



A New Record of Fruit Fly (Diptera: Tephritidae) From Turkey and Contributions to Fauna of Gaziantep Province

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ARTICLE INFO	ABSTRACT
<p><i>Research Article</i></p> <p>Received : 22/06/2021 Accepted : 29/07/2021</p> <p>Keywords: Tephritidae Fruit flies Fauna New record Gaziantep</p>	<p>Fruit flies (Diptera: Tephritidae) is one of the most important Diptera families, some species damage fruits, and cause millions of dollars in every years. In this study, adult fruit fly materials were collected from Gaziantep province between 2010 and 2021 from possible host plants using insect net. Obtained materials were examined, and were determined that 15 species. All species recorded for the first time from Gaziantep province. In addition, <i>Goniurellia tridens</i> (Hendel, 1910) recorded as a new record from Turkey. With these contributions, Gaziantep fruit fly fauna increased to 44 species. In the article, examined materials, current list of Gaziantep fruit fly fauna and adult and wing figures of <i>Goniurellia tridens</i> (Hendel, 1910) were given.</p>

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Türkiye’den Yeni Bir Meyve Sineği (Diptera: Tephritidae) Kaydı ve Gaziantep İli Faunasına Katkılar

MAKALE BİLGİSİ	ÖZ
<p><i>Araştırma Makalesi</i></p> <p>Geliş : 22/06/2021 Kabul : 29/07/2021</p> <p>Anahtar Kelimeler: Tephritidae Meyve sinekleri Fauna Yeni kayıt Gaziantep</p>	<p>Meyve sinekleri familyası (Diptera: Tephritidae), en önemli sinek familyalarından birisidir, bazı türler meyvelere zarar verir ve her yıl milyonlarca dolarlık zarara neden olur. Bu çalışmada, ergin meyve sineği örnekleri Gaziantep ilinden, böcek atrabı kullanılarak muhtemel konukçu bitkiler üzerinden 2010 ve 2021 yılları arasında toplanmıştır. Elde edilen örnekler incelenmiş ve 15 tür belirlenmiştir. Kaydedilen tüm türler Gaziantep ilinden ilk kez tespit edilmiştir. Ek olarak, <i>Goniurellia tridens</i> (Hendel, 1910) türü Türkiye’den ilk kez bu çalışma ile kaydedilmiştir. Bu katkılar ile birlikte, Gaziantep meyve sinekleri faunası 44 türe yükselmiştir. Makalede, incelenen materyal, Gaziantep meyve sinekleri faunasının güncel listesi ve <i>Goniurellia tridens</i> (Hendel, 1910) türünün ergin ve kanat fotoğrafları verilmiştir.</p>

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Introduction

Tephritidae is one of the largest families of Diptera order and it includes about 492 genera and, 4716 species (Pape et al., 2011). Several species of fruit flies (Diptera: Tephritidae) are invasive pests of horticultural crops worldwide, due to their adaptation to various regions, high polyphagia and rapid reproduction (Sarwar, 2015).

In recent years, many studies carried out to determine fruit flies fauna in Turkey. Several species recorded or identified as new over the two decades. In the recent studies, 9 new species (*Terellia askaleensis* Kütük et al., 2011; *Tephritis ozaslani* Kütük et al., 2012; *Terellia freidbergi* Korneyev et al., 2013; *Urophora turkeyensis* Yaran and Kütük, 2014; *Heringina arezoana* Namin and Korneyev, 2015; *Carpomya liat* Freidberg, 2016; *Terellia akguli* Yaran et al., 2018; *Tephritis turkeri* Kütük and Yaran, 2020; *Tephritis kutuki* Yaran and Görmez, 2020) and 14 new records (*Acidia cognata* (Wiedemann, 1817), *Campiglossa sororcula* (Wiedemann 1830), *Carpomya wiedemanni* (Meigen, 1826), *Chetostoma curvinerve* Rondani, 1856, *Dacus ciliatus* Loew, 1862, *Hemilea dimidiata* (Costa, 1844), *Ictericoides zelleri* (Loew, 1844), *Tephritis zeryni* Hendel, 1927, *Terellia armeniaca* Korneyev, 1985, *Terellia ivannikovi* Korneyev et al., 2013, *Terellia nigronota* Korneyev, 1985, *Terellia plagiata* (Dahlbom, 1850), *Urophora tenuis* Becker, 1908, *Urophora trinervii* Korneyev and White, 1996) have been reported from Turkey (Görmez, 2011; Bayrak, 2011; Kütük et al., 2011, 2012; Korneyev et al., 2013; Kütük et al., 2013; Yaran and Kütük, 2014, 2015, 2016; Korneyev and Kolcsar, 2015; Namin and Korneyev, 2015; Freidberg, 2016; Yaran et al., 2018a, 2018b; Çalışkan Keçe et al., 2019; Görmez and Kütük, 2020; Kütük and Yaran, 2020; Yaran and Görmez, 2020). Number of fruit fly species has increased significantly in recent years with new species, and records, and 173 species have known up to date in Turkey.

