Two new species and other new records of fungus gnats (*Diptera*: *Mycetophilidae* and *Keroplatidae*) from Slovakia and the Czech Republic

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Two new species and other new records of fungus gnats (Diptera: Mycetophilidae and Keroplatidae) from Slovakia and the Czech Republic. – Čas. Slez. Muz. Opava (A), 58: 55-60, 2009.

A b s t r a c t: Eight species of Mycetophilidae and two species of Keroplatidae (Diptera: Sciaroidea) are for the first time recorded from the Slovak Republic, of which 2 species are described as new - *Phronia hruzi* sp.n. and *Synplasta terezae* sp. n. The occurrence of two species in Slovakia is confirmed. Additional two species of Mycetophilidae are firstly recorded from the Czech Republic. A new synonym is proposed: *Synplasta exclusa* (Dziedzicki, 1889) = *S. sintenisi* (Lackschewitz, 1937) syn. n.

K e y w o r d s: *Sciaroidea*, faunistics, checklist, taxonomy, new species, new records, Czech Republic, Slovakia

Introduction

In the last electronic version of the checklist, 393 species of the family Mycetophilidae and 36 species of Keroplatidae were reported from Slovakia, and 531 species of Mycetophilidae and 59 species of Keroplatidae from the Czech Republic (Ševčík & Košel 2006). A total of 18 species of Mycetophilidae and Keroplatidae were subsequently added by Straka & Majzlan (2006), Ševčík (2007), Ševčík & Roháček (2008), Ševčík & Vonička (2008) and Rulik & Heller (2007).

In this paper, a further 14 records of fungus gnats new to Slovakia or Czechia are presented, including two species previously undescribed, and the occurrence of 2 species in Slovakia is confirmed. If not stated otherwise, all specimens are in the author's collection.

Abbreviations
CZ = Czech Republic; SK = Slovak Republic; BR = Biosphere Reserve of UNESCO; NP = National Park; NNR = National Nature Reserve; 1/3 = 1 male and 3 females; MT = Malaise trap; SW = sweep netting.

Survey of species

MYCETOPHILIDAE

Mycomya alpina Matile, 1972

Material examined: CZ, Krkonoše Mts, U bufetu, dwarf pines, 1370 m, 26.5.-22.6.2005, 1/0, leg. J. Vaněk (MT).

A rare montane species, described from the Alps and hitherto known from Austria, France, Germany, Italy, Switzerland and Spain (Chandler 2004a). New for the Czech Republic.

Mycomya flavicollis (Zetterstedt, 1852)

Material examined: SK, Považský Inovec Mts, Ihelník NNR, 5.-10.5.1999, 1/0, leg. M. Kozánek (MT).

A rather rare Palaearctic species, new for Slovakia.

***Mycomya levis* (Dziedzicki, 1885)**

Material examined: SK, Muráňska planina NP, Hrdzavá NNR, 3.9.2008, 1/0, leg. J. Ševčík (SW).

A rare Palaearctic species, described from Poland and widespread in northern Europe. New for Slovakia.

***Mycomya ornata* (Meigen, 1918)**

Material examined: SK, Považský Inovec Mts, Ihelník NNR, 27.9.-4.10.1999, 1/0, leg. M. Kozánek (MT).

There is a recent record of this species from Slovakia published by Straka & Majzlan (2006). As the authors are not specialists on fungus gnats and species from the *Mycomya ornata* group are rather difficult to identify, I publish here additional record to confirm this species for Slovakia.

***Novakia scatopsiformis* Strobl, 1893**

Material examined: SK, Poľana BR, Hrochoťská dolina Valley, 22.7.-2.10.2008, 1/0, J. Roháček & J. Ševčík leg. (MT).

A mainly southern-European species, recorded as new for the Czech Republic by Ševčík (2004) and recently also from Sweden (Kjaerandsen et al. 2007). New for Slovakia.

***Mycetophila confluens* Dziedzicki, 1884**

Material examined: SK, Považský Inovec Mts, Ihelník NNR, 27.9.-4.10.1999, 1/0, leg. M. Kozánek (MT).

A widely distributed Palaearctic species. Also this species was recorded from Slovakia by Straka & Majzlan (2006), so here is published a further record for Slovakia.

***Phronia hruzi* sp. n.**
(Figs 1-2)

Type material: Holotype male - SLOVAKIA, Poľana Biosphere Reserve, Hrochoť env., Beňova dolina Valley, alongside small brook, 7.7.2006, leg. J. Ševčík (sweep netting), coll. Silesian Museum, Opava.

