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New species of *Rhamphomyia* (Diptera: Empididae) from Turkey with a key to species of the Middle East and adjacent territories

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Abstract

Rhamphomyia (s. str.) *academica* sp. nov. (Turkey) and *R.* (s. str.) *soukupi* sp. nov. (Turkey) are described and illustrated. *Rhamphomyia* (*Lundstroemiella*) *cimrmani* Barták, 2006, is re-described and the female is newly described. The first records of *Rhamphomyia* (s. str.) *argentata* von Röder, 1887 and *R.* (*Pararhamphomyia*) *intersita* Collin, 1960 are reported from Turkey. A key to species of *Rhamphomyia* from the Middle East is presented.

Key words: *Rhamphomyia*, Empidoidea, Empididae, Diptera, Palearctic Region, Turkey, new species, new records, species key

Introduction

Rhamphomyia Meigen is one of the three megadiverse groups of Empididae, alongside *Empis* Linnaeus and *Hilara* Meigen. Almost 600 species, distributed mostly in the Northern Hemisphere have been described worldwide (Yang *et al.* 2007; Barták & Kubík 2012; Saigusa 2012), but many more await description.

The Empididae fauna of Turkey has been studied recently especially by M.C. Çiftçi and co-workers (Çiftçi & Hasbenli 2007a, 2007b, 2007c; Çiftçi & Hasbenli 2008, 2011, 2013; Çiftçi, Pârvu *et al.* 2008; Çiftçi, Hasbenli *et al.* 2012; Çiftçi, Hasbenli & Koç 2012; Çiftçi, Hasbenli & Özgül 2012) and other scientists (Raffone 2007; Öz 2010).

The genus *Rhamphomyia* is insufficiently known from Turkey with scattered data published previously by Barták (2006), Barták *et al.* (2007), Barták & Kubík (2008, 2009, 2012), and Çiftçi & Hasbenli (2013). Altogether six species of *Rhamphomyia* from Turkey are listed in the above mentioned papers, viz. *R.* (*Lundstroemiella*) *cimrmani* Barták, *R.* (*Megacyttarus*) *crassirostris* (Fallén), *R.* (*Megacyttarus*) *maculipennis* Zetterstedt, *R.* (s. str.) *bohousi* Barták & Kubík, *R.* (s. str.) *karamanensis* Barták *et al.*, and *R.* (*Holoclera*) *tenuipes* Becker. This list is extended herein by two new species and two new records. *Rhamphomyia cimrmani* is re-described and the female of this species is described for the first time. This species was originally described after a single male specimen. Additional findings allowed us to describe the female, to specify broader variation range of male characters and to refine the differences from allied species, *i.e.*, *R. longefilata* Strobl.

Material and methods

The material studied is deposited in the collection of the Czech University of Life Sciences, Prague (CULSP).

Genitalia, together with the preceding 2–3 abdominal segments were removed from the rest of the body using small scissors and macerated in potassium hydroxide solution (approx. 10 %) in small vials submerged in hot water for 1–2 hours. After neutralizing with 8% acetic acid (5 min), the genitalia were dissected in glycerine and

