT2, 25.III-1.IV.2016.

**Total:** 1♂.

**REMARKS.** A Palaearctic species, with rather northern and eastern distribution in Europe. Not recorded from neighbouring countries (CHANDLER, 2013; KJÆRANDSEN, 2012). According to POLEVOI *et al.* (2006) and KJÆRANDSEN *et al.* (2007a) might be a junior synonym of *T. funebris* Winnertz, 1863.

143. *Trichonta vitta* (Meigen, 1830)

**MATERIAL.** 1♂, MT1, 28.V-4.VI.2015; 1♂, MT2, 11-18.III.2016; 1♂, MT2, 29.IV-4.V.2016.

**Total:** 3♂♂.

144. *Zygomyia humeralis* (Wiedemann, 1817)

**MATERIAL.** 1♂, MT2, 10-17.IX.2015.

**Total:** 1♂.

145. *Zygomyia matilei* Caspers, 1980 – **F. belg. sp. nov.**

**MATERIAL.** 1♂, MT1, 10-17.VI.2015; 1♂, MT2, 22-30.VII.2015; 1♂, MT2, 1-9.X.2015.

**Total:** 3♂♂.

**REMARKS.** A European species, recorded so far only from Sweden, Denmark, Germany, Switzerland, Czech Republic and Austria (CHANDLER, 2013; KJÆRANDSEN, 2012).

146. *Zygomyia semifusca* (Meigen, 1818)

**MATERIAL.** 1♀, MT2, 30.X-12.XI.2015.

**Total:** 1♀.

147. *Zygomyia valida* Winnertz, 1863 – Fig. 7K

**MATERIAL.** 1♂, MT1, 13-21.V.2015; 1♂, MT1, 14-21.IV.2016; 1♂, MT2, 17-26.VI.2015; 1♂, MT2, 27.VIII-4.IX.2015; 1♂, MT2, 10-17.IX.2015.

**Total:** 5♂♂.

148. *Zygomyia vara* (Stæger, 1840)

**MATERIAL.** 1♂, MT1, 3-17.XII.2015; 1♂, MT2, 3-17.XII.2015; 1♂, MT2, 17.XII.2015-6.I.2016.

**Total:** 3♂♂.

## Discussion

This one-year sampling study yielded 148 species of fungus gnats, with 52 species being new to the Belgian fauna. This high number of new country records is not so surprising because in contrast to many other European regions, fungus gnats in Belgium have been rather neglected during last decades. However, the observed diversity in this particular habitat was rather unexpected as fungus gnats are considered to be more diverse in old growth forest with a good percentage of decaying wood and a rich fungal composition (e.g. ØKLAND, 1994). The narrow connection with the Sonian forest a more than 250 years old mature forest at the eastern side of the botanical garden, obviously underlies such a high diversity. As a result, 50% of fungus gnats' species so far known in Belgium have now been recorded from the botanical garden Jean Massart. According to different non-parametric methods (COLWELL, 2016), the estimated species richness can be calculated as 180 (by Chao1), or 190 (by Jackknife1). As can be seen on Fig. 8, the observed species number is still not reaching a plateau and the number of 40 species represented by singletons is amazingly high. According to published data (JAKOVLEV, 1994; ŠEVČÍK, 2010), 53% of the collected fungus gnats' species are recorded to be mycophagous in or on fungal fruiting bodies at their larval stage. Due to the rather limited diversity and abundance of fungal fruit bodies in the study area, the larvae of mycophagous fungus gnats' species are facultative able to consume inside additional adjacent substrates like forest litter or decaying wood penetrated by mycelium.

