

## ARAŞTIRMA MAKALESİ/RESEARCH ARTICLE

### SOME REMARKS ON THE DISTRIBUTION OF ROBBER FLIES (DIPTERA: ASILIDAE) IN SOUTH MARMARA REGION\*

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#### ABSTRACT

Sixteen species of 5 subfamilies which belongs to Asilidae (5 Stenopogoninae, 1 Dasypogoninae, 1 Leptogastrinae, 1 Apocleinae and 8 Asilinae) were determined in this study performed in Balıkesir, Bursa, Çanakkale provinces of Turkey. *Stichopogon chrysostoma* Schiner, *Stenopogon laevigatus* (Loew), *Stenopogon callosus* (Pallas), *Stenopogon rufescens* Theodor, *Dasypogon octonotatus* Loew, *Leptogaster cylindrica* (De Geer), *Antiphrisson adpressus* (Loew), *Machimus setibarbus* (Loew), *Neomochtherus albicans* (Loew) and *Philonicus albiceps* (Meigen) in these species are new records for study area.

**Key Words:** Diptera, Asilidae, Fauna, South Marmara, Turkey.

### GÜNEY MARMARA BÖLGESİ YIRTICI SİNEKLERİ (DIPTERA: ASILIDAE)'NİN DAĞILIMLARI İLE İLGİLİ BAZI KAYITLAR

#### ÖZ

Balıkesir, Bursa, Çanakkale illerinde yapılmış bu çalışmayla Asilidae'den 5 altfamilyaya (Stenopogoninae'den 5, Dasypogoninae'den 1, Leptogastrinae'den 1, Apocleinae'den 1 ve Asilinae'den 8 tür) ait 16 tür tespit edilmiştir. Bu türlerden, *Stichopogon chrysostoma* Schiner, *Stenopogon laevigatus* (Loew), *Stenopogon callosus* (Pallas), *Stenopogon rufescens* Theodor, *Dasypogon octonotatus* Loew, *Leptogaster cylindrica* (De Geer), *Antiphrisson adpressus* (Loew), *Machimus setibarbus* (Loew), *Neomochtherus albicans* (Loew) and *Philonicus albiceps* (Meigen) çalışma bölgesi için yeni kayıttır.

**Anahtar Kelimeler:** Diptera, Asilidae, Fauna, Güney Marmara, Türkiye.

#### 1. INTRODUCTION

Asilidae is one of the important groups of predators in controlling numerous insect groups (Hull, 1962; Theodor, 1980). Asilidae is known to have 1634 species at Palearctic region (Geller-Grimm, 2001a). To date, 214 species have been reported from Turkey (Giray, 1981; Hayat 1993, Weinberg and Hayat 1997; Hasbenli and Geller-Grimm, 1999; Bosak and Hradsky, 2001

Çalışkan, 2002). Preliminary list of the Turkish fauna of Asilidae was published by Giray (1981). Other important studies were published, after that of Giray, the Fauna of Erzurum and adjacent provinces were published by Hayat and Alaoğlu (1994, 1996a, 1996b). Hayat & Özbek (1999) found three species new for the Turkish fauna. Studies of the Turkish robber flies culminated in 1997 with the publication of the list of asilids recorded in Turkey (Weinberg & Hayat, 1997),

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Hasbenli & Geller-Grimm (1999) published descriptions of two new species after 1997. Three new species for the Turkish fauna were recorded by Tomasovic (1999a, 1999b). Bosak and Hradsky (2001) were determined 102 species, 24 species from this number were new for the Turkish fauna. Çalışkan (2002) determined 19 species in Eskisehir province, four of them were new records for the Turkey in this study .

Janssens (1968), Tsacas (1968), Giray (1981) and Bosak & Hradsky (2001) also determined 19 species in study area, during their investigations in Anatolia.

## 2. MATERIALS AND METHODS

The specimens were collected from 60 localities of Balıkesir, Bursa and Çanakkale provinces between July and August in 2000 and 2001. The samples were deposited in private collection of the author.

