

## RARE LEAF BEETLES RECORDS FOR THE FAUNA OF TURKEY (CHRYSOMELIDAE)

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**ABSTRACT:** We had the opportunity to study some rare material of Chrysomelidae collected during the expedition of Çankırı province in 2013-2015. As a result of this, a total of 10 rare species (3 species of Donaciinae, 1 species of Clytrinae, 2 species of Chrysomelinae and 4 species of Galerucinae) of Turkish leaf beetles were determined. All species are the first record for Çankırı province. Especially, 5 species of them are the second records for Turkey as *Donacia cinerea* Herbst in after 43 years and *Plateumaris consimilis* (Schrank) in after 7 years to the subfamily Donaciinae, *Chrysolina analis* (Linnaeus) in after 7 years and *Colaphellus sophiae amasiae* Machatschke in after 64 years to the subfamily Chrysomelinae, *Calomicrus circumfusus* (Marsham) in after 4 years and *Luperus floralis* Faldermann in after 15 years to the subfamily Galerucinae. In addition 5 of them are the new records for Western Black Sea region of Turkey, and also 4 of them are the new records for Central Anatolian region of Turkey.

**KEY WORDS:** Coleoptera, Chrysomelidae, fauna, new records, Çankırı, Turkey

This work is based on the specimens collected from Çankırı province. The province is located in Central Kızılırmak part in Central Anatolian region of Turkey (Özdikmen & Kaya, 2014). Çankırı is a province in the North of Central Anatolian region of Turkey. Northern counties of the province are in Western Black Sea region. It is bordered by Karabük and Kastamonu provinces in the North, Çorum province in the East, Kırıkkale province in the South-east, Ankara province in the South and Bolu province in the West. It is situated about 800 m above sea level. It has a total of 12 counties (incl. Center county) (Map 1). The counties of Çankırı province are Center, Atkaracalar, Bayramören, Çerkeş, Eldivan, Ilgaz, Kızılırmak, Korgun, Kurşunlu, Orta, Şabanözü and Yapraklı. Eldivan, Kızılırmak, Şabanözü, Yapraklı and Center counties are placed in Central Anatolian region of Turkey. The remaining 7 counties of Çankırı province are located in Western Black Sea region of Turkey.

The aim of the current work is to provide data on some new leaf beetles from Çankırı province in Turkey. New faunistic data on ten species are presented.

### MATERIALS AND METHODS

The available specimens for the present study were collected by the first author from Çankırı province in Turkey in 2013-2015. As a result of identification, 3 species of Donaciinae, 1 species of Clytrinae, 2 species of Chrysomelinae and 4 species of Galerucinae were determined as the new records. The available specimens for the present study are deposited at Gazi University (Turkey, Ankara).

The Turkish distribution patterns for each species are given only concerning provinces. For distribution data of the taxa, Löbl & Smetana (2010) for World and Ekiz et al. (2013), Özdikmen (2014), Özdikmen & Özbek (2014), Özdikmen &

Mercan (2014) and Özdikmen & Topcu (2014) for Turkey are used in the text chiefly.

## RESULTS AND DISCUSSIONS

Ten rare and new leaf beetles are presented as follows:

### **FAMILY CHRYSOMELIDAE Latreille, 1802**

#### **SUBFAMILY DONACIINAE Kirby, 1837**

#### **TRIBE DONACIINI Kirby, 1837**

#### **GENUS DONACIA Fabricius, 1775**

#### **SUBGENUS DONACIELLA Reitter, 1920**

#### **SPECIES *Donacia cinerea* Herbst, 1784**

The species has Sibero-European chorotype. It is distributed in Europe, European Russia, Western Siberia, Kazakhstan, Uzbekistan, Azerbaijan, Georgia, Iran and Asian Turkey (Anatolia). It is a very rare species for Turkey. It has been recorded only by Tomov & Gruev (1975) from Giresun province of Turkey until now. Then this record was repeatedly mentioned by Warchałowski (1985), Ekiz & Gök (2010), Ekiz et al. (2013) and Özdikmen & Özbek (2014). So the records in this work are the new records for Çankırı province and hereby Central Anatolian and Western Black Sea regions of Turkey. Moreover, they are the second records for Turkey in after 43 years.

Material examined: **Çankırı:** Bayramören, entry of Sazak, 40°59' N 33°05' E, 21.VIII.2014, 1408 m, 1 specimen; Center, between Karadayı-Alıca, 40°20' N 33°48' E, 16.V.2015, 538 m, 14 specimens; Kızılırmak, Yukarıalagöz village, 40°22' N 33°53' E, 16.V.2015, 642 m, 1 specimen; Kızılırmak, Hallaçlı village road, 40°20' N 33°58' E, 17.V.2015, 563 m, 8 specimens.

