

Orijinal araştırma (Original article)

A contribution to the Tachinidae (Diptera) fauna of Çorum Province in Turkey, with new records¹

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Çorum (Türkiye) ilinin Tachinid (Diptera: Tachinidae) faunasına yeni kayıtlar ile katkılar

Öz: Tachinidler (Diptera: Tachinidae) önemli bir parazitoit gruptur ve konukçularının önemli bir kısmını zararlı böcekler oluşturmaktadır. 2015-2016 yıllarında yürütülen bu çalışmada Çorum ilini temsil edecek şekilde seçilen 6 ilçede (Merkez ilçe, İskilip, Kargı, Laçın, Mecitözü, Sungurlu) Tachinidae familyasına ait türlerin tespit edilmesi amaçlanmıştır. Bu amaç doğrultusunda Çorum ilinin tarım ve doğal alanlarından toplanan Tachinidae erginlerine ilişkin teşhis işlemleri yürütülmüştür. Çalışma sonucunda, Exoristinae'den 13 cinse bağlı 14 tür, Tachininae'den 12 cinse bağlı 16 tür, Dexiinae'den 9 cinse bağlı 10 tür ve Phasiinae'den 6 cinse bağlı 12 tür olmak üzere toplamda 52 tür tespit edilmiştir. Bunlar içerisinde *Baumhaueria goniaeformis* (Meigen, 1824), *Billaea triangulifera* (Zetterstedt, 1844), *Dufouria chalybeata* (Meigen, 1824) ve *Dionaea aurifrons* (Meigen, 1824) türleri Türkiye böcek faunası için yeni kayıt niteliğindedir. Ayrıca *Baumhaueria* ve *Dionaea* cinsleri ülkemizde ilk defa bu çalışmada belirlenen türler ile temsil edilmişlerdir. Belirlenen türlerin Türkiye'deki dağılımları ve konukçuları hakkında bilgiler verilmiştir.

Anahtar kelimeler: Tachinidae, fauna, yeni kayıtlar, Çorum, Türkiye

Abstract: Tachinids (Diptera: Tachinidae) are an important group of parasitoids and the majority of their hosts are insects. In this study conducted in 2015-2016, the aim was to determine the species belonging to the family Tachinidae in 6 districts (Central, İskilip, Kargı, Lacin, Mecitözü and Sungurlu) of Çorum Province of Turkey. For this purpose, adult tachinid specimens were collected from agricultural, semi-natural and natural areas and identified. In total, 52 species from 4 subfamilies were identified. There were 13 genera and 14 species of Exoristinae, 12 genera and 16 species of Tachininae, 9 genera and 10 species of Dexiinae, and 6 genera and 12 species of Phasiinae. Among them *Baumhaueria goniaeformis* (Meigen, 1824), *Billaea triangulifera* (Zetterstedt, 1844), *Dufouria chalybeata* (Meigen, 1824) and *Dionaea aurifrons* (Meigen, 1824) were recorded for the

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first time in Turkey. In addition, the genera *Baumhaueria* and *Dionaea* are also reported for the first time from Turkey. The Turkish distributions and host data of the species are also given.

Keywords: Tachinidae, fauna, new records, Çorum, Turkey

Introduction

The order Diptera, comprising more than 150.000 species in about 150 families, is one of the most diverse groups of insects (Yeates et al. 2007). The family Tachinidae is among its largest families, with about 8.540 species known worldwide and more than 2.100 species in the Palaearctic region (O'Hara et al. 2019). Approximately 340 species of the family have been recorded in Turkey (Kara et al. 2020).

All known tachinid species are parasitoids. About 16.000 species of Diptera are parasitoids and more than half of them are tachinids (O'Hara, 2008). Although many of the hosts of tachinids are still unknown, the species mainly parasitise the larvae of lepidopterans, while other hosts belong to the orders Coleoptera, Hemiptera, Hymenoptera, Orthoptera and Diptera (Grenier, 1988; Stireman et al. 2006). The most comprehensive catalog of Palaearctic hosts of the Tachinidae was compiled by Tschorsnig (2017). A detailed host catalog of Turkish hosts of tachinids has been compiled by Kara & Tschorsnig (2003).

Although there have been some studies of the species richness of the family Tachinidae in Turkey, the number of these studies is relatively low overall (Doğanlar, 1975; Kara, 1998; Aksu, 2005; Korkmaz, 2007; Atay & Kara, 2014; Lekin et al. 2016b; Balkan et al. 2015; Atay 2017; Lutovinovas et al. 2018). For example, for Çorum Province, only one species had been recorded (Tuatay et al. 1972). Therefore, the purpose of the current research was to determine the tachinid species in different habitats in Çorum Province, Turkey.

Materials and methods

Tachinid specimens were collected from various habitats in six districts in Çorum Province (Central, İskilip, Kargı, Laçın, Mecitözü and Sungurlu districts) of Turkey in the summers of 2015 and 2016 (Figure 1). The samples were collected randomly from crop, forest, weed and ornamental plants with an insect net. After collection, the flies were killed with ethyl acetate and brought to the laboratory and prepared with standard museum methods.