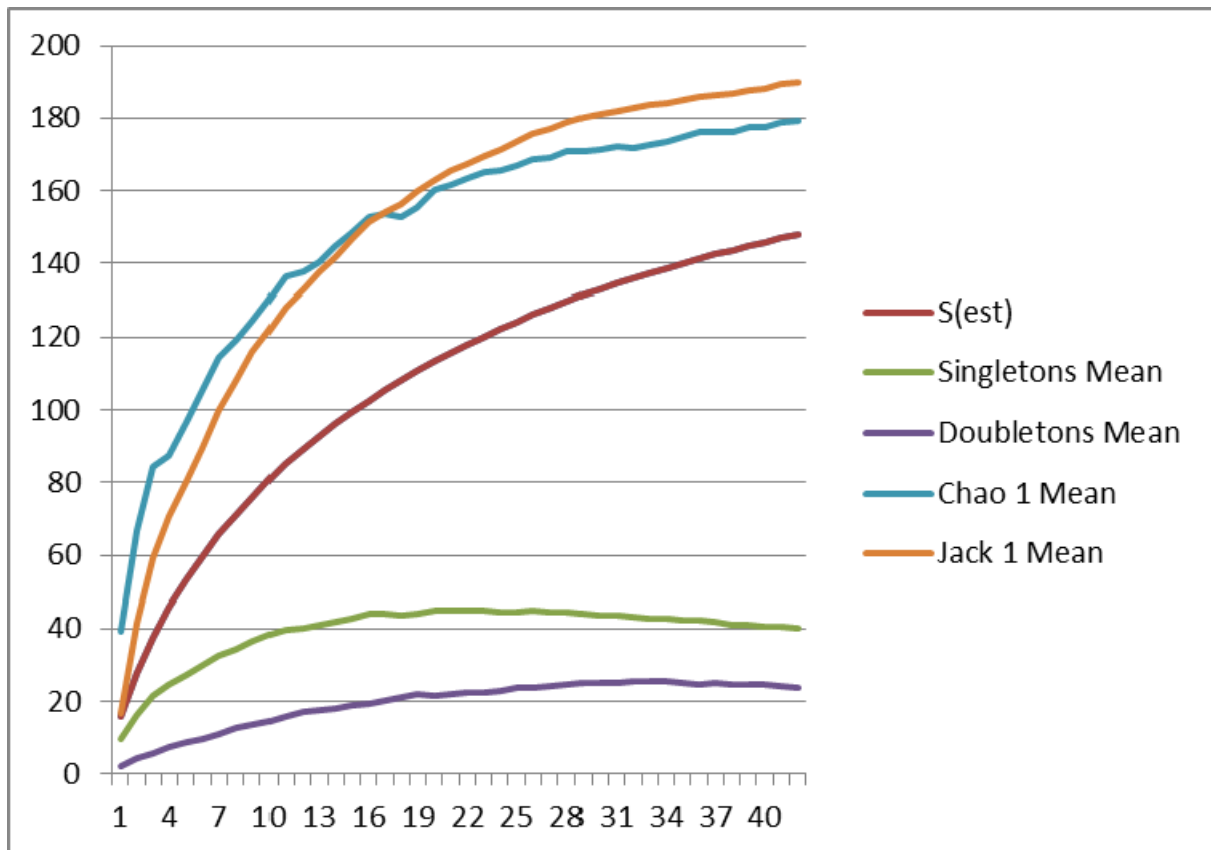


Fig. 8. Species accumulation curves (EstimateS, Version 9.1.0, Copyright R. K. Colwell). S(est) is the observed number of species. Vertical axis = number of species, horizontal axis = number of samples.

The abundance of fungus gnats in samples of two different traps was similar (1296 and 1477 specimens with MT1 and MT2, respectively). Surprisingly, the difference in species diversity observed by two traps was remarkable: 89 and 127 species with MT1 and MT2, respectively. Moreover, the number of unique species collected by MT2 was more than two times higher (see Fig. 2). Two traps were set up at a short distance (about 40 m) from each other, separated by an area of low vegetation (Fig. 1). The possible explanation for different diversities includes the proximity of MT2 to the Sonian forest, which has obviously a great influence to formation of the species pool in the Botanical Garden Jean Massart. Adult activity of fungus gnats may depend also on weather conditions and on exposition of MTs to the sunlight particularly, which was more intensive to the MT1 at mornings and to the MT2 at evenings.

The most abundant species was *Mycetophila fungorum* with 506 collected specimens followed by *Monoclona rufilatera* with 480 specimens. Altogether, ten most abundant species included 62% of collected specimens while 40 species were represented by singletons only.

There were several species with restricted activity either in spring or in autumn: e. g. 6 out of 7 *Orfelia* species were recorded only in spring while both collected *Neoplasyura* species were recorded only in autumn. In general, the proportions of spring and autumn species are similar with about 40% of unique species in both periods (see Fig. 3).