Up to date, 29 fruit fly species recorded in Gaziantep province of Turkey (Yaran, 2009; Yaran et al., 2018b). In the study, 15 fruit fly species were determined in different locations of Gaziantep, and *Goniurellia tridens* (Hendel, 1910) identified for the first time from Turkey. This paper provides locations of collected specimens, figures of new record, and current list of fruit flies in Gaziantep province.

Materials and Methods

According to previous studies (Yaran, 2009; Yaran et al., 2018b), 29 fruit fly species were reported in the fauna of Gaziantep province. In this study, new specimens were collected and identified between 2010 and 2021 years in order to contribute to the fauna of Gaziantep province. Obtained specimens were identified using following literatures and provided keys; Hendel (1927), White (1988), Freidberg and Kugler (1989), Korneyev and White (1993, 1999), Kütük (2003a, 2006), Korneyev (2003, 2006), Merz (1994), Görmez (2011), Korneyev et al. (2013) and Yaran (2014). All the specimens are stored in the Gaziantep University, Biology Department, Entomology Laboratory.

Results and Discussions

In this article, some contributions reported to the fruit fly fauna of Gaziantep province. Together with this contribution, number of fruit fly species increased to 44 species in Gaziantep province. In addition, *Goniurellia tridens* (Hendel, 1910) identified for the first time from Turkey, and number of fruit flies increased to 174.

Updated list of Tephritidae presented in Table 1 and, contributed species were given alphabetical order in the below. In addition, figures of male and female adults (wing, head and thorax) of new record presented in the below.

Actinoptera discoidea (Fallen, 1814)

Material examined: 1 ♀, Gaziantep, İslahiye, Fevzipaşa, 37° 05' N, 37° 37' E, 523 m, 10.05.2021; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Bactrocera oleae (Rossi, 1790)

Material examined: 2 ♂♂, 1 ♀, Gaziantep, Şehitkamil, Bilek, 37° 12' N, 37° 56' E, 513 m, 10.07.2018; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Chaetorellia jaceae (Robineau - Desvoidy, 1830)

Material examined: 3 ♂♂, 2 ♀♀, Gaziantep, İslahiye, Türkbağçe, 37° 04' N, 36° 37' E, 519 m, 10.05.2010; 4 ♂♂, 2 ♀♀, Şahinbey, Türközü, 36° 05' N, 37° 21' E, 691 m, 10.05.2010; 2 ♂♂, Center, 37° 00' N, 37° 19' E, 843 m, 10.05.2010; 1 ♂, Oğuzeli, 36° 54' N, 37° 32' E, 643 m, 03.06.2010; 1 ♂, Karkamış, 36° 49' N, 37° 45' E, 507 m, 03.06.2010; 1 ♂, 1 ♀, Araban, Yukarı Karavaiz, 37° 27' N, 37° 47' E, 554 m, 16.06.2010; 1 ♀, Araban, Suvarlı, 37° 33' N, 37° 38' E, 968 m, 16.06.2010; 4 ♂♂, 1 ♀, Araban, Beydili, 37° 30' N, 37° 39' E, 910 m, 16.06.2010; 4 ♂♂, 1 ♀, Şahinbey, Kürüm, 36° 57' N, 37° 09' E, 903m, 17.06.2010; 1 ♂, Şahinbey, Uğurtepe, 36° 57' N, 37° 05' E, 774m, 17.06.2010; 1 ♂, Şahinbey, Cebeler, 37° 02' N, 37° 16' E, 942 m, 01.07.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Euleia heraclei (Linnaeus, 1758)