The species were identified by using the keys of Mesnil (1944-1965), Herting, (1963; 1977), Tschorsnig & Herting (1994) and Tschorsnig & Richter (1998). The nomenclature and arrangement of tachinids follows that of Herting and Dely-Draskovits (1993). The specimens were deposited in the Plant Protection Museum, Tokat Gaziosmanpaşa University, Agriculture Faculty, Plant Protection Department, Tokat, Turkey.

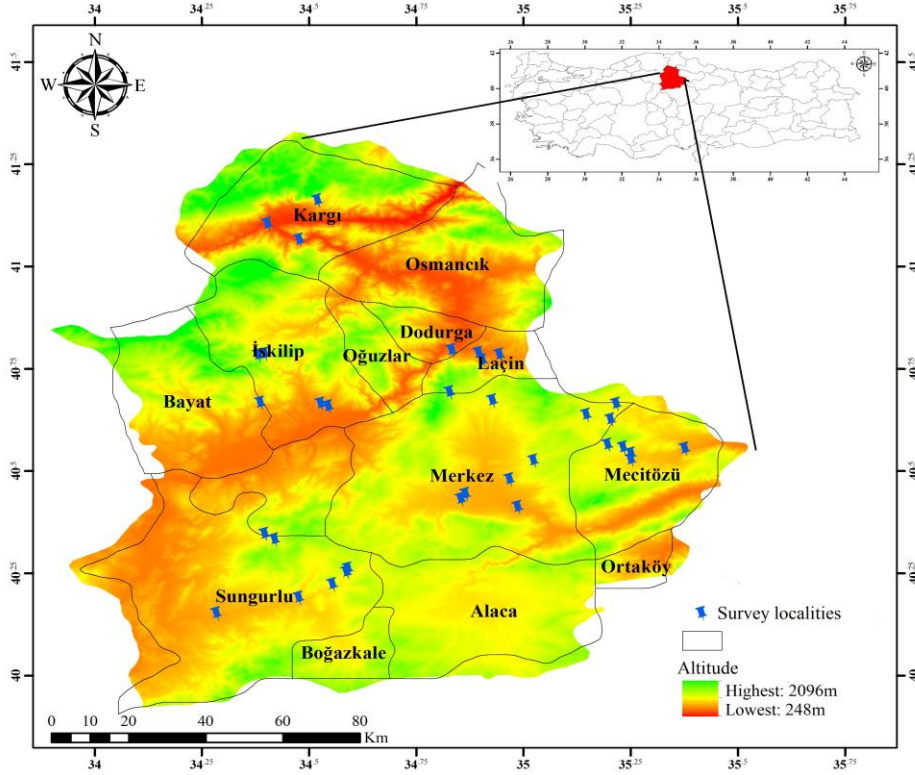


Figure 1. Study area

Results and discussion

A total of 52 species were collected in six districts of Çorum Province. The four species marked in the text with an asterisk are new records for the Turkish fauna. In addition, the genera *Baumhaueria* and *Dionaea* are reported for the first time from Turkey.

Subfamily: Exoristinae

Exorista segregata (Rondani, 1859)

Material examined: Mecitözü: Alören, N 40°33'40", E 035°11'53", 1038m, 31.VII.2016, 1♂.

Distribution in Turkey: İstanbul (Schimitschek, 1944), Trakya (Gürses, 1975), Erzurum (Doğanlar, 1975; Doğanlar, 1982a; Heaeselbarth, 1983; Kılıç & Alaoğlu, 1996; Özbek & Çoruh, 2012), Erzurum, Nevşehir, İstanbul, Kırklareli (Heaeselbarth, 1983), Ankara, Kırşehir, Niğde (Kansu et al., 1986), Isparta (Avcı & Kara, 2002), Hatay (Mückstein et al. 2004), Afyonkarahisar, Burdur, Isparta (Avcı,

2009), Tokat (Kara & Alaoğlu, 2001; Atay & Kara, 2014), Adana (Akdağcık, 2010); Nevşehir (Bartsch & Tschorsnig, 2010); Burdur, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Thaumetopoea pityocampa* (Lep.: Thaumetopoeidae) (Schimitschek, 1944; Avcı & Oğurlu, 2002), *Euproctis chryssorrhoea* (Lep.: Lymantriidae) (Gürses, 1975), *Euproctis* sp. (Dağanlar, 1982a), *Leucoma salicis* (Doğanlar, 1975, 1982a; Kansu et al., 1986; Kılıç & Alaoğlu, 1996; Kara & Alaoğlu, 2001), *Phalera bucephala* (Lep.: Notodontidae) (Doğanlar, 1982a), *Simyra dentinosa* (Herting, 1960, Atay & Kara, 2014), *Aporia crataegi* (Lep.: Pieridae) (Kansu et al. 1986), *Pieris* sp. (Lep.: Pieridae) *Thaumetopoea ispartaensis* (Lep.: Thaumetopoeidae), *Lymantria dispar* (Lep. Lymantriidae) (Kara & Tschorsnig, 2003; Avcı, 2009), *Inachis io* (Lep.: Nymphalidae) (Kara & Tschorsnig, 2003), *Piers brassicae* (Lep.: Pieridae) (Akdağcık, 2010), *Parocneria terebinthi* (Kara & Alaoğlu, 2001), *Cucullia lanceolata* (Mückstein et al. 2004), *Hyles siehei* Püngeler (Lep.: Siphingidae) (Bartsch & Tschorsnig, 2010), *Zygaena carniolica* Scopoli (Lep.: Zygaenidae) (Tschorsnig, 2017).

