

New records of Tachinidae from Hungary (Diptera)

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Abstract – *Phebellia triseta* (Pandellé, 1896) and *Graphogaster vestita* Rondani, 1868 are reported from Hungary for the first time, and the occurrence of *Redtenbacheria insignis* Egger, 1861 (all Diptera: Tachinidae) in Hungary is confirmed.

Key words – faunistics, distribution, new data, Palaeartic Region, Bakony Mountains

INTRODUCTION

Tachinidae is the most species-rich family of calyptrate flies (Diptera: Brachycera), with ca. 2100 described species in the Palaeartic Region, and more than 8500 species worldwide (O'HARA *et al.* 2020). The family has been thoroughly studied in Hungary, particularly by Ferenc Mihályi and Sándor Tóth (e.g., MIHÁLYI 1986, TÓTH 2001, 2009, 2012, 2013). According to the most recent checklist (TÓTH 2013), the Hungarian fauna includes 432 species; nevertheless, several additional species are expected to occur. The most recent addition to the tachinid fauna of Hungary was *Trichopoda pictipennis* Bigot, 1876 (VARGA & HORVÁTH 2024).

In 2024 several entomological events were organised in the mountainous areas of Hungary (mostly in the Bakony and Bükk Mountains) by members of the Young Entomologists' Club. During these trips, more than 500 individuals pertaining to Calyptratae were collected by the author; the aim of this study is to report new faunistical records regarding Tachinidae.

All specimens were collected at light during nights; the white sheets were illuminated by 125 W HgLI E27 bulbs, combined with 25 W Sylvania UV compact lights. The light sources were always placed in forested areas or near the junction of different (i.e., forested and more open) habitats. All specimens mentioned below are preserved dry, pinned, and deposited in the Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Budapest (HNHM).

RESULTS AND DISCUSSION

Phebellia trisetata (Pandellé, 1896)
(Figs 1–2)

Material examined – Hungary: Győr-Moson-Sopron County, Bakonyszentlászló, Vinye, 5.VIII.2024, leg. N. Varga, Á. Horváth, Á. Mészáros, Á. Székely, B. P. Schlitt, B. Balogh, K. Mislai, M. Bernát & M. Cserepes, at light, one male.

Remarks – First record from Hungary. According to O'HARA *et al.* (2020), it has been known from Austria, Belgium, China (northeastern parts), Czech Republic, Finland, France, Germany, Netherlands, Poland, Russia (western parts), Sweden and Switzerland. MIHÁLYI (1986) mentioned that some species of the genus, including *Phebellia trisetata*, are expected to occur in Hungary. TÓTH (2013) mentioned four species in combination with the genus *Phebellia* Robineau-Desvoidy, 1846 as already recorded in Hungary, and one, *Phebellia glirina* (Rondani, 1859), as new to the country.

Since then, two of these, *Phebellia glauca* (Meigen, 1824) and *Phebellia glirina*, were transferred to *Melibaea* Robineau-Desvoidy, 1848 by ZEEGERS *et al.* (2023) and two other species, *Phebellia nigripalpis* (Robineau-Desvoidy, 1848) and *Phebellia stulta* (Zetterstedt, 1844), are now considered to belong to the re-established genus *Prooppia* Townsend, 1926 (WOOD 1987, O'HARA *et al.* 2020).

Identification – *Phebellia trisetata* can be distinguished from its congeners by the following combination of characters: usually 3 postsutural dc bristles present; scutellar marginal bristles not raised, rather horizontal; black posterior stripes present on hind margins of abdominal tergites 4 and 5; bristles above vibrissae reaching only up to the lower 1/4–1/5 of the facial ridges (MIHÁLYI 1986, TSCHORSNIG & HERTING 1994).



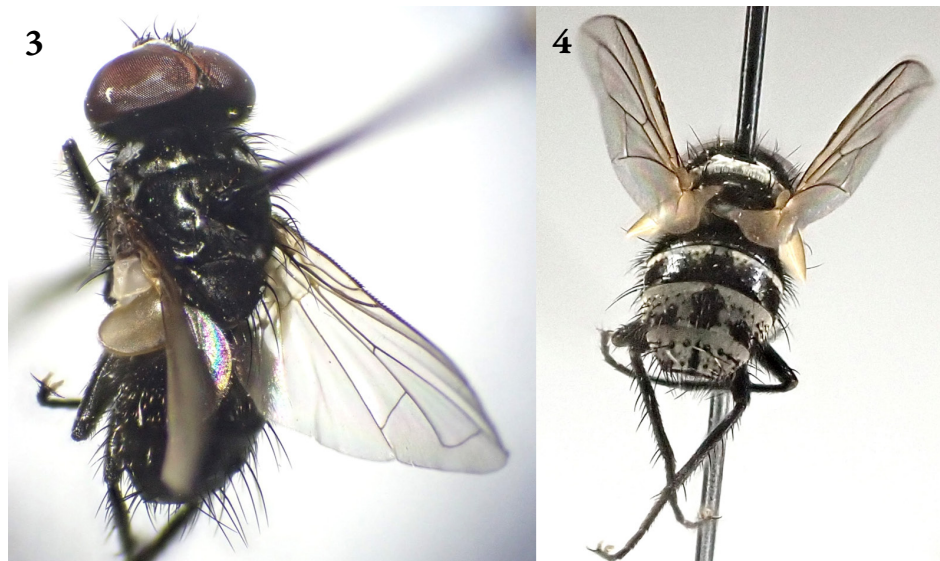
Figs 1–2. *Phebellia trisetata* (Pandellé, 1896) male, 1 = dorsal view, 2 = lateral view (photos by Nimród Varga)

