

## Contribution to the Geographic Distribution of *Dioctria* Meigen, 1803 Genus (Diptera, Asilidae)

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**Abstract:** Among the Asilidae specimens collected from various locations of Turkey during 1994-2007, 2 *Dioctria* species, *Dioctria arcana* Richter, 1966 and *Dioctria meyeri* Nowicki, 1867, are recorded for the first time from Turkey. New distribution areas for previously known species, *Dioctria abdominalis* Becker, 1923, *Dioctria atricapilla* Meigen, 1804, *Dioctria flavipennis* Meigen, 1820, and *Dioctria valida* Loew, 1856, are added.

**Key Words:** *Dioctria*, Asilidae, distribution, new records, Turkey

### *Dioctria* Meigen, 1803 (Diptera, Asilidae) Cinsinin Coğrafik Dağılımına Katkılar

**Özet:** Ülkemizin değişik yerelerinden 1994-2007 yıllarında toplanan Asilidae örneklerinin değerlendirilmesi sonucu *Dioctria* cinsine giren *Dioctria arcana* Richter, 1966 ve *Dioctria meyeri* Nowicki, 1867 türleri Türkiye'den ilk defa kaydedilmiştir. Daha önceden bilinen *Dioctria abdominalis* Becker, 1923, *Dioctria atricapilla* Meigen, 1804, *Dioctria flavipennis* Meigen, 1820 ve *Dioctria valida* Loew, 1856 türleri için yeni yayılış alanları belirlenmiştir.

**Anahtar Sözcükler:** *Dioctria*, Asilidae, yayılış, yeni kayıtlar, Türkiye

### Introduction

The tribe Dioctriini was established by Hull (1962) for 14 genera of Dasyopogoninae. Papavero (1973) transferred the genus *Dioctria* to the subfamily Stenopogoninae. Lehr (2001) raised the tribe Dioctriini to the subfamily level. Dioctriinae species differ from Dasyopogoninae and Stenopogoninae species in the lack of spines on female acanthophorites (Lehr, 2001). The subfamily Dioctriinae comprises 3 tribes: Dioctriini and Echthopodini were established by Adisoemarto and Wood (1975) and Molobratini was established by Lehr (2002).

*Dioctria* Meigen, 1803 comprises most of the species in the Dioctriinae subfamily, with 123 species. Of these, 93

species are from the Palaearctic, 27 from the Nearctic, 1 from the Neotropical, 1 from the Australian, and 1 species from the Afrotropical zoogeographic regions.

To date, 11 *Dioctria* species have been reported from Turkey (Engel, 1930; Lehr, 1988; Hayat and Alaoğlu, 1994; Weinberg and Hayat, 1997; Bosak and Hradsky, 2001; Geller-Grimm, 2007). The type localities of *Dioctria abdominalis* Becker, 1923 (south Taurus Mountains), *Dioctria bithynica* Janssens, 1968 (Balıkesir, Erdek), and *Dioctria lenta* Becker, 1923 (south Taurus Mountains) are in Turkey. According to Lehr (1988) and Geller-Grimm (2007), the finding of *Dioctria arthritica* Loew, 1871 in Turkey is doubtful. *Dioctria atricapilla* Meigen, 1804, *Dioctria lugens* Loew, 1873, *Dioctria rufonigra* Theodor,

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1980, and *Dioctria striata* Theodor, 1980 were recorded for the first time in Turkey by Bosak and Hradsky (2001). Hayat and Alaoğlu (1994) recorded *Dioctria flavipennis* Meigen, 1820 from Erzurum province. Engel (1930) recorded *Dioctria gracilis* Meigen, 1820 from Mersin province, and *Dioctria valida* Loew, 1856 from Konya and Mersin provinces for the first time.

## Materials and Methods

A total of 356 specimens of the genus *Dioctria* collected between 1994 and 2007 from different localities in Turkey were examined. The following references were used in identifications and geographical distributions of specimens: Séguy (1927, 1929, 1941), Engel (1930), Duda (1940), Richter (1960, 1966, 1968, 1973), Moucha and Hradsky (1963), Hradsky and Moucha (1964), Lehr (1965, 1988, 2002), Janssens (1968), Esipenko (1971), Theodor (1980), Geller-Grimm (1998, 2003), and Lehr et al. (2007). Specimens are preserved in the Zoological Museum of Gazi University (ZMGU), Arts and Science Faculty, Ankara, Turkey.