Description. Male. Wing length 2.9 mm. Head dark brown. Antennae brown, with scape, pedicel and the first flagellomere yellowish. Mouthparts and palpi yellow. Scutum dark brown, with humeral area and lateral margins yellow. Dark area on scutum is formed by three wide longitudinal stripes. Scutellum and most pleural sclerites dark. Prothoracic sclerites, upper hind corner of preepisternum and ventral half of anepimeron pale. Halteres yellow. Legs yellowish, including hind femora. Wings hyaline, without markings. Sc ending free, costa slightly produced beyond tip of R_5, cubital fork well beyond medial one. Abdomen all dark brown, only tergite 2 with paler anterolateral part. Terminalia (Figs. 1-2) dark brown. Caudoventral excavation of gonocoxites shallow, with a pair of small sharp lateral projections and with a pointed less-sclerotized median triangular projection directed inwards. Gonostylus with a distinct dark and bare oblong ventral lobe, continuing medially and dorsally into lighter setose lobes. Aedeagus pear-shaped, caudally tapering in a pair of rather short blunt projections. Cercus elongated, narrow, almost twice as long as tergite 9.

Etymology. Named after Vladimír Hrúz, a zoologist at the headquarters of Poľana Protected Landscape Area and Biosphere Reserve of UNESCO in Zvolen (Slovakia).

Remarks. More than 100 species have been described in this large, mainly Holarctic genus. The identification of the species is based primarily on the male terminalia. The new species described here has very characteristic structure of gonostylus, caudoventral area of gonocoxites and cerci. In the key to the European species of *Phronia* by Plassmann (1977) it runs to *P. interstincta* Dziedzicki, 1889, which has, however, totally different terminalia. Long

and narrow cerci are present in *P. tiefii* Dziedzicki, 1889, but both gonostylus and gonocoxites are much different from *P. hruzi*.

***Trichonta beata* Gagné, 1981**

Material examined: SK, Poľana BR, Hrochoťská dolina Valley, 22.7.-2.10.2008, 1/0, J. Roháček & J. Ševčík leg. (MT).

A rare Holarctic species, recorded as new for the Czech Republic by Ševčík & Papp (2002). New for Slovakia.

***Trichonta fusca* Landrock, 1918**

Material examined: SK, Muráňska planina NP, Poľudnica NNR, 4.9.2008, 1/0, J. Ševčík leg. (SW).

A rare European species, described from Hungary (the holotype was collected in Budapest, see Ševčík 2001). New for Slovakia.

***Trichonta vulgaris* Loew, 1869**

Material examined: SK, Poľana BR, Čierny potok Valley, 23.5.2005, 1/0, J. Roháček leg. (SW); Slovenský kras NP, Zádielska tiesňava NNR, 5.9.2008, 1/0, J. Ševčík leg. (SW).

A rare Holarctic species. New for Slovakia.

***Anatella novata* Dziedzicki, 1923**

Material examined: SK, Muráňska planina NP, Javorníková dolina Valley, alongside brook, 14.5.2009, 1/0, leg. J. Ševčík (SW).

A rare Palaearctic species, described from the Czech Republic (type locality is Jeseník). New for Slovakia.

***Anatella pseudogibba* Plassmann, 1923**

Material examined: CZ, Krkonoše Mts, Bílé Labe, 1250 m, 14.-21.6.2007, 1/0, leg. J. Vaněk (MT).

A very rare species, hitherto known only from several localities in western and northern Europe. New for the Czech Republic.

***Pseudexechia trivittata* (Staeger, 1840)**

Material examined: SK, Slovenský kras NP, Zádielska tiesňava NNR, 5.9.2008, 1/0, J. Ševčík leg. (SW).

An uncommon Palaearctic species, erroneously recorded from Slovakia by Chandler (2004a). New for Slovakia.

***Synplasta terezae* sp. n.**
(Figs 3-4)

Type material: Holotype male - SLOVAKIA, Muráňska planina NP, Hrdzavá dolina Valley, alongside brook, 14.5.2009, leg. J. Ševčík (SW), coll. Silesian Museum, Opava.

