

New records of the flat-footed flies (Diptera: Platypezidae) from the Czech Republic and Bohemia

Michal Tkoč

New records of the flat-footed flies (Diptera: Platypezidae) from the Czech Republic and Bohemia – Acta Mus. Siles. Sci. Natur. 65: 65-70, 2016.

Abstract: Flat-footed fly (Diptera: Platypezidae) *Agathomyia cinerea* (Zetterstedt, 1852) is recorded from the Czech Republic for the first time, based on specimens found in the Bukovec Nature Reserve near Jizerka (Kořenov) in the Jizerské hory Mts and Svatý Petr in the Krkonoše Mts. The distribution, seasonal occurrence and habitat preference of this species in Europe are commented. Additionally, two other flat-footed flies, *Polyporivora picta* (Meigen, 1830) and *Seri obscuripennis* (Oldenberg, 1916) are recorded for the first time from the territory of Bohemia.

Key words: Diptera, Platypezidae, Callomyiinae, Platypezinae, *Agathomyia cinerea*, *Polyporivora picta*, *Seri obscuripennis*, faunistics, distribution, Czech Republic, Bohemia

Introduction

The flat-footed flies, Platypezidae, are small family of Diptera from superfamily Platypezoidea. The European species are small to medium-sized brachycerous flies ranging from 1.4 to 6.0 mm in wing length. The adults are humpbacked and slender to broad-bodied. Males are mostly dark or black coloured, the females are often lighter in colour, variously marked with brown, black, orange and grey, some species have silvery grey reflective patterns (Chandler 2001). Males have holoptic eyes, the female eyes are dichoptic. All known larvae are mycophagous and live burrowed in the fungus fruiting bodies tissue or under bark of dead trees on fungal mycelia (Chandler 2001; Krivosheina 2008a, b). Majority of the species are monophagous, oligophagy occur more rarely. Adults can be spotted on broad leaves in forested habitats, during fast straight movements, females can be observed during oviposition on host fungi.

Currently, 32 species are listed in the Diptera checklist of the Czech Republic (Vaňhara 2009). Tkoč (2011) and Tkoč *et al.* (2012) added one species for the fauna of the Czech Republic and two species from Bohemia. Thus, current numbers of species are 33 for the Czech Republic, 27 in Bohemia and 32 in Moravia. The records provided here expand these numbers to 34 species known from Czech Republic and 30 species known from Bohemia.

The flat-footed fly *Agathomyia cinerea* (Zetterstedt, 1852) is generally scarce and it is very rarely collected. The species is here recorded from the Czech Republic for the first time. The species *Polyporivora picta* (Meigen, 1830) is found in Bohemia for the first time. This species was first documented from the Czech Republic by Tkoč (2011), who reared several adults from *Trametes versicolor* and commented on its larval biology and distribution. Another first record from Bohemia, dealing with *Seri obscuripennis* (Oldenberg, 1916), is documented from meat baited Malaise trap.

Material and methods

Specimens were examined with an Olympus SZX10 binocular microscope. Photographs of specimens were taken by Canon 600D with MPE-65 macro lens and in some cases combined from multiple layers using Helicon Focus Pro 5.3. Flat-footed fly material was identified by the author and is now deposited in National Museum in Prague (NMPC). The nomenclature used here follows Chandler (2001).

Distributional data follows Chandler (2001, 2004) and are supplemented by data of Schacht & Heuck (2005), Claussen (2013) and Ståhls (2014).

Results

Agathomyia cinerea (Zetterstedt, 1852) (Figs 1-2)

Material examined: CZECH REPUBLIC: N Bohemia: Jizerské hory Mts Protected Landscape Area, Kořenov, Jizerka, Bukovec Natural Reserve, Starý lom [=Old quarry] + 1 km on NW route, 50°48'44"N, 15°21'39.9"E, 900–925 m, sweeping undergrowth, 30.viii.2015, 2♂♂ 1♀, 1.ix.2015, 1♂ 1♀, M. Tkoč leg., 1.ix.2015, 1♀, J. Preisler leg.; Krkonoše Mts, Krkonošský National Park, Svatý Petr, 800 m, 29.viii.1971, 1♀, M. Chvála leg. All material M. Tkoč det., deposited in NMPC. **First records from the Czech Republic.**

Distribution. *Agathomyia cinerea* is a very rare Palaearctic species distributed mainly in northern part of Europe. Existing records are from Finland, Germany, Great Britain, Italy, Poland, Slovakia, Sweden, Switzerland, the Netherlands, European Russia and the Far East of Russia. It is mostly found on the mountains above 800 m of elevation.

Habitat preference. Bukovec Natural Reserve is covered by old forest with scree slopes on basalt bedrock (Figs 3-4). The mountain *Fagus* sp. forest mixed with natural population of spruce on Bukovec Mt. gradually changes to cultural spruce forest and on the scree slopes it is composed of *Ulmus glabra* and *Acer pseudoplatanus*. *Agathomyia cinerea* is probably associated with old, natural forest at higher altitudes. Its findings in the Jizerské hory Mts and the Krkonoše Mts indicates its affinity to cold climate and montaneous forests.

