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To cite this article: Ali Nafiz Ekiz, Elisabeth Geiser, Ali Gök & Özgür Durmuş Kaya (2020) Donaciinae (Coleoptera: Chrysomelidae) of Turkey: species list and new records, *Aquatic Insects*, 41:3, 241-253, DOI: [10.1080/01650424.2020.1739312](https://doi.org/10.1080/01650424.2020.1739312)

To link to this article: <https://doi.org/10.1080/01650424.2020.1739312>



Published online: 03 Apr 2020.



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Donaciinae (Coleoptera: Chrysomelidae) of Turkey: species list and new records

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ABSTRACT

The Turkish Donaciinae are reviewed based on recently collected material, several museum collections, and the available literature data. In total, 21 species of Donaciinae are known from Turkey. *Donacia aequidorsis* Jacobson, 1894, *D. polita* Kunze, 1818, and *Plateumaris rustica* (Kunze, 1818) are reported for the first time for the Turkish reed beetle fauna. Local distributions are updated, and distribution maps are provided for 19 species of which exact localities are known.

ARTICLE HISTORY

Received 25 November 2019
Accepted 28 February 2020
First published online
3 April 2020

KEYWORDS

Coleoptera; Chrysomelidae;
Donaciinae; new
records; Turkey

Introduction

Chrysomelidae, commonly known as leaf beetles, include more than 37,000 (and probably at least 50,000) species in more than 2,500 genera, making up one of the largest and most commonly encountered beetle families (Jolivet and Verma 2002). Although the majority of leaf beetles are terrestrial, the larvae of the subfamily Donaciinae (reed beetles) develop submerged on roots of water plants and, therefore, they are considered to be phytophilous water beetles (Jäch and Balke 2008). According to the recent taxonomic lists, Donaciinae comprise approximately 154 species belonging to six genera all over the world: *Donacia* Fabricius, 1775 (101 spp.), *Donaciasta* Fairmaire, 1901 (7 spp.), *Macrolea* Samouelle, 1819 (5 spp.), *Neohaemonia* Szekessy, 1941 (6 spp.), *Plateumaris* Thomson, 1859 (32 spp.), and *Sominella* Jakobson, 1908 (3 spp.) (Silfverberg 2010; Geiser 2015).

Turkish reed beetle fauna is rather poorly known. According to the recent checklist of Turkish Chrysomelidae (Ekiz, Şen, Aslan, and Gök 2013), there were 17 species belonging to Donaciinae. Many of these species were known from only a few locations and precise distributions of three species (*Donacia aquatica* (Linnaeus, 1758), *D. clavipes* Fabricius, 1792, and *D. mistshenkoi* Jacobson, 1910) were not known. Here, exact localities are provided for *Donacia aquatica* and *D. clavipes*. This paper

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This article was originally published with errors, which have now been corrected in the online version. Please see Correction <https://doi.org/10.1080/01650424.2020.1786976>

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contains 21 species recorded from Turkey. New distribution data for previously reported 17 species are provided. First country records are given for *Donacia aequidorsis* Jacobson, 1894, *D. polita* Kunze, 1818, and *Plateumaris rustica* (Kunze, 1818).

Material and methods

This paper includes a literature review on Turkish reed beetles, the result of field work from several locations in Turkey, and data from several museum collections. All specimens from field work by the authors were collected by aspirator on their host plants and mounted on card boards as standard museum specimens using standard methods. The specimens were identified using some keys and papers (Mohr 1966; Ekiz, Gök, Borowiec, and Bilginturan 2009; Kippenberg 2010; Warchałowski 2010). Specimens collected within this study are deposited at the Department of Biology of Uşak University, Uşak, Turkey (UADB). The present work is also based on the material from the following collections:

MSNV Museo Civico di Storia Naturale, Verona, Italy;

NHMB Naturhistorisches Museum, Basel, Switzerland;

NHMUK Natural History Museum, London, United Kingdom;

NHMW Naturhistorisches Museum, Wien, Austria;

OLML Oberösterreichisches Landesmuseum, Linz, Austria;

SMF Senckenberg Forschungsinstitut und Naturmuseum, Frankfurt am Main, Germany.

Turkish distributions by province with distribution maps for 19 species are provided, and short remarks are given when necessary. Chorotype analysis is based on Vigna Taglianti et al. (1999).

Results

Genus *Donacia* Fabricius, 1775

Donacia aequidorsis Jacobson, 1894

First country record, material examined. 1 ex., ‘Türkei’, det. E. Goecke 1956, vid. E. Geiser (coll. E. Witte, NHMB). 1 ex., ‘Türkei’, det. E. Goecke 1956, vid. E. Geiser (coll. E. Witte, SMF).

Distribution in Turkey. *Donacia aequidorsis* was described by Jacobson (1894) and known to be distributed only in Russia (Southern European Territory) and Kazakhstan. Examined museum specimens prove that the species is also found in Turkey. Although province distribution in Turkey is not yet known, it is quite probable that it occurs in NE Turkey. This is the southernmost record of the restricted distribution of the species.