***Exorista rustica* (Fallén, 1810)**

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♂.

Distribution in Turkey: Amasya (Kara, 2001b), Tokat (Kara & Alaoğlu, 2002), Kastamonu, Karabük, Zonguldak (Korkmaz, 2007); Muğla (Lutovinovas et al. 2018).

***Zaira cinerea* (Fallén, 1810)**

Material examined: İskilip: Kılıçdere, N 40°39'16", E 034°32'45", 584m, 20.VI.2015, 1♂.

Distribution in Turkey: Erzurum (Doğanlar, 1982b), Muğla (Lutovinovas et al. 2018).

***Aplomya confinis* (Fallén, 1820)**

Material examined: Kargı: Çeltiközü, N 41°06'04", E 034°24'13", 370m, 02.V.2015, 1♂.

Distribution in Turkey: Tokat (Kara & Alaoğlu, 2002), Zonguldak (Korkmaz, 2007), Elazığ (Bolu & Çınar, 2005; Bolu & Kara, 2006), Eskişehir (Kara & Aksu, 2007), Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Nordmannia acaciae* (Fabricius) (Lep.: Lycaenidae) (Bolu & Kara, 2006).

***Phebellia nigripalpis* (Robineau-Desvoidy, 1847)**

Material examined: Kargı: Uzunyurt, N 41°09'32", E 034°31'16", 854m, 18.VI.2016, 1♀.

Distribution in Turkey: Muğla (Lutovinovas et al. 2018).

Epicampocera succincta (Meigen, 1824)

Material examined: Sungurlu: Çavuşköy, N 40°11'14", E 034°28'37", 710m, 17.VIII.2016, 1♂.

Distribution in Turkey: Tokat (Kara & Alaoğlu 2002), Amasya (Kara 2001b), Eskişehir (Aksu, 2005), Zonguldak (Korkmaz, 2007), Kastamonu (Atay, 2017).

Hosts in Turkey: *Papilio machaon* Linnaeus (Lep.: Papilionidae) (Tschorsnig, 2017).

Phryxe vulgaris (Fallén, 1810)

Material examined: Laçın: Kavaklıçiftlik, N 40°47'06", E 034°53'49", 570m, 16.V.2015, 1♀.

Distribution in Turkey: Ankara (Tuatay et al. 1972), Uşak, Denizli (Öncüer et al. 1977), İzmir (Uzun, 1987), Erzurum (Avcı & Özbek, 1990), Tokat (Kara, 1998; Atay & Kara, 2014), Nevşehir (Kara & Özdemir, 2000).

Hosts in Turkey: *Pieris rapae* (L.) (Lep.: Pieridae) (Avcı & Özbek, 1990), *Euproctis chryorrhoea* L. (Lep.: Lymantriidae) (Öncüer et al. 1977; Kara & Tschorsnig, 2003; Atay & Kara, 2014), *Pieris brassicae* L. (Tuatay et al. 1972; Uzun, 1987), *Aglais urticae* (L.) (Lep.: Nymphalidae) (Kara, 1998).

Senometopia separata (Rondani, 1859)

Material examined: İskilip: Kılıçdere, N 40°39'41", E 034°31'42", 625m, 20.VI.2015, 2♂, 1♀.

Distribution in Turkey: Bingöl, Erzurum (Doğanlar, 1975, 1982a), Tokat (Kara, 1998; Atay & Kara, 2014).

Hosts in Turkey: *Acronicta aceris* L., *A. megacephala* (Den. et Schiff.), *Acronicta* sp. (Lep.: Noctuidae) (Doğanlar, 1975; 1982a), *Lymantria dispar* L. (Lep.: Lymantriidae) (Doğanlar, 1982a; Kansu, 1955; Kara, 1998; Atay & Kara, 2014).

Clemelis pullata (Meigen, 1824)

Material examined: Sungurlu: Arifegazili, N 40°13'12", E 034°33'21", 938m, 18.V.2015, 1♂; İskilip: Kılıçdere, N 40°39'41", E 034°31'42", 625m, 20.VI.2015, 1♂.

Distribution in Turkey: Tokat (Kara & Alaoğlu, 2002), Eskişehir (Aksu, 2005), Kastamonu (Atay, 2017), Muğla (Lutovinovas et al. 2018).

Pales processioneae Ratzeburg, 1840

Material examined: İskilip: Karagöz, N 40°46'59", E 034°23'52", 1074m, 07.V.2016, 1♀.

Distribution in Turkey: Isparta (Avcı & Kara, 2002), Kırklareli (Cerretti, 2005).

Hosts in Turkey: *Lymantria dispar* (Linnaeus, 1758) (Lep.: Lymantriidae) (Herting, 1980), *Thaumetopoea ispartaensis* Doğanlar & Avcı, 2001 (Lepidoptera: Notodontidae) (Kara & Tschorsnig, 2003).

Ocytata pallipes (Fallén, 1820)

Material examined: İskilip: Kılıçdere, N 40°39'41", E 034°31'42", 625m, 29.IV.2016, 1♀; Merkez: Akçakaya, N 40°40'09", E 034°55'44", 925m, 21.V.2016, 1♀.

Distribution in Turkey: Muğla (Lutovinovas et al. 2018).