Material examined: 4 ♀, Gaziantep, Araban, 36° 53' N, 37° 34' E, 518 m, 20.04.2010; 3 ♂♂, 2 ♀♀, İslahiye, Fevzipaşa, 37° 04' N, 37° 36' E, 513 m, 10.05.2011; Oğuzeli, 37° 57' N, 37° 30' E, 716m, 28.6.2019; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Goniurellia longicauda Freidberg, 1980

Material examined: 1 ♂, Karkamış, 36° 49' N, 37° 45' E, 507 m, 03.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Goniurellia tridens (Hendel, 1910) Figure 1

Material examined: 1 ♂, 1 ♀, Gaziantep, İslahiye, Fevzipaşa, 37° 15' N, 37° 37' E, 523 m, 10.05.2021; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Comment: *Goniurellia tridens* differs from other *Goniurellia* Hendel 1927 species with following characters; cell R₄₊₅ usually with 1-3 hyaline dots; distance between crossveins usually 1.5-2 times as s long as r-m crossvein; 2 brown rays present in cell D in addition to ray on dm-cu ray usually reaching middle of the cell (For detailed description see Freidberg and Kugler, 1989). *G. tridens* distributed in Turkmenia, Bukhara, Iran, Pakistan, India, Israel and Saudi Arabia (Freidberg and Kugler, 1989). This species recorded for the first time together this research in Turkey.

Table 1. Current list of fruit fly fauna in Gaziantep province

No	Species	Reference
1.	<i>Acanthiophilus helianthi</i> (Rossi, 1794)	Yaran, 2009
2.	<i>Aciura coryli</i> (Rossi, 1790)	Yaran, 2009
3.	<i>Actinoptera discoidea</i> (Fallen, 1814)*	Current study
4.	<i>Bactrocera oleae</i> (Rossi, 1790)*	Current study
5.	<i>Campiglossa producta</i> (Loew, 1844)	Yaran, 2009
6.	<i>Ceratitidis capitata</i> (Wiedemann, 1824)	Yaran et al., 2018b
7.	<i>Chaetorellia carthami</i> Stackelberg, 1929	Yaran, 2009
8.	<i>Chaetorellia jaceae</i> (Robineau - Desvoidy, 1830)*	Current study
9.	<i>Chaetorellia loricata</i> (Rondani, 1830)	Yaran, 2009
10.	<i>Chaetorellia succinea</i> (Costa, 1844)	Yaran, 2009
11.	<i>Chaetostomella cylindrica</i> (Robineau - Desvoidy, 1830)	Yaran, 2009
12.	<i>Euaresta bullans</i> (Wiedemann, 1830)	Yaran, 2009
13.	<i>Euleia heraclei</i> (Linnaeus, 1758)*	Current study
14.	<i>Goniurellia longicauda</i> Freidberg, 1980*	Current study
15.	<i>Goniurellia tridens</i> (Hendel, 1910)*	Current study
16.	<i>Rhagoletis cerasi</i> (Linnaeus, 1758)*	Current study
17.	<i>Sphenella marginata</i> (Fallen, 1814)	Yaran, 2009
18.	<i>Tephritis acanthiophilopsis</i> Hering, 1938*	Current study
19.	<i>Tephritis dioscurea</i> (Loew, 1856)	Yaran, 2009
20.	<i>Tephritis hurvitzii</i> Freidberg, 1981	Yaran, 2009
21.	<i>Tephritis merzi</i> Freidberg and Kütük, 2002*	Current study
22.	<i>Tephritis postica</i> (Loew, 1844)	Yaran, 2009
23.	<i>Tephritis praecox</i> (Loew, 1844)*	Current study
24.	<i>Tephritomyia lauta</i> (Loew, 1869)	Yaran, 2009
25.	<i>Terellia gynaecochochroma</i> (Hering, 1937)	Yaran, 2009
26.	<i>Terellia luteola</i> (Wiedemann, 1830)	Yaran, 2009
27.	<i>Terellia serratulae</i> (Linnaeus, 1758)	Yaran, 2009
28.	<i>Terellia virens</i> (Loew, 1846)	Yaran, 2009
29.	<i>Terellia winthemi</i> (Meigen, 1826)*	Current study
30.	<i>Trupanea amoena</i> (Frauenfeld, 1857)	Yaran, 2009
31.	<i>Trupanea stellata</i> (Fuesslin, 1775)	Yaran, 2009
32.	<i>Urophora affinis</i> (Frauenfeld, 1857)	Yaran, 2009
33.	<i>Urophora aprica</i> (Fallen, 1814)*	Current study
34.	<i>Urophora congrua</i> Loew, 1862*	Current study
35.	<i>Urophora cuspidata</i> (Meigen, 1826)	Yaran, 2009
36.	<i>Urophora dzieduszyckii</i> Frauenfeld, 1867	Yaran, 2009
37.	<i>Urophora jaceana</i> (Hering, 1935)	Yaran, 2009
38.	<i>Urophora mauritanica</i> Macquart, 1851	Yaran, 2009
39.	<i>Urophora phalolepidis</i> Merz and White, 1991*	Current study
40.	<i>Urophora quadrifasciata</i> (Meigen, 1826)	Yaran, 2009
41.	<i>Urophora solstitialis</i> (Linnaeus, 1758)	Yaran, 2009
42.	<i>Urophora stylata</i> (Fabricius, 1775)	Yaran, 2009
43.	<i>Urophora tenuior</i> Hendel, 1910	Yaran, 2009
44.	<i>Urophora terebrans</i> (Loew, 1850)*	Current study

