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Contributions to the Empididae (Diptera) fauna of Turkey, with two new records

İki yeni kayıtla Türkiye Empididae (Diptera) faunasına katkılar

Okan ÖZGÜL¹

Hasan Sungur CİVELEK^{2*}

Summary

The study was carried out to contribute the Empididae (Diptera) fauna in Aydın, Isparta and Muğla provinces of Turkey in 2005. It was reported that four empidid species have been recorded in Turkey. Two of these species belonging to three genera were recorded for the first time for the Turkish Empididae fauna. These species are: *Chelifera precatoria* (Fallén) and *Rhamphomyia (Rhamphomyia) sulcatina* Collin. With this study, the number of empidid species is updated to 92 species in Turkey.

Key words: Diptera, Empididae, Turkey.

Özet

Bu çalışma Türkiye'nin Aydın, Isparta ve Muğla illerinde Empididae faunasına katkı sağlamak amacıyla 2005 yılında yapılmıştır. Türkiye'den dört empidid türü tespit edilmiştir. Üç cinse ait olan bu türlerden ikisi Türkiye Empididae Faunasına ilk kez kaydedilmektedir. Bu türler: *Chelifera precatoria* (Fallén) ve *Rhamphomyia (Rhamphomyia) sulcatina* Collin'dir. Bu çalışmayla, Türkiye'deki empidid türlerinin sayısı 92'ye yükselmiştir.

Anahtar sözcükler: Diptera, Empididae, Türkiye.

¹ Muğla Sıtkı Koçman University, Ula Ali Koçman Vocational High School, Ula, Muğla, Turkey

² Muğla Sıtkı Koçman University, Science Faculty, Department of Biology, Muğla, Turkey

* Sorumlu yazar (Corresponding author) e-mail: chasan@mu.edu.tr

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Introduction

Empididae commonly called balloon flies or dance flies, are found worldwide, but are most frequently encountered in temperate and mountain regions (Kraemer et al., 2005). There are over 3000 described species worldwide and they exhibit a greater diversity of form than almost any other family of Diptera. This diversity has led to the recent separation of the Empididae into four families (Hybotidae, Atelestidae, Microphoridae, and Empididae) by the raising of some subfamilies to family level. The Empididae family comprised several subfamilies Oreogetoninae, Empidinae, Hemerodromiinae, Clinocerinae, Ceratomerinae and Brachystomatinae (Chvála, 1983). Sinclair & Cumming (2006) have proposed a classification based on the most recent data only with Empidinae, Hemerodromiinae, Clinocerinae.

The adults are from 1 to about 15 mm long and often found in various forest habitats, on leaves, tree trunks, aquatic vegetation, or in stream beds and seepage habitats, although some taxa are associated with more open areas such as agricultural fields, grasslands, marshes, coastal zones and beaches (Chvála, 1983; Collin, 1961; Cumming & Cooper, 1992). Larval habitats range from aquatic to terrestrial and include such substrates as soil, leaf litter, dung, and rotten wood (Kraemer, 2005).

Empididae fauna of Turkey has been studied recently especially by Çiftçi and co-workers (Çiftçi & Hasbenli, 2007a, b, c; 2008; 2011; 2013; Çiftçi et al., 2008; Çiftçi et al., 2012a, b, c). So far, the known species number of empidids for Turkey has 90, of which five species belong to the genus *Rhamphomyia* Meigen (Çiftçi & Hasbenli, 2013) and one species belong to the genus *Chelifera* Macquart (Öz, 2010).

Material and Methods

Specimens were collected in 2005 and from the provinces of Aydın, Isparta and Muğla in Turkey. The adults were randomly collected using a sweep net. They were preserved either in 75% mixture of alcohol and glycerin (alcohol:glycerin = 3:1) solution or by pinning and drying. All specimens are deposited in the Entomological Museum of Muğla Sıtkı Koçman University, Muğla, Turkey. Chvála & Wagner (1989), Collin (1961), Engel (1938-1946), Wagner (1995), Wagner (1997), Niesiolowski (1988) and Vaillant (1978) were used for identification and nomenclature.

Results and Discussion

In this study, four empidid species were reported from research area. The taxa are presented alphabetically.

***Chelifera precatória* (Fallén, 1816)**

Tachydromia precatória Fallén 1816.

Material examined. Isparta, Yakiören Village, Milas Promenade, (37°44' N / 30°29' E), 1350 m, 19.V.2005, 1 ♂.

Palearctic distribution. Austria, Belgium, Bosnia and Herzegovina, Great Britain, Greece, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Yugoslavia, Ireland, Italy, Macedonia, Norway, Romania, Poland, Russia, Armenia, Estonia, Lithuania, Ukraine (Chvála, 2012); This species is new record for the Turkish fauna.

***Empis (Empis) woodi* Collin, 1927**

Empis (Empis) woodi Collin, 1927.

Material examined. Muğla, Yaraş Village, (37°10' N / 28° 28' E), 710 m, 08.IV.2005, 1 ♂.

Palearctic distribution. Great Britain, Bulgaria, Czech Republic, Germany, Hungary, Italy, Slovakia, Switzerland, Sweden, Holland (Chvála, 2012), Turkey (Çiftçi & Hasbenli, 2013).

Rhamphomyia (Megacyttarus) crassirostris* (Fallén, 1816)Empis crassirostris* Fallén, 1816.

Material examined. Aydın, Çine, Çulhalar Village, Çulhalar Stream, (37° 41' N / 28° 08' E), 695 m, 21.IV.2005, 1 ♂.

Palaeartic distribution. Austria, Great Britain, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Norway, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, Netherlands (Barták, 1982; Chvála & Wagner, 1989; Chvála, 2012), Turkey (Çiftçi & Hasbenli, 2013).

Rhamphomyia (Rhamphomyia) sulcatina* Collin, 1926Rhamphomyia (Rhamphomyia) sulcatina* Collin, 1926.

Material examined. Muğla, Yaraş Village, (37°10' N / 28° 28' E), 710 m, 08.IV.2005, 1 ♂.

Palaeartic distribution. Austria, Great Britain, Czech Republic, Finland, Germany, Hungary, Ireland, Norway, Romania, Russia, Slovakia, Sweden, Switzerland, Finland, Russia, Lithuania, Estonia, Ukraine (Chvála, 2012); This species is new record for the Turkish fauna.

Conclusion

It is obvious that Empididae fauna still poor in Turkey, because the Palaeartic region has got about 1050 described species. So far, 90 species belonging to Empididae fauna have been known from previous studies. Now the empidid species number in Turkey has increased to 92 with the records of 2 additional taxa. The known species number of the genus *Rhamphomyia* has increased to 6 and the known species number of the genus *Chelifera* has increased to 2 for Turkey. It is important to have recorded the existence of these two new species in terms of showing the biodiversity of Turkey.

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