#### **SUBGENUS DONACIOMIMA Medvedev, 1973**

#### **SPECIES *Donacia vulgaris* Zschach, 1788**

This species is represented by the nominotypical subspecies in Turkey.

#### **SUBSPECIES *D. vulgaris vulgaris* Zschach, 1788**

The subspecies has Sibero-European chorotype. It is distributed in Europe, European Russia, Siberia, Far East Russia, Japan, China, Kazakhstan, Armenia, Azerbaijan, Georgia and Asian Turkey (Anatolia). It was firstly recorded by Benato (1990) from Erzurum, Karabük and Sinop provinces of Turkey. Then it was reported by Ekiz & Gök (2010) from Denizli province. Later Özdikmen (2011) mentioned it from Kahramanmaraş province. So the records in this work are the new records for Çankırı province and hereby Central Anatolian region of Turkey.

Material examined: **Çankırı:** Eldivan, Çiftlik-Sarıtarla return, 40°34' N 33°30' E, 14.V.2015, 837 m, 7 specimens.

### **TRIBE PLATEUMARINI Böving, 1922**

#### **GENUS PLATEUMARIS C. G. Thomson, 1859**

#### **SUBGENUS PLATEUMARIS C. G. Thomson, 1859**

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

The species has Sibero-European chorotype. It is distributed in Europe, European Russia, Western Siberia and Asian Turkey (Anatolia). It is a rare species for Turkey. It has been recorded only by Özdikmen (2011) from Bolu province of Turkey until now. Then this record was repeatedly mentioned by Ekiz et al. (2013) and Özdikmen & Özbek (2014). So the records in this work are the new records for Çankırı province and hereby Central Anatolian region of Turkey. Moreover, they are the second records for Turkey in after 7 years.

Material examined: **Çankırı:** Kurşunlu, exit of Köpürlü, 40°46' N 33°16' E, 06.VIII.2014, 1068 m, 2 specimens; Eldivan, Çiftlik-Sarıtarla return, 40°34' N 33°30' E, 14.V.2015, 837 m, 1 specimen.

**SUBFAMILY CLYTRINAE Kirby, 1837**

**TRIBE CLYTRINI Kirby, 1837**

**GENUS CLYTRA Laicharting, 1781**

**SUBGENUS CLYTRA Laicharting, 1781**

**SPECIES *Clytra quadripunctata* (Linnaeus, 1758)**

This species is represented by the nominotypical subspecies in Turkey.

**SUBSPECIES *C. quadripunctata quadripunctata* (Linnaeus, 1758)**

The subspecies has Sibero-European + Centralasiatic chorotype. It is distributed in Europe, European Russia, Siberia, Far East Russia, Afghanistan, Kirgizia, Kazakhstan, Mongolia, Tadjikistan, Turkmenistan, Uzbekistan, Azerbaijan, Georgia, Iran and Asian Turkey (Anatolia). It is a rare species for Turkey. It was firstly recorded by Tomov & Gruev (1975) from Erzurum province of Turkey. Then Aslan & Özbek (1998) again recorded it from Erzurum province. Later Özdikmen (2011) reported it from Ankara and Bolu provinces. Then these records were repeatedly mentioned by Ekiz et al. (2013) and Özdikmen & Mercan (2014). So the records in this work are the new record for Çankırı province as the fourth province from Turkey.

Material examined: **Çankırı:** Çerkeş, Yürükköyü, 40°54' N 32°52' E, 22.VI.2015, 970 m, 1 specimen; Yapraklı, entry of Kaymaz village, 40°43' N 33°54' E, 29.VI.2015, 1011 m, 1 specimen.

**SUBFAMILY CHRYSOMELINAE Latreille, 1802**

**TRIBE DORYPHORINI Motschulsky, 1860**

**GENUS CHRYSOLINA Motschulsky, 1860**

**SUBGENUS CHALCOIDEA Motschulsky, 1860**

**SPECIES *Chrysolina analis* (Linnaeus, 1767)**

The species has Mediterranean + C and E-European chorotype. It is distributed in Europe, European Russia, North Africa (Algeria) and Asian Turkey (Anatolia). It has been recorded only by Özdikmen (2011) from Afyonkarahisar, Aksaray, Ankara, Eskişehir, Karabük, Karaman, Kayseri, Niğde and Sinop provinces. Then these records were repeatedly mentioned by Ekiz et al. (2013) and Özdikmen (2014). So the record in this work is the new record for Çankırı province and hereby the second record for Turkey in after 7 years.