Seasonal occurrence. Based on published and here presented records, the seasonal occurrence of *A. cinerea* is very short and restricted only to a few weeks at the turn of IX and X in Central Europe. In northern parts of Europe the occurrence span is wider, e.g. in Schleswig-Holstein (N Germany) it is 16.viii.–13.x. (Claussen 2013).

Polyporivora picta (Meigen, 1830) (Fig. 5)

Material examined: CZECH REPUBLIC: W Bohemia: Ejpovice, 5 km E of Plzeň, camping, cl. to lake Klabava, 49°45'14"N, 13°30'28"E, 330 m, sweeping undergrowth of sparse deciduous forest, 22.ix.2013, 1 ♀, M. Tkoč leg. et det. (NMPC); N Bohemia: Liberec, Vratislavice nad Nisou, 5256, 370 m, sweeping, 20.ix.2006, 1 ♂, J. Preisler leg., M. Tkoč det. (NMPC). **First records from Bohemia.**

Distribution. *Polyporivora picta* is a Palaearctic species distributed mainly in northern part of Europe (Great Britain and Fennoscandia); it is rare in Central Europe and missing in the Mediterranean Region (see Tkoč 2011). Existing records are from the Czech Republic (Moravia), Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Norway, Poland, Slovakia, Spain, Sweden, Switzerland, the Netherlands and European Russia.

Seri obscuripennis (Oldenberg, 1916)

Material examined: CZECH REPUBLIC: N Bohemia: Čertova voda, right Labe shore, 50°48'47.3"N, 14°13'35.3"E, 130 m, meat baited Malaise trap, 10.ix.–27.x.2009, 1 ♀, M. Barták leg., M. Tkoč det. (NMPC). **First record from Bohemia.**

Distribution. *Seri obscuripennis* is a rare Palaearctic species distributed in Europe, European Russia and the Far East of Russia. Existing records are from Austria, Czech Republic (Moravia), Finland, Germany, Great Britain, Hungary, Norway, Poland, Romania, Slovakia, Sweden, Switzerland, the Netherlands, European Russia and the Far East of Russia.

Acknowledgements: I thank my friend Jiří Preisler for kind help during the field work. For donating of the specimen of *S. obscuripennis* I am obliged to Miroslav Barták. J. Roháček kindly checked earlier draft of this manuscript. Peter J. Chandler and Anatole Shatalkin are acknowledged for the reviews and constructive comments improving quality of this paper. This work was supported by the Charles University Grant Agency (GAUK, No. 1294214), by the Ministry of Culture of the Czech Republic (DKRVO 2016/13, National Museum, Prague, 00023272) and by the Institutional Research Support grant of the Charles University, Prague (No. SVV 260 313/2016).