The preparations of the male genitalia and the identifications were done according to Séguy (1927), Engel (1930), Richter (1963, 1988), Tsacas (1968), Hayat (1993), Hull (1962), Theodor (1980), Weinberg (1987), and Hayat & Özbek (1999).

Abbreviations: T.: Town, V.: Village.

## 3. RESULTS

As a result of this investigation, 16 species which belong to the following subfamilies: 5 for Stenopogoninae, 1 for Dasypogoninae, 1 for Leptogastrinae, 1 for Apocleinae and 8 species for Asilinae were determined.

### Subfamily: STENOPOGONINAE

#### *Stichopogon* Loew, 1847

Type species: *Dasypogon elengatulus* Wiedemann in Meigen, 1820 (Lehr, 1988)

#### 1. *Stichopogon chrysostoma* Schiner, 1867

Synonym: *Stichopogon lucidiventris* Becker, 1902

Length: 9-9,5 mm; Wings: 5-5,5 mm.

General Distribution: Cyprus, Egypt, Iran, Israel, Kazakhstan, Kyrgyzstan, Libya, Mongolia, Tajikistan, Turkey, Turkmenistan, Uzbekistan (Engel, 1938; Lehr, 1988).

Distribution in Turkey: Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Eskişehir (Çalışkan, 2002).

Examined material: Bursa (İnegöl/Oylat T.), 525 m., 09/08/2000, 3 ♂♂; (Harmancık V.), 800 m.,

10/08/2000, 1 ♂; Balıkesir, (Edremit/Altınoluk T.), 27 m., 31/07/2001, 2 ♂♂; Çanakkale (Bayramiç V.) 99 m., 02/08/2001, 1 ♂; (Bayramiç/ Hacıbekirler T.), 223 m., 03/08/2001, 1 ♂; (Ezine V.), 79 m., 02/08/2001, 1 ♂.

#### *Ancylorrhynchus* Berthold, 1827

Type species: *Asilus glaucius* Rossi, 1790

Synonym: *Anchylorrhynque* Latreille, 1825; *Xiphocera* Macquart, 1834; *Enhocera* Blanchard, 1840; *Opegiocera* Rondani, 1845; *Elasmocera* Rondani, 1846; *Xiphocerus* Loew, 1847; *Ancylorrhynchus* Osten-Sacken, 1882 (Geller-Grimm, 2001b).

#### 2. *Ancylorrhynchus glaucius* (Rossi, 1790)

Synonym: *Dasypogon variagatus* (Wiedemann, 1818); *Asilus variegatus* Pallas, 1818; *Dioctria pictus* (Wiedemann, 1821).

Length: 17-18 mm; Wings: 9-9,5 mm.

General Distribution: Albania, Austria, Cyprus, France, Greece, Israel, Italy, Kazakhstan, Kyrgyzstan, Libya, Mongolia, Romania, Russia (Caucasia, Siberia), Tajikistan, Turkey, Uzbekistan, Yugoslavia (Lehr, 1988; Geller-Grimm, 2001).

Distribution in Turkey: Ankara (Durmuş, 1999); Artvin, Erzincan, Erzurum (Hayat, 1993); İzmir (Giray, 1981); Balıkesir (Janssens, 1968).

Examined material: Bursa (Karacabey/Ekmekci T.), 40 m., 11/07/2000, 2 ♂♂; Balıkesir (Gönen/Gökcesu T.), 180 m., 18/07/2000, 1 ♂.

#### *Stenopogon* Loew, 1847

Tip tür: *Asilus sabaudus* Fabricius, 1794 (Lehr, 1988).

#### 3. *Stenopogon laevigatus* (Loew, 1851)

Synonym: *Dasypogon bicolor* Bigot, 1878

Length: 20-22 mm; Wings: 12-14 mm.

General Distribution: Afghanistan, Armenia, Greece, Iran, Russia (Caucasian), Turkey (Lehr, 1988; Richter, 1988).

