A new species of fungus gnats of the genus *Allodia* WINNERTZ, 1863 (Diptera, Mycetophilidae) from Estonia

[Eine neue Pilzmückenart der Gattung *Allodia* WINNERTZ, 1863 (Diptera, Mycetophilidae) aus Estland]

by
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Abstract A new fungus gnat ***Allodia (Allodia) zaitzevi* spec. nov.** is described. The new species is very similar to *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983, from which it is distinguished by the structure of genitals. Detailed illustrations and scanning electron micrographs of genitals from both species are given.

Key words Mycetophilidae, *Allodia*, new species, Estonia

Zusammenfassung Mit ***Allodia (Allodia) zaitzevi* spec. nov.** wird eine neue Pilzmückenart beschrieben. Sie ist *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983 sehr ähnlich, unterscheidet sich aber deutlich im Bau des Genitalapparates. Es werden detaillierte Illustrationen und rasterelektronenmikroskopische Aufnahmen beider Arten gegeben.

Stichwörter Mycetophilidae, *Allodia*, neue Art, Estland

Introduction

While studying Estonian material of fungus gnats from the genus *Allodia* WINNERTZ, 1863 I found a formerly unknown species. The new species is closely related to *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983 (Figs 1, 3, 5, 7). *Allodia (A.) pyxidiiformis* is known from Estonia (original data); Finland (STÅLS 1986); Norway (SOLI 1994); Russia: Leningrad, Moscow and Amur District, the Island of Kunashir; Nearctic Region (ZAITZEV 1983).

I have collected all material for the present paper at ten localities in Estonia (Fig. 8) by sweep netting.

All types and other material are deposited in the collection of the Institute of Zoology and Botany, Tartu, Estonia.

Description of species

Allodia (Allodia) zaitzevi spec. nov. (Figs 2, 4, 6)

Material: **Holotype** ♂: Nigula Nature Reserve, 0.5 km E of Vanajärve, 24. May 1994. **Paratypes**: 1♂, Nigula Nature Reserve, 0.5 km E of Vanajärve, 24. May 1994; 2♂♂, Nigula Nature Reserve, 1 km S of Vanajärve, 23. May 1994; 1♂, Nigula Nature Reserve, 0.5 km E of Vanajärve, 27. August 1995; 1♂, 2 km E of Orissaare, 02. October 1993; 1♂, 3 km SW of Uulu, 28. August 1995; 2♂♂, 3 km N of Kiuma, 16. August 1995; 1♂, Taevaskoja, 12. June 1994; 1♂, Taevaskoja, 20. May 1995; 1♂, Vapramäe, 21. June 1989; 1♂, Vapramäe, 08. September 1995; 2♂♂, Melliste, Karjasilla, 25. April 1995; 3♂♂, Tiksoja, 09. May 1994; 1♂, Tiksoja, 09. June 1994; 1♂, Rähni, 11. May 1994.

Etymology: The species is named in honour of Dr. Aleksander ZAITZEV.

Male

Head: Palps yellow. Other mouthparts and face yellowish to light brown. Frons black. Scape and pedicel of antennae yellow. First flagellar segment yellow or brownish on apex, second flagellar segment yellowish to dull brown. Other flagellar segments dull brown. **Thorax**: Mesonotum two colored, middle part brown and lateral parts pale to yellow. Scutellum brown with pale setae and with two dark bristles in apical part. Propleuron and pronotum yellow, both with two bristles. Other pleural parts light to dark brown. Halteres pale. **Wings**: Transparent. Radial veins brown, other veins pale. Wing length 2.5-3.2 mm. Vein rm about 1.3 times as long as stem of fork M_1+M_2. **Legs**: Coxae, femora and tibia yellow. Tarsal segments brown. Fore and mid tibia about 1.02 times as long as fore and mid basitarsus. Hind tibia about 1.24 times as long as hind basitarsus. Mid tibia with 17-24a, 2-4d, 3-7pd, 3-5p. Hind tibia with 6-7ad and 5-7d. **Abdomen**: brown, with yellow lateral spots expanding to posterior margins of tergites in III, IV and V tergites. **Genitalia** (Figs 2, 4, 6): Yellow, except the brown lateral lobe of gonostylus. **Total length**: 3.5-4.1 mm.

