

Notes on Fungus Gnats (Diptera: Sciaroidea excl. Sciaridae) in the Gauja National Park, Latvia

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KURINA O., HEDMARK K. 2004. NOTES ON FUNGUS GNATS (DIPTERA: SCIAROIDEA EXCL. SCIARIDAE) IN THE GAUJA NATIONAL PARK, LATVIA. – *Latv. entomol.*, 41: 76-79.

Abstract: Data on 44 fungus gnat species collected from Gauja National Park are presented. 12 species are reported from Latvia for the first time.

Key words: Diptera, Ditomyiidae, Keroplatidae, Diadocidiidae, Mycetophilidae, Latvia, Gauja National Park.

Introduction

Fungus gnats in Latvia were intensely studied in the 1930s by P. Lackschewitz. The only review was published after his death in 1937. Named paper, which is essential in a European perspective also today, is based on material collected in Latvia and Estonia and includes 310 species from Latvia. The figure describes probably no more than 60% of the actual number, presumably less. After the review in question there are no published data on fungus gnats in Latvia. All authors (e.g. Stackelberg, 1945; Spuris, 1996) dealing with Latvian Sciaroids have used data from Lackschewitz (1937).

The material for the present communication was collected during the XXVI Nordic-Baltic Congress of Entomology, Skalupes, Latvia (July 8-13, 2003). The collecting took place in Gauja National Park: the environs of Skalupes (Skal.) – from the 8th till the 13th; the environs of Turaida castle (Tur.) – on the 12th; and environs of the Gauja bridge in Sigulda (Sig.) – on the 12th of July.

The primary purpose of this study was to revise the knowledge of the fauna of fungus gnats in Latvia and to complete the picture of their distribution in Europe generally.

Results

The collected material includes 116 specimens (70 males and 46 females). The small number of specimens could be explained with the low activity of fungus gnats in July and partly wet conditions at times of sweep netting. However, 44 species, belonging to Ditomyiidae, Keroplatidae, Diadocidiidae and Mycetophilidae, were determined, including 12 species new to Latvia. 18 female specimens could be determined to the genus level only.

List of species

Asterisk (*) before the species name indicates new species to Latvia, about which some remarks on taxonomy and especially on distribution are added. All the material was collected by sweep netting if not shown otherwise. The material collected by O. Kurina is deposited at Institute of Zoology and Botany, Estonian Agricultural University, Tartu and the material collected by K. Hedmark in his personal collection.

Bolitophilidae

Bolitophila sp. – 1♀, Sig., Hedmark leg.

Ditomyiidae

1. *Symmerus nobilis* Lackschewitz, 1937 – 1♂, Sig., Hedmark leg.

Diadocidiidae

2. *Diadocidia ferruginosa* (Meigen, 1830) – 2♀♀, Skal., Sig., Kurina leg.

*3. *Diadocidia spinosula* Tollet, 1948 – 1♂ 1♀, Skal., Hedmark leg. Widely distributed in Europe (Laštovka, Matile, 1972; Krivosheina, 1988). Reported also from Caucasus (Krivosheina, 1988) and Altai mountains (Zaitzev, 1994)

Keroplastidae

Keroplastinae

4. *Keroplastus testaceus* (Dalman, 1818) – 1♂, Skal., Kurina leg.

5. *Macrorryncha flava* Winnertz, 1846 – 1♀, Sig., Kurina leg.

6. *Orfelia nemoralis* (Meigen, 1818) – 2♂♂, Sig., Kurina & Hedmark leg.

7. *Orfelia fasciata* (Meigen, 1804) – 1♂, Skal., Hedmark leg.

8. *Orfelia unicolor* (Staeger, 1840) – 2♂♂, Skal., Tur., Kurina leg.

Orfelia sp. – 2♀♀, Skal., Sig., Kurina & Hedmark leg.

Macrocerinae

9. *Macrocera angulata* Meigen, 1818 – 8♂♂ 11♀♀, Skal., Tur., Sig., Kurina & Hedmark leg.

10. *Macrocera fasciata* Meigen, 1804 – 1♀, Sig., Hedmark leg.

11. *Macrocera lutea* Meigen, 1804 – 1♂, Sig., Hedmark leg.

12. *Macrocera stigma* Curtis, 1837 – 3♂♂, Sig., Hedmark leg.

13. *Macrocera stigmoides* Edwards, 1925 – 3♂♂ 1♀, Skal. (1♂ by light trap), Sig., Kurina & Hedmark leg.

14. *Macrocera vittata* Meigen, 1830 – 8♂♂ 5♀♀, Tur., Sig., Kurina & Hedmark leg.

*15. *Macrocera phalerata* Meigen, 1818 – 1♀, Sig., Kurina leg. Widely distributed in the Palaearctic region (Krivosheina, Mamaev, 1988; Zaitzev, 1994).

16. *Macrocera maculata* Meigen, 1818 – 2♂♂ 1♀, Skal., Tur., Sig., Kurina & Hedmark leg.

Mycetophilidae

*17. *Mycomya hiisi* Väisänen, 1979 – 1♂, Skal., Hedmark leg. Western Palaearctic species, reported from Hungary, former Czechoslovakia, Finland (Väisänen, 1984) and Russian Karelia (Polevoi, 2000).

18. *Mycomya tenuis* (Walker, 1856) – 1♂, Sig., Kurina leg.

19. *Mycomya winnertzi* (Dziedzicki, 1885) – 2♂♂, Skal., Hedmark leg.