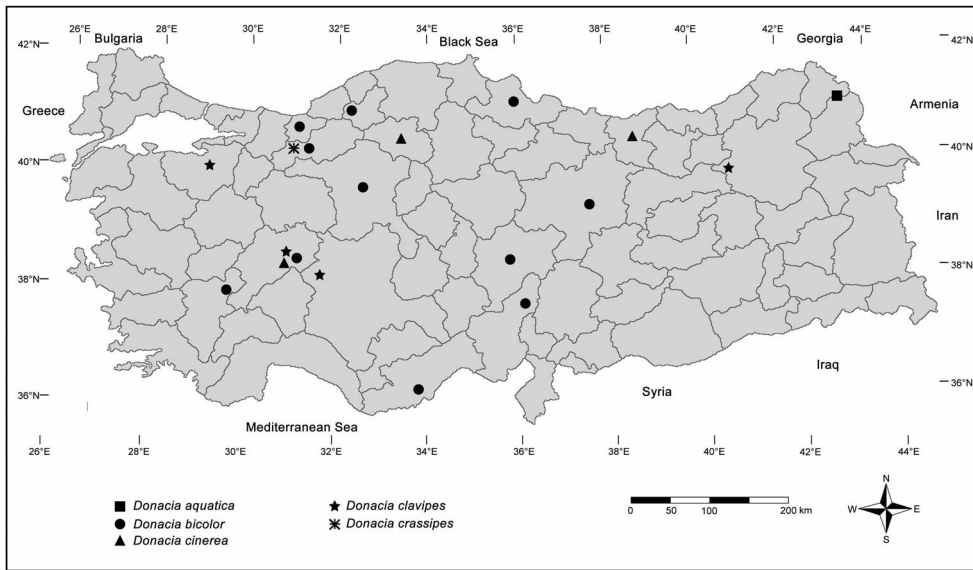


Figure 1. Distribution of *Donacia aquatica* (Linnaeus, 1758), *D. bicolor* Zschach, 1788, *D. cinerea* Herbst, 1784, *D. clavipes* Fabricius, 1792, and *D. crassipes* Fabricius, 1775 in Turkey.

Chorotype. Turanian.

Remarks. There was a small note in the drawer where one specimen is stored in the SMF, written as ‘2 specimens ♀ ♂ det. Goecke/an. I.S: Askevold, Winnipeg’. Askevold (Canada) studied the SMF collection in 1984 and was allowed to take with him two of these specimens for further studies. One specimen with the same labels in NHMB means that there must be a series collected at some point, but unfortunately, we know neither the location nor the collecting date. Nevertheless, it is an interesting find that *Donacia aequidorsis* was collected from Turkey. It is a rare reed beetle which was known to be distributed only in a restricted area in the South European Territory of Russia and Kazakhstan. The type locality is not far from Turkey and biogeographically it is likely that the species should occur in Turkey.

***Donacia aquatica* (Linnaeus, 1758)**

First province record, material examined. 1 ex., Ardahan or Kars Province, Lake Çıldır, 1800 m, VI.1977, leg. F. Schubert, det. E. Geiser 2018 (NHMW).

Distribution in Turkey. TR-A (Asian Turkey) (Ekiz et al. 2013). Ardahan or Kars (present record, Figure 1).

It is recorded from Asian Turkey in the Palearctic catalogue (Silfverberg 2010), but the exact collection locality in Turkey is not known (Ekiz et al. 2013). One specimen from Lake Çıldır stored in the NHMW collection is identified but as we do not know which shore this specimen was collected, it could be from Kars or Ardahan Provinces. Although this species is very common in Europe, we were not able to collect it in Turkey. It is quite probable that it is present in both Asian and European

parts of Turkey but presumably in small populations, and more careful surveys are needed.

Chorotype. Sibero-European.

***Donacia bicolor* Zschach, 1788**

First province records, material examined. 14 ♂, 10 ♀, Afyonkarahisar Province, Karamık Marshland, on *Carex* sp., 38°24'46"N, 30°51'49"E, 1000 m, 19.V.2016, leg. et det. A.N. Ekiz (UADB). 10 ex., Karabük Province, Yenice Village, 11.VI.2001, leg. M. Snižek, det. E. Geiser 2017 (OLML). 3 ♀, Mersin Province, Göksu River delta, on *Typha* sp., 36°22'13"N, 34°00'05"E, 5 m, 12.VI.2016, leg. et det. A.N. Ekiz (UADB). 4 ex., Adana Province, Doğanbeyli Village, 8.VI.2001, leg. M. Snižek, det. E. Geiser 2017 (OLML).

Additional province records, material examined. 1 ex., Bolu Province, 1450 m, 24.VI.1969, leg. G. Osella, det. P. Benato 1983, vid. E. Geiser 2019 (MSNV). 1 ex., Bolu Province, Lake Abant, 14.VI.2000, leg. K. Deneš, det. E. Geiser 2017 (OLML). 4 ex., Bolu Province, Lake Abant, 13.VI.2001, leg. M. Šárovec, det. E. Geiser 2017 (OLML).

Distribution in Turkey. Asian Turkey: Denizli, Bolu, Düzce, Samsun, Ankara, Kayseri (Ekiz et al. 2013), Sivas (Özdikmen and Özbek 2014). Afyonkarahisar, Karabük, Mersin, and Adana (present records, Figure 1).

This species is relatively widespread in the Asian part of Turkey and has not yet been reported from European Turkey.

Chorotype. Sibero-European.