Masicera pavoniae (Robineau-Desvoidy, 1830)

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♀, Sungurlu: Çavuşköy, N 40°11'14", E 034°28'37", 710m, 17.VIII.2016, 2♀.

Distribution in Turkey: İstanbul (Schimitschek, 1944), Nevşehir (Tschorsnig, 2017).

Hosts in Turkey: *Saturnia pyri* Denis & Schiffermüller (Lep.: Saturniidae) (Tschorsnig, 2017).

****Baumhaueria goniaeformis*** (Meigen, 1824)

Material examined: Merkez: Şirinevler, N 40°37'21", E 035°12'16", 965m, 25.IV.2015, 1♂; Laçın: Kuyumcu, N 40°47'33", E 034°50'02", 516m, 16.V.2015, 1♀.

Remarks: This species and genus are new records for Turkey.

Gonia ornata (Meigen, 1826)

Material examined: Sungurlu: Gafurlu, N 40°14'59", E 034°35'19", 987 m, 18.V.2015, 1♀.

Distribution in Turkey: Konya, (Tuatay et al. 1972), Bingöl, Erzincan, Erzurum (Doğanlar, 1982a), Eskişehir (Aksu, 2005).

Subfamily: Tachininae***Tachina fera*** (Zetterstedt, 1844)

Material examined: Merkez: Akçakaya, N 40°40'09", E 034°55'44", 925m, 21.V.2016, 1♀; İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂, 1♀.

Distribution in Turkey: Bingöl, Erzurum (Doğanlar 1982b), Tokat (Kara, 1999b; Lakin et al. 2016b), Kastamonu (Korkmaz, 2007; Atay, 2017), Bolu, (Atay, 2017), Muğla (Lutovinovas et al. 2018).

Tachina lurida (Fabricius, 1781)

Material examined: İskilip: Karagöz, N 40°46'59", E 034°23'52", 1074m, 07.V.2016, 1♀.

Distribution in Turkey: Muğla (Lutovinovas et al. 2018).

Tachina praeceps Meigen, 1824

Material examined: Mecitözü: Alören, N 40°33'40", E 035°11'53", 1038m, 31.VII.2016, 1♀.

Distribution in Turkey: Edirne, Kırklareli, Tekirdağ (Gürses, 1975), Uşak (Öncüer et al., 1977), Ardahan, Erzurum (Doğanlar, 1975; Doğanlar, 1982b; Heaeselbarth, 1983; Özbek & Çoruh, 2012), Kırşehir, Niğde, Nevşehir (Kansu et al. 1986), Tokat (Kara, 1999a), Niğde (Kara & Özdemir, 2000).

Hosts in Turkey: Arctiidae sp., *Malacosoma* sp. (Doğanlar, 1975), *Malacosoma castrensis* (Lep.: Lasiocampidae), *Malacosoma franconica*, *Malacosoma alpicola* (Doğanlar 1982b), *Malacosoma neustria* (Kara & Tschorsnig, 2003; Özbek & Çoruh, 2012), *Euproctis chryorrhoea* (Lep.: Lymantriidae) (Gürses, 1975; Öncüer et al., 1977; Kansu et al., 1986; Kara Özdemir 2000; Kara & Tschorsnig, 2003), *Euproctis* sp. (Doğanlar 1982b), *Nymphalis xanthomelas* (Lep.: Nymphalidae) (Mückstein et al. 2004).

Peleteria rubescens (Robineau-Desvoidy, 1830)

Material examined: Sungurlu: Arifegazili, N 40°13'12", E 034°33'21", 938m, 18.V.2015, 1♀.

Distribution in Turkey: Erzurum (Doğanlar, 1975), Tokat (Kara, 1999a; Lekin et al. 2016), Ankara (Khan & Özer, 1984; Kansu et al. 1986; Kara & Özdemir, 2000), Zonguldak (Korkmaz, 2007), Sakarya (Balkan et al. 2015).

Hosts in Turkey: *Malacosoma castrensis* (Linnaeus, 1758) (Lep.: Lasiocampidae) (Doğanlar, 1975), *Agrotis* sp. (Lep.: Noctuidae) (Khan & Özer, 1984; Kansu et al. 1986; Kara & Özdemir, 2000).

Peleteria iavana (Wiedemann, 1819)

Material examined: Sungurlu: Ortaköy, N 40°20'34", E 034°23'52", 971m, 06.VIII.2016, 2♀; Merkez: Bozboğa, N 40°25'41", E 034°51'18", 726m, 20.VIII.2016, 2♀.

Distribution in Turkey: Amasya (Kara, 2001b), Tokat (Lekin et al. 2016b).

Nemoraea pellucida (Meigen, 1824)

Material examined: Laçın: Çamlıca, N 40°46'51", E 034°56'44", 522m, 30.VII.2016, 4♀; İskilip: Kayaağzı, N 40°39'50", E 034°23'14", 737m, 26.VIII.2016, 1♀.

Distribution in Turkey: Bingöl (Doğanlar, 1982b), Samsun (Tuncer & Ecevit, 1996; Sullivan et al. 2012), Sakarya (Balkan et al., 2015), Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Hyphantria cunea* (Drury) (Lep.: Arctiidae) (Tuncer & Ecevit, 1996; Kara & Tschorsnig, 2003; Sullivan et al. 2012).