The majority of the collected species are widely distributed in Europe and most of the new country records derive from a limited study of fungus gnats in Belgium. However, a few species deserve more particular discussion (see also Species list for details). Three species – *Clastobasis loici*, *Sceptonia hamata* and *Zygomysia matilei* – are quite recently described uncommon species with rather scattered distribution in Europe. Two species – *Mycetophila subsigillata* and *Trichonta subterminalis* – are also recently described but have been earlier



obviously overlooked due to their morphologically very similar sibling species. *Greenomyia mongolica* is an invasive species of Eastern Palaearctic origin. Having been firstly recorded in Europe in 1980's, it has been continuously recollected but the current record is the westernmost in European mainland so far.

#### Acknowledgements

The first author (OK) acknowledges a grant of the European Commission's Research Infrastructure for funding the study visit to RBINS via the SYNTHESYS programme (BE-TAF-5487). He was also partially funded by institutional research funding (IUT21-1) of the Estonian Ministry of Education and Research. The present paper is an output of the project "Objective 1000". This project deals with an inventory of the insects of the Jardin botanique Jean Massart sponsored by the Brussels Institute for the Environment (now called Brussels Environment). Therefore, we thank especially Mrs Céline Fremault, Brussels Minister for the Environment, Mr Olivier Beck (project manager) and Mr Guy Rotsaert (permits) for their encouragement in obtaining the project. Mr Alain Drumont, Hugo Raemdonck and Alain Pauly (RBINS) did the weekly collecting. The enthusiastic and very helpful staff of the Jardin botanique Jean Massart, especially Mr Thierry Bruffaerts, is much appreciated.

#### References

- BEUK P., (Ed) 2002. - Checklist of the Diptera of the Netherlands. KNNV Uitgeverij, Utrecht, 448 pp.
- CARPERS N., 1987. - Mycetophiliden-Fänge am Breitenbach/ Osthessen (Bundesrepublik Deutschland) (Insecta, Diptera, Nematocera). 1. Nachtrag. *Nachrichtenblatt der Bayerischen Entomologen*, 36: 85-95.
- CHANDLER P.J., 2001a. - Fungus gnats (Diptera: Bolitophilidae, Keroplatidae and Mycetophilidae) in Buckingham Palace Garden. *Supplement to The London Naturalist*, 80: 207-212.
- CHANDLER P.J., 2001b. - Fungus gnats (Diptera: Sciaroidea) new to Britain. *British Journal of Entomology and Natural History*, 13: 215-243.
- CHANDLER P.J., 2004. - Fungus gnats (Diptera, Sciaroidea: Ditomyiidae, Keroplatidae and Mycetophilidae). In: CERRETTI P. et al. (Eds), *Invertebrati di una foresta della Pianura Padana, Bosco della Fontana*. Secondo contributo. *Conservazione Habitat Invertebrati*, 3. Cierre Grafica Editore; Verona: 195-203.
- CHANDLER P.J., 2013. - Fauna Europaea: Mycetophilidae. In: BEUK P., PAPE T. (Eds) *Fauna Europaea: Diptera, Nematocera*. Fauna Europaea, version 2.6. <http://www.faunaeur.org> [accessed 29.ix.2016].
- COLWELL, R.K. 2016. - EstimateS (Version 9.1.0) <http://purl.oclc.org/estimates>.
- DRUMONT A., LIMBOURG P., RAEMDONCK H., DELBOL M., DEKUIJPER C., DAHAN L., BAUGNÉE J-Y. & GROOTAERT P., 2016. - Contribution à l'étude des *Otiiorhynchus* Germar, 1822 de la Région de Bruxelles-Capitale et note sur l'espèce invasive *O. crataegi* Germar, 1824 (Coleoptera: Curculionidae). *Bulletin S.R.B.E./K.B.V.E.*, 152(1): 51-61.
- EVENHUIS N.L., PAPE T., PONT A.C. & THOMPSON F.C., 2007. - Biosystematic Database of World Diptera, Version 10., <http://www.diptera.org/biosys.htm>.
- FALK S.J. & CHANDLER P.J. 2005. - A review of the scarce and threatened flies of Great Britain. Part 2: Nematocera and Aschiza not dealt with by Falk (1991). *Species Status*, 2: 1-189.
- GAGNÉ R.J., 1981. - A Monograph of *Trichonta* with a Model for the Distribution of Holarctic Mycetophilidae (Diptera). *US Department of Agriculture Technical Bulletin*, 1638:1-64.
- GOSSERIES J., 1991. - Mycetophilidae. In: GROOTAERT P., BRUYN L. & DE MEYER M. (Eds) *Catalogue of the Diptera of Belgium*. Institut royal des Sciences naturelles de Belgique, Bruxelles, 65-69.
- GOETGHEBUER M., 1931. - Les Diptères du Plateau des Hautes-Fagnes. *Bulletin et Annales de la Société entomologique de Belgique*, 71: 171-182.
- GOETGHEBUER M., 1943. - Faunule diptérologique des bois en Flandre. *Biologisch Jaarboek Dodonaea*, 10: 56-70.
- GROOTAERT P., 2016. - *Drapetis bruscellensis* (Diptera, Hybotidae) a new species for science from the outskirts of Brussels, a not so cryptic species supported by COI barcoding. *Belgian Journal of Entomology*, 41: 1-14.
- JAKOVLEV J., 1994. - *Palaearctic Diptera associated with fungi and mycomycetes*. Karelian Research Center, Russian Academy of Sciences, Forest Research Institute, Petrozavodsk, 127 pp. [In Russian with English summary]
- JAKOVLEV J., 2012. - Fungal hosts of mycetophilids (Diptera: Sciaroidea excluding Sciaridae): a review. *Mycology: An International Journal on Fungal Biology*, 3(1): 11-23. <http://dx.doi.org/10.1080/21501203.2012.662533>
- JAKOVLEV J. & PENTTINEN J., 2007. - *Boletina dispectoides* sp.n. and six other species of fungus gnats (Diptera: Mycetophilidae) new to Finland. *Entomologica Fennica*, 18(4): 211-217.