Distribution in Turkey: Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Adana, Bolu, Burdur, Isparta, Kütahya, Van (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Gönen/Gündoğan T.), 165 m., 18/07/2000, 2 ♂♂; Bursa (Karacabey/Dağkızı T.), 125 m., 11/07/2000, 3 ♂♂, 1 ♀.

**4. *Stenopogon callosus* (Pallas, 1818)**

Length: 24 mm; Wings: 15,5 mm.

General Distribution: Armenia, Bulgaria, France, Germany, Hungary, Kazakhstan, Poland, Romania, Russia, Turkey, Yugoslavia (Lehr, 1988; Geller-Grimm, 2001b).

Distribution in Turkey: Bolu, Ağrı, Van (Bosak ve Hradsky, 2001).

Examined material: Çanakkale (Balıklıçeşme/Kayapınar T.), 75 m., 14/07/2000, 1 ♂.

**5. *Stenopogon rufescens* Theodor, 1980**

Length: 20-21 mm; Wings: 10,5-11,5 mm.

General Distribution: Israel, Turkey (Geller-Grimm, 2001b).

Distribution in Turkey: Mersin (Hayat & Özbek, 1994).

Examined material: Balıkesir (Gönen/Gündoğdu T.), 165 m., 18/07/2000, 2 ♂♂; Bursa (Mustafakemalpaşa/Taşköprü T.), 55 m., 27/07/2001, 4 ♂♂; Çanakkale (Musaköy T.), 85 m., 17/07/2000, 2 ♂♂.

**Subfamily: DASYPOGONINAE*****Dasyopogon* Meigen, 1803**

Type Species: *Asilus diadema* Fabricius, 1781

Synonym: *Cheilopogon* Rondani, 1856; *Seilopogon* Rondani, 1861; *Chilopogon* Bigot, 1878; *Ceilopogon* Bigot, 1878; *Selidopogon* Bezzi, 1902.

**6. *Dasyopogon octonotatus* Loew, 1869**

Length: 21,5-22,5 mm; Wings: 14-15 mm.

General Distribution: Greece, Mongolia, Romania, Russia, Turkey, (Lehr, 1988; Weinberg, 1991; Hayat ve Özbek, 1999).

Distribution in Turkey: Erzincan, Tekirdağ, Yozgat (Hayat & Özbek, 1999).

Examined material: Bursa (Karacabey/Boğazköy T.), 25 m., 11/07/2000, 5 ♂♂, 4 ♀♀; (Kestel/Aksu T.), 406 m., 26/07/2001, 6 ♂♂, 7 ♀♀.

**Subfamily: LEPTOGASTRINAE*****Leptogaster* Meigen, 1803**

Type Species: *Asilus tipuloides* Fabricius, 1775 (= *A. cylindricus* De Geer, 1776)

Synonym: *Gonipes* Latreille, 1805

**7. *Leptogaster cylindrica* (De Geer, 1776)**

Synonym: *Asilus tipuloides* Fabricius, 1775; *Asilus livida* (Geoffroy in Fourcroy, 1785); *Leptogaster fusca* Meigen, 1804; *L. nigricornis* Loew, 1847; *L. dorsalis* Dahlbom, 1851.

Length: 12-14 mm; Wings: 5-6 mm.

General Distribution: All palaeartic region (Lehr, 1988).

Distribution in Turkey: İstanbul (Janssens, 1968); Erzincan, Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Bitlis, Isparta, Kars, Kütahya, Van (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Ömerköy/Kayalidere T.), 201 m., 28/07/2001, 1 ♂; Bursa (Orhanlı/Yakuplar T.), 950 m., 11/08/2000, 1 ♂.

**Subfamily: APOCLEINAE*****Promachus* Loew, 1848**

Type species: *Asilus fasciatus* Fabricius, 1775

Synonym: *Trupanea* Macquart, 1838; *Parapromachus* Hull, 1962 (Lehr, 1988)

**8. *Promachus leoninus* Loew, 1848**

Length: 17-20 mm; Wings: 13-15 mm.