Linnaemya vulpina (Fallén, 1810)

Material examined: Merkez: Akçakaya, N 40°40'09", E 034°55'44", 925m, 21.V.2016, 5♂, 1♀; Sungurlu: Ortaköy, N 40°20'34", E 034°23'52", 971m, 06.VIII.2016, 2♂.

Distribution in Turkey: Eastern Mediterranean Region (Sertkaya & Bayram, 2005), Bartın (Korkmaz, 2007), Eskişehir (Kara & Aksu, 2007), Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Leucania loreyi* Duponchel (Lep.: Noctuidae) (Sertkaya & Bayram, 2005).

Zophomyia temula (Scopoli, 1763)

Material examined: Mecitözü: Köprübaşı, N 40°32'21", E 035°15'08", 850m, 01.V.2016, 3♂; N 40°31'20", E 035°15'00", 800m, 01.V.2016, 1♀.

Distribution in Turkey: Tokat (Kara, 1999a).

Macquartia tenebricosa (Meigen, 1824)

Material examined: Laçın: Kavaklıçiftlik, N 40°47'06", E 034°53'49", 570m, 16.V.2015, 1♀; Mecitözü: Köseeyüp, N 40°33'04", E 035°22'39", 700m, 19.V.2015, 3♀; İskilip: Kayaagzı, N 40°39'50", E 034°23'14", 737m, 13.VI.2016, 1♂.

Distribution in Turkey: Tokat (Kara, 1999a; Atay, 2018), Adana (Anay, 2000), Amasya (Kara, 2001b), Bartın (Korkmaz, 2007), Aydın, Muğla (Lutovinovas et al. 2018).

Macquartia tessellum (Meigen, 1824)

Material examined: Kargı: Çeltiközü, N 41°06'04", E 034°24'13", 370m, 02.V.2015, 1♂.

Distribution in Turkey: Erzurum (Doğanlar, 1982b), Tokat (Kara, 1999a), Muğla (Lutovinovas et al., 2018).

Actia crassicornis (Meigen, 1824)

Material examined: Sungurlu: Çavuşköy, N 40°11'14", E 034°28'37", 710m, 17.VIII.2016, 1♀.

Distribution in Turkey: No locality information was provided (Çanakcıoğlu, 1993).

Hosts in Turkey: *Tortrix viridana* (Lep.: Tortricidae) (Çanakcıoğlu, 1993).

Peribaea apicalis Robineau-Desvoidy, 1863

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♀.

Distribution in Turkey: Muğla (Lutovinovas et al. 2018).

Aphria longirostris (Meigen, 1824)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂.

Distribution in Turkey: Kayseri (Atay et al. 2015).

Bithia maculifacies Tschorsnig & Kara, 2002

Material examined: Mecitözü: Köprübaşı, N 40°31'28", E 035°15'06", 829m, 01.V.2016, 1♂.

Distribution in Turkey: Tokat (Tschorsnig & Kara, 2002).

Zimnia masiceraeformis (Portschinsky, 1881)

Material examined: İskilip: Kayaagzı, N 40°39'50", E 034°23'14", 737m, 09.VI.2016, 1♀.

Distribution in Turkey: Kars (Doğanlar, 1982b)

Microphthalma europaea Egger, 1860

Material examined: İskilip: Kılıçdere, N 40°39'41", E 034°31'42", 625m, 20.VI.2015, 4♂, 1♀.

Distribution in Turkey: Aydın, Diyarbakır, Eskişehir (Karagöz et al. 2011), Sakarya (Balkan et al., 2015), Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Polyphylla fullo* L. (Col.: Scarabaeidae) (Karagöz et al. 2011).

Subfamily: Dexiinae

Billaea adelpha (Loew, 1873)

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♂.

Distribution in Turkey: Tokat (Kara, 2001a).

**Billaea triangulifera* (Zetterstedt, 1844)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♀.

Remarks: This species is a new record for Turkey.

Dinera carinifrons (Fallén, 1817)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂.

Distribution in Turkey: Erzurum (Doğanlar, 1982b), Kars (Ziegler et al. 2016).

Zeuxia erythraea (Egger, 1856)

Material examined: Merkez: Ovasaray, N 40°24'30", E 034°59'16", 911m, 14.V.2016, 1♂.

Distribution in Turkey: Erzurum (Doğanlar, 1982b).

Eriothrix rufomaculata (De Geer, 1776)

Material examined: Merkez: Şirinevler, N 40°37'21", E 035°12'16", 965m, 25.IV.2015, 1♂; Laçın: Merkez, N 40°46'03", E 034°54'22", 754m, 01.V.2015, 1♂, 1♀; Laçın: Kavaklıçiftlik, N 40°47'06", E 034°53'49", 570m, 16.V.2015, 1♂; Laçın: Kuyumcu, N 40°47'33", E 034°50'02", 516m, 16.V.2015, 2♂; Merkez: Eskice, N 40°38'03", E 035°08'52", 1070m, 17.V.2015, 12♂, 2♀; Sungurlu: Gafurlu, N 40°15'10", E 034°35'30", 1012m, 18.V.2015, 2♂, 2♀; Mecitözü: Kuyucak, N 40°39'39", E 035°13'03", 925m, 01.V.2016, 1♀; Merkez: Ovasaray, N 40°24'30", E 034°59'16", 911m, 14.V.2016, 1♂, 1♀; Merkez: Çatak, N 40°41'22", E 034°49'45", 1255m, 21.V.2016, 1♀; Mecitözü: Köprübaşı, N 40°31'28", E 035°15'06", 829m, 01.VI.2016, 3♂; Merkez: Ovakarapınar, N 40°28'34", E 034°58'08", 812m, 14.VI.2016, 1♀.