***Donacia cinerea* Herbst, 1784**

First province record, material examined. 17 ♂, 15 ♀, Afyonkarahisar Province, Karamık Marshland, on *Carex* sp., 38°24'46"N, 30°51'49"E, 1000 m, 19.V.2016, leg. et det. A.N. Ekiz (UADB).

Distribution in Turkey. Asian Turkey: Giresun (Ekiz et al. 2013), Çankırı (Bal, Özdikmen, Özdamar, and Kıyak 2018). Afyonkarahisar (present record, Figure 1).

Chorotype. Sibero-European.

***Donacia clavipes* Fabricius, 1792**

First province records, material examined. 1 ex., Bursa Province, Uludağ, 16–21.VI.1991, leg. H. Franz, det. E. Geiser 2018 (NHMW). 1 ex., Erzurum Province, Mount Kop passage, 2300 m, 11.VII.1971, leg. P. Brignoli, det. P. Benato 1983, vid. E. Geiser 2019 (MSNV). 1 ex., Afyonkarahisar Province, Sultan Dağı, leg. Bodemeyer, det. E. Geiser 2019 (SMF). 1 ex., Konya Province, Akşehir, 21.V.1926, leg. Kulzer, det. E. Geiser 2019 (SMF).

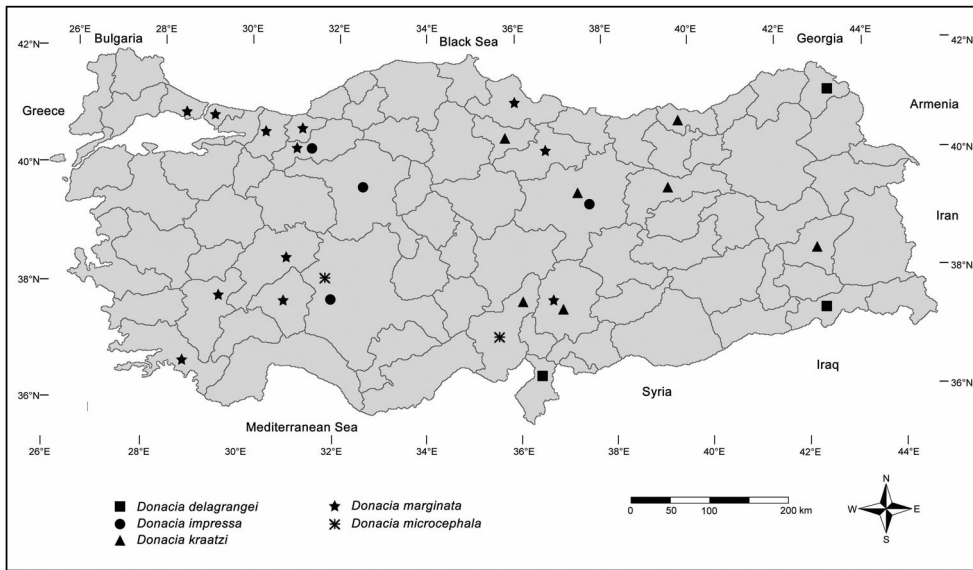


Figure 2. Distribution of *Donacia delagrangi* Pic, 1896, *D. impressa* (Paykull, 1799), *D. kraatzi* Weise, 1881, *D. marginata* Hoppe, 1795, and *D. microcephala* J. Daniel, 1904 in Turkey.

Distribution in Turkey. Bursa, Afyonkarahisar, Konya, and Erzurum (present records, Figure 1).

Chorotype. Sibero-European.

Remarks. It is recorded from European and Asian Turkey in the Palaearctic catalogue (Silfverberg 2010); however, any exact collection localities in Turkey were not known previously (Ekiz et al. 2013). Benato (1990) published on three specimens from Erzurum Province; however, on examination, one of them belongs to *D. clavipes* and two belong to *D. kraatzi*. Label data of the specimens differ from those given in Benato (1990). According to the electronic publication of Borowiec (2011), this species is also recorded from the Black Sea coast and ‘Bulghar-Dag Mts.’ (Bolkar Mountains between Konya, Mersin, and Niğde Provinces) in Turkey.

***Donacia crassipes* Fabricius, 1775**

Material examined. 1 ex., Bolu Province, Lake Abant, 1450 m, 24.VI.1969, leg. G. Osella, det. P. Benato 1983, vid. E. Geiser 2019 (MSNV).

Distribution in Turkey. Bolu (present record, Figure 1).

Chorotype. Sibero-European.

Remarks. *Donacia crassipes* is a widespread species in Europe, east Siberia, and China. It was actually recorded from Turkey by Benato (1990) as a new record but overlooked by the subsequent papers including Silfverberg (2010) and Ekiz et al. (2013). Some specimens listed in Benato (1990) were misidentified (see remarks

under *D. clavipes*, *D. kraatzi*, and *D. thalassina*). The Turkish distributions are verified in this work for these species.

***Donacia delagrangei* Pic, 1896**

Additional province records, material examined. 1 ex., Şırnak Province, 31.V.1987, leg. M. Jäch, det. E. Geiser 2018 (NHMW).

Distribution in Turkey. Asian Turkey: Hatay, Şırnak (Ekiz et al. 2013), Ardahan (Semenov-Tian-Shanskij and Reichardt 1927) (Figure 2).

Chorotype. Anatolo-Caucasian.