General Distribution: Armenia, Burma, Caucasia, Crimea, Greece, Georgia, India, Iran, Israel, Romania, Russia, Turkey, Ukraine, Yugoslavia (Geller-Grimm, 2001b).

Distribution in Turkey: Balıkesir (Janssens, 1968); Aydın, Muğla (Giray, 1981); Ankara (Durmuş, 1999); Adana, Adıyaman, Afyon, Antalya, Denizli, Isparta, Mersin, (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Erdek V.), 35 m., 13/07/2000, 1 ♂; Çanakkale (Biga/Güreci T.), 45 m., 18/07/2000, 1 ♂; (Geyikli/Kumburnu T.), 45 m., 17/07/2000, 2 ♂♂, 3 ♀♀.

**Subfamily: ASILINAE*****Antiphrisson* Loew, 1849**

Type Species: *Asilus trifarius* Loew, 1849

**9. *Antiphrisson adpressus* Loew, 1849**

Length: 19-21 mm; Wings: 9-11,5 mm.

General Distribution: Iran, Israel, Kazakhstan, Egypt, Russia (SSCB), Tunisia, Turkey (Lehr, 1988).

Distribution in Turkey: Denizli (Lehr, 1988); Adıyaman, Kayseri, Kırşehir, Konya (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Gönen/Gökçesu T.), 180 m., 18/07/2000, 2 ♂♂; Bursa (Karacabey/Çarık T.), 90 m., 11/07/2000, 4 ♂♂; Çanakkale (Gönen/Balıkliçeşme T.), 55 m., 14/07/2000, 1 ♂; (Bayramiç/Yanıklar T.), 263 m., 03/08/2001, 1 ♂; (Biga/Güvemalan T.), 70 m., 13/07/2000, 3 ♂♂, 2 ♀♀; (Ezine/Mahmudiye T.), 55 m., 17/07/2000, 1 ♂; (Karabiga/Adliye T.), 80 m., 14/07/2000, 5 ♂♂, 3 ♀♀.

### ***Dysmachus* Loew, 1860**

Type Species: *Asilus trigonus* Meigen, 1804

### **10. *Dysmachus fuscipennis* (Meigen, 1820)**

Synonym: *Asilus spiniger* (Zeller, 1840).

Length: 17-19 mm; Wings: 11-12 mm.

General Distribution: Albania, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Italy, Kazakhstan, Poland, Romania, Russia, Switzerland, Turkey, Yugoslavia (Geller-Grimm, 2001 b).

Distribution in Turkey: Bitlis, Bursa, Çanakkale, Diyarbakır, Kütahya (Giray, 1981); Erzincan (Hayat, 1993); Ankara (Durmuş, 1999); Denizli, Giresun, Kırşehir, Mersin, Sivas, Van (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Bursa (Karacabey/Boğazköy T.), 25 m., 11/07/2000, 2 ♂♂; Çanakkale (Geyikli V.), 65 m., 17/07/2000, 3 ♂♂.

### ***Echthistus* Loew, 1849**

Type Species: *Asilus rufinervis* Meigen, 1820

### **11. *Echthistus rufinervis* (Meigen, 1820)**

Synonym: *Asilus femoralis* (Megerle in Meigen, 1820); *Asilus flavescens* (Macquart, 1834); *Asilus rufiventris* Becker, 1903.

Length: 23-24 mm; Wings: 14 mm.

General Distribution: Albania, Bulgaria, Czech Republic, France, Greece, Germany, Hungary, Israel, Kazakhstan, Poland, Romania, Russia, Switzerland, Turkey, Turkmenistan, Yugoslavia (Geller-Grimm, 2001b).

Distribution in Turkey: Aydın, Çanakkale, İzmir (Giray, 1981); Ankara (Durmuş, 1999).

Examined material: Balıkesir (Altınoluk T.), 41 m., 31/07/2001, 2 ♂♂.