Distribution in Turkey: Erzurum (Doğanlar 1982b), Tokat (Kara, 1999b; Lekin et al. 2016b), Bartın, Kastamonu, Zonguldak (Korkmaz, 2007), Sakarya (Balkan et al. 2015), Muğla (Lutovinovas et al. 2018).

Periscepsia carbonaria (Panzer, 1798)

Material examined: Merkez: Kadıkırı, N 40°26'26", E 034°51'57", 738m, 02.VIII.2016, 1♀; Merkez: Şirinevler, N 40°37'21", E 035°12'16", 965m, 25.IV.2015, 1♂.

Distribution in Turkey: Denizli (Kavut et al. 1974), Ankara (Khan & Özer, 1984; Kansu et al. 1986; Bayram, 1987; Bayram & Kılınçer, 1987; Kara & Özdemir, 2000), Eskişehir (Kara & Aksu, 2007), Tokat (Lekin et al. 2016), Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Agrotis ipsilon* Hufnagel. (Lep.: Noctuidae) (Kavut et al. 1974; Khan & Özer 1984), *Agrotis segetum* Denis & Schiffermüller (Khan & Özer 1984; Bayram & Kılınçer, 1987), *Agrotis* sp. (Kansu et al. 1986; Kara & Özdemir, 2000).

Voria ruralis (Fallén, 1810)

Material examined: Laçın: Kavaklıçiftlik, N 40°47'06", E 034°53'49", 570m, 16.V.2015, 1♀; Mecitözü: Köseyüp, N 40°33'04", E 035°22'39", 700m, 19.V.2015, 2♀; Kargı: Obruk, N 41°03'44", E 034°28'42", 457m, 18.VI.2016, 1♀.

Distribution in Turkey: İzmir (Kavut et al. 1974), Erzurum (Avcı & Özbek, 1990), Tokat (Kara, 1999b), Adana (Anay, 2000), Niğde (Kara & Özdemir, 2000), Amasya (Kara, 2001b), Karabük (Korkmaz, 2007), Hatay (Kaya & Kornoşor, 2008), Tokat (Lekin et al. 2016), Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Spodoptera exigua* (Hübner, 1808) (Lep.: Noctuidae) (Steiner, 1937), *Autographa gamma* (Linnaeus, 1758) (Lep.: Noctuidae) (Kavut et al. 1974; Avcı & Özbek, 1990; Anay, 2000; Kara & Özdemir, 2000), *Helicoverpa armigera* (Hübner, 1808) (Lep.: Noctuidae) (Anay, 2000); Plusiinae sp. (Lep.: Noctuidae) (Kaya & Kornoşor, 2008).

Cyrtophleba ruricola (Meigen, 1824)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂.

Distribution in Turkey: Antalya, Burdur, Konya, Van (Sahebari et al. 2014).

Klugia marginata (Meigen, 1824)

Material examined: Laçın: Kavaklıçiftlik, N 40°47'06", E 034°53'49", 570m, 16.V.2015, 1♂; Sungurlu: Gafurlu, N 40°14'59", E 034°35'19", 987m, 18.V.2015, 2♂.

Distribution in Turkey: Tokat (Kara, 1999b).

**Dufouria chalybeata* (Meigen, 1824)

Material examined: Merkez: Ovasaray, N 40°24'30", E 034°59'16", 911m, 14.V.2016, 1♂, 1♀.

Remarks: This species is a new record for Turkey.

Subfamily: Phasiinae

Eliozeta helluo (Fabricius, 1805)

Material examined: Mecitözü: Kuyucak, N 40°39'39", E 035°13'03", 925m, 01.V.2016, 1♀; İskilip: Kılıçdere, N 40°39'41", E 034°31'42", 625m, 29.IV.2016, 3♂; Merkez: Ovasaray, N 40°24'30", E 034°59'16", 911m, 14.V.2016, 3♂, 2♀; Mecitözü: Köprübaşı, N 40°31'20", E 035°15'00", 800m, 01.V.2016, 6♂, 2♀.

Distribution in Turkey: Diyarbakır (Zwölfer, 1932; Dupuis, 1963; Yüksel, 1968; Gözüaçık et al. 2010; Duman & Sertkaya, 2015), Kilis (Lodos, 1961; İslamoğlu & Kornoşor, 2003), Gaziantep, (Brown, 1962; İslamoğlu & Kornoşor, 2003; Gün, 2010), Ankara, Çorum (Tuatay et al. 1972; Memişoğlu & Özer, 1994), The Mediterranean region (Şimşek et al. 1994), Tekirdag (Öncüer & Kıvan, 1995; Kıvan 1996), Tokat (Kara, 1998), Zonguldak (Korkmaz, 2007). Kahramanmaraş (İslamoğlu & Kornoşor, 2007), Adıyaman, Batman, Mardin, Siirt, Şanlıurfa, Şırnak (Gözüaçık et al., 2010), Adıyaman, Hatay (Gün, 2010), Adana, Adıyaman (Tschorsnig, 2017), Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Eurygaster integriceps* (Het.: Scutelleridae), (Zwölfer 1932; Brown 1962; Dupuis, 1963; Lodos, 1986; Şimşek et al. 1994; Öncüer & Kıvan 1995; Kıvan, 1996; İslamoğlu & Kornoşor, 2003; 2007; Gözüaçık et al. 2010; Gün, 2010; Duman & Sertkaya 2015; Tschorsnig, 2017), *E. maura* (Het.: Scutelleridae) (Tuatay et al. 1972; Memişoğlu & Özer, 1994; Tschorsnig, 2017).

