

The identity of *Mycetophila obsoleta* Zetterstedt, 1852 and the description of *M. boreocruciator* sp. n. (Diptera, Mycetophilidae)

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The type material of *Mycetophila obsoleta* Zetterstedt has been examined. The lectotype of *Mycetophila obsoleta* is designated and its synonymy with *Platurocypta punctum* (Stannius) established. A new species, *Mycetophila boreocruciator* sp. n., is described. The new species belongs to the *M. cruciator* (Laffoon) group and is recorded from Sweden, Estonia and Slovakia.

Key words: taxonomy, new species, new synonym, lectotype designation, fungus gnats, Holarctic region.

Introduction

Mycetophila Meigen, 1803 is the largest genus in the family Mycetophilidae with about 200 described Palaearctic species and it is also well represented in the other zoogeographical regions. This genus forms distinct groups of closely related species, which are within the group usually separable only by the characters on the male terminalia.

Studying the type series of *Mycetophila obsoleta* Zetterstedt, 1852, which had been regarded as a doubtful species (cf. LAŠTOVKA, 1988), I found that one of the syntypes belongs to an undescribed species closely related to the Nearctic *Mycetophila cruciator* (Laffoon, 1957) and the Palaearctic *M. paracruciator* Laštovka et Matile, 1974. The new species is described below. The other two specimens from the type series better fit the original description given by ZETTERSTEDT (1852). Both are males, although considered by Zetterstedt as females, and one of them is selected here as lectotype. These specimens are, however, conspecific with *Platurocypta punctum* (Stannius, 1831), and therefore *M. obsoleta* is a junior synonym of this species.

The morphological terminology used in the description principally follows that of SÖLI (1997).

Collections examined

HNHM = Hungarian Natural History Museum, Budapest, Hungary
IZT = Institute of Zoology and Botany, Tartu, Estonia
JŠ = Collection of Jan Ševčík, Ostrava, Czech Republic
SMO = Silesian Museum, Opava, Czech Republic
USNM = National Museum of Natural History, Smithsonian Institution, Washington, USA
ZML = Museum of Zoology, Lund University, Sweden.

Species description and lectotype designation

Mycetophila boreocruciator sp. n.

Description. Male. Body length 4.2 mm. General coloration blackish brown, legs yellow.

Head: dark brown. Antennae all dark brown, relative lengths of flagellomeres 1 to 5 are 1 : 0.8 : 0.7 : 0.7 : 0.7. Ocelli small, touching eye margins,

median ocellus absent. Frons haired. Mouthparts and palpi brownish yellow.

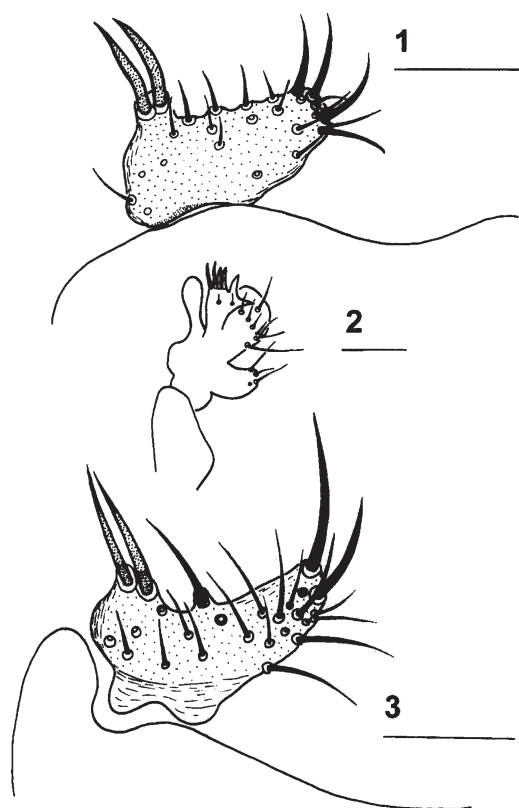
Thorax: blackish brown. Mesonotum dull, covered with pale setulae and with black setae mainly along its lateral margins. Scutellum with four long apical bristles, about twice as long as scutellum. Mediotergite bare. The upper half of laterotergite with fine pale setae. Anepimeron and anepisternum with black setae along their upper margins. Anteprepronotum and proepisternum with several black setae. Preepisternum bare. Metepisternum slightly lighter than the rest of the thorax, bearing black setae. Halteres yellow.