## Results

### *Dioctria abdominalis* Becker, 1923

Material examined: Karaman, between Ermenek and Güneyyurt, 1308 m, 16.05.2006, 1 male; between Ermenek and Gülnar, Olukpınarı, 1115 m, 16.05.2006, 1 female; Mersin, Arslanköy, Kavaklıpınar village, 1203 m, 20.05.2005, 1 female; Elbeyli village, 1289 m, 10.06.2006, 2 males; Mut, Sarıkavak, Sason Valley, 1045 m, 13.06.2007, 1 male, 2 females; Fındıkpınarı, Çağlarca village, 1200 m, 14.06.2007, 1 female; Niğde, Ulukışla, Darboğaz village, 1662 m, 05.06.2006, 1 female, leg. Hasbenli.

Distribution: Turkey (Geller-Grimm, 2007), Iran (Lehr et al., 2007).

### *Dioctria arcana* Richter, 1966

Material examined: Çorum, Kıcılı, 995 m, 23.06.2003, 1 male; Isparta, between Sucullu and Yalvaç, 1200 m, 21.06.2000, 1 female; Çayır Plateau way, 1760 m, 14.07.2000, 1 female; Aksu way, 1560 m, 14.07.2000, 1 female; Kayseri, Karahalka Village, 1825 m, 25.06.2002, 1 female; Mersin, Atlılar village, 1422 m, 08.06.2006, 12 males, 23 females; 11.06.2007, 2 males,

5 females, 28.06.2007, 2 females; Atlılar-Arslanköy way, 1388 m, 11.06.2007, 5 females; Arslanköy way, Yavca, 1097 m, 02.07.2006, 1 female; Fındıkpınarı, Çağlarca village, 14.06.2007, 2 males, 5 females; Sivas, Gürün, Kindiralık Village, 1879 m, 16.07.2002, 1 female, leg. Hasbenli.

Distribution: Armenia (Geller-Grimm, 2007).

First record from Turkey.

### *Dioctria atricapilla* Meigen, 1804

Material examined: İzmit, Hasbahçe, Beşkayalar Natural Park, 17.06.2004, 1 female, leg. Hasbenli.

Distribution: Austria, Belgium, Bulgaria, Byelorussia, Corsica, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, Moldavia, Mongolia, Netherlands, Poland, Romania, Russia, Sweden, Switzerland, Turkey, Ukraine, United Kingdom (Geller-Grimm, 2007), Iran (Lehr et al., 2007).

### *Dioctria flavipennis* Meigen, 1820

Material examined: Adana, Akçatekir, Karboğazı, 1561 m, 14.06.2007, 3 males; Ankara, Ayaş, Ortabereket village, 950 m, 29.05.1994, 1 male, 3 females; Yağmurdere village, Asartepe dam lake, 934 m, 03.06.2005, 1 female; Aksaray, Memorial Forest, 1084 m, 25.05.2006, 2 males, 5 females; 1200 m, 31.05.1996, 1 male, 4 females; Gülağaç, Kızılkaya, Aşıklıhöyük, 1100 m, 03.06.1997, 2 males; 3 km to Nevşehir, 1200 m, 14.06.1996, 5 males; Karaman, Ayrancı, Çatköy-Akpınar village, Akpınar way, 1486 m, 15.06.2005, 17 males, 14 females; Kayseri, Yahyalı, İlyaslı village, 1140 m, 2.6.1997, 1 male, 3 females; Isparta, between Yakaköy and Yenişarbademli, 1560 m, 27.06.2000, 1 male; Mersin, Gülek mountain pass, 1768 m, 06.07.2005, 1 male; Niğde, Ulukışla, 1260 m, 23.06.1997, 3 males; Darboğaz village, 1610 m, 15.06.2005, 4 males, 1 female; 1721 m, 06.06.2006, 2 males, 7 females, 08.06.2007, 6 females; between Darboğaz and Emirler village, 1597 m, 15.06.2005, 1 male, 1 female; 1556 m, 26.06.2007, 2 males; Maden village, 1712 m, 06.06.2006, 1 male; 1280 m, 09.06.2007, 17 males, 15 females; between Darboğaz and Gümüşköy village, 1716 m, 30.06.2006, 5 males; Aktoprak picnic area, 26.06.2007, 1909 m, 4 males, 2 females; Niğde-Kayseri way, 1611 m, 08.06.2007, 3 males, leg. Hasbenli.