Eliozeta pellucens (Fallén, 1820)

Material examined: Merkez: Ovasaray, N 40°24'30", E 034°59'16", 911m, 14.V.2016, 1♀.

Distribution in Turkey: Tokat (Kara & Bayram, 1999), Zonguldak (Korkmaz, 2007).

Clytiomya sola (Rondani, 1861)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂.

Distribution in Turkey: Konya (Tuatay et al. 1972), Manisa, İzmir (Karsavuran & Kara, 2003), Çorum Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Ancyrosoma leucogrammes* (Het.: Pentatomidae) (Karsavuran & Kara, 2003), *Carpocoris* sp. (Het.: Pentatomidae) (Tuatay et al. 1972), *Graphosoma lineatum* (Het.: Pentatomidae) (Kara & Tschorsnig, 2003).

Ectophasia crassipennis (Fabricius, 1794)

Material examined: Sungurlu: Çiftlik, N 40°08'54", E 034°17'05", 717m, 18.V.2015, 1♀; Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 2♀, Merkez: Bozboğa, N 40°25'41", E 034°51'18", 726m, 20.VIII.2016, 1♀.

Distribution in Turkey: Kilis (Zwölfer, 1932); South and South East Anatolia Regions (Yüksel, 1968), Diyarbakır (Lodos, 1953; 1961; Duman & Sertkaya, 2015), Adana (Şimşek et al. 1994), Tokat (Atay & Kara, 2014; Lekin et al., 2016b); Şanlıurfa (Duman et al., 2015); Bartın, Karabük, Kastamonu (Atay, 2017), Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Eurygaster integriceps* Puton, 1881 (Het.: Scutelleridae), (Zwölfer, 1932; Lodos, 1961; 1953; 1986; Şimşek et al., 1994; Duman & Sertkaya, 2015; Duman et al., 2015), *Eurydema ornata* (Linnaeus, 1758), *Carpocoris pudicus* (Poda, 1761) (Het.: Pentatomidae), *Coreus marginatus* (Linnaeus, 1758) (Het.: Coreidae) (Atay & Kara, 2014).

Ectophasia oblonga (Robineau-Desvoidy, 1830)

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VII.2016, 1♂, 2♀.

Distribution in Turkey: Diyarbakır (Dupuis, 1963), Adana (Herting & Tschorsnig, 1993), Ankara (Memişoğlu & Özer, 1994), Tekirdağ (Öncüler & Kıvan, 1995; Kıvan, 1996), Tokat (Kara, 1998; Atay & Kara, 2014; Lekin et al. 2016b), Gaziantep, Kahramanmaraş, Kilis (İslamoğlu & Kornoşor, 2003; 2007), Eskişehir (Aksu, 2005), Bartın, Karabük, Kastamonu, Zonguldak (Korkmaz, 2007), Adıyaman, Batman, Diyarbakır, Mardin, Siirt, Şanlıurfa (Gözüaçık et al. 2010), Kastamonu (Atay, 2017), Burdur, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Eurygaster integriceps* Puton, 1881 (Het.: Scutelleridae), (Dupuis, 1963; Yüksel, 1968; Öncüler & Kıvan, 1995; Kıvan, 1996; İslamoğlu & Kornoşor, 2003; 2007; Gözüaçık et al. 2010; Herting & Tschorsnig, 1993), *Eurygaster maura* (Linnaeus, 1758) (Memişoğlu & Özer, 1994), *Lygaeus equestris* (Linnaeus, 1758) (Het.: Lygaeidae) (Kara & Alaoğlu, 1999), *Aelia* sp., *Dolycoris baccarum* (Linnaeus, 1758) (Kara & Tschorsnig, 2003); *Eurydema ornata* (Linnaeus, 1758) (Het.: Pentatomidae) (Kara & Tschorsnig, 2003; Atay & Kara, 2014).

Gymnosoma clavata (Rohdendorf, 1947)

Material examined: Mecitözü: Köprübaşı, N 40°31'20", E 035°15'00", 800m, 01.V.2016, 1♂; İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 2♂; Mecitözü: Elmapınar, N 40°33'15", E 035°14'03", 961m, 31.VII.2016, 1♂, 1♀; Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VII.2016, 1♂,

Distribution in Turkey: Erzurum (Doğanlar 1982b), İzmir (Karsavuran, 1986; Karsavuran & Kara, 2003; Herting & Tschorsnig, 1993), Tokat (Kara, 1998; Atay & Kara, 2014; Lekin et al. 2016b), Eskişehir (Aksu, 2005), Antalya, Burdur (Keçeci et al. 2007), Karabük (Korkmaz, 2007; Atay, 2017), Kastamonu (Atay, 2017), Sakarya (Balkan et al. 2015), Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Dolycoris baccarum* (Linnaeus, 1758) (Karsavuran, 1986; Herting & Tschorsnig, 1993; Kara & Tschorsnig, 2003; Keçeci et al. 2007), *Carpocoris* sp. (Herting & Tschorsnig, 1993), *Ancyrosoma leucogrammes* (Gmelin, 1790) (Karsavuran & Kara, 2003), *Carpocoris fuscispinus* (Boheman, 1850) (Het.: Pentatomidae) (Atay & Kara, 2014).