Legs: coxae yellow, second and third coxa slightly darkened basally and apically. Fore coxa with a row of black setae along its anterior margin, mid coxa with a comb of about nine black setae apically. Femora yellowish. Hind femur slightly darkened along its posterior margin. Mid femur with 3 and hind femur with 3–4 apical ventral bristles. Tibiae yellowish. Fore tibia slightly longer than the first tarsomere, with an apical seta (shorter than tibial diameter) and one apical spur, reaching to about a half of the first tarsomere. Mid tibia with 4 anterodorsal, 4 posterodorsal, 3–4 weak posteroventral and 2–3 ventral setae (the distal one weaker), 2 long and 1 short apical setae and with 2 dark apical spurs subequal in length, reaching to about half of the first tarsomere. Hind tibia with two rows of strong dorsal setae (7 anterodorsal and 5 posterodorsal), the longest of them about twice as long as tibial diameter, and with two apical setae (short and long), several short posteroventral setae and two dark apical spurs, the anterior spur shorter. Relative lengths of the anterior spur, posterior spur and tarsomere 1 are: 1 : 1.5 : 2.3. Short tibial trichia arranged in rows. Tarsi darkened, with numerous trichia and setae.

Wings: wing length 3.2 mm. Wing hyaline, with indistinct dark spot over vein *ta* and a faint dark shade in cell *r1*. Wing covered with microtrichia arranged in lines. *Sc* ending free, *C* ending at apex of *R5*. Crossvein *ta* 1.2 times as long as the stem of *M*-fork. Base of cubital fork beyond the base of median fork.

Abdomen: blackish brown.

Terminalia: length of terminalia 0.31 mm. Length of gonocoxites 0.19 mm, width of gonocoxites 0.24 mm. Total length of gonostylus 0.09 mm. Ventral part of gonostylus laterally with two long pale setae and medially with three long and several shorter setae of unequal length (Figs 1, 3). Dorsal part of gonostylus with three lobes, the medial one with a subapical comb-like process (Fig. 2). The lateral lobe forms a finger-like process and is

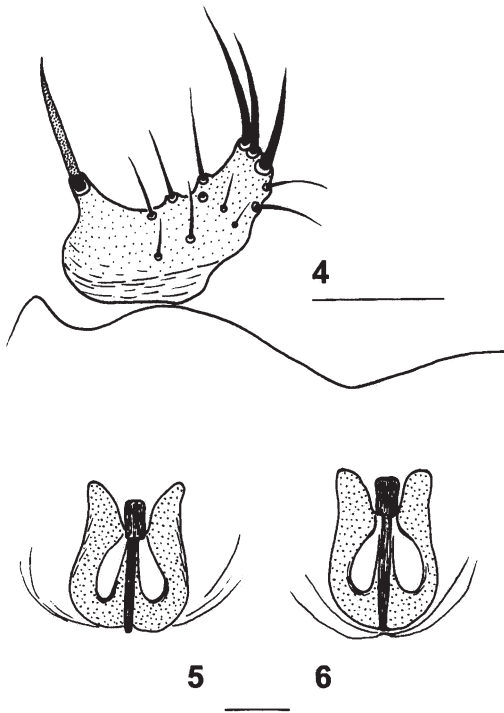


Figs 1–3. Male terminalia of *Mycetophila boreocruciator* sp. n.: 1 – ventral part of gonostylus (holotype); 2 – dorsal part of gonostylus (holotype); 3 – ventral part of gonostylus (paratype, Slovakia, Velické pleso lake). Scales 0.05 mm.

about three times as long as wide and very slightly widened near apex (not forming a distinct knob as in *M. paracruciator*). The medial lobe is relatively narrow and the basal one relatively short, in comparison with the related species. The caudal margin of gonocoxites slightly concave, without conspicuous medial incision (Figs 3, 4).

Variability. The specimens from Slovakia differ slightly from the holotype (see Figs 1, 3), but it is probably only intraspecific variability.

Type material. **Holotype** – male: Sweden, Mulfjell Mt., 30.VII.1840, (ZML, paralectotype of *M. obsoleta* Zett.). Labelled (Zetterstedt's handwriting): “*M. obsoleta* Zett. an hujus ♂ Mulfjell.”, green label “ZML 2000 230”. **Paratypes**: Estonia – Rakvele, Kohala, 23.IX.1992, 1 ♂, leg. O. Kurina leg. (IZT); Slovakia – Belianske Tatry Mts, Široká dolina valley, 12.VIII.1992, 1 ♂, leg. M. Kozánek, Malaise trap (JŠ); Vysoké Tatry Mts, Velická dolina valley, Velické pleso



Figs 4–6. Male terminalia: 4 – *Mycetophila cruciator* (LAFFOON, 1957), ventral part of gonostylus (holotype); 5 – *M. cruciator*, aedeagus; 6 – *M. boreocruciator*, aedeagus. Scales 0.05 mm.

lake, 1670 m a.s.l., 24.VI.2002, 1 ♂, leg. J. Roháček et J. Starý, at light (SMO).