Female

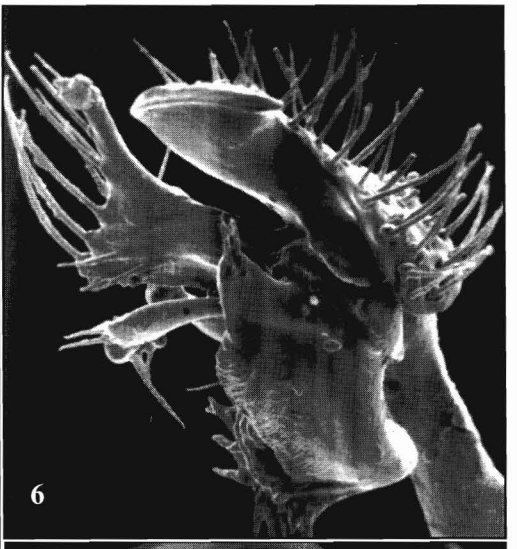
Unknown.

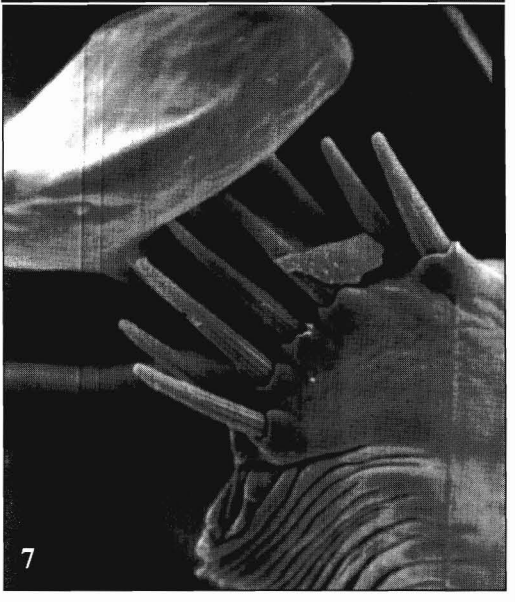
Discussion

Allodia (*A.*) *zaitzevi* (Figs 2, 4, 6) and *A.* (*A.*) *pyxidiiformis* (Figs 1, 3, 5, 7) are very similar species. They are indistinguishable by coloration and by somatic dimensions. Identification of species can be based only on structure of male genitals. Differences in genitals are presented in Table below.

Table: Differences between male genitals of *Allodia* (*Allodia*) *zaitzevi* spec. nov. and *Allodia* (*Allodia*) *pyxidiiformis* A. ZAITZEV, 1983

***Allodia* (*A.*) *zaitzevi* spec. nov.**	***Allodia* (*A.*) *pyxidiiformis***
Apex of large medial appendage of gonostylus	
with setae, fig. 2→A;	without setae, fig. 1→A.
Appearance of small medial appendage of gonostylus	
compare fig. 2→B;	compare fig. 1→B.
Basal part of gonostylus mediodistally	
with protruding appendage with 3-4 bristles on apex, compare fig. 2→C;	without protruding appendage, basal part of gonostylus with 10-12 strong short bristles, compare fig. 1→C and fig. 7.
Appearance of medioventral appendage of gonocoxid	
compare fig. 4;	compare fig. 3.
Gonocoxid ventrally	
with two pairs of strong long bristles (sometimes with third much shorter pair), compare fig. 4;	without strong long bristles, com pare fig. 3.