Gymnosoma rotundata (Linnaeus, 1758)

Material examined: İskilip: Elmalı, N 40°46'51", E 034°22'58", 936m, 24.VII.2016, 1♂, 1♀.

Distribution in Turkey: Eastern Black Sea Region (Kurt, 1975), Tokat (Kara, 1998; Lekin et al. 2016b), Karabük, Kastamonu, Zonguldak (Korkmaz, 2007; Atay, 2017), Sakarya (Balkan et al. 2015).

Hosts in Turkey: *Aelia rostrata* Boheman, 1852 (Dikyar, 1981), *Palomena prasina* L. (Het.: Pentatomidae) (Kurt, 1975).

****Dionaea aurifrons*** (Meigen, 1824)

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♂.

Remarks: This species and genus are new records for Turkey.

Cylindromyia brassicaria (Fabricius, 1775)

Material examined: Mecitözü: Alören, N 40°33'40", E 035°11'53", 1038m, 31.VII.2016, 2♀; Sungurlu: Ortaköy, N 40°20'34", E 034°23'52", 971m, 06.VIII.2016, 1♂, 1♀; Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♂.

Distribution in Turkey: Erzurum (Doğanlar, 1982b), İzmir (Karsavuran, 1986), Tokat (Kara, 1998; Kara & Alaoğlu, 1999; Atay & Kara, 2014; Lekin et al., 2016b), Eskişehir (Aksu, 2005), Antalya, Burdur (Keçeci et al. 2007; Kastamonu (Atay, 2017); Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Dolycoris baccarum* (Linnaeus, 1758) (Het.: Pentatomidae) (Karsavuran, 1986; Kara & Tschorsnig, 2003; Keçeci et al. 2007; Atay & Kara, 2014), *Holcostethus vernalis* (Wolff, 1804) (Het.: Pentatomidae) (Kara & Alaoğlu, 1999).

Cylindromyia bicolor (Oliver, 1812)

Material examined: Sungurlu: Kaledere, N 40°19'46", E 034°25'15", 1032m, 06.VIII.2016, 1♂.

Distribution in Turkey: Samsun (Herting, 1983), Black Sea Region (Işık et al. 1987), Tokat (Kara, 1998; Kara & Alaoğlu, 1999; Lekin et al. 2016b), Zonguldak (Korkmaz, 2007), Bartın, Karabük (Atay, 2017), Çorum (Uysal, 2018), Aydın, Muğla (Lutovinovas et al. 2018).

Hosts in Turkey: *Rhaphigaster nebulosa* Poda. (Het.: Pentatomidae) (Herting, 1983).

Cylindromyia pilipes (Loew, 1844)

Material examined: Sungurlu: Ortaköy, N 40°20'34", E 034°23'52", 971m, 06.VIII.2016, 1♂; Merkez: Bozboğa, N 40°25'41", E 034°51'18", 726m, 20.VIII.2016, 1♂.

Distribution in Turkey: Bursa, İstanbul (Herting & Del-Draskowits, 1993), Bartın, Kastamonu (Atay, 2017), Burdur (Lutovinovas et al. 2018).

Hosts in Turkey: The hosts of this species are unknown in Turkey.

Cylindromyia rufipes (Meigen, 1824)

Material examined: Merkez: Bozboğa, N 40°25'41", E 034°51'18", 726m, 20.VIII.2016, 2♂.

Distribution in Turkey: Aydın (Kara, 2001a; Lutovinovas et al., 2018), Bartın, Zonguldak (Korkmaz, 2007), Kastamonu (Atay, 2017), Denizli, Muğla (Lutovinovas et al., 2018).

In this study, 52 species of the family Tachinidae (tachinids) were collected from 6 districts of Çorum Province, Turkey. Four of these species are new records for Turkey and 51 are new records for the fauna of Çorum Province. Furthermore, data on the distribution of most of the determined species is limited and some have only been reported from a single location in Turkey. The number of species obtained in the present study shows that Çorum Province is rich in Tachinidae species. Considering the distribution of the species at the subfamily level, Tachininae had the highest number of representatives, followed by Exoristinae, Phasiinae and Dexiinae, respectively. However, across the country, in descending order, the numbers of species have been reported as Exoristinae, Tachininae, Phasiinae and Dexiinae (Kara et al. 2020).

In terms of biological influence, the Tachinidae family is gaining great importance, as all its species are parasitoids. For this reason, research on revealing the species diversity of the family, determining the hosts, revealing information about the habitats preferred by the adults and the plants on which they feed are also important. Furthermore, the maintenance of habitat and host diversity across Çorum Province and Turkey is essential for the protection of tachinid diversity. In this way, the effectiveness of these parasitoids in biological control can be

increased by supporting natural populations. In this context, similar studies are needed in other parts of Turkey.

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