- 34(31) Face narrow (0.04 mm at midlength), narrower than front ocellus. Both laterotergite and abdomen dark setose (Caucasus; genitalia illustrated by Barták 2004, figs 1 a–d) *R. (Megacyttarus) kovalevi* Barták (♂)
- Face broader (at least 0.10 mm at midlength). Both abdomen and laterotergite at least partly pale setose. (Additional characters: apical part of hind tibia with dorsal setae which are about 3/4 as long as the length of hind basitarsus. Ventral setae on hind basitarsus shorter than its diameter. Basitarsus of mid leg short setose dorsally) (Georgia; genitalia illustrated by Barták 2004, figs 3 a–d) *R. (Megacyttarus) tuberifemur* Barták (♂)
- 35(30) Cell dm not elongated to wing margin; wing with two dark spots *R. (Megacyttarus) maculipennis* (♀)
- Cell dm elongated nearly to wing margin; wing without dark spots *R. (Megacyttarus) crassirostris* (♀)
- 36(29) Mesoscutum lustrous, devoid of microtrichosity. (Additional characters: occiput entirely microtrichose, cercus narrower than epanthrium) (Temperate and South Europe, Caucasus; genitalia illustrated by Barták 1985, fig 10 b)
- *R. (Lundstroemiella) kerteszi* Oldenberg
- Mesoscutum microtrichose 37
- 37(36) Body entirely black setose. (Additional characters: phallus broadened apically as in species of *R. albosegmentata*-group) (Caucasus, female unknown; genitalia illustrated by Barták & Syrovátka 1983, figs 12, 15) *R. (s. str.) drahomirae* Barták
- Body at least partly pale (whitish-yellow) setose 38
- 38 (37) Hind basitarsus narrow. Male eyes contiguous on frons (Israel, Turkey; genitalia illustrated by Barták & Kubík 2009, figs 11, 12) *R. (Pararhamphomyia) intersita* Collin
- Hind basitarsus swollen. Male eyes separated on frons (Turkey) *R. (Lundstroemiella) cimmani* Barták

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References

- Barták, M. (1982) The Czechoslovak species of *Rhamphomyia* (Diptera: Empididae), with the description of a new species from Central Europe. *Acta Universitatis Carolinae-Biologica*, 1980 (1982), 381–461.
- Barták, M. (1985) A revision of the *Rhamphomyia* subgenus *Lundstroemiella* (Diptera, Empididae). *Acta Universitatis Carolinae - Biologica*, (1982–1984), 9–46.
- Barták, M. (2004) Revision of the *Rhamphomyia (Megacyttarus) poissoni*-group (Diptera, Empididae), including the description of two new species. *Studia dipterologica*, 11, 245–254.
- Barták, M. (2006) Three new West Palaearctic species of *Rhamphomyia* subgenus *Lundstroemiella* (Diptera, Empididae). *Biologia, Bratislava*, 61 (5), 503–508.
<http://dx.doi.org/10.2478/s11756-006-0083-z>
- Barták, M. & Kubík, Š. (2008) Four new West Palaearctic species of the *Rhamphomyia* (s. str.) (Diptera: Empididae). *Revue Suisse Zoologie*, 115 (1), 25–36.
- Barták, M. & Kubík, Š. (2009) *Rhamphomyia* (Diptera: Empididae) from Israel. *Annals of the Entomological Society of America*, 102 (3), 396–405.
<http://dx.doi.org/10.1603/008.102.0307>
- Barták, M. & Kubík, Š. (2012) A review of the Palaearctic species of *Rhamphomyia* subgenus *Holoclera* (Diptera: Empididae) with description of 5 new species. *Revue Suisse de Zoologie*, 119 (3), 385–407.
- Barták, M. & Syrovátka, O. (1983) Empididae (Diptera) from the Caucasus, with descriptions of seven new species. *Acta entomologica bohemoslovaca*, 80, 215–226.
- Barták, M., Çiftçi, M.C. & Hasbenli, A. (2007) A new species of *Rhamphomyia* (s. str.) Meigen (Diptera, Empididae) from southern Anatolia. *Entomological News*, 118 (2), 143–147.
[http://dx.doi.org/10.3157/0013-872x\(2007\)118\[143:ansors\]2.0.co;2](http://dx.doi.org/10.3157/0013-872x(2007)118[143:ansors]2.0.co;2)
- Çiftçi, M.C. & Hasbenli, A. (2007a) Contribution to *Empis* (Subgenera *Leptempis*, *Xanthempis* and *Lissempis*) (Empididae, Diptera) Fauna of Turkey. *International Journal of Dipterological Research*, 18 (3), 155–157.
- Çiftçi, M.C. & Hasbenli, A. (2007b) *Hilara regnealai* Pârveu (Diptera: Empididae), new record for Turkish fauna with female description. *Acta Entomologica Slovenica*, 15 (1), 65–68.
- Çiftçi, M.C. & Hasbenli, A. (2007c) Contribution to *Empis* (Subgenera *Euempis*, *Pachymeria*, *Polyblepharis*) (Empididae, Diptera) Fauna of Turkey. *Journal of the Entomological Research Society*, 9 (3), 7–14.
- Çiftçi, M.C. & Hasbenli, A. (2008) Contribution to the *Empis* (Subgenus *Empis*) (Empididae, Diptera) Fauna of Turkey. *Turkish Journal of Zoology*, 32 (2008), 433–435.
- Çiftçi, M.C. & Hasbenli, A. (2011) Two new species of *Hilara* (Diptera, Empididae) from northwestern Turkey. *Zootaxa*, 2928, 49–56.
- Çiftçi, M.C. & Hasbenli, A. (2013) New distributional data for the genera *Empis* Linnaeus and *Rhamphomyia* Meigen (Diptera:

- Empididae) in the Marmara Region with new records from Turkey. *Turkish Journal of Zoology*, 37 (5), 582–593.
<http://dx.doi.org/10.3906/zoo-1210-17>
- Çiftçi, M.C., Hasbenli, A. & Canpolat, D. (2012) Two new species of *Empis* (Diptera: Empididae) from Turkey. *Zootaxa*, 3406, 47–53.
- Çiftçi, M.C., Hasbenli, A. & Özgül, O. (2012) Two New Species of the *Hilara maura*-Group (Diptera: Empididae) From Turkey. *Florida Entomologist*, 95 (4), 1058–1065.
<http://dx.doi.org/10.1653/024.095.0435>
- Çiftçi, M.C., Hasbenli, A. & Koç, H. (2012) Three new species of *Hilara* Meigen (Diptera: Empididae) from Turkey. *Turkish Journal of Zoology*, 36 (6), 729–738.
- Çiftçi, M.C., Pârvu, C. & Hasbenli, A. (2008) A new *Hilara* Meigen (Diptera: Empididae) species from the eastern Mediterranean region of Turkey. *Entomological News*, 119 (1), 96–101.
[http://dx.doi.org/10.3157/0013-872x\(2008\)119\[96:anhmde\]2.0.co;2](http://dx.doi.org/10.3157/0013-872x(2008)119[96:anhmde]2.0.co;2)
- Collin, J.E. (1961) Empididae. In: *British Flies. Vol. 6*. University Press, Cambridge, viii + 782 pp.
- Merz, B. & Haenni, J.P. (2000) Morphology and terminology of adult Diptera. In: Papp, L. & Darvas, B. (Eds.), *Contributions to a Manual of Palaearctic Diptera. Volume 1. Science Herald*, Budapest, pp. 21–51.
- Öz, B. (2010) New records of aquatic Empididae (Insecta, Diptera) from Turkey. *Review of Hydrobiology*, 3 (1), 65–71.
- Raffone, G. (2007) On some specimens of Diptera Hybotidae and Empididae from Turkey and Iran. *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 25, 87–91.
- Saigusa, T. (2012) A new Asio-Nearctic subgenus of *Rhamphomyia* (Diptera: Empididae: Empidinae). *The Canadian Entomologist*, 144 (2), 291–322.
<http://dx.doi.org/10.4039/tce.2012.28>
- Sinclair, B.J. (2000) Morphology and terminology of Diptera male terminalia. In: Papp, L. & Darvas, B. (Eds.), *Contributions to a Manual of Palaearctic Diptera. Vol. 1*. Science Herald, Budapest, pp. 53–84.
- Sinclair, B.J. & Cumming, J.M. (2006) The morphology, higher-level phylogeny and classification of the Empidoidea (Diptera). *Zootaxa*, 1180, 1–172.
- Yang, D., Zhang, K.-Y., Yao, G. & Zhang, J.-H. (2007) *World Catalog of Empididae (Insecta: Diptera)*. China Agricultural University Press, Beijing, 599 pp.