### ***Machimus* Loew, 1849**

Type Species: *Asilus chrysitis* Meigen, 1820

### **12. *Machimus annulipes* (Brullé, 1832)**

Synonym: *Asilus annulipes* Brullé, 1832; *Machimus basalis* Loew, 1849.

Length: 17,5-18 mm; Wings: 12-13 mm.

General Distribution: Albania, Bulgaria, Crimea, Caucasia, Greece, Israel, Kazakhstan, Poland, Romania, Switzerland, Turkey, Yugoslavia (Lehr, 1988; Geller-Grimm, 2001 b).

Distribution in Turkey: Aydın, İzmir (Giray, 1981); Ankara (Durmuş, 1999); Kayseri, Malatya, Nevşehir (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Çanakkale (Biga/Ulukur T.), 155 m., 18/07/2000, 1 ♂; (Evciler/Akçakıl T.), 161 m., 02/08/2001, 2 ♂♂.

### **13. *Machimus setibarbus* (Loew, 1849)**

Synonym: *Asilus intermedius* (Holmgren in Zetterstedt, 1852); *Machimus setiventris* Engel, 1928.

Length: 25-27 mm; Wings: 13-14 mm.

General Distribution: Bulgaria, Czech Republic, Finland, Greece, Germany, Israel, Italy, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Tunisia, Turkey, Yugoslavia (Geller-Grimm, 2001b).

Distribution in Turkey: Denizli, İzmir (Janssens, 1968); İzmir (Giray, 1981); Artvin, Erzincan, Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Adana, Adıyaman, Antalya, Hatay, Isparta, İstanbul, Konya, Kütahya, Mersin, Muğla, Şanlıurfa, Van (Bosak and Hradsky, 2001); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Erdek/ Ballıpınar T.), 75 m., 12/07/2000, 1 ♂; (Balya/Çakallar T.), 357 m., 29/07/2001, 1 ♂, 1 ♀; (Kepsut/Değirmençay T.), 173 m., 04/08/2001, 2 ♂♂; (Güre/Pınarbaşı T.), 155 m., 30/07/2001, 3 ♂♂; (Edremit/Avcılar T.), 28 m., 31/07/2001, 1 ♂; (Ömerköy/Kayalıdere T.), 201 m., 28/07/2001, 3 ♂♂; (Altınoluk/Bent), 41 m., 31/07/2001, 2 ♂♂, 1 ♀; Bursa (Kaplıkaya T.), 270 m., 10/07/2000, 3 ♂♂, 1 ♀; (Mudanya/Çağrısan T.), 185 m., 31/07/2000, 3 ♂♂; (Kestel), 115 m., 01/08/2000, 3 ♂♂, 4 ♀♀; (Oylat/Yayla), 1100 m., 09/08/2000, 2

♂♂; (İnegöl/Oylat V.), 525 m., 09/08/2000, 3 ♂♂;  
(Harmancık/Nusretler T.), 850 m., 10/08/2000, 1 ♀;  
(Görükle/Çatalağıl T.), 70 m., 26/07/2001, 1 ♂;  
Çanakkale (Güzelyalı/Turgutreis), 65 m., 17/07/2000, 4  
♂♂, 2 ♀♀; (Güreci T.), 45 m., 18/07/2000 2 ♂♂;  
(Ayvacık V.), 279 m., 01/08/2001, 2 ♂♂, 2 ♀♀;  
(Ayvacık-Ezine), 409 m., 01/08/2001, 2 ♂♂, 1 ♀;  
(Çan/Çakır T.), 277 m., 03/08/2001, 2, ♂♂.

### ***Neomochtherus Osten-Sacken, 1878***

Type Species: *Asilus pallipes* Meigen, 1820

Synonym: *Mochtherus* Loew, 1849

#### **14. *Neomochtherus albicans* (Loew, 1849)**

Length: 11-12 mm; Wings: 5,5-6,5 mm.

General Distribution: Tunisia, Turkey (Tsacas, 1968; Lehr, 1988).

Distribution in Turkey: Erzincan, Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Eskişehir (Çalışkan, 2002).