Material examined: **Çankırı:** Ilgaz, Sazak road, 40°55' N 33°40' E, 18.VI.2015, 910 m, 1 specimen.

**GENUS COLAPHELLUS Weise, 1916**

**SPECIES *Colaphellus sophiae* (Schaller, 1783)**

This species is represented by the nominotypical subspecies and *Colaphellus sophiae transsylvanicus* Machatschke, 1954 in Turkey.

**SUBSPECIES *C. sophiae amasiae* Machatschke, 1954**

The endemic subspecies has Anatolian chorotype. It was described by Machatschke (1954) from Amasya province of Turkey. Then the record was repeatedly mentioned by Ekiz et al. (2013) and Özdikmen (2014). So the records in this work are the new record for Çankırı province as the second province from Turkey and hereby Western Black Sea and Central Anatolian regions of Turkey. Moreover, they are the second records for Turkey in after 64 years.

Material examined: **Çankırı:** Ilgaz, Yaylaören village return, 40°52' N 33°30' E, 22.IV.2013, 914 m, 1 specimen; Korgun, entry of Ildızım village, 40°42' N 33°28' E, 23.IV.2013, 1031 m, 3 specimens; Kızılırmak, exit of Karamürsel village, 40°24' N 34°02' E,

24.IV.2014, 550 m, 1 specimen; Kızılırmak, 4 km to Cacıklar village, 40°23' N 34°04' E, 24.IV.2014, 597 m, 1 specimen; Kızılırmak, entry of Kuzeşyıkla village, 40°22' N 34°03' E, 24.IV.2014, 600 m, 2 specimens; Kuşunlu, between Köprülü-Kapaklı, 40°45' N 33°16' E, 20.V.2014, 1329 m, 5 specimens; Orta, exit of Sakaeli, 40°40' N 33°09' E, 21.V.2014, 1227 m, 2 specimens; Orta, Elden plateau, 40°39' N 32°57' E, 21.V.2014, 1487 m, 2 specimens; Orta, entry of İncecik village, 40°35' N 32°55' E, 22.V.2014, 1600 m, 1 specimen; İlgaz, entry of Gaziler, 41°54' N 33°35' E, 19.VII.2014, 885 m, 1 specimen; Bayramören, entry of Sazak, 40°59' N 33°05' E, 21.VIII.2014, 1408 m, 2 specimens; Bayramören, exit of Yurtpınar village, 40°56' N 33°9' E, 24.IV.2015, 829 m, 2 specimens; Center, between Ova-Kuzuköy, 40°31' N 33°54' E, 29.IV.2015, 703 m, 2 specimens; Center, between Kuzuköy-Çırcır villages, 40°30' N 33°57' E, 29.IV.2015, 615 m, 1 specimen; Kızılırmak, entry of Karamirsel village, 40°26' N 34°1' E, 01.V.2015, 569 m, 1 specimen; Şabanözü, entry of Karamusa village, 40°20' N 33°15' E, 12.V.2015, 848 m, 1 specimen; Kızılırmak, Yukarıalagöz village, 40°22' N 33°53' E, 16.V.2015, 642 m, 3 specimens; Kızılırmak, between Küçükbağçeli-Büyükbağçeli, 40°23' N 33°58' E, 16.V.2015, 560 m, 1 specimen.

**SUBFAMILY GALERUCINAE Latreille, 1802**  
**TRIBE LUPERINI Gistel, 1848**

**GENUS CALOMICRUS Dillwyn, 1829**

**SPECIES *Calomicrus angorensis* (Pic, 1912)**

The endemic species has Anatolian chorotype. It is distributed only in Asian Turkey (Anatolia). It is a rare species for Turkey. It has been recorded by Pic (1912), Tomov & Gruev (1975), Tomov (1984), Aslan (1998), Aslan et al. (2000) and Özdikmen & Topcu (2014) from Ankara, Çorum, Erzurum, Muş and Yozgat provinces of Turkey until now. So the records in this work are the new records for Çankırı province as the sixth province from Turkey and hereby Western Black Sea region of Turkey.