Material of other species examined: *Mycetophila cruciator* (Laffoon, 1957) – holotype ♂, USA, Mono Lake, Cal., July 21, 1911, J.M. Aldrich, Type No. 62 445 (USNM).

Mycetophila paracruciator Laštovka et Matile, 1974 – paratype ♂, Mongolia, Chövsgöl aimak, 3 km SW from Somon Burenchaan, 1650 m a.s.l., 21.6.1968 (HNHM).

Etymology. The name is derived from the Latin *boreas* (= northern), referring to its apparent boreomontane distribution, and *cruciator*, the closely related Nearctic species.

Diagnostic characters. This species is very similar to the Palaearctic *Mycetophila paracruciator* Laštovka et Matile, 1974 and the Nearctic *M. cruciator* (Laffoon, 1957). It can be distinguished by two long lateral setae on the ventral part of the gonostylus and a slightly different shape of the dorsal part of the gonostylus, with a finger-like lateral process about three times as long as wide. The

new species also has only a slightly concave caudal margin of the gonocoxites, without any medial incision (as in *cruciator*) and the lateral branches of the aedeagal complex are shorter and less pointed than in *cruciator* (Figs 5, 6) and *paracruciator*.

Remarks. The new species belongs to the *Mycetophila cruciator* group, which now comprises two Palaearctic and two very similar Nearctic species. This group is related to the species *Mycetophila ocellus* Walker, 1848, *M. sordida* van der Wulp, 1874 and *M. czizeki* Landrock, 1911.

I have not selected the specimen from Muljellet as the lectotype of *Mycetophila obsoleta*, because it does not fully fit the original description by ZETTERSTEDT (1852) and also the locality is different from the other specimens. ZETTERSTEDT (1852) stated that the second antennal segment is yellow and the hind femora have a dorsal line and the tip black, which are characters of *Platurocypta punctum*.

***Platurocypta punctum* (Stannius, 1831)
= *Mycetophila obsoleta* Zetterstedt, 1852
syn. n.**

Type material examined. Sweden, Scania, Esperod, 1 ♂ (lectotype of *Mycetophila obsoleta* Zetterstedt, herewith designated, labelled (Zetterstedt's handwriting): "M. obsoleta Zett. ♀ Scan. Esperod", green label "ZML 2000/231" (ZML). Paralectotype: Öskevik, Nerike., 8.9.1840, 1 ♂ (ZML). The lectotype is designated to elucidate the identity and fix the status of this species.

Additional material studied. Czech Republic: Šumava Mts, Malá Niva peat-bog, 22.VIII.1997, 2 ♂♂, leg. M. Barták et J. Roháček; Šumava Mts, Nová Hůrka peat-bog, 16.VI.–22.VII.1999, 1 ♂, leg. M. Barták et Š. Kubík; Vysoké Chvojno, Buky Nature Reserve, 2.IX.–10.IX.1998, 1 ♂, leg. B. Mocek; Podyjí National Park, Havraníky, steppe, 29.VIII.–28.IX.2001, 1 ♂, leg. Š. Kubík et M. Barták; Polanka nad Odrou, Blücherův les forest, 5.IX.1999, 1 ♂, leg. J. Ševčík; Šilheřovice, Černý les Nature Reserve, 11.III.1997, 1 ♂, 15.III.1998, 1 ♂, 1.–12.XI.1998, 1 ♂, leg. J. Ševčík (all JŠ). Slovakia: Devín near Bratislava, Devínska Kobyla National Nature Reserve, 24.–25.VI.1994, 1 ♂, leg. M. Kozánek; Uličské Krivé, Rožok National Nature Reserve, 23.VIII.2001, 1 ♂, leg. J. Ševčík (all JŠ).

Remarks. The two specimens from Zetterstedt's collection better fit the original description (yellow pedicel, blackish markings on hind femora) than the specimen of *Mycetophila* stated above. As the lectotype of *M. obsoleta* is identical with *Platurocypta punctum*, *M. obsoleta* is a junior synonym of *Platurocypta punctum*. All the three specimens from the type series of *M. obsoleta* proved to be

males, although Zetterstedt had erroneously considered some of them as females.

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References

- LAŠTOVKA, P. 1988. Subfamily Mycetophilinae. Tribe Mycetophilini, pp. 263–280. In: SOÓS, A. & PAPP, L. (eds) Catalogue of Palaearctic Diptera, Vol. 3, Akadémiai Kiadó, Budapest.
- SÖLI, G. E. E. 1997. The adult morphology of Mycetophilidae (s.str.), with a tentative phylogeny of the family (Diptera, Sciaroidea). Ent. Scand., Suppl. **50**: 5–55.
- ZETTERSTEDT, J. W. 1852. Diptera scandinaviae. Disposita et descripta, Vol. *11*: 4091–4546.

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