Examined material: Çanakkale (Yenice T.), 155 m., 03/08/2001, 2 ♂♂, 1 ♀; Balıkesir (Kepsut V.), 740 m., 04/08/2001, 1 ♂, 1 ♀.

#### **15. *Neomochtherus mundus* (Loew, 1849)**

Synonym: *Neomochtherus rhodis* Tsacas, 1963.

Length: 16 mm; Wings: 11 mm.

General Distribution: Greece (Aegean Island), Turkey (Janssens, 1968; Lehr, 1988).

Distribution in Turkey: Konya (Janssens, 1968); Balıkesir (Giray 1981); Erzincan, Erzurum, Iğdır (Hayat, 1993); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Altınoluk V.), 27 m., 31/07/2001, 1 ♂.

### ***Philonicus* Loew, 1849**

Type Species: *Asilus albiceps* Meigen, 1820

Synonym: *Philonotus* Neihaus, 1886

#### **16. *Philonicus albiceps* (Meigen, 1820)**

Synonym: *Asilus canescens* (Wiedemann in Meigen, 1820); *Asilus nudus* (Loew, 1840); *Asilus albibarbus* (Zeller, 1840); *Philonicus domesticus* Ricardo, 1920; *Cerdistus pulcher* (Becker, 1923); *Cerdistus marinus* (Becker, 1923); *Philonicus orientalis* Esipenko, 1969.

Length: 15-16 mm; Wings: 9,5-10 mm.

General Distribution: All Europe, Armenia, Caucasia, Iran, Iraq, Israel, Japan, Kazakhstan, Mongolia, Russia (Siberia), Turkey (Theodor, 1980; Lehr, 1988; Richter, 1988; Geller-Grimm, 2001 b).

Distribution in Turkey: Erzurum (Hayat, 1993); Ankara (Durmuş, 1999); Eskişehir (Çalışkan, 2002).

Examined material: Balıkesir (Erdek/Balıpınar T.), 20 m., 12/07/2000, 3 ♂♂, 3 ♀♀; (Gönen/Kayacaköy T.), 175 m., 18/07/2000, 5 ♂♂, 5 ♀♀; (Susurluk/Yahyaköy T.), 48 m., 27/07/2001, 4 ♂♂, 3 ♀♀; (Çengelöğlü T.), 261 m., 28/07/2001, 3 ♂♂; (İvrindi/Dadalar T.), 219 m., 29/07/2001, 5 ♂♂, 2 ♀♀; (İvrindi/Güngörmez T.), 222 m., 29/07/2001, 7 ♂♂, 5 ♀♀; (Altınoluk/Bent), 41 m., 31/07/2001, 3 ♂♂; (Balya/Büyükagonya Bridge), 187 m., 03/08/2001, 2 ♂♂; (Balya/Müstecep T.), 224 m., 03/08/2001, 5 ♂♂, 2 ♀♀; Bursa (Karacabey/Boğazköy T.), 25 m., 18/07/2000, 3 ♂♂, 2 ♀♀; (Manyas/Kayacaköy T.), 175 m., 18/07/2000, 5 ♂♂; Çanakkale (Biga/Bayramder T.), 65 m., 18/07/2000, 4 ♂♂, 6 ♀♀; (Biga/ULukır T.), 155 m., 18/07/2000, 7 ♂♂, 4 ♀♀; (Çan/Etili T.), 131 m., 03/08/2001, 4 ♂♂, 1 ♀♀; (Bayramiç/Hacıbekirler T.), 223 m., 03/08/2001, 4 ♂♂, 3 ♀♀; (Bayramiç/Akçakıl T.), 161 m., 02/08/2001, 4 ♂♂, 4 ♀♀; (Ezine V.), 101 m., 02/08/2001, 2 ♂♂, 3 ♀♀; (Ezine/Evciler T.), 99 m., 02/08/2001, 4 ♂♂.