Remarks. *Donacia delagrangei* was described from Turkey by Pic (1896) insufficiently and without precise locality data. Later Goecke (1959) made a detailed description. *Donacia jacobsoni* was described from Ardahan Province, Turkey (Semenov-Tian-Shanskij and Reichardt 1927). Kippenberg (2010) synonymised *D. jacobsoni* with *D. delagrangei*.

***Donacia impressa* (Paykull, 1799)**

Distribution in Turkey. Asian Turkey: Bolu, Ankara, Konya, and Sivas (Ekiz et al. 2013) (Figure 2).

This Palaearctic species was reported from inner provinces of Asian Turkey. Although not reported yet from the European part of Turkey, it is quite probable that the species also occurs there, since it is reported from most Balkan countries.

Chorotype. Palaearctic.

***Donacia kraatzi* Weise, 1881**

First province records, material examined. 2 ex., Adana Province, Doğanbeyli Village, 8.VI.2001, leg. M. Snížek, det. A. Warchalowski, vid. E. Geiser 2019 (NHMUK). 1 ex., Trabzon Province, no date indicated, det. Askevold 1987, vid. E. Geiser 2019 (NHMUK). 2 ex., Erzurum Province, Mount Kop passage, 2300 m, 30.VI.1975, leg. G. Osella, det. E. Geiser 2019 (MSNV). 1 ex., Bitlis Province, Tatvan, 1700–2000 m., 21.V–18.VI.1973, leg. F. Schubert, det. E. Geiser 2019 (NHMW).

Additional province records, material examined. 2 ex., Erzincan Province, Sakaltutan Pass, 2160 m, 21.VI.2001, leg. Vorišek & Košťál, det. M. Daccordi, vid. E. Geiser 2019 (M. Daccordi, Verona). 5 ex., Kahramanmaraş Province, Göksun, 2.VI.2001, leg. M. Snížek, det. A. Warchalowski, vid. E. Geiser 2019 (NHMUK).

Distribution in Turkey. Asian Turkey: Amasya, Erzincan, and Kahramanmaraş (Ekiz et al. 2013). Adana, Trabzon, Erzurum, and Bitlis (present records, Figure 2).

Chorotype. Anatolo-Caucasian.

Remarks. *Donacia kraatzi* was described from Turkey based on two female specimens in Weise (1881) as a footnote, and later a re-description including males was provided by Ekiz et al. (2009). *Donacia fastuosa*, described from Armenia, was synonymised with *D. kraatzi* by Askevold (1990). Two of the three specimens from Erzurum published by Benato (1990) as *D. clavipes* actually belong to *D. kraatzi* (see also above).

***Donacia marginata* Hoppe, 1795**

First province records, material examined. 1 ♂, 2 ♀, İstanbul Province, Küçükçekmece Lake, 41°03'13"N, 28°44'16"E, 0 m, 3.V.2015, leg. et det. A.N. Ekiz (UUDB). 1 ex., Sakarya Province, Sapanca Lake, leg. Bodemeyer, det. E. Geiser 2019 (SMF).

Additional province records, material examined. 3 ex., Bolu Province, Gerede, 29.V.1969, leg. G. Osella, det. P. Benato 1983, vid. E. Geiser 2019 (MSNV). 2 ex., Samsun Province, Bafra, 8.VII.1975, leg. G. Osella, det. P. Benato 1983, vid. E. Geiser 2019 (MSNV). 2 ♂, 5 ♀, Afyonkarahisar Province, Karamık Marshland, 38°24'46"N, 30°51'49"E, 1000 m, 19.V.2016, leg. et det. A.N. Ekiz (UUDB).

Distribution in Turkey. Asian Turkey: İstanbul, Muğla, Denizli, Isparta, Ankara, Düzce, Kahramanmaraş, Samsun, Tokat (Ekiz et al. 2013); Bolu (Benato 1990). European part of İstanbul, Afyonkarahisar and Sakarya (present records, Figure 2).

This species was reported from Asian and European Turkey (Silfverberg 2010) and is relatively widespread in Turkey. The provincial distribution in the European part was not known (Ekiz et al. 2013) but it is now collected from European part of İstanbul Province.

Chorotype. Palaearctic.

***Donacia microcephala* Daniel, 1904**

Distribution in Turkey. Asian Turkey: Konya (Ekiz et al. 2013) Adana (Pic 1908) (Figure 2).

Chorotype. SW-Asiatic.

Remarks. *Donacia microcephala* was described from Akşehir (Konya Province) based on female specimens, and its synonym *D. testaceipes* Pic, 1908 was described from Adana Province based on male specimens.

***Donacia mistshenkoi* Jacobson, 1910**

Distribution in Turkey. Asian Turkey (Ekiz et al. 2013). This species was described from Lake Gomna, Samtskhe-Javakheti Province, Georgia and its type locality is only 50 km from Turkish border. It is only known from Georgia and Turkey, thus a Caucasian endemic. Distribution by province in Turkey is not known but probably it occurs in northeast Anatolia.

