

**Orijinal araştırma (Original article)**

**Notes on rove beetles (Coleoptera: Staphylinidae)  
collected by light traps from integrated cherry  
orchards in Izmir province of Turkey**

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**Summary**

In this study, Staphylinidae species collected by light trap method in Kemalpaşa district, Izmir province, Western Turkey during the years of 2005-2007 have been evaluated. A total of 16 species belonging to 13 genera have been recorded. Among those seven species [*Tachyporus nitidulus* (Fabricius, 1781), *Aleochara laticornis* Kraatz, 1856, *Aleochara tristis* Gravenhorst, 1806, *Anotylus inustus* (Gravenhorst, 1806), *Carpelimus bilineatus* Stephens, 1834, *Carpelimus insularis* (Kraatz, 1858), *Homaeotarsus chaudirii* Hochhuth, 1851] were reported for the first time from Aegean Region of Turkey.

**Key words:** Staphylinidae, cherry orchards, fauna, light traps, Turkey

**Anahtar sözcükler:** Staphylinidae, kiraz bahçeleri, fauna, ışık tuzak, Türkiye

**Introduction**

The family Staphylinidae (rove beetles) is one of the largest families of beetles, with about 45 700 known species (Herman, 2001). A total of 1 520 species are currently known from Turkey (Anlaş, 2007). The species of Staphylinidae are distributed worldwide in almost all types of ecosystems. The rove beetles most often occur in association with decaying organic materials, as predators of other invertebrates, as parasites of birds and mammals, as inquilines of ants or termites, in fungi, leaf litter, caves, under the bark of fallen trees, and numerous other habitats. Most species of Staphylinidae are capable of flying, adults often respond to light, some adults are wingless and other species show variation in wing length (Frank & Kanamitsu, 1987; Newton et al., 2000). Up to now, only one study focusing on the Staphylinidae fauna of organic cherry orchards of Turkey has been published (Tezcan & Amiryanyan, 2003). The

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aim of the present study is to determine the Staphylinidae fauna of the integrated cherry orchards of Izmir province of Turkey by using light traps in 2005-2007.

## **Material and Methods**

The rove beetles were collected in integrated cherry orchards in Yukarı Kızılcıca Village (Izmir-Kemalpaşa) by using light traps in 2005-2007. Studies were conducted in four orchards in size of about 0,5 hectare for each. The common varieties in those orchards were "Sapıkısa, Early Burlat, Kemalpaşa Napolyon, Salihli" and ipm applications were realised under the rules of Anonymous (2001). One light trap on the ground was used for each area from the mid June to the mid September. A 20 watt Philips energy saver white day light bulb was used at each trap and traps were cleared at two weeks' intervals. Material were identified by the second author and were deposited both in the collection of Prof. Dr. Niyazi Lodos Museum (LEMT) of Plant Protection Department, Faculty of Agriculture, Ege University, Izmir, Turkey and in the private collection of the second author. In this paper, Löbl & Smetana (2004) was considered in classification and nomenclature of the rove beetles.

## **Results and Discussion**

Species gathered from