In study area, *Ancylorrhynchus glaucius* Rossi, *Cerdistus denticulatus* Loew, *Dioctria bithynica* Janssens, *Machimus fuscus* Macquart, *Promachus leoninus* Loew, *Saropogon eucerus* Loew and *Cryptopogon centralis* Loew by Janssens (1968); *Neomochtherus acratulus thrax* Tsacas and *Neomochtherus illustris* Schiner by Tsacas (1968); *Dysmachus tricuspis* Loew, *Stenopogon milvus* Loew, *Stenopogon nigriventris* Loew, *Dysmachus fuscipennis* Meigen, *Echthistus cognatus* Loew, *Echthistus rufinervis* Meigen, *Erax punctipennis* Meigen, *Machimus annulipes* Brullé and *Neomochtherus mundus* Loew by Giray (1981); and *Stichopogon elegantulus* (Wiedeman) by Bosak & Hradsky (2001) were recorded. *Ancylorrhynchus glaucius*, *Promachus leoninus*, *Dysmachus fuscipennis*, *Echthistus rufinervis*, *Machimus annulipes* and *Neomochtherus mundus*, determined in previous studies, were not found in this study. *Stichopogon chrysostoma* Schiner, *Stenopogon laevigatus* (Loew), *Stenopogon callosus* (Pallas), *Stenopogon rufescens* Theodor, *Dasypogon octonotatus* Loew, *Leptogaster cylindrica* (De Geer), *Antiphriusson adpressus* (Loew), *Machimus setibarbus* (Loew), *Neomochtherus albicans* (Loew) and *Philonicus albiceps* (Meigen) were also recorded firstly in that area. Consequently, Asilidae

fauna of the study area has been reached to 29 with this study.