1

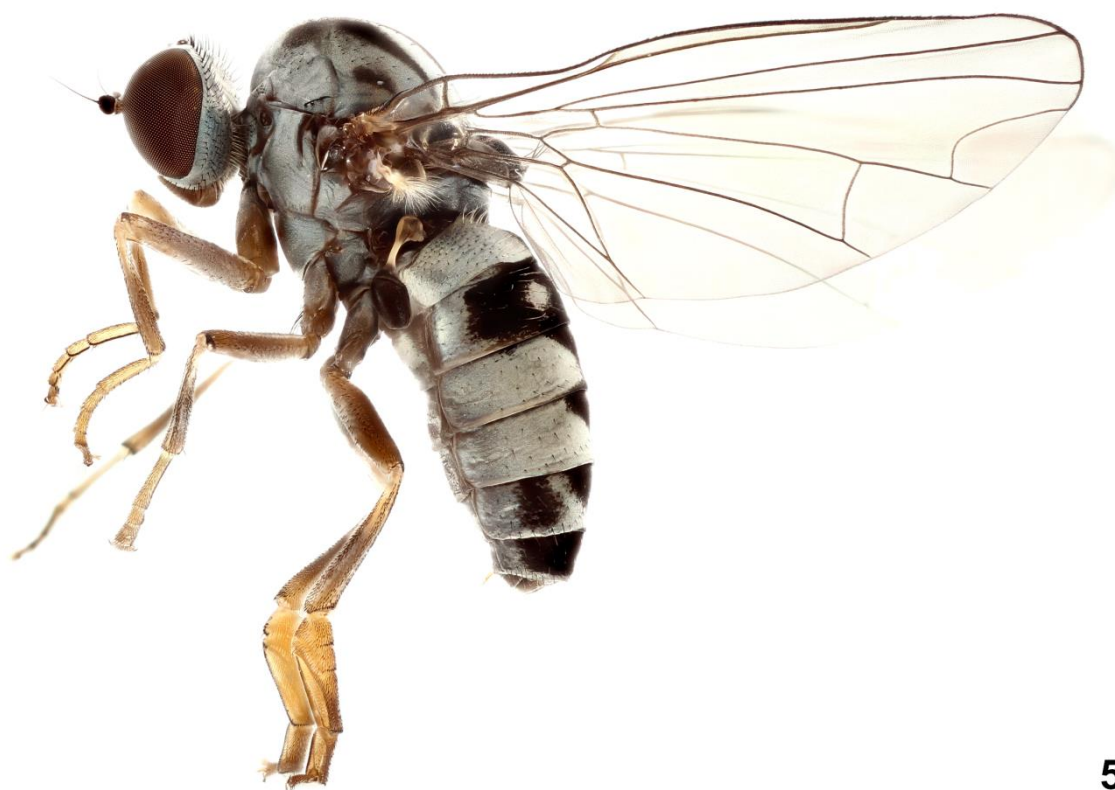


2

Figs 1-2: *Agathomyia cinerea* (Zetterstedt, 1852), lateral view of habitus. **1** – male; **2** – female.
Photo by M. Tkoč.



Figs 3-4: Forest habitats of *Agathomyia cinerea* (Zetterstedt, 1852), Bukovec Natural Reserve in Jizerské hory. 3 – northern hillside of Bukovec Mt.; 4 – Stary lom [=Old quarry]. Photo by M. Tkoč.



5

Fig. 5: *Polyporivora picta* (Meigen, 1830), lateral view of female habitus. Photo by M. Tkoč.

References

- Chandler P.J. (2001): The flat-footed flies (Diptera: Opetiidae, Platypezidae) of Europe. Fauna Entomologica Scandinavica, Vol. 36, E. J. Brill, Leiden – Boston – Köln, 276 pp.
- (2004): Platypezidae. In Pape T. & Beuk P. (eds): Fauna Europaea: Diptera, Brachycera. Fauna Europaea version 2.6.2, <<http://www.faunaeur.org>>. Retrieved 14.i.2016.
- Claussen C. (2013): Neue Nachweise von Sohlenfliegen (Diptera: Platypezidae) aus Schleswig-Holstein (Deutschland). – Studia Dipterol. 20(1): 3-21.
- Krivosheina N.P. (2008a): On biology of xylobiont platypezid larvae of the genus *Callomyia* (Diptera, Platypezidae). – Entomol. Rev. 88: 973-982.
- (2008b): On the larval morphology of flat-footed flies of the genera *Polyporivora*, *Seri*, and *Bolopus* (Diptera, Platypezidae) developing in fruit bodies of fungi. – Entomol. Rev. 88: 983-1001.
- Schacht W. & Heuck P. (2005): Weitere interessante Nachträge zu „Zweiflügler aus Bayern“ (Diptera: Tipulidae, Ditomyiidae, Mycetophilidae, Platypezidae, Pseudopomyzidae, Strongylophthalmyiidae, Psilidae, Chloropidae). – Entomofauna 26: 369-371.
- Ståhls G. (2014): Checklist of the families Opetiidae and Platypezidae (Diptera) of Finland. In Kahanpää J. & Salmela J. (eds): Checklist of the Diptera of Finland. – ZooKeys 441: 209-212.
- Tkoč M. (2011): New records of *Polyporivora picta* (Meigen, 1830) from the Czech Republic and Greece with notes on its larval biology and distribution in Europe (Diptera: Platypezidae). – Časopis Slezského Muzea Opava (A) 60: 263-267.
- Tkoč M., Mocek B. & Barták M. (2012): New and rare records of the flat-footed flies (Diptera: Platypezidae) from the Czech Republic and Slovakia. – Klapalekiana 48: 275-278.
- Vaňhara J. (2009): Platypezidae Fallén, 1815. In Jedlička L., Stloukalová V. & Kúdela M. (eds): Checklist of Diptera of the Czech Republic and Slovakia. Electronic version 2. <<http://http://www.edvis.sk/diptera2009/>> + CD-ROM: ISBN 978-80-969629-4-5.

Nové nálezy stlačenkovitých (Diptera: Platypezidae) z České Republiky a Čech

Druh stlačenkovitých *Agathomyia cinerea* (Zetterstedt, 1852) (Diptera: Platypezidae) je poprvé zaznamenán z České Republiky, na základě exemplářů nalezených v přírodní rezervaci Bukovec nedaleko osady Jizerka (obec Kořenov) v Jizerských horách a v okolí obce Svatý Petr v Krkonoších. Jsou podány informace o rozšíření, sezonním výskytu a charakteru stanoviště (habitatu) tohoto druhu. Navíc jsou poprvé z území Čech zaznamenány dva další druhy stlačenkovitých, *Polyporivora picta* (Meigen, 1830) a *Seri obscuripennis* (Oldenberg, 1916).

Author's address: Michal Tkoč, Department of Entomology, National Museum, Cirkusová 1740,
CZ-193 00 Praha 9 – Horní Počernice & Department of Zoology, Faculty of Science,
Charles University in Prague, Viničná 7, CZ-128 43 Praha 2, Czech Republic.
E-mail: michaltkoc@gmail.com