Rhagoletis cerasi (Linnaeus, 1758)

Material examined: 2 ♂♂, 1 ♀, Gaziantep, Şehitkamil, Bilek, 37° 12' N, 37° 56' E, 513 m, 10.07.2018; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Tephritis acanthiophilopsis Hering, 1938

Material examined: 1 ♂, Gaziantep, Araban, Suvarlı, 37° 33' N, 37° 38' E, 968 m, 16.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Tephritis merzi Freidberg and Kütük, 2002

Material examined: 1 ♂, Gaziantep, Şahinbey, Türközü, 36° 05' N, 37° 21' E, 691 m, 10.05.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Tephritis praecox (Loew, 1844)

Material examined: 1 ♂, 1 ♀, Gaziantep, Şehitkamil, Bilek, 37° 12' N, 37° 56' E, 513 m, 10.07.2018; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Terellia winthemi (Meigen, 1826)

Material examined: 1 ♂, Gaziantep, Araban, Suvarlı, 37° 33' N, 37° 38' E, 968 m, 16.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

Urophora aprica (Fallen, 1814)

Material examined: 1 ♀, 1 ♀, Gaziantep, Şahinbey, Cevizli, 36° 54' N, 37° 03' E, 628 m, 01.06.2010; 1 ♂, Karkamış, 36° 49' N, 37° 45' E, 507 m, 03.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