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## REFERENCES

- Bosak, J. and Hradsky, M. (2001). Some Remarks on the Distribution of Robber Flies (Diptera: Asilidae) in Turkey. *J. Ent. Res. Soc.* 3(3), 1-28.
- Çalışkan, H. (2002). Investigations on the Asilidae (Diptera) Fauna of Eskişehir Province. *Anadolu University Journal of Science and Technology Eskişehir* (In press).
- Durmuş, Y. (1999). *Ankara Çevresi Asilidae (Diptera) Familyasının Faunistik ve Sistemik Yönden Araştırılması*. Gazi Üniversitesi Fen Bilimleri Enstitüsü, Ankara.
- Engel, E.O. (1930). Asilidae In: Lindner, E., Die Fliegen der palaarktischen Region. 4(2), 1-491. Stuttgart.
- Geller-Grimm, F. (2001a). Information on Robber Flies, Online, <http://www.geller-grimm.de/genera04.htm>.
- Geller-Grimm, F. (2001b). Information on Robber Flies, Online, <http://www.geller-grimm.de/catalog/species.htm>.
- Giray, H. (1981). Türkiye Asilidae (Diptera) Faunasına Ait İlk Liste. *Türk. Bit. Kor. Derg.* 5(3), 171-183.
- Hasbenli, A. and Geller-Grimm, F. (1999). Two new species of *Dysmachus* Loew, 1860 (Asilidae: Diptera) from Turkey. *J. Ent. Res. Soc.* 1(1), 13-19.
- Hayat, R. (1993). *Erzurum ve Çevre İllerdeki Asilidae (Diptera) Türleri Üzerinde Faunistik ve Sistemik Çalışmalar*. Atatürk Üniversitesi Fen Bilimleri Enstitüsü, Erzurum.
- Hayat, R. and Alaoğlu, Ö. (1994). Faunistic and systematics studies on the Asilidae (Diptera) species in Erzurum and neighbouring provinces I. Laphriinae and Stenopogoninae. *Türkiye 3. Biyolojik Mücadele Kongresi*. İzmir, 123-135.
- Hayat, R. and Alaoğlu, Ö., (1996a). Faunistic and systematics studies on the Asilidae (Diptera) species in Erzurum and neighbouring provinces II. Laphystinae, Stichopogoninae, Dasypogoninae, Leptogastrinae and Apocleinae. *Atatürk Ü. Zir. Fak. Der.* 27(1), 111-120.
- Hayat, R. and Alaoğlu, Ö. (1996b). Faunistic and systematics studies on the Asilidae (Diptera) species in Erzurum and neighbouring provinces III. Asilinae. *Atatürk Ü. Zir. Fak. Der.* 27(1), 121-138.
- Hayat, R. and Özbek, H. (1999). The Genus *Dasypogon* Meigen, 1803 (Diptera, Asilidae) in Turkey, along with new records. *Acta Entomol. Bulg.* 1, 42-47.
- Hull, F.M. (1962). *Robber Flies of the World the Genera of the Family Asilidae*. Smiths. Inst. U.S. Natn. Mus., Washington. 224(1-2), 907 pp.
- Janssens, E. (1968). Asilidae de Turquie et Region Voisines (Deuxieme Note). *Bull. Inst. R. Sci. Nat. Belg.* 44, 33.
- Lehr, P.A. (1988). *Asilidae. Catalogue of Palaearctic Diptera*. Eds.: A. Soos and L. Papp. Elsevier Science Publishing Co. Inc., Amsterdam, 5, 197-326.
- Richter, V.A. (1963). New species of robber flies (Dipt., Asilidae) from the Caucasus. *Entomological Review* [Russian: Entomologiceskoe Obozreniye]. 42(2), 43-47.
- Richter, V.A. (1988). *Asilidae Keys to the Insects of the European Part of the USSR*, Ed.: G. Ya Bei-Bienko. Amerind Publishing Co. Pvt., New Delhi, 5(1), 778-820.
- Séguy, E. (1927). Fauna De France. 17 Dipteres (Brachyceres) Asilidae. Federation Francaise Des Societes De Sciences Naturelles. Office Central De Faunistique.
- Theodor, O. (1980). Diptera: Asilidae. Fauna Palaestina. Insecta, 11, Jerusalem; 1-404.
- Tomasovic, G. (1999a). Notes sur les Asilidae palaerctiques (Diptera Brachycera) (10 et 11). Description et repartition géographique de 2 especes nouvelles de *Dasypogon* du groupe "diadema (Fabricius, 1781)". [=Notes on the palaearctic Asilidae (Diptera Brachycera) (10 et 11). Description and geographic distribution of 2 new species of the *Dasypogon* group "(Fabricius, 1781)". Bulletin S. R. B.E. / K. B. V. E., 135, 216-221.
- Tomasovic, G. (1999b). Notes sur les Asilidae palaerctiques (Diptera Brachycera) (12 et 13) *Andrenosoma cornuta* Oldroyd, 1972, *Leptogaster subtilis* Loew, 1847, et *Satanas gigas* (Evers, 1855). [=Notes on the palaearctic Asilidae

(Diptera Brachycera) (12 et 13) *Andrenosoma cornuta* Oldroy, 1972, *Leptogaster subtilis* Loew, 1847, et *Satanas gigas* (Evers,1855).] Bulletin S.R.B.E./K.B.V.E., 135, 221-222.

Tsacas, L. (1968). Revision Des Espèces du Genre *Neomochtherus* Osten-Sacken, Dipteres. Memoires Du Museum National D' Histoire Naturelle. Serie A, Tome XLVII, Fasc. 3.

Weinberg, M. (1987). *Dasyopogon gerardi* n. sp. and the Designation of the Neotype of *Dasyopogon diadema* (Fabricius, 1781) (Diptera, Asilidae). Trav. Mus. Hist. Nat. "Grigore Antipa", 29, 155-164.

Weinberg, M. (1991). Genus *Dasyopogon* Meigen, 1803 (Diptera, Asilidae) in Greece, with the Description of the Species *Dasyopogon tsacasi* n. sp. Trav. Mus. Hist. Nat. "Grigore Antipa", 31, 295-305.

Weinberg, M. and Hayat, R. (1997). Asilidae (Diptera) Recorded in Turkey. Trav. Mus. Hist. Nat., "Grigore Antipa", 39, 161-168.



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