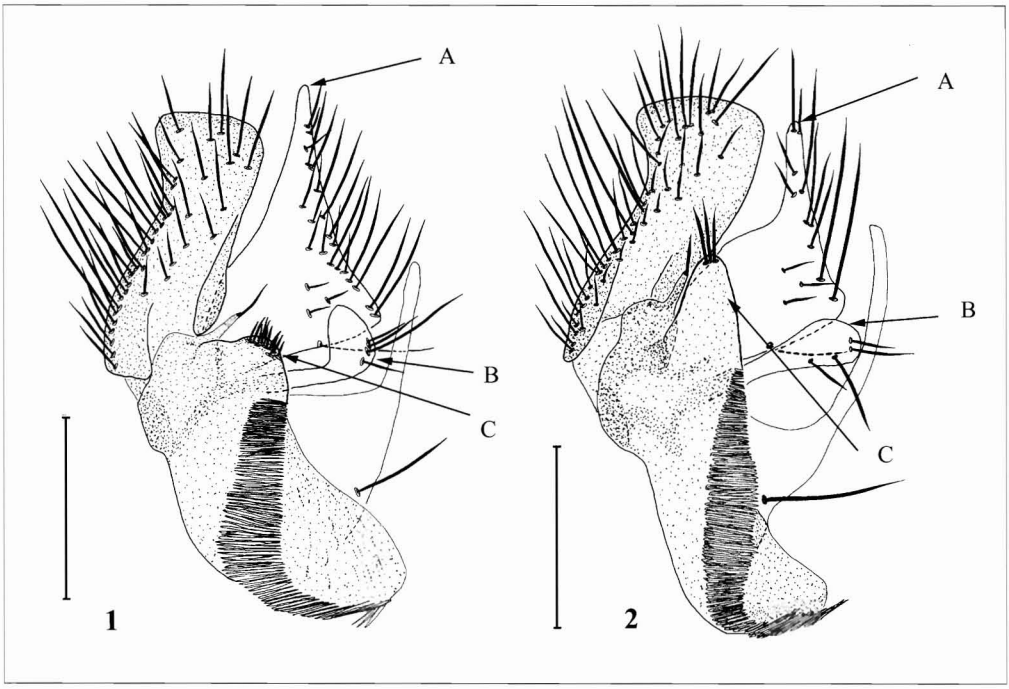


Figs 5-7: Scanning elektron micrographs. - **5**: *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983, dorsal view of gonostylus. Magnification x 570; - **6**: *Allodia (Allodia) zaitzevi* spec. nov., dorsal view of gonostylus. Magnification x 500; - **7**: *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983, dorsal view of mediodistal margin of basal part of gonostylus. Magnification x 2300.

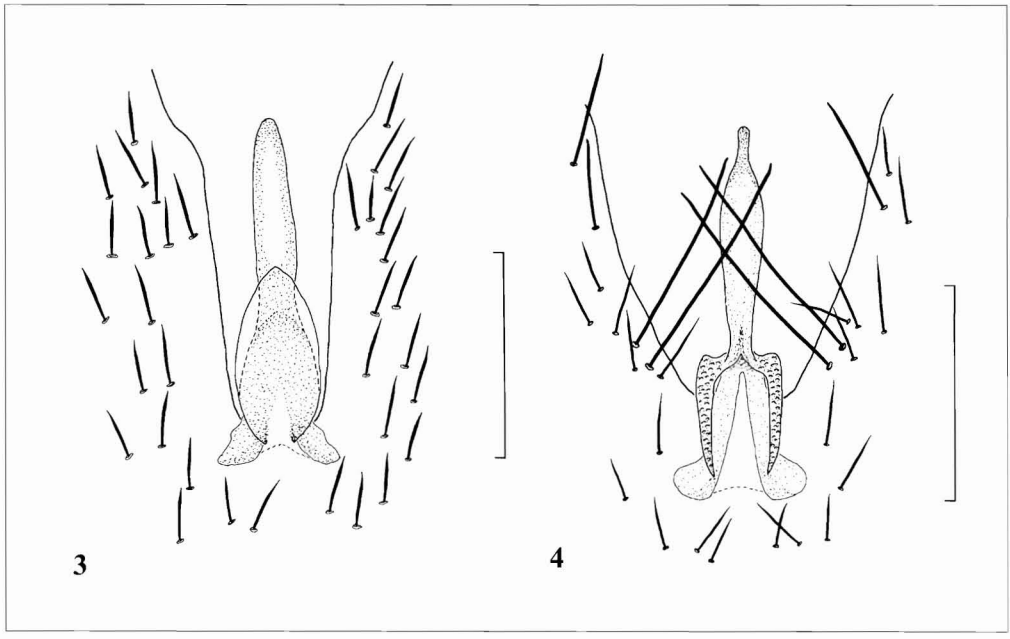
In the course of work I also studied the seven type specimens of *A. (A.) pyxidiiformis*, deposited in the Zoological Institute of the Russian Academy of Sciences, St.-Petersburg (holotypus and six paratypes). Only one paratypus (♂, Leningrad District, Komarovo, 13. May 1951, leg. STACKELBERG) was identical with the holotypus (Moscow District, surrounding of Pavlovskaja Sloboda, 24. May 1981, leg. A. ZAITZEV). Other five paratpes (2♂♂, Leningrad District, Komarovo, 13. August 1949, leg. STACKELBERG; 1♂, Leningrad District, Komarovo, 1. August 1949, leg. STACKELBERG; 1♂, Leningrad District, Vyritsa, 9. September 1946, leg. STACKELBERG; 1♂, Amur District, 40 km W of Svobodny, Klimoutchy, 25. August 1958, leg. ZINOVJEV) belonging to the species *A. (A.) zaitzevi*. The figure of gonostylus presented by ZAITZEV (1983) represented the species *A. (A.) zaitzevi*, though nobody has figured the genitalia of *A. (A.) pyxidiiformis* so far.