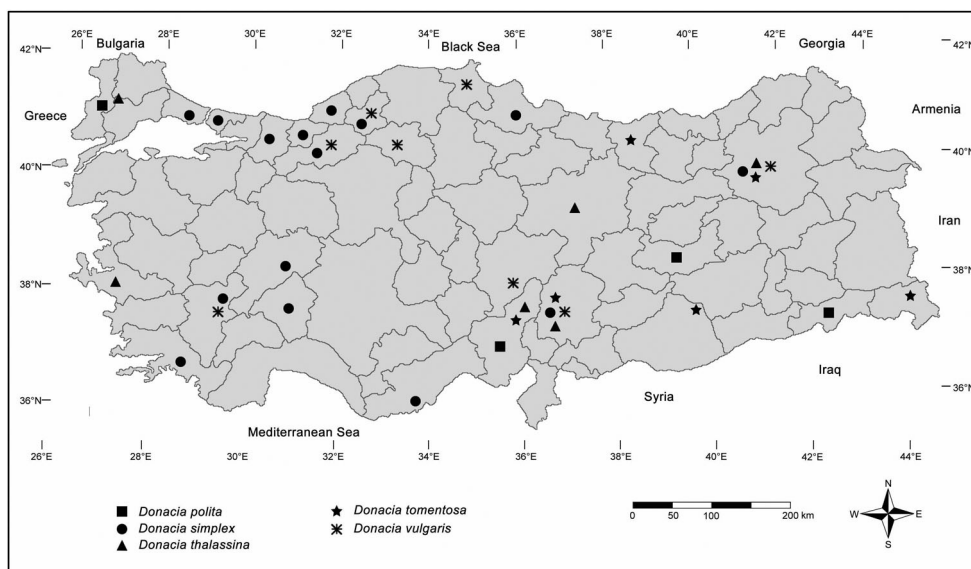


Figure 3. Distribution of *Donacia polita* Kunze, 1818, *D. simplex* Fabricius, 1775, *D. thalassina* Germar, 1811, *D. tomentosa* Ahrens, 1810, and *D. vulgaris* Zschach, 1775 in Turkey.

Chorotype. Anatolo-Caucasian.

Donacia polita Kunze, 1818

First country record, material examined. 26 ♂, 6 ♀, Adana Province, Saimbeyli, 12.VI.1998, leg. M. Halada, det. E. Geiser 2018 (OLML). 1 ex., Edirne Province, 'Adrianopol' (=Edirne), V.1894, leg. Flach, det. E. Geiser 2019 (SMF). 3 ♂, 3 ♀, Elazığ Province, Bölükelma Village, 38°49'43"N, 40°16'05"E, 1645 m, 17.IV.2018, leg. Ö.D. Kaya, det. A. Gök (UUDB). 1 ex., Şırnak Province, 5.V.1990, leg. H. Hebauer, det. E. Geiser 2019 (NHMUK).

Distribution in Turkey. Edirne, Adana, and Elazığ (present records, Figure 3).

Donacia polita is well known from southern Europe and North Africa. Both the European Turkey (Thrace) and Asian Turkey (Anatolia) records of this species are verified by museum collections and field work in Elazığ Province. For now, it is recorded for the first time from Turkey, as well as being a new record from Asia. These easternmost records significantly expand the distribution of the species.

Chorotype. Mediterranean.

Remarks. The specimens from Elazığ Province fit within the known morphological variations of the species, and no distinct difference is noticed.

Donacia simplex Fabricius, 1775

First province records, material examined. 1 ex., Sakarya Province, Sapanca Lake, leg. Bodemeyer, det. Goecke 1956 (SMF). 2 ex., Karabük Province, 29.V.1969, leg. P. Brignoli, det. E. Geiser 2019 (MSNV). 6 ♂, 10 ♀, Afyonkarahisar Province, Karamık

Marshland, on *Carex* sp., 38°24'46"N, 30°51'49"E, 1000 m, 19.V.2016, leg. et det. A.N. Ekiz (UUDB). 5 ♂, 2 ♀, Mersin Province, Göksu river delta, on *Typha* sp., 36°22'13"N, 34°00'05"E, 5 m, 12.VI.2016, leg. et det. A.N. Ekiz (UUDB). 3 ex., Kahramanmaraş Province, Göksun, Yeşilköy, 2.VI.2001, leg. M. Snížek, det. E. Geiser 2018 (OLML). 19 ex., Erzurum Province, Aşkale, 1800 m, 11.VII.1971, leg. G. Osella, det. E. Geiser 2019 (MSNV).

Additional province records, material examined. 1 ex., Bolu Province, Lake Abant, 1500 m. VII.1973, leg. G. Osella, det. E. Geiser 2019 (MSNV).

Distribution in Turkey. European Turkey: İstanbul (Ekiz et al. 2013); Asian Turkey: İstanbul, Muğla, Denizli, Düzce, Isparta, Zonguldak, Samsun (Ekiz et al. 2013), Bolu (Benato 1990). Sakarya, Karabük, Afyonkarahisar, Mersin, Kahramanmaraş, and Erzurum (present records, Figure 3). This species is widespread in the Palaearctic, as well as in Turkey.

Chorotype. Palaearctic.

***Donacia thalassina* Germar, 1811**

First province records, material examined. 1 ex., Adana Province, Saimbeyli, 12.VI.1998, leg. M. Halada, det. E. Geiser 2018 (OLML). 2 ex., Adana Province, Kozan, 13.VI.1998, leg. M. Snížek, det. E. Geiser 2018 (OLML). 6 ex., Kahramanmaraş Province, Göksun, Yeşilköy, 2.VI.2001, leg. M. Snížek, det. E. Geiser 2018 (OLML). 2 ex., Erzurum Province, Aşkale, 1800 m, 11.VII.1971, leg. G. Osella, det. E. Geiser 2019 (MSNV).