- JÜRGENSTEIN S., KURINA O. & PÖLDMAA K., 2015. - The *Mycetophila ruficollis* Meigen (Diptera, Mycetophilidae) group in Europe: elucidating species delimitation with COI and ITS2 sequence data. *ZooKeys*, 508: 15-51. doi: 10.3897/zookeys.508.9814
- KJÆRANDSEN J., 2012. - Checklist of Nordic fungus gnats (Diptera: Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae, Mycetophilidae and Sciarosoma). 1.0. <http://sciaroidea.info/node/48341> [Updated 13.05.2016]
- KJÆRANDSEN J., HEDMARK K., KURINA O., POLEVOI A., ØKLAND B. & GÖTMARK F., 2007a. - Annotated checklist of fungus gnats from Sweden (Diptera: Bolitophilidae, Diadocidiidae, Ditomyiidae, Keroplatidae and Mycetophilidae). *Insect Systematics and Evolution Supplement*, 65: 1-128.
- KJÆRANDSEN J., KURINA O. & ÓLAFSSON E., 2007b. - The fungus gnats of Iceland (Diptera, Keroplatidae & Mycetophilidae). *Insect Systematics and Evolution Supplement*, 64: 61-96.
- KURINA O., 2008. - Sciaroidea excl. Sciaridae. In: ZIEGLER J. (Ed.) *Diptera Stelviana*. A dipterological perspective on a changing alpine landscape. Volume 1. *Studia Dipterologica. Supplements*, 16: 245-293.
- KURINA O., HEDMARK K., KARSTRÖM M. & KJÆRANDSEN J., 2011. - Review of the European *Greenomyia* Brunetti (Diptera, Mycetophilidae) with new descriptions of females. *ZooKeys*, 77: 31-50. doi: 10.3897/zookeys.77.936
- KURINA O., ÖUNAP E. & PÖLDMAA K., 2015. - Two new *Neuratelia* Rondani (Diptera: Mycetophilidae) species from Western Palaearctic: a case of limited congruence between morphology and DNA sequence data. *ZooKeys*, 496: 105-129. doi:10.3897/zookeys.496.9315
- LAMEERE A., 1907. - Manuel de la faune de Belgique. Bruxelles, Lamertin, 869 pp.
- LAŠTOVKA P. & MATILE L., 1974. - Mycetophilidae (Diptera) de Mongolie. *Acta Zoologica Academiae Scientiarum Hungaricae*, 20(1/2): 93-135.
- ØKLAND B., 1994. - Mycetophilidae (Diptera), an insect group vulnerable to forestry? A comparison of clearcut, managed and seminatural spruce forests in southern Norway. *Biodiversity and Conservation*, 3: 68-85.
- POLEVOI A.V., JAKOVLEV J. & ZAITZEV A.I., 2006. - Fungus gnats (Bolitophilidae, Keroplatidae and Mycetophilidae) new to Finland. *Entomologica fennica*, 17: 161-169.
- SASAKAWA M., 2005. - Fungus gnats, Lauxaniid and Agromyzid flies (Diptera) of the Imperial Palace, the Akasaka Imperial Gardens and Tokiwamatsu Imperial Villa, Tokyo. *Memoirs of the National Science Museum Tokyo*, 39: 273-312.
- SASAKAWA M., 2008. - Fungus gnats (Insecta, Diptera, Mycetophilidae) of the Imperial Palace, Tokyo. *Bulletin of the National Museum of Natural Science Series A*, 34(1): 21-39.