Material examined: **Çankırı:** İlgaz, exit of Alpagut village, 40°55' N 33°32' E, 26.VII.2013, 1170 m, 4 specimens; Bayramören, Karakışla village road, 40°57' N 33°09' E, 27.VII.2013, 916 m, 1 specimen; Çerkeş, between Kabak-Çaylı villages, 40°54' N 32°56' E, 25.VIII.2013, 1236 m, 1 specimen; Korgun, exit of Maruf village, 40°38' N 33°24' E, 08.VII.2014, 1193 m, 1 specimen; Orta, between Çerçi-Elmalı, 40°32' N 33°10' E, 08.VII.2014, 1227 m, 2 specimens; Center, Aşağışavuş village, 40°41' N 33°38' E, 15.VII.2014, 880 m, 3 specimens; İlgaz, Kırışlılar village, 40°55' N 33°29' E, 19.VII.2014, 1025 m, 2 specimens; Çerkeş, Coroğlu village return, 40°52' N 32°56' E, 20.VII.2014, 1434 m, 1 specimen; Orta, exit of Buğdüz village, 40°36' N 33°3' E, 06.VIII.2014, 1314 m, 3 specimens; Korgun, Kayaçivi, 40°41' N 33°27' E, 07.VIII.2014, 1005 m, 23 specimens; Orta, between Akcaören-Elmalı, 40°31' N 33°10' E, 07.VIII.2014, 1197 m, 2 specimens; Orta, entry of Elmalı, 40°32' N 33°9' E, 07.VIII.2014, 1280 m, 1 specimen; Orta, between Elmalı-Kayılar, 40°32' N 33°6' E, 07.VIII.2014, 1455 m, 1 specimen.

**SPECIES *Calomicrus circumfus* (Marsham, 1802)**

The species has Mediterranean chorotype. It is distributed in Europe, North Africa (Tunisia) and Asian Turkey (Anatolia). It is a rare species for Turkey. It has been recorded only by Gök & Duran (2004) from Isparta province of Turkey until now. Then this record was repeatedly mentioned by Ekiz et al. (2013) and Özdikmen & Topcu (2014). So the record in this work is the new record for Çankırı province and hereby Western Black Sea region of Turkey. Moreover, it is the second record for Turkey in after 4 years.

Material examined: **Çankırı:** İlgaz, between Şeyhyunus-Ericek villages, 40°49' N 33°31' E, 18.VI.2015, 1438 m, 1 specimen.

**GENUS LUPERUS Geoffroy, 1762**

**SPECIES *Luperus floralis* Faldermann, 1837**

The species has SW-Asiatic (Anatolo-Caucasian) chorotype. It is distributed only in Azerbaijan and Asian Turkey (Anatolia). It is a rare species for Turkey. It

has been recorded only by Aslan et al. (2003) from Bayburt, Erzurum and Rize provinces of Turkey until now. Then this record was repeatedly mentioned by Ekiz et al. (2013) and Özdikmen & Topcu (2014). So the records in this work are the new records for Çankırı province and hereby Western Black Sea region of Turkey. Moreover, they are the second record for Turkey in after 15 years.

Material examined: **Çankırı**: Ilgaz, between Belören-Şeyhyunus, 40°52' N 33°31' E, 27.V.2015, 889 m, 1 specimen; Ilgaz, between Aşıklar-Kayı villages, 40°55' N 33°26' E, 29.V.2015, 1256 m, 1 specimen; Çerkeş, between Cedine-Kabakköy, 40°53' N 32°55' E, 20.VI.2015, 1355 m, 1 specimen; Çerkeş, exit of Avşar village, 40°54' N 33°00' E, 20.VI.2015, 1197 m, 1 specimen; Atkaracalar, Eyüpözü return, 40°53' N 33°7' E, 22.VI.2015, 1185 m, 1 specimen; Çerkeş, Akbaş-Kuzuören-Çayı-Kabak-Yıprak villages return, 40°53' N 32°48'58" E, 22.VI.2015, 1257 m, 1 specimen.

## GENUS *NYMPHIUS* Weise, 1900

### SPECIES *Nymphius forcipifer* (Weise, 1900)

The endemic species has Anatolian chorotype. It is distributed only in Asian Turkey (Anatolia). It is a rare species for Turkey. It has been recorded by Weise (1900), Gök & Duran (2004), Gök & Çilbiroğlu (2005), Bezdek (2008) and Şen & Gök (2009) from Afyonkarahisar, Ankara, Eskişehir, Isparta and Konya provinces of Turkey until now. Then these records were repeatedly mentioned by Ekiz et al. (2013) and Özdikmen & Topcu (2014). So the record in this work is the new record for Çankırı province as the sixth province from Turkey.

Material examined: **Çankırı**: Eldivan, entry of İnandık village, 40°25' N 33°32' E, 13.V.2015, 884 m, 1 specimen.

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Map 1. Çankırı province.