Distribution in Turkey. Asian Turkey: İzmir and Sivas; European Turkey (Ekiz et al. 2013). Adana, Kahramanmaraş, and Erzurum (present records, Figure 3).

Chorotype. Sibero-European.

Remarks. It is recorded from European and Asian parts of Turkey in the Palaearctic catalogue (Silfverberg 2010); however, province records in European Turkey are missing. Benato (1990) published two specimens as *Donacia antiqua* Kunze, 1818 but the specimens examined here actually belong to *D. thalassina* determined by E. Geiser. *Donacia antiqua* does not occur in Turkey.

***Donacia tomentosa* Ahrens, 1810**

First province records, material examined. 1 ex., Adana Province, Saimbeyli, 12.VI.1998, leg. M. Halada, det. E. Geiser 2018 (OLML). 2 ex., Adana Province, Kozan, 13.VI.1998, leg. M. Snížek, det. E. Geiser 2018 (OLML). 6 ex., Kahramanmaraş Province, Göksun, Yeşilköy, 2.VI.2001, leg. M. Snížek, det. E. Geiser 2018 (OLML). 7 ex., Erzurum Province, Aşkale, 1800 m, 11.VII.1971, leg. G. Osella, det. E. Geiser 2019 (MSNV). 1 ex., Şanlıurfa Province, Karacadağ, 3.VI.1987, leg.

M.A. Jäch, det. E. Geiser 2018 (NHMW). 4 ex., Hakkâri Province, Yüksekova, 03.VI.1987, leg. M.A. Jäch, det. E. Geiser 2018 (NHMW).

Additional province records, material examined. 1 ex., Giresun Province, Şebinkarahisar, 8.VII.1960, leg. Guichard & Harvey, det. E. Geiser 2019 (NHMUK).

Distribution in Turkey. Asian Turkey: Giresun (Ekiz et al. 2013). Adana, Kahramanmaraş, Erzurum, Şanlıurfa, and Hakkâri (present records, Figure 3).

Chorotype. Sibero-European.

Remarks. Little-known species in Turkey. One specimen of *D. cinerea* with the same data as published in Benato (1990) was re-identified as *D. tomentosa* (det. E. Geiser).

***Donacia vulgaris* Zschach, 1775**

First province records, material examined. 1 ex., Kayseri Province, Bakırdağ, 16.VI.1998, leg. M. Halada, det. E. Geiser 2018 (OLML).

Distribution in Turkey. Asian Turkey: Denizli, Karabük, Sinop, Kahramanmaraş, Erzurum (Ekiz et al. 2013); Çankırı (Bal et al. 2018); Bolu (Benato 1990). Kayseri (present record, Figure 3).

Chorotype. Sibero-European.

Genus *Macrolea* Samouelle, 1819

***Macrolea mutica* Fabricius, 1792**

Distribution in Turkey. Asian Turkey: Elazığ (Ekiz et al. 2013) (Figure 4). *Macrolea mutica* is a fully aquatic species distributed in the Palaearctic. As far as we know, this is the only species of the genus occurring in Turkey.

Chorotype. Palaearctic.

Genus *Plateumaris* Thomson, 1859

***Plateumaris consimilis* (Schrank, 1781)**

Distribution in Turkey. Asian Turkey: Bolu (Ekiz et al. 2013) and Çankırı (Bal et al. 2018) (Figure 4). Widely distributed in Europe and Asia but poorly known in Turkey.

Chorotype. Sibero-European.

***Plateumaris rustica* (Kunze, 1818)**

First country record, material examined. 6 ex., Bolu Province, Lake Abant, 1500 m, VII.1973, leg. G. Osella, det. E. Geiser 2019 (MSNV). 4 ex., Bolu Province, Lake Abant, 23–24.VI.1969, leg. V. Cottarelli, det. E. Geiser 2019 (MSNV). 2 ex., Bolu Province, Lake Abant, 1400–1600 m, 29.VI–3.VII.1972, leg. G. Osella, det. E. Geiser 2019 (MSNV).