- Søli G.E.E., VOCKEROTH J.R. & MATILE L., 2000. - A. 4. Families of Sciaroidea. In: PAPP L. & DARVAS B. (Eds) *Contributions to a Manual of Palaearctic Diptera*. Appendix. Science Herald, Budapest, 49-92.
- ŠEVČÍK J., 2004. - New data on Sciaroidea (Diptera) from the Czech and Slovak Republics, with description of seven new species of Mycetophilidae. *Časopis Slezského zemského muzea, Série A, Vedy přírodní (Opava)*, 53: 49-74.
- ŠEVČÍK J., 2006. - Dvoukřídli (Diptera: Nematocera) čeledí Mycetophilidae, Diadocidiidae, Ditomyiidae a Keroplatidae CHKO Kokořínsko. *Bohemia centralis*, 27: 405-410.
- ŠEVČÍK J., 2010. - Czech and Slovak Diptera associated with fungi. Slezské zemské muzeum, Opava, 112 pp.
- ŠEVČÍK J. & PAPP L., 2002. - Mycetophilidae (Diptera): additions and corrections to the "Checklist of the Diptera of Hungary". *Folia Entomologica Hungarica*, 63: 149-156.
- THOMAS A., DRUMONT A., EYLENBOSCH S., RAEMDONCK H., MULS D., DEKUIJPER C. & DAHAN L., 2016. - Three new localities for *Gnorimus nobilis* in Northern Belgium (Coleoptera: Cetoniidae). *Bulletin S.R.B.E./K.B.V.E.*, 152(2): 122-127.
- TOLLET R., 1943. - Notes sur les Mycetophilidae de Belgique I. Ditomyiinae, Bolitophilinae. *Bulletin du Museum royal d'Histoire naturelle Belge*, 19(59): 179-180.
- TOLLET R., 1948. - Notes sur la faune des Hautes-Fagnes en Belgique. XVII. Mycetophilidae, (Diptera). *Bulletin et Annales de la Société entomologique de Belgique*, 84: 284-287.
- TOLLET R., 1953. - Notes sur les Diptères Mycetophilidae de Belgique. II. Keroplatinae. *Bulletin et Annales de la Société entomologique de Belgique*, 89: 179-180.
- TOLLET R., 1955. - Notes sur les Diptères Mycetophilidae de Belgique. III. Keroplatinae. *Bulletin et Annales de la Société entomologique de Belgique*, 91: 273-276.
- TROUKENS W., DRUMONT A., RAEMDONCK H., DEKUIJPER C. & GROOTAERT P., 2016. - *Pentaphyllus testaceus* (Hellwig, 1792) in de Botanische Tuin Jean Massart (Coleoptera: Tenebrionidae). *Bulletin S.R.B.E./K.B.V.E.*, 152(2): 101-103.
- VÄISÄNEN R. 1984. - A monograph of the genus *Mycomya* Rondani in the Holarctic region (Diptera, Mycetophilidae). *Acta Zoologica Fennica*, 177: 1-346.
- ZAITZEV A.I. 2003. - Fungus gnats (Diptera, Sciaroidea) of the fauna of Russia and adjacent regions (Part II). *An International Journal of Dipterological Research*, 14: 77-386.
- ZAITZEV A.I., JAKOVLEV J. & POLEVOI, A.V., 2006. - Palaearctic species of the *Boletina nitida*-group (Diptera: Mycetophilidae). *Studia dipterologica*, 12: 243-253.