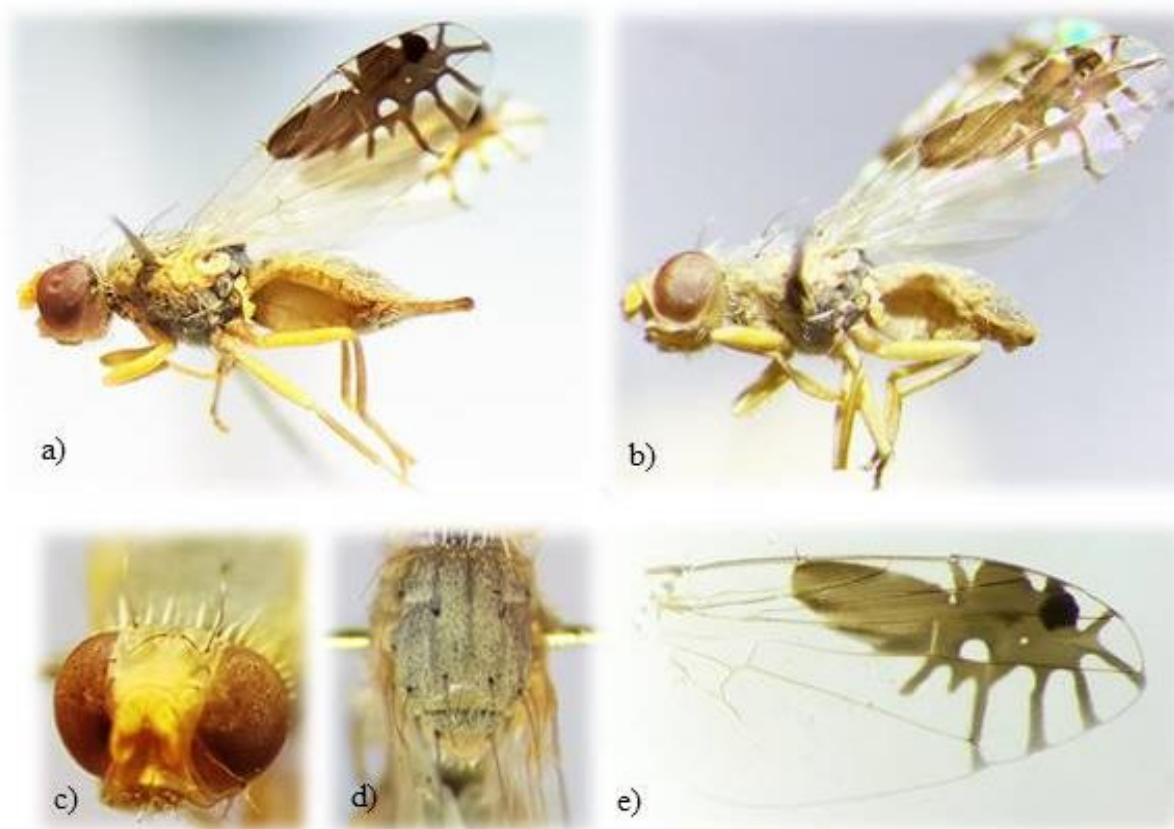


Figure 1. Figures of *Goniurellia tridens* a) female, b) male, c) head, d) thorax, e) wing

***Urophora congrua* Loew, 1862**

Material examined: 1 ♂, 2 ♀♀, Gaziantep, Şahinbey, Kürüm, 36° 57' N, 37° 09' E, 903 m, 17.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

***Urophora phalolepidis* Merz and White, 1991**

Material examined: 1 ♂, 1 ♀, Gaziantep, Şahinbey, Türközü, 36° 5' N, 37° 21' E, 691 m, 10.05.2010; 1 ♀, İslahiye, Türkbahçe, 37° 04' N, 36° 37' E, 519 m, 10.05.2010; 1 ♀, Karkamış, 36° 49' N, 37° 45' E, 507 m, 03.06.2010; 1 ♂, Araban, Beydili, 37° 30' N, 37° 39' E, 910 m, 16.06.2010; 1 ♂, Şahinbey, Cebeler, 37° 02' N, 37° 16' E, 946 m, 17.06.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

***Urophora terebrans* (Loew, 1850)**

Material examined: 1 ♀, 1 ♂, Gaziantep, Şahinbey, Törelî, 36° 53' N, 37° 21' E, 670 m, 20.04.2010; 1 ♀, Nizip, 36° 59' N, 37° 40' E, 607 m, 23.04.2010; 1 ♀, İslahiye, Türkbahçe, 37° 04' N, 36° 37' E, 519 m, 10.05.2010; 1 ♂, Şahinbey, Türközü, 36° 05' N, 37° 21' E, 691 m, 10.05.2010; 1 ♀, Şahinbey, Akpınar, 37° 45' N, 37° 44' E, 825 m, 15.05.2010; 1 ♂, Şahinbey, Cevizli, 36° 54' N, 37° 03' E, 628 m, 01.06.2010; 1 ♀, Karkamış, 36° 49' N, 37° 45' E, 507 m, 03.06.2010; 1 ♀, Yavuzeli, 37° 19' N, 37° 40' E, 523 m, 16.06.2010; 4 ♂♂, 2 ♀♀, Araban, Beydili, 37° 30' N, 37° 39' E, 910 m, 16.06.2010; 3 ♂♂, 2 ♀♀, Şahinbey, Uğurtepe, 36° 57' N, 37° 05' E, 774 m, 17.06.2010; 1 ♂, 2 ♀♀, Şahinbey, Kürüm, 36° 57' N, 37° 09' E, 903 m, 17.06.2010; 3 ♂♂, 1 ♀♀, İslahiye, Fevzipaşa, 37° 06' N, 36° 36' E, 1040 m; 14.07.2010; Det: Yaran M. (Leg. Yaran, Görmez and Koyuncu).

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