Graphogaster vestita Rondani, 1868
(Figs 3–4)

Material examined – Hungary: Győr-Moson-Sopron County, Bakonyszentlászló, Vinye, 5.VIII.2024, leg. N. Varga, Á. Horváth, Á. Mészáros, Á. Székely, B. P. Schlitt, B. Balogh, K. Mislai, M. Bernát & M. Cserepes, at light, one male.

Remarks – Both the species and the genus *Graphogaster* Rondani, 1868 are newly recorded from Hungary. *Graphogaster vestita* is a widely distributed species, according to O'HARA *et al.* (2020) it has been reported from Bulgaria, Croatia, Georgia, Greece, Iran, Israel, Italy, Tunisia, Turkey, Portugal, Spain, Ukraine and western Russia. MIHÁLYI (1986) and TÓTH (2001) listed three species of the genus as expected to occur in Hungary. The most recent world checklist (O'HARA *et al.* 2020) does not mention any *Graphogaster* species from Hungary.

Identification – *Graphogaster* is characterised, among others, by the petiolated R5 cell; bare parafacials; the third antennal segment, which is not, or at most slightly longer than the second; bare eyes; hairy prosternum; rather wide, round abdomen; males with eyes touching or at least remarkably close to each other; and females with eyes widely separated. *Graphogaster vestita* has one substigmatal bristle pointing downwards and one upwards; males with a complete row of discal bristles on the fourth tergite and with largely black (shiny) thoracic dorsum, while females have thoracic dorsum almost completely grey-pollinose (MIHÁLYI 1986, TSCHORSNIG & HERTING 1994, CERRETTI 2010).



Figs 3–4. *Graphogaster vestita* Rondani, 1868 male, 3 = dorsal view, 4 = rear view
(photos by Nimród Varga)

Redtenbacheria insignis Egger, 1861
(Figs 5–7)

Material examined – Hungary: Heves County, Felsőtárkány, Hereg-rét, 7–8.VII.2024, leg. N. Varga & Á. Horváth, at light, one male; Győr-Moson-Sopron County, Bakonyszentlászló, Vinye, 5.VIII.2024, leg. N. Varga, Á. Horváth, Á. Mészáros, Á. Székely, B. P. Schlitt, B. Balogh, K. Mislai, M. Bernát & M. Cserepes, at light, three males, two females.

Remarks – According to O'HARA *et al.* (2020) and BRÜCKNER (2021), *Redtenbacheria insignis* has been reported so far from Austria, Bulgaria, China, Czech Republic, Denmark, France, Germany, Hungary, Italy, Japan, Lithuania, Poland, Russia, Serbia, Slovenia, Sweden, Switzerland, Transcaucasia, the Ukraine, the United Kingdom and Uzbekistan. ZEEGERS & GOUDSMITS (2022) reported this species as new to the Netherlands.

BRÜCKNER (2021) mentions Hungary as part of the distribution, based solely on the data from THALHAMMER (1899), who recorded it from “Fertő” (= Lake Neusiedl), without more precise locality. Thalhammer's collection, including the original voucher specimen(s), was almost completely destroyed by the fire in 1956 (FÖLDVÁRI & PAPP 2007). Interestingly, neither MIHÁLYI (1986) nor TÓTH (2013) mentioned this species in their checklists. Due to doubts about Thalhammer's data (it is unclear whether his specimens were collected within the present borders of Hungary) and the lack of any specimens from the country in the most important Hungarian Tachinidae collections, the specimens reported here are considered as voucher specimens confirming the occurrence of the species in Hungary.

This species is apparently rare, however, adults are particularly attracted to light (BRÜCKNER 2021). All the above reported specimens were also collected at light.