Distribution: Austria, Bulgaria, Byelorussia, China, Czech Republic, Estonia, France, Germany, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldavia, Poland, Romania, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan, West Siberia, (Geller-Grimm, 2007), Iran (Lehr et al., 2007).

***Dioctria meyeri* Nowicki, 1867**

Material examined: Bolu, Yedigöller, Köknarlı Plateau, 1460 m, 07.07.1996, 1 male, leg. Hasbenli.

Distribution: Albania, Poland, West Siberia (Geller-Grimm, 2007).

First record from Turkey.

***Dioctria valida* Loew, 1856**

Material examined: Isparta, Çayır Plateau way, 1760 m, 7/14/2000, 1 female; Karaman, between Ermenek and Güneyyurt, 1308 m, 16.05.2006, 1 female; Güneyyurt way, 1286 m, 21.05.2005, 1 female; Gülnar, between Keşilik and Karalar, 909 m, 16.05.2006, 1 female; Gülnar, Dayıcık, 1251 m, 21.05.2007, 1 female; Başyayla, Pamuklu village, 971 m, 16.05.2006, 7 males, 5 females; Mersin, Silifke, Kirobası, 1403 m, 18.05.2006, 1 male, 2 female; Gözne, Çukurkeşli village, 277 m, 19.05.2006, 3 males, 7 females; Fındıkpınarı, Kuzucubelen, Cemilli village, 573 m, 19.05.2006, 1 male, 2 females; Sarıkavak way, 931 m, 19.05.2005, 2 males, 2 females; Arslanköy, Kerimler village, 663 m, 20.05.2005, 1 male, 1 female; Gözne way 10 km, 273 m, 19.05.2005, 4 males, 1 female; Işıktepe, 281 m, 22.04.2006, 1 female; Silifke, between Uzuncaburç and Ura, 1090 m, 10.06.2006, 1 male, 2 females; Mut, Çukurbağ village, 1101 m, 10.06.2006, 1 male; Keşlitürkmenli, 959 m, 18.05.2006, 1 male, Mut, Gedik village, 531 m, 24.04.2006, 1 female; Çamlıyayla, Olukayağı village, 687 m, 07.06.2006, 1 female; Silifke, between Kıcaköy and Çömelek, 1194 m, 21.05.2005, 1 female; 2 km to Atlılar, 1388 m,

11.06.2007, 3 females; Alanyalı village, Kuyualanı, 1372 m, 12.07.2007, 1 female, leg. Hasbenli.

Distribution: Israel, Lebanon, Syria, Turkey (Geller-Grimm, 2007), Iran (Lehr et al., 2007).

**Discussion**

Turkey is situated on the margin of 3 subregions of the Palaearctic region (Euro-Siberian, Mediterranean, and Irano-Turanian subregions) and for this reason the insect fauna of Turkey is very rich.

*D. abdominalis* is known from the Mediterranean geographic region of Turkey and Isfahan province of Iran. It occurs in the Mediterranean and Irano-Turanian subregions of the Palaearctic region. *D. arcana* is distributed in the Irano-Turanian subregion. It also occurs in the Mediterranean geographic region of Turkey and so the distribution of *D. arcana* is expanded to the Mediterranean subregion of the Palaearctic region. Bosak and Hradsky (2001) recorded *D. atricapilla* from İstanbul, Kocaeli, and Sivas provinces in Turkey. *D. atricapilla* occurs in the Euro-Siberian subregion. With Sivas province its distribution is expanded to the Irano-Turanian subregion. Furthermore, *D. flavipennis* occurs in the Euro-Siberian and Irano-Turanian subregions. *D. meyeri* occurs in the Euro-Siberian subregion.

The type localities of *D. abdominalis*, *D. bithynica*, and *D. lenta* are in Turkey and *D. bithynica* and *D. lenta* are only known from Turkey so far.

As a result of this study, *Dioctria arcana* Richter, 1966 and *Dioctria meyeri* Nowicki, 1867 are recorded for the first time for the Turkish fauna and distribution data of formerly known species are added. The number of *Dioctria* species occurring in Turkey is increased to 13. The number and distribution of species will be expanded with detailed studies on the genus *Dioctria* in Turkey.

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