Description. Male. Wing length 4.5 mm. Head dark brown. Antennae apically brown, scape and pedicel yellow with dark setae, flagellomere 1 mostly yellow with dorsal apical half dark, flagellomeres 2-4 mostly brown, basally pale, F2 with pale ventral half. Palpi and mouthparts yellow. Scutum mostly dark brown, with lateral margins in fore half extensively yellow and with sharp yellow patch along its transverse suture. Discal setae short, arranged in two longitudinal stripes. Long bristles along side margins of scutum. Scutellum dorsally dark brown, ventrally yellow, with several short dorsal setae and two long apical bristles. Mediotergite dark brown, bare. Anepisternum all brown, bare. Laterotergite light brown, with dark ventral margin and with about 6 long setae. Proepisternum yellow, with 3 dark bristles, the posterior one shorter. Anepimeron bare, mostly brown, ventrally yellow. Preepisternum mostly dark brown, with upper third yellow. Halteres yellow. Legs yellowish, each trochanter

with a small black spot. Wings hyaline, unmarked. Wing venation as in other species of *Synplasta*. Abdominal segments 1 and 6 all dark. Tergites 2-5 yellow, with clearly demarcated triangular dorsal spots, reaching hind margins of tergites and with fore corners pointed. Sternites 2-5 mostly yellow. Terminalia (Figs 3, 4) large, yellowish brown. Length of terminalia 1.1 mm. Ventral lobe of gonostylus narrow, bearing a longer apical seta. Dorsal lobe of gonostylus is apically rounded with transversal projection in its medial part. The medioventral process of gonocoxites is apically bifid in ventrocaudal view and hexagonal (with more or less trifid apical margin) in ventrofrontal view.

Etymology. Named after Miss Tereza Hasíková, who accompanied me during the collecting trips to Muráňska planina National Park.

Remarks and a new synonym. The identification of *Synplasta* species is principally based on details on the complex male terminalia. The new species differs from all the other species mainly in the shape of gonostylus and the medioventral process of gonocoxites. This medioventral process in *Synplasta* is a three-dimensional structure and has different shape in various angles of view, which sometimes leads to misidentification (see remarks under *Synplasta bayardi* (Matile, 1971) in Ševčík 2004). This applies, in my opinion, also to *Synplasta exclusa* (Dziedzicki, 1910), which is thus conspecific with *S. sintenisi* (Lackschewitz, 1937) **syn. n.** Dziedzicki (1910) in figure 92 shows the terminalia in dorsal view with typically short and transversally abrupt dorsal lobe of gonostylus. *S. exclusa* was described from Byelorussia and Austria and since recorded only from Germany. As the species hitherto identified as *S. sintenisi* is one of the more common species of *Synplasta* in central Europe, it is likely that it was among the species examined by Dziedzicki.

KEROPLATIDAE

Orfelia falcata Zaitzev, 1994

Material examined: SK, Poľana BR, Bystré waterfall, 17.6.2009, 1/0, J. Ševčík leg. (SW).

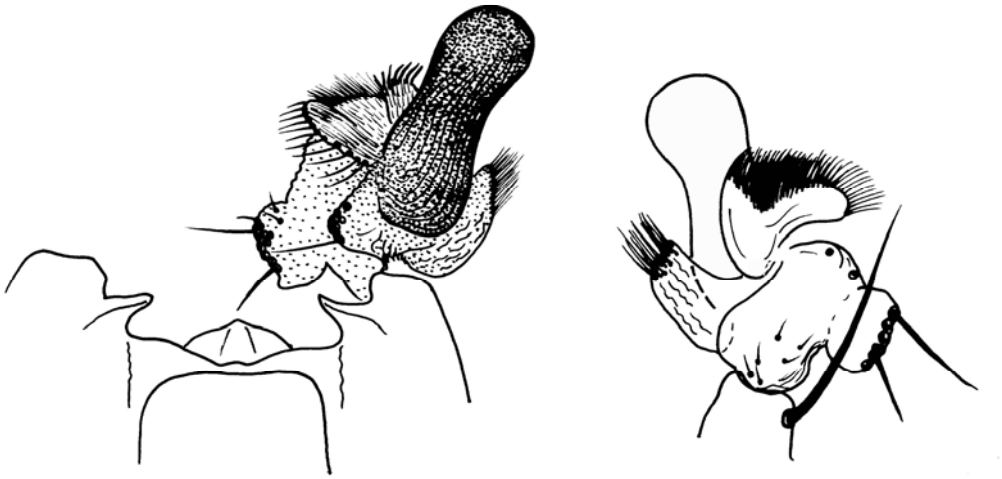
A rare species hitherto known only from northern and central Europe. Recently recorded from the Czech Republic by Ševčík & Vonička (2008). Chandler (2004b) suggested a possible synonymy with *O. persimilis* Caspers, 1991, described from Sardinia and recorded also from mainland Italy, France and Switzerland. The Czech and Slovak specimens fit better to the figures given by Zaitzev (1994) and Polevoi (1996) for *falcata*, mainly in the strongly S-shaped inner branch of gonostylus and narrower tergite 9, so I consider both species as distinct until a detailed revision of this group is made. New for Slovakia.