Figs 5–7. *Redtenbacheria insignis* Egger, 1861, 5 = female, dorsal view, 6 = male, dorsal view, 7 = male, lateral view (photos by Nimród Varga)

Identification – *Redtenbacheria insignis* is the only Central European species of the tribe Eutherini Townsend, 1912 and can be easily identified by the following characteristics: almost completely orange legs; enlarged eyes of males, being quite close to each other; open cell R5; unpatterned wings; a distinctly muscid-like appearance (BRÜCKNER 2021, TSCHORSNIG & HERTING 1994).

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REFERENCES

- BRÜCKNER C. 2021: Ist *Redtenbacheria insignis* Egger, 1861 (Diptera: Tachinidae) in der Region Berlin/Brandenburg erloschen? – *Märkische Entomologische Nachrichten* **23**: 101–124.
- CERRETTI P. 2010: *I tachinidi della fauna italiana (Diptera Tachinidae) con chiave interattiva dei generi ovest-paleartici. Vol. I. [Tachinid flies of the Italian fauna (Diptera Tachinidae) with interactive key to the Western Palaearctic genera. Vol. I.]* – Cierre edizioni, Verona, 573 pp.
- FÖLDVÁRI M. & PAPP L. 2007: Damage in the Diptera Collection of the HNHM, Budapest in the year of 1956. – *Studia Dipterologica* **14**: 25–26.
- MIHÁLYI F. 1986: Fűrészlegyek–Ászkalegyek. Tachinidae–Rhinophoridae. – In: SZÉKESY V. (ed.): *Magyarország Állatvilága. Fauna Hungariae. XV, 14–15*. Akadémiai Kiadó, Budapest, 425 pp.
- O'HARA J. E., HENDERSON S. J. & WOOD D. M. 2020: *Preliminary checklist of the Tachinidae of the world. Version 2.1*. Available from: <http://www.nadSDiptera.org/Tach/WorldTachs/Checklist/Worldchecklist.html> (accessed 31 January 2025)
- THALHAMMER J. 1899: Ordo Diptera. – In: PASZLAVSZKY J. (ed.): *A Magyar Birodalom Állatvilága. A Magyar Birodalomból eddig ismert állatok rendszeres lajstroma. [Fauna of the Hungarian Empire. A regular register of animals known so far from the Hungarian Empire.]* K. M. Természettudományi Társulat, Budapest, 76 pp.
- TÓTH S. 2001: Family Tachinidae. – In: PAPP L. (ed.): *Checklist of the Diptera of Hungary*. Hungarian Natural History Museum, Budapest, pp. 424–474.
- TÓTH S. 2009: *A Bakonyvidék fűrészlelgy faunája (Diptera: Tachinidae). (The tachinid flies fauna of the Bakony region (Diptera: Tachinidae).)* – Natural History Museum of Bakony Mountains, Zirc, 200 pp.

- TÓTH S. 2012: A Mátravidék fürkészlégy faunája (Diptera: Tachinidae). (The Tachinid fauna of the Mátra Region (Diptera: Tachinidae).) – *Folia Historico Naturalia Musei Matraensis* **6**: 1–194.
- TÓTH S. 2013: Magyarország fürkészlégy faunája (Diptera: Tachinidae). (Tachinid fauna of Hungary (Diptera: Tachinidae).) – *e-Acta Naturalia Pannonica* **5**(1): 1–325.
- TSCHORSNIG H. P. & HERTING B. 1994: Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. – *Stuttgarter Beiträge zur Naturkunde (A)* **506**: 1–170.
- VARGA N. & HORVÁTH D. 2024: Trichopoda pictipennis Bigot, 1876 in Hungary (Diptera: Tachinidae). – *Folia entomologica hungarica* **85**: 153–158.
<https://doi.org/10.17112/FoliaEntHung.2024.85.153>
- WOOD D. M. 1987: Tachinidae. – In: MCALPINE J. F. (ed.): *Manual of Nearctic Diptera, vol.2*. Agriculture Canada, Ottawa, pp. 1193–1269.
- ZEEGERS T. & GOUDSMITS K. 2022: Insectenfauna van Park Vliegbasis Soesterberg, Deel 1. De vliegen, bijen en wespen van de voormalige Vliegbasis Soesterberg. [Insect fauna of Soesterberg Air Base Park. Part 1. The flies, bees and wasps of the former Soesterberg Air Base.] – *Entomologische Berichten* **82**(2): 49–55.
- ZEEGERS T., RUCHIN A. & ESIN M. 2023: New species of tachinid flies (Diptera: Tachinidae) from Russia, mostly from Republic of Mordovia. – *Euroasian Entomological Journal* **22**: 85–94. <https://doi.org/10.15298/euroasentj.22.02.06>