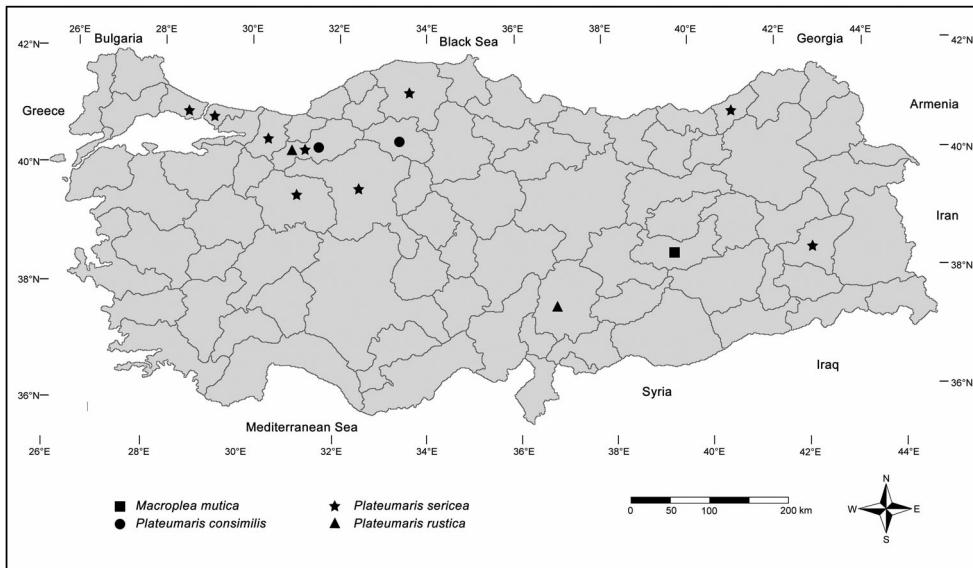


Figure 4. Distribution of *Macrolea mutica* Fabricius, 1792, *Plateumaris consimilis* (Schränk, 1781), *P. sericea* (Linnaeus, 1760), and *P. rustica* (Kunze, 1818) in Turkey.

Distribution in Turkey. Asian Turkey: Kahramanmaraş (Weise 1900; Reitter 1920), Bolu (present record, Figure 4).

Remarks. *Plateumaris rustica* has never been mentioned from Turkey, but *Plateumaris sulcifrons* Weise, 1900, a probable synonym of *P. rustica* sensu Askevold (1991), was reported in some older publications such as Weise (1900) and Reitter (1920). *Plateumaris sulcifrons* has been erroneously reported for decades from Malta in catalogues; however, Weise (1900) wrote only ‘Zeitun (Staudinger)’ for the location. It is obvious from the collecting trips of Otto Staudinger, a German entomologist, in Cilician Taurus that ‘Zeitun’ mentioned in Weise (1900) is actually ‘Zeytun’ District (now Süleymanlı) of today’s Kahramanmaraş Province of Turkey, not ‘Zeytun’ of Malta. This error was already corrected in the ‘errata for volume 6’ part of the catalogue of Palaearctic Coleoptera, volume 8 (Löbl and Smetana 2013); also, Reitter (1920) mentioned *P. sulcifrons* as from ‘Kleinasien (Zeitun)’. According to Askevold (1991), Weise (1900) described *P. sulcifrons* using the characters typical of *P. rustica*. The holotype of *P. sulcifrons* is missing, and nobody collected another specimen which was identified as *P. sulcifrons*. *Plateumaris sulcifrons* and also *P. affinis* (Kunze, 1818) were synonymised with *P. rustica* by Askevold (1991). As he suggested, the junior synonyms listed under *P. affinis* in Silfverberg (2010) are also transferred to *P. rustica*. The museum specimens examined in this paper verify the occurrence of *P. rustica* in Turkey.

***Plateumaris sericea* (Linnaeus, 1760)**

First province records, material examined. 10 ex., Sakarya Province, Sapanca Lake, leg. Bodemeyer, det. E. Geiser 2019 (SMF). 2 ex., Eskişehir Province, leg. Bodemeyer, det. E. Geiser 2019 (NHMW). 1 ex., Kastamonu Province, 900 m, 5.VII.1972, leg. G.

Osella, det. E. Geiser 2019 (MSNV). 1 ex., Bitlis Province, Tatvan, 1800 m, V.1971, leg. F. Schubert, det. E. Geiser 2019 (NHMW).

Additional province records, material examined. 1 ex., Bolu Province, Gerede, 29.V.1969, leg. G. Osella, det. E. Geiser 2019 (MSNV). 50 ex., Asia Minor (no further data), det. E. Geiser 2019 (SMF).

Distribution in Turkey. Asian Turkey: İstanbul, Ankara, Bolu, and Rize; European Turkey: İstanbul (Ekiz et al. 2013). Sakarya, Eskişehir, Kastamonu, and Bitlis (present records, Figure 4).

Chorotype. Sibero-European.

Acknowledgements

A substantial number of specimens studied for this article are stored in collections of the different museums. We are happy to thank the curators of these museums for their support during this research: Mauro Daccordi, Roberta Salmaso, and Leonardo Latella (MSNV), Matthias Borer, Eva Sprecher, and Christoph Germann (NHMB), Michael Geiser and Max Barclay (NHMUK), Manfred Jäch, Helena Shaverdo, Harald Schillhammer, and Wolfgang Schönleithner (NHMW), Martin Schwarz und Fritz Gusenleitner (OLML), Andrea Hastenpflug-Vesmanis and Damir Kovac (SMF). We also would like to thank Nathalie Yonow (Swansea, United Kingdom) for a linguistic review of our manuscript.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Askeveld, I.S. (1990), 'Reconstructed Phylogeny and Reclassification of the Genera of Donaciinae (Coleoptera: Chrysomelidae)', *Quaestiones Entomologicae*, 26, 600–664.
- Askeveld, I.S. (1991), 'Classification, Reconstructed Phylogeny, and Geographic History of the New World Members of *Plateumaris* Thompson, 1859 (Coleoptera: Chrysomelidae: Donaciinae)', *Memoirs of the Entomological Society of Canada*, 157, 5–175.
- Bal, N., Özdikmen, H., Özdamar, H., and Kiyak, S. (2018), 'Rare Leaf Beetles Records for the Fauna of Turkey (Chrysomelidae)', *Munis Entomology & Zoology*, 13, 441–446.
- Benato, P. (1990), 'Contributo Alla Conoscenza Delle Donaciinae di Turchia (Coleoptera, Chrysomelidae)', *Fragmenta Entomologica*, 22, 101–102.
- Borowiec, L. (2011), 'Chrysomelidae: The leaf beetles of Europe and the Mediterranean sub-region [checklist and iconography]'. Available at <http://www.cassidae.uni.wroc.pl/European%20Chrysomelidae>.
- Ekiz, A.N., Gök, A., Borowiec, L., and Bilginturan, S. (2009), 'Redescription of *Donacia kraatzii* Weise, 1881, a Poorly Known Aquatic Leaf Beetle, (Coleoptera: Chrysomelidae: Donaciinae), with Notes on Its Taxonomic Status and Geographical Distribution', *Deutsche Entomologische Zeitschrift*, 56, 299–302.
- Ekiz, A.N., Şen, İ., Aslan, E.G., and Gök, A. (2013), 'Checklist of Leaf Beetles (Coleoptera: Chrysomelidae) of Turkey, excluding Bruchinae', *Journal of Natural History*, 47, 2213–2287.

