

Faunistic Studies on the Species of the Subfamily Clytrinae (Coleoptera, Chrysomelidae) of Dedegöl Mountains (Isparta)*

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Abstract: We determined 20 species belonging to seven genera in the subfamily Clytrinae from Dedegöl Mountains and the vicinity between 1996 and 1998. Among them, *Cheilotoma beldei* Kasap is an endemic species for Turkey. Although the distribution area of *Labidostomis peregrina* Weise (Caucasus, Azerbaijan, Georgia, Iran and Russia) is known, it has also been reported from the East Anatolian region of Turkey. The present study reports it from the western part of Turkey. The body part figures of taxonomic importance for each species are presented. In addition, their distribution generally and in Turkey are given.

Key Words: Chrysomelidae, Clytrinae, Fauna, Systematic, Dedegöl Mountains

Dedegöl Dağları (Isparta) Clytrinae (Coleoptera, Chrysomelidae) Altfamilyasının Türleri Üzerine Faunistik Çalışmalar

Özet: 1996-1998 yılları arasında Dedegöl Dağları ve civarından sürdürülen bu çalışma ile Clytrinae altfamilyasında 7 cinse ait toplam 20 tür belirlendi. Bunlar arasında; *Cheilotoma beldei* Kasap Türkiye için endemik bir türdür. *Labidostomis peregrina* Weise'nin dağılım alanı Kafkaslar, Azerbaycan, Gürcistan, İran ve Rusya'dır. Bu tür şu ana kadar Türkiye'nin sadece Doğu Anadolu Bölgesinden bildirilmiş olmasına rağmen bu çalışma ile Batısında da bulunduğu ortaya konmuştur. Çalışmada ele alınan her bir türün taksonomik öneme sahip vücut kısımlarının şekilleri, ayrıca genel ve Türkiye'deki dağılımları verilmiştir.

Anahtar Sözcükler: Chrysomelidae, Clytrinae, Fauna, Sistematik, Dedegöl Dağları

Introduction

The subfamily Clytrinae is characterized by its serrate antennae, and the middle (II-IV) abdominal sternites, which are narrowed medially and have a deep median pit in the apical sternite of the female abdomen (Booth et al., 1990).

Although the subfamily contains 62 genera belonging to six tribes in the world, it consists of 38 genera in one tribe in the Palearctic region (Seeno and Wilcox, 1982). The subfamily of Clytrinae is represented in eight genera in Turkey (Kasap, 1987a, b). In Turkey, studies dealing with the subfamily Clytrinae were initiated by foreign researchers after 1800. These researchers (Heyden, 1886; Weise, 1897, 1900; Reineck, 1908) described some new species. Later researchers (Medvedev, 1970a, 1975; Tomov and Gruev, 1975; Gruev and Tomov, 1979) made important contributions to Clytrinae fauna in Turkey. Kasap (1980, 1987a, b), Aydın and Kısmalı

(1990), Aslan (1997) and Aslan and Özbek (1998, 2000), who are Turkish researchers, made important faunistic and systematical studies on the subfamily Clytrinae in Central Anatolia, and the Aegean and East Anatolian regions, respectively. However, no comprehensive study has been performed for the Mediterranean region, and Isparta province in particular. Dedegöl Mountains have transition characteristics between the Mediterranean and Central Anatolian regions. Therefore, the district has different geographical locations, and various habitats and vegetations. In conclusion, the aim of this study was to determine the species existing in the Dedegöl Mountains.

Materials and Methods

Adult specimens of the Clytrinae were collected from the Dedegöl Mountains and the vicinity between 1996 and 1998. Known standard methods were used for the

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collection, preparation and protection of the samples. The samples were diagnosed using the identification key given by Portevin (1934), Mohr (1966), Kasap (1980), Lopatin (1984), Warchalowski (1991a) and Aslan and Özbek (1998). A diagnosis key to the species was prepared. The body parts of some species and the aedeagus were drawn under microscope. The samples were deposited in Süleyman Demirel University, Science and Art Faculty in the Department of Biology.

Results and Discussion

Genus: *LABIDOSTOMIS* Germar, 1822

Key to the species of *Labidostomis*

- 1. Labrum black.....2
 - Labrum partly or completely yellow.....4
- 2. Head and pronotum with hairs.....3
 - Head and pronotum without hairs; aedeagus as in Figure 1.....*longimana* (L.)
- 3. Elytra matte, reddish; apical part of mandibles dark purplish-brown; aedeagus as in Figure 2.....*rufa* (Waltl)
 - Elytra bright, dark yellow; apical part of mandibles brownish; aedeagus as in Figure 3.....*asiatica* Falderman
- 4. Head and pronotum with dense and long silvery hairs; spermatheca as in Figure 4.....*oertzeni* Weise
 - Head and pronotum with sparse and short hairs or pronotum entirely hairless.....5
- 5. Body thin; less than 6.5 mm in length; aedeagus as in Figure 5*karamanica* Weise
 - Body thick; more than 6.5 mm in length..... 6
- 6. Clypeus with two denticles; pronotum with blackish-green reflection, anterior margin of pronotum deeply emarginated in the median (Figure 6)*peregrina* Weise
 - Clypeus with three denticles; pronotum blackish-blue, anterior margin of pronotum slightly emarginated; aedeagus as in Figure 7 *mesopotamica* Heyden

***Labidostomis asiatica* Falderman, 1837**

Materials: Aksu, Yakaköy, 1325 m, 25.05.1998, 7♂♂, 8♀♀; Aksu, Elecik village, 1330 m, 30.05.1998, 6♂♂, 9♀♀.

General Distribution: Armenia, Caucasus, Iran, Syria (Clavareau, 1913; Winkler, 1932); Caucasus, Turkey (Warchalowski, 1985).

Distribution in Turkey: Trabzon (Lefèvre, 1872); Amasya (Weise, 1884); Bilecik, Mersin (Bodemeyer, 1906); İzmir (Sahlberg, 1913); Amasya, Erzurum (Tomov and Gruev, 1975); Elazığ, Erzurum, Kayseri (Warchalowski, 1985); Afyon, Ankara, Bilecik, Konya (Kasap, 1987a); Aydın, Balıkesir, İzmir, Manisa, Muğla (Aydın and Kismalı, 1990); Erzurum (Aslan and Özbek, 1998).

***Labidostomis karamanica* Weise, 1900**

Materials: Aksu, Yakaköy vicinity 1400m, 30.05.1998, 7♂♂, 6♀♀; 06.06.1998, 4♂♂, 3♀♀; 14.06.1998, 2♂♂, 4♀♀; 13.07.1998, ♂.

General Distribution: Cyprus, Northwest Syria, Turkey (Warchalowski, 1985).

Distribution in Turkey: Mersin (Weise, 1900); Bilecik (Bodemeyer, 1906); Mersin (Tomov and Gruev, 1975); Adana, Mersin, Toros Mountains (Warchalowski, 1985).

***Labidostomis longimana* (Linnaeus, 1758)**

Materials: Between the villages of Yaka and Yenişarbademli, 1400 m, 04.07.1998, 2♂♂, 3♀♀.

General Distribution: Widespread from France to Mongolia (Warchalowski, 1985).

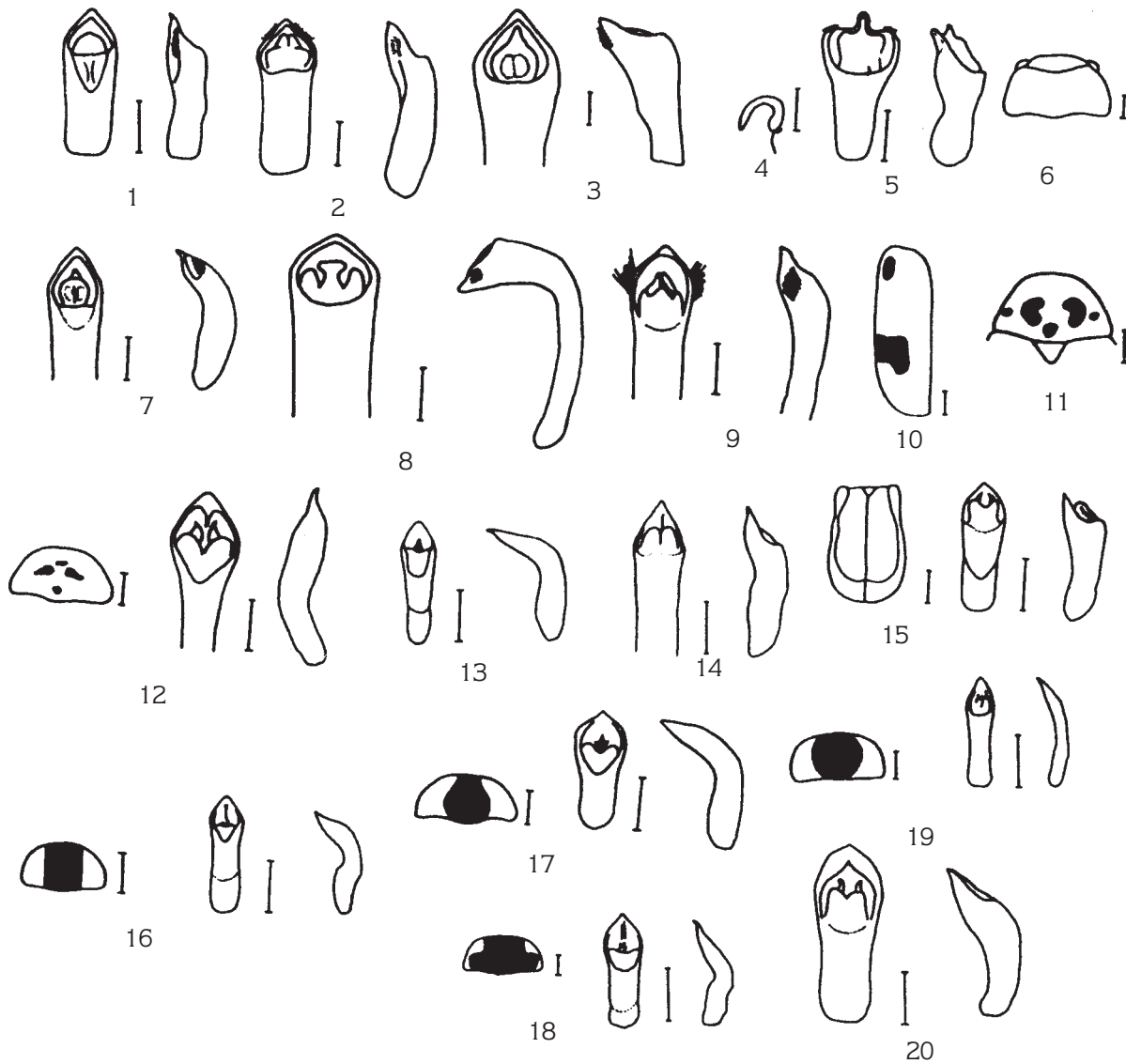
Distribution in Turkey: Samsun (Tomov and Gruev, 1975); Ankara (Gruev and Tomov, 1979); Ankara, Kayseri, Nevşehir, Sivas, Yozgat (Kasap, 1987a); Balıkesir (Aydın and Kismalı, 1990); Erzurum (Aslan and Özbek, 1998).

***Labidostomis mesopotamica* Heyden, 1886**

Materials: Between Yenişarbademli and Yakaköy, 1550 m, 06.06.1998, ♂, 2♀♀.

General Distribution: Syria (Clavareau, 1913), Turkey (Warchalowski, 1985).

Distribution in Turkey: Malatya (Heyden, 1886; Weise, 1897); Ankara, Bilecik, Bursa, Eskişehir, Kocaeli, Konya, Nevşehir, Niğde, (Warchalowski, 1985); Ankara, Bilecik, Eskişehir, Kırşehir, Yozgat (Kasap, 1987a);



Figures 1-20. Aedeagus (dorsal and lateral view), Scale: 0.5 mm; Pronotum, elytra and spermatheca (dorsal view), Scale: 1 mm.

1. *Labidostomis longimana* (L.) 2. *L. rufa* (Waltl) 3. *L. asiatica* Falderman 4. *L. oertzeni* Weise (spermatheca) 5. *L. karamanica* Weise 6. *L. peregrina* Weise (pronotum) 7. *L. mesopotamica* Heyden 8. *Lachnaia sexpunctata* (Scopoli) 9. *Antipa macropus* (Illiger) 10. *Clytra laeviscula* (Ratzeburg) 11. *C. atraphaxidis* (Pallas) 12. *C. novempunctata* Oliver. 13. *Smaragdina tibialis* (Brulle) 14. *S. biornata* (Lefevre) 15. *S. limbata* (Steven) 16. *S. vaulogeri* Pic 17. *S. xanthaspis* (Germar) 18. *S. flavicollis* (Charpentier) 19. *Cheilotoma beldei* Kasap and 20. *Coptocephala unifasciata* (Scopoli).

Denizli, İzmir, Muğla (Aydın and Kismalı, 1990);
Erzincan, Erzurum (Aslan and Özbek, 1998).

***Labidostomis oertzeni* Weise, 1889**

Materials: Aksu, Yakaköy vicinity, 1550 m,
13.07.1998, 2♀♀

General Distribution: Bulgaria, Greece, South
Yugoslavia, Rhodes, Turkey (Warchalowski, 1985).

Distribution in Turkey: Erzurum (Tomov and Gruev,
1975); Ankara (Kasap, 1980); Amasya, İzmir, Kırklareli
(Warchalowski, 1985); Ankara, İstanbul, İzmir (Kasap,
1987a); İzmir, Manisa, Muğla (Warchalowski, 1985).

***Labidostomis peregrina* Weise, 1900**

Materials: Between Yenişarbademli and Yakaköy, 1400 m, 20.06.1998, 2♀♀

General Distribution: Armenia, Azerbaijan, Caucasus, East Europe, Georgia, Iran, Russia, Turkey (Warchalowski, 1985).

Distribution in Turkey: Erzincan, Erzurum, (Aslan and Özbek, 1998; Warchalowski, 1985)

***Labidostomis rufa* (Waltl, 1838)**

Materials: Aksu, Elecik village, 1300 m, 20.04.1998, 5♂♂, 7♀♀, 04.05.1998, 10♂♂, 14♀♀; Aksu, Yakaköy vicinity, 1400 m, 24.05.1998, 2♀♀; 30.05.1998, ♀; 13.06.1998, ♀.

General Distribution: Bulgaria, Greece, Turkey, Yugoslavia (Warchalowski, 1985)

Distribution in Turkey: İstanbul, İzmir (Lefèvre, 1872); Amasya (Weise, 1884); Afyon (Bodemeyer, 1906); Bilecik (Weise, 1900); İzmir (Sahlberg, 1913); Amasya (Medvedev, 1970a; Tomov and Gruev, 1975); Ankara (Gruev and Tomov, 1979); Ankara, Konya, Nevşehir (Kasap, 1987a); Denizli, İzmir, Manisa (Aydın and Kismalı, 1990); Erzincan, Erzurum (Aslan and Özbek, 1998).

Genus: *LACHNAIA* Chevrolat, 1837

***Lachnaia sexpunctata* (Scopoli, 1763)**

Materials: Between Yenişarbademli and Yakaköy, 1400 m, 25.05.1997, 7♂♂, 11♀♀; 14.06.1997, 10♂♂, 12♀♀; Aksu, Yakaköy, 1325 m, 02.05.1998, 2♂♂, 3♀♀; 23.05.1998, 4♂♂, 10♀♀; 24.05.1998, 5♂♂, 8♀♀; Aksu, Katip village, 1350 m, 30.05.1998, 12♂♂, 6♀♀; 13.07.1998, 2♂♂, 4♀♀.

General Distribution: Balkans, Central and East Europe, England, Turkey (Warchalowski, 1991a; Winkler, 1932; Gruev and Tomov, 1984).

Distribution in Turkey: Mersin (Bodemeyer, 1900); Bilecik (Bodemeyer, 1906); Bursa (İzmit) (Medvedev, 1970a); Ankara (Tomov and Gruev, 1975); Çorum, Konya, Yozgat (Kasap, 1987a).

Genus: *ANTIPA* De Geer, 1778

***Antipa macropus* (Illiger, 1800)**

Materials: Between Yenişarbademli and Yakaköy, 1400 m, 19.07.1997, 20 ♂♂, 31♀♀; Aksu, Koçular village, 1300 m, 20.06.1998, 13 ♂♂, 15♀♀.

General Distribution: Austria, Iran, South Russia, Spain, Syria, Tunisia (Clavareau, 1913); Turkey (Winkler, 1932); Austria, Middle Europe, Slovakia (Mohr, 1966); Caucasus, North and Central Europe, Syria, Turkmenistan, Uzbekistan, West Iran (Lopatin, 1984).

Distribution in Turkey: Aydın, Konya (Bodemeyer, 1900); Anatolia (Winkler, 1932); Ankara, Konya, Sivas (Kasap, 1987a); Çanakkale, İzmir, Muğla (Aydın and Kismalı, 1990); Artvin, Erzurum (Aslan and Özbek, 1998).

Genus: *CLYTRA* Laicharting, 1781

Key to the species of *Clytra*

1. Pronotum usually yellow-red with black spots.....2
- Pronotum completely black; elytra as in Figure 10*laeviscula* (Ratzeburg)
2. Body thick, plumpish; pronotum narrows anteriorly; pronotum patterns as in Figure 11; tibia and tarsus entirely yellow-red, the other parts black*atraxoidis* (Pallas)
- Body thin; pronotum normal; legs completely black; aedeagus as in Figure 12*novempunctata* Oliver

***Clytra (Cyltraria) atraxoidis* (Pallas, 1773)**

Materials: Aksu, Koçular village, 1330 m, 08.07.1997, 3♀♀; Aksu, Yakaköy, 1325 m, 25.08.1998, 2♀♀

General Distribution: Iran, Russia, South Europe, Turkey (Medvedev, 1961); Caucasus, Crimea, Iran, Kazakhstan, Northwest Asia, Turkey, West and South Europe (Lopatin, 1984); Bulgaria, Caucasus, Central Asia, Kazakhstan, South Europe, Turkey (Gruev and Tomov, 1984).

Distribution in Turkey: Konya (Bodemeyer, 1900; Ganglbauer, 1905); Anatolia (Sahlberg, 1913); Denizli, İzmir (Tuatay et al., 1972); Amasya, Eskişehir, İzmir (Gül-Zümreoğlu, 1972); Ankara, Edirne (Tomov and Gruev, 1975); Ankara, İzmir (Kasap, 1987b); Aydın, İzmir, Manisa (Aydın and Kismalı, 1990); Artvin, Erzincan, Erzurum (Aslan and Özbek, 1998).

***Clytra (Clytra) laeviscula* (Ratzeburg, 1837)**

Materials: Aksu, Koçular village, 1300 m, 09.06.1996, 15♀♀; 14.06.1997, 17♀♀; 30.05.1998, 4♀♀

General Distribution: Europe, Japan, Siberia (Clavareau, 1913; Winkler, 1932; Medvedev, 1961); Caucasus, Central and Southwest Europe, East Afghanistan, Kazakhstan, Kirghizstan, Northeast China, Northeast Siberia, Turkey (Lopatin, 1984); Central Europe, Northwest Africa (Warchalowski, 1991a).

Distribution in Turkey: Denizli (Sahlberg, 1913); Ankara, Kayseri (Tomov and Gruev, 1975); Afyon, Kayseri, Konya (Kasap, 1987a); İzmir (Aydın and Kismalı, 1990); Erzincan, Erzurum (Aslan and Özbek, 1998).

***Clytra (Clytraria) novempunctata* Oliver, 1808**

Materials: Aksu, Yakaköy, 1325 m, 09.06.1996, 3♂♂, 5♀♀; Aksu, Koçular Köyü, 1300 m, 03.06.1997, 10♂♂, 18♀♀; Between Yenişarbademli and Yakaköy, 1500 m, 30.05.1998, 10♂♂, 12♀♀; Aksu, Belence village, 950 m, 20.06.1998, 14♂♂, 23♀♀; 04.07.1998, 3♂♂, 4♀♀.

General Distribution: Balkans, Caucasus, Cyprus, Northwest Iran, Northeast Africa, Sicily, Syria, Turkey, Turkmenistan (Medvedev, 1970b); Caucasus, Greece, Iraq, Northeast Africa, Northwest Asia, Northwest Iran, Yugoslavia, Turkmenistan (Lopatin, 1984; Warchalowski, 1991a; Gruev and Tomov, 1984).

Distribution in Turkey: Konya (Bodemeyer, 1900); Kayseri (Ganglbauer, 1905); Amasya, İzmir, Manisa (Gül-Zumreoğlu, 1972); Amasya, Ankara, Giresun, Mersin, Niğde (Tomov and Gruev, 1975); Ankara, Çorum, Isparta, Kayseri, Konya, Niğde, Sivas, Yozgat (Kasap, 1987a); Aydın, Denizli, İzmir, Manisa, Muğla, Uşak (Aydın and Kismalı, 1990); Artvin, Erzurum (Aslan and Özbek, 1998).

Genus: SMARAGDINA Chevrolat, 1837

Key to the species of *Smaragdina*

1. Pronotum unicolor, metallic green, blueish green or black.....2
 - Pronotum not unicolor, with black band from anterior to posterior in the middle4
2. Elytra completely black; distal parts of femur, tibia and tarsus yellow-red; aedeagus as in Figure 13.....*tibialis* (Brulle)
 - Elytra metallic green, blueish green, legs entirely metallic green or black3
- 3 Elytra with round yellow spots at apex; mandibles in male strong; forelegs longer than the others; aedeagus as in Figure 14*biornata* (Lefèvre)

- Elytra without spots at apex; lateral regions of elytra yellowish-brown; mandibles in male small; forelegs as long as the others; aedeagus as in Figure 15*limbata* (Steven)
- 4. Black band of pronotum enlarged from anterior to posterior.....5
 - Black band of pronotum not as above, parallel; aedeagus as in Figure 16*vaulogeri* Pic
- 5. Body big, plump; elytra with dense and rough punctations; aedeagus as in Figure 17*xanthaspis* Germar
 - Body small; elytra with sparse and small punctations; aedeagus as in Figure 18*flavicollis* (Charpentier)

***Smaragdina biornata* (Lefèvre, 1872)**

Materials: Between Yenişarbademli and Yakaköy, 1500 m, 09.06.1996, 2♀♀; 31.05.1997, 2♂♂, 2♀♀; 14.06.1997, 5♂♂, 12♀♀; Sütçüler, Tota Mountain, 1750 m, 06.06.1998, 11♂♂, 8♀♀; 07.06.1998, 5♂♂, 7♀♀; 25.06.1998, 7♂♂, 10♀♀.

General Distribution: Transcaucasus, Turkey (Clavareau, 1913; Winkler, 1932).

Distribution in Turkey: Amasya, Ankara, Bolu, Gümüşhane (Tomov and Gruev, 1975); Ankara (Gruev and Tomov, 1979); Ankara, Bolu, Çankırı, Çorum, Kayseri, Kırşehir, Konya, Nevşehir, Sivas, Yozgat (Kasap, 1987b); İzmir (Aydın and Kismalı, 1990); Erzincan, Erzurum (Aslan and Özbek, 1998).

***Smaragdina (Monrosia) flavicollis* (Charpentier, 1825)**

Materials: Between Yenişarbademli and Yakaköy, 1400 m, 23.05.1998, 2♀♀; 29.05.1998, 5♂♂, 7♀♀; 30.05.1998, 6♂♂, 5♀♀; 12.06.1998, ♀.

General Distribution: Algeria, Balkans, Central and North Europe, Turkey (Kasap, 1987b; Gruev and Tomov, 1984).

Distribution in Turkey: Amasya (Pic, 1897); Amasya, Mersin (Medvedev, 1970a; Tomov and Gruev, 1975); Amasya, Çorum, Sivas, Yozgat (Kasap, 1987b).

***Smaragdina limbata* (Steven, 1806)**

Materials: Aksu, Yakaavşar, 1350 m, 08.06.1997, 10♂♂, 17♀♀; Aksu, Yakaköy, 1325 m, 14.06.1997 23♂♂, 41♀♀; 23.05.1998, 12♂♂, 8♀♀; Sütçüler, Tota Mountain,

1700 m, 24.05.1998, 10♂♂, 11♀♀; 29.05.1998, 5♂♂, 3♀♀.

General Distribution: Caucasus, Greece, South Russia, Turkey, (Clavareau, 1913; Winkler, 1932); Balkans, Caucasus, Turkey (Gruev and Tomov, 1984); Bulgaria, Cyprus, Iran, Israel, Macedonia, Serbia, Syria (Warchalowski, 1991a).

Distribution in Turkey: Bilecik, Eskişehir, Mersin (Bodemeyer, 1900); İzmir (Sahlberg, 1913); Amasya, Ankara, Bursa, Samsun (Medvedev, 1970a); Diyarbakır (Tuatay et al., 1972); Afyon, İzmir, Manisa (Gül-Zumreoğlu, 1972); Amasya, Bolu, Bursa, İstanbul, Muğla, Samsun (Tomov and Gruev, 1975); Ankara (Gruev and Tomov, 1979); Amasya, Ankara, Çorum, Isparta, Konya, Yozgat (Kasap, 1987b); Aydın, Balıkesir, Çanakkale, Denizli, İzmir, Manisa, Muğla, Uşak (Aydın and Kismalı, 1990); Erzincan, Erzurum (Aslan and Özbek, 1998).

***Smaragdina (Monrosia) tibialis* (Brulle, 1832)**

Materials: Aksu, Terziler village, 1350 m, 20.05.1997, 5♂♂, 9♀♀; 02.05.1998, ♂, ♀; Aksu, Elecik village, 1300 m, 23.05.1998, 4♂♂, 4♀♀; 30.05.1998, 5♂♂, 8♀♀.

General Distribution: Balkans, Cyprus, Syria, Turkey (Warchalowski, 1991a; Winkler, 1932; Gruev and Tomov, 1984).

Distribution in Turkey: İstanbul (Kraatz, 1872); Konya (Bodemeyer, 1900); Ankara, Bolu, Bursa (Medvedev, 1970a); Amasya (Gül-Zumreoğlu, 1972); Ankara, Çankırı, Çorum (Kasap, 1987b); Balıkesir, İzmir, Manisa, Muğla (Aydın and Kismalı, 1990).

***Smaragdina (Monrosia) vaulogeri* Pic, 1894**

Materials: Between Yenişarbademli and Yakaköy, 1500 m, 02.05.1998, 2♂♂, 3♀♀; 09.05.1998, 2♂♂, ♀.

General Distribution: Syria, (Clavareau, 1913; Winkler, 1932).

Distribution in Turkey: Isparta (Gök and Ayvaz, 2000)

***Smaragdina (Monrosia) xanthaspis* (Germar, 1824)**

Materials: Between Yenişarbademli and Yakaköy, 1550 m, 09.06.1996, 4♂♂, 3♀♀; 08.07.1997, 2♀♀; 19.07.1997, 10♂♂, 10♀♀; 31.07.1997, 5♂♂, 7♀♀; 07.06.1998, ♂, ♀; 20.06.1998, 8♂♂, 7♀♀; 04.07.1998, 17♂♂, 13♀♀; 11.07.1998, 2♂♂, 6♀♀.

General Distribution: South and Middle Europe, Syria, Turkey (Warchalowski, 1991a; Clavareau, 1913; Winkler, 1932; Gruev and Tomov, 1984).

Distribution in Turkey: Bilecik (Bodemeyer, 1906); Bursa (Medvedev, 1970a); Amasya, Ankara, Artvin, Trabzon (Tomov and Gruev, 1975); Ankara, Çorum, Kayseri, (Kasap, 1987b); Artvin, Erzincan (Aslan and Özbek, 1998).

Genus: *CHEILOTOMA* Chevrolat, 1837

***Cheilotoma beldei* Kasap, 1984**

Materials: Between Yenişarbademli and Yakaköy, 1500 m, 24.05.1997, 4♂♂, 7♀♀; 20.06.1998, 8♂♂, 13♀♀.

General Distribution: Turkey (Kasap, 1984). Endemic to Turkey.

Distribution in Turkey: Ankara, Eskişehir, Nevşehir, Sivas (Kasap, 1984)

Genus: *COPTOCEPHALA* Chevrolat, 1837

***Coptocephala unifasciata* (Scopoli, 1763)**

Materials: Aksu, Anamas plateau, 1500 m, 18.08.1996, 4♂♂, 3♀♀; 08.07.1997, ♂, ♀; 19.07.1997, 2♂♂; Between Yenişarbademli and Yakaköy, 1550 m, 31.07.1997, 2♂♂, 2♀♀; 19.08.1997, ♀.

General Distribution: Europe, Greece, Russia, Siberia, Syria, Turkey, Turkistan (Clavareau, 1913), Central Asia, European part of Russia except in the north, Kazakhstan, Siberia, Turkmenistan (Lopatin, 1984), Austria, Bulgaria, France, Germany, Italy, Poland, Romania, Yugoslavia (Warchalowski, 1991b).

Distribution in Turkey: Ankara, Hatay, Mersin (Weise, 1884); Ankara, Kayseri, Sivas (Kasap, 1987b); Aydın, Balıkesir, Çanakkale, İzmir, Muğla (Aydın and Kismalı, 1990); Erzurum (Aslan and Özbek, 1998).

Discussion

The subfamily Clytrinae has been represented by approximately 70 species in eight genera in Turkey. In the present study, 20 species belonging to seven genera were recorded. *C. novempunctata* and *S. limbata* were recorded previously from Isparta (Kasap, 1980). The rest of the species are newly recorded from Isparta. *C. beldei* is an endemic species for Turkey. The type locality of the species *L. karamanica*, *L. mesopotamica*, *L. rufa*

and *S. biornata* is in Turkey. The distribution area of *L. peregrina* is Caucasus, Azerbaijan, Georgia, Iran and Russia. Although this species has been reported from the East Anatolian region by Warchalowski (1985) and Aslan and Özbek (1998), it is also known to be present in the western part of Turkey as a result of this study.

L. peregrina, *L. mesopotamica*, *L. oertzeni*, *L. longimana* and *C. atraphaxidis* were less abundant species in the area. Only the females *L. peregrina*, *L. oertzeni*, and *C. atraphaxidis* species were found. Although there was a high density of *C. laeviscula*, no male specimens were collected in the area.

Adults of Clytrinae usually prefer the young leaves of plants belonging to Fabaceae, Rosaceae and Fagaceae.

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