Previously 36♂♂ of *A. (A.) zaitzevi* reared from macrofungi in Estonia in 1989 and 1990 were identified by me as *A. (A.) pyxidiiformis* (KURINA 1991).

The studied material of *A. (A.) pyxidiiformis* includes: 1♂, Oonga, 25. May 1994; 1♂, Oonga, 01. May 1995; 2♂♂, Nigula Nature Reserve, 1 km S of Vanajärve, 23. May 1994; 1♂, Taevaskoja, 20. May 1995; 1♂, Vapramäe,



Figs 1, 2: Dorsal view of left gonostylus; - **1**: *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983; - **2**: *Allodia (Allodia) zaitzevi* spec. nov. A = apex of large medial appendage, B = small medial appendage, C = basal part of gonostylus mediodistally. Scale 0.1 mm.



Figs 3, 4: Ventral view of medioventral appendage of gonocoxid; - **3**: *Allodia (Allodia) pyxidiiformis* A. ZAITZEV, 1983; - **4**: *Allodia (Allodia) zaitzevi* spec. nov. Scale 0.1 mm.

24. April 1993; 7♂♂. Melliste, Karjasilla, 25. April 1995; 2♂♂, Tiksoja, 09. May 1994; 1♂, Rähni, 11. May 1994. Total 16♂♂.

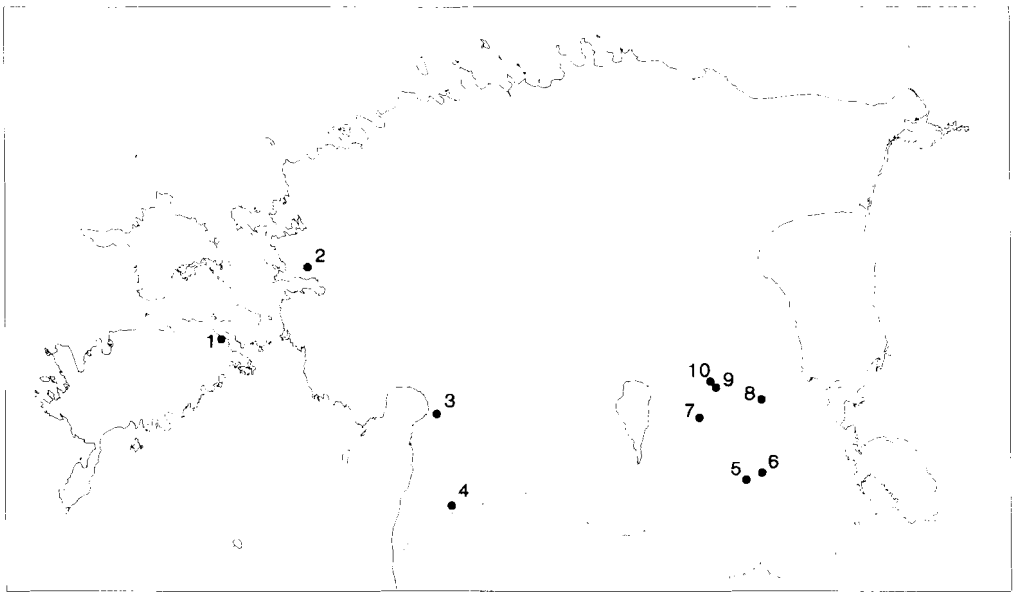


Fig. 8: Sampling localities. - **1**: Orissaare on the Island of Saaremaa; - **2**: Oonga Southeast of Haapsalu; - **3**: Uulu South of Pärnu; - **4**: Nigula Nature Reserve; - **5**: Kiuma Southwest of Põlva; - **6**: Taevaskoja North of Põlva; - **7**: Vapramäe Northeast of Elva; - **8**: Melliste Southeast of Tartu; - **9**: Tiksoja near Tartu; - **10**: Rähni near Tartu.

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