- Fabricius, J.C. (1775), *Systema Entomologiae Sistens Insectorum Classes, Ordines, Genera, Species, Adiectis Synonymis, Locis, Descriptionibus, Observationibus*, Flensburgi et Lipsiae: In Officina Libraria Kortii.
- Geiser, E. (2015), 'World checklist of freshwater Coleoptera: Chrysomelidae-Donaciinae species'. Available at <http://fada.biodiversity.be/group/show/65>.
- Goecke, H. (1959), '*Donacia delagrangei* Pic (Col. Chrys.)', 17. Beitrag zur Kenntnis der Donaciinen', *Entomologische Blätter*, 55, 172–175.
- Jäch, M.A., and Balke, M. (2008), 'Global diversity of water beetles (Coleoptera) in freshwater', *Hydrobiologia*, 595, 419–442.
- Jacobson, G.G. (1894), 'Materialia Ad Cognitionem Faunae Chrysomelidarum Provinciae Astrachanensis', *Horae Societatis Entomologicae Rossicae*, 28, 152–160.
- Jolivet, P., and Verma, K.K. (2002), *Biology of Leaf Beetles*, Andover: Intercept.
- Kippenberg, H. (2010), 'Beitrag zur Kenntnis von *Donacia delagrangei* Pic und *D. kraatzi* Weise (Coleoptera: Chrysomelidae: Donaciinae)', *Koleopterologische Rundschau*, 80, 183–188.
- Kunze, G. (1818), 'Beiträge zur Monographie der Rohrkäfer', *Neue Schriften der Naturforschenden Gesellschaft zu Halle*, 2, 1–56.
- Löbl, I., and Smetana, A. (2013), *Catalogue of Palaearctic Coleoptera* (Vol. 8), Leiden, Boston, MA: Brill.
- Mohr, K.H. (1966), 'Chrysomelidae', in *Die Käfer Mitteleuropas* (Vol. 9), eds. H. Freude, K.W. Harde, and G.A. Lohse, Krefeld: Goecke and Evers, pp. 95–299.
- Özdikmen, H., and Özbek, H. (2014), 'Chorotype Identification for Turkish Chrysomeloidea (Coleoptera) Part IV – Chrysomelidae: Donaciinae and Criocerinae', *Munis Entomology & Zoology*, 9, 161–169.
- Pic, M. (1896), 'Coléoptères d'Asie Mineure et de Syrie', *Miscellanea Entomologica*, 4, 35–36.
- Pic, M. (1908), 'Descriptions ou Diagnoses et Notes Diverses (Suite)', *L'Echange, Revue Linnéenne*, 24, 49–52.
- Reitter, E. (1920), 'Bestimmungs-Tabelle der Europäischen Donaciini, mit Berücksichtigung der Arten aus der Paläarktischen Region', *Wiener Entomologische Zeitung*, 38, 21–43.
- Semenov-Tian-Shanskij, A., and Reichardt, A. (1927), 'De Nova Donaciae Specie e Transcaucasia (Coleoptera, Chrysomelidae)', *Russkoe Entomologicheskoe Obozrenie*, 21, 218–219.
- Silfverberg, H. (2010), 'Subfamily Donaciinae', in *Catalogue of Palearctic Coleoptera* (Vol. 6), eds. I. Löbl and A. Smetana, Stenstrup: Apollo Books, pp. 354–359.
- Vigna Taglianti, A., Audisio, P.A., Biondi, M., Bologna, M.A., Carpaneto, G.M., De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A., and Zapparoli, M. (1999), 'A Proposal for a Chorotype Classification of the near East Fauna in the Framework of the Western Palearctic Region', *Biogeographia – the Journal of Integrative Biogeography*, 20, 31–59.
- Warchałowski, A. (2010), *The Palaearctic Chrysomelidae. Identification Keys* (Vols. 1 & 2). Warszawa: Natura Optima Dux Foundation.
- Weise, J. (1881), 'Chrysomelidae. Lieferung 1' in *Naturgeschichte der Insekten Deutschlands. Erste Abteilung Coleoptera. Sechster Band*, Berlin: Nicolaische Verlags-Buchhandlung, pp. 1–192.
- Weise, J. (1900), 'Beschreibungen von Chrysomeliden und synonymische Bemerkungen', *Archiv Für Naturgeschichte*, 66, 267–296.