Orfelia gruevi Bechev, 2002

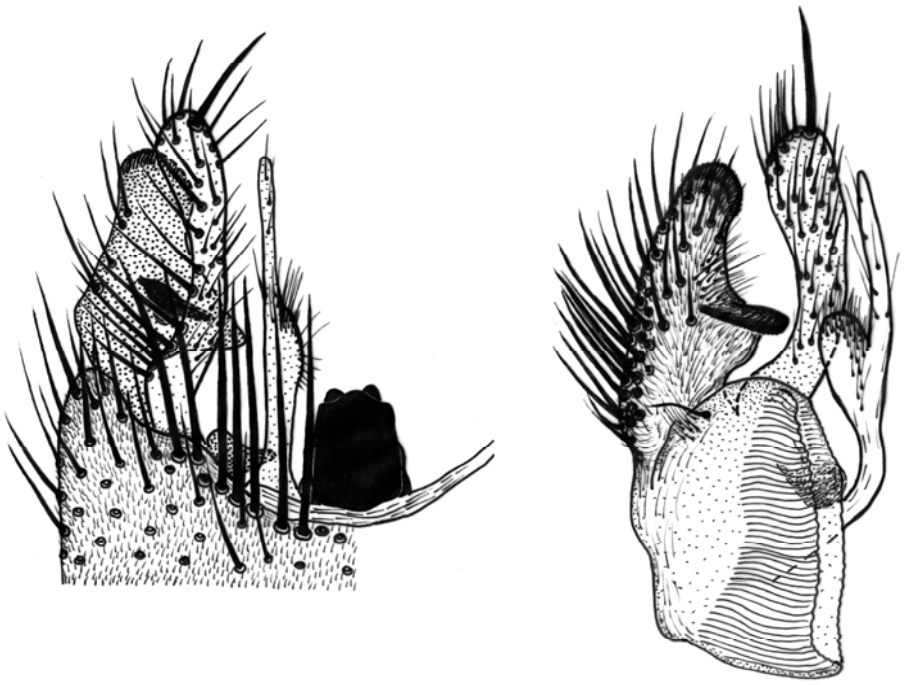
Material examined: SK, Muráňska planina NP, Muráň castle, 4.9.2008, 1/0, J. Ševčík leg. (SW).

This species was described from Bulgaria (Bechev 2002) and subsequently recorded from Greece (Chandler et al. 2006). This finding in Slovakia is quite surprising and represents the northernmost record of this species. New for Slovakia.

Figures:



Figs. 1-2: *Phronia hruzi* sp. n.: 1 - male terminalia in ventral view; 2 – detail of gonostylus



Figs. 3-4: *Synplasta terezae* sp. n.: 3 - male terminalia in ventral view; 4 – detail of gonostylus.

A c k n o w l e d g e m e n t s

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R e f e r e n c e s

B e c h e v D. (2002): *Orfelia gruevi* spec. nov. from Bulgaria (*Diptera*: *Sciaroidea*: *Keroplatidae*). – Acta Entomologica Slovenica, 10: 199-201.

C h a n d l e r P. J. (2004a): *Mycetophilidae*. In de Jong H. (ed.): Fauna Europaea: *Diptera*: *Nematocera*. Fauna Europaea, Version 1.3. http://www.faunaeur.org.

- (2004b): Fungus gnats (*Diptera*, *Sciaroidea*: *Ditomyiidae*, *Keroplatidae* and *Mycetophilidae*). pp. 195-203. 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.

C h a n d l e r P. J., B e c h e v D., C a s p e r s N. (2006): The fungus gnats (*Diptera*: *Bolitophilidae*, *Diadocidiidae*, *Ditomyiidae*, *Keroplatidae* and *Mycetophilidae*) of Greece, its islands and Cyprus. – Studia Dipterologica, 12: 255-314.

D z i e d z i c k i H. (1910): Zur Monographie der Gattung *Rymosia* Winn. – Horae Soc. Ent. Ross., 39: 89-104.

K j a e r a n d s e n J., H e d m a r k K., K u r i n a O., P o l e v o i A., Ø k l a n d B. & G ö t m a r k F. (2007): Annotated checklist of fungus gnats from Sweden (*Diptera*: *Bolitophilidae*, *Diadocidiidae*, *Ditomyiidae*, *Keroplatidae* and *Mycetophilidae*). – Insect Syst. Evol., Suppl. 65: 1-128.

P l a s s m a n n E. (1977): Revision der europäischen Arten der Pilzmückengattung *Phronia* (*Diptera*: *Mycetophilidae*). – Dtsch. Ent. Z., 24: 305-344.

P o l e v o i A. V. (1996): New and poorly known fungus gnats of the families *Bolitophilidae*, *Diadocidiidae*, and *Keroplatidae* from Eastern Fennoscandia (*Diptera*, *Nematocera*). – Zoosyst. Rossica, 4: 177-182.

R u l i k B. & H e l l e r K. (2007): First record of *Mycomya maura* (Walker, 1856) and *Cordyla fissa* Edwards, 1925 (*Diptera*: *Mycetophilidae*) from Slovakia. – Studia dipterologica, 14: 95-96.

S t r a k a V. & M a j z l a n O. (2006): Fauna dvojkrídlovcov (*Diptera*) Prírodnej rezervácie Nad Šenkárkou v CHKO Malé Karpaty (južné Slovensko). – Naturae Tutela, 10: 11-31.

Š e v č í k J. (2001): New records of *Diadocidiidae*, *Keroplatidae* and *Mycetophilidae* (*Diptera*: *Sciaroidea*) from the Czech Republic. – Čas. Slez. Muz. Opava (A), 50: 159-169.

- (2004): New data on *Sciaroidea* (*Diptera*) from the Czech and Slovak Republics, with descriptions of seven new species of *Mycetophilidae*. – Čas. Slez. Muz. Opava (A), 53: 49-74.

- (2007): Faunistic records. *Keroplatidae*, *Mycetophilidae*. – Acta Zool. Univ. Comen., 47: 249-250.

Š e v č í k J. & K o š e l V. (2006): *Keroplatidae* Rondani, 1856; *Mycetophilidae* Newman, 1834. In J e d l i č k a L., S t l o u k a l o v á V. & K ú d e l a M. (eds): Checklist of *Diptera* of the Czech Republic and Slovakia. Electronic version 1. http://zoology.fns.uniba.sk/diptera + CD-ROM: ISBN 80-969629-0-6.

Š e v č í k J. & P a p p L. (2002): *Mycetophilidae* (*Diptera*): additions and corrections to the „Checklist of the *Diptera* of Hungary". – Folia ent. Hung., 63: 149-156.

Š e v č í k J. & R o h á č e k J. (2008): Fungus gnats (*Diptera*: *Mycetophilidae* and *Keroplatidae*) reared from grass and sedge tussocks in the Czech Republic. – Čas. Slez. Muz. Opava (A), 57: 175-178.

Š e v č í k J. & V o n i č k a P. (2008): Dvoukřídlí (*Diptera: Nematocera*) čeledí *Mycetophilidae* (bedlobytkovití), *Keroplatidae*, *Bolitophilidae*, *Diadocidiidae*, *Sciaridae* (smutnicovití) a *Anisopodidae* (stružilkovití) Jizerských hor. – Sbor. Severočes. Muz., Přír. Vědy, Liberec, 26: 95-127.

Z a i t z e v A. I. (2004): Fungus gnats of the fauna of Russia and adjacent regions. Part. I. Nauka, Moscow. 288 pp.

Dva nové druhy a jiné nové nálezy bedlobytek (Diptera: Mycetophilidae a Keroplatidae) ze Slovenska a České republiky

Osm druhů čeledi Mycetophilidae a dva druhy Keroplatidae (Diptera: Sciaroidea) jsou poprvé zaznamenány ze Slovenské republiky, z toho 2 druhy jsou popsány jako nové pro vědu - *Phronia hruzi* sp.n. a *Synplasta terezae* sp. n. Potvrzen je výskyt dvou druhů pro Slovensko. Další dva druhy čeledi Mycetophilidae jsou poprvé zaznamenány z České republiky. Je navrženo nové synonymum: *Synplasta exclusa* (Dziedzicki, 1889) = *S. sintenisi* (Lackschewitz, 1937) syn. n.

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