Mycomya sp. – 6♀♀, Skal., Sig., Kurina & Hedmark leg.

20. *Acnemia nitidicollis* (Meigen, 1818) – 1♂, Tur., Hedmark leg.

21. *Allocotocera pulchella* (Curtis, 1837) – 2♂♂, Skal., Kurina & Hedmark leg.

*22. *Neuratelia subulata* A.Zaitzev, 1994 – 1♂, Sig., Kurina leg. Originates from Russia: Moscow district (Zaitzev, 1994). Recently found also in Estonia (Kurina, 1998), Hungary (Papp, Ševčík, 2001) and Switzerland (Chandler, 1998).

23. *Sciophila fenestella* (Curtis, 1837) – 1♂, Skal., Kurina leg.

*24. *Sciophila pseudoflexuosa* Kurina, 1991 – 1♂, Sig., Kurina leg. Very close to the East Palaearctic species *S. flexuosa* A.Zaitzev. Originates from Estonia (Kurina, 1991), reported also from Switzerland (Chandler, 1998) and Lithuania (Rimsaite, 2003).

*25. *Docosia pallipes* Edwards, 1941 – 1♂, Skal., Kurina leg. Described from British material (Edwards, 1941). Recorded also from the Netherlands (Beuk, 2002), Germany (Plassmann, Schacht, 2001), Switzerland (Chandler, 1998), Slovakia (Košel et al., 1997) and Hungary (Ševčík, Papp, 2002)

26. *Dynatosoma nigromaculatum* Lundström, 1913 – 1♂, Skal., Hedmark leg.

27. *Epicrypta aterrima* (Zetterstedt, 1852) – 2♀♀, Skal., Sig., Kurina leg.

*28. *Mycetophila curviseta* Lundström, 1911 – 2♂♂, Sig., Kurina leg. Widely distributed in Europe, found also in Russian Far East and Iran (Hackman et al., 1988).

*29. *Mycetophila edwardsi* Lundström, 1913 – 1♂, Tur., Kurina leg. Widely distributed in Europe (Hackman et al., 1988).

*30. *Mycetophila formosa* Lundström, 1911 – 1♂, Sig., Hedmark leg. Widely distributed in Palaearctic region (Hackman et al., 1988), found also in Iran (Laštovka, Matile, 1969).

- *31. *Mycetophila ichneumonea* Say, 1823 – 1♂, Skal., Kurina leg. Widely distributed Holarctic species (Lastovka, 1972). Lackschewitz (1937) reported the species *Fungivora* (= *Mycetophila*) *lineola* Meigen from 12 localities in Latvia. The identity of the latter is questionable: several authors in the 19th and the 20th century used this name for four very close but distinctly different species including *M. ichneumonea* (Laštovka, 1972). This is the first proved record of *M. ichneumonea* in Latvia.
32. *Mycetophila ocellus* Walker, 1848 – 1♂, Skal., Kurina leg.
33. *Mycetophila pumila* Winnertz, 1863 – 1♂, Skal., Kurina leg.
- Mycetophila* sp. – 6♀♀, Skal., Tur., Sig., Kurina & Hedmark leg.
34. *Phronia minuta* Landrock, 1928 – 1♂, Tur., Kurina leg.
35. *Phronia petulans* Dziedzicki, 1889 – 1♂, Sig., Kurina leg.
- Phronia* sp. – 1♀, Skal., Kurina leg.
- *36. *Trichonta melanura* (Staeger, 1840) – 1♂, Skal., Hedmark leg. Holarctic species, widely distributed in Europe (Gagné, 1981). Very close to *T. atricauda* (Zetterstedt, 1852), also widespread Holarctic species, distinguished only by characteristics in male genitalia (Gagné 1981).
37. *Zygomia pictipennis* (Staeger, 1840) – 1♂, Sig., Kurina leg.
38. *Zygomia vara* (Staeger, 1840) – 1♂, Sig., Kurina leg.
39. *Allodia lugens* (Wiedemann, 1817) – 1♂, Sig., Kurina leg.
40. *Anatella ciliata* Winnertz, 1863 – 2♂♂, Skal., Kurina leg.
41. *Notolopha cristata* (Staeger, 1840) – 2♂♂ 2♀♀, Sig., Kurina & Hedmark leg.
42. *Synplasta gracilis* (Winnertz, 1863) – 1♂, Sig., Kurina leg.
- Synplasta* sp. – 1♀, Sig., Kurina leg.
43. *Exechia fusca* (Meigen, 1804) – 2♂♂, Skal., Hedmark leg.
- Exechiopsis* sp. – 1♀, Skal., Hedmark leg.
- *44. *Rymosia placida* Winnertz, 1863 – 1♂, Skal., Hedmark leg. Widespread Palaearctic species (Hackman et al., 1988; Zaitzev, 1999).

Conclusions

Despite of the considerably small amount of material, 12 species were found in Latvia for the first time, which shows first of all the limited knowledge of species composition of fungus gnats in the region. However, this is the first communication of Sciaroids from the primeval valley of the Gauja River: a unique habitat with broad-leafed and mixed broad-leafed forests prevailing. A more comprehensive study of the fungus gnats in the area should result in significant additions to the Latvian list of species, as well as to their distribution generally. Most of the currently recorded species are widespread and common in Europe while two recently described species - *Neuratelia subulata* and *Sciophila pseudoflexuosa* - were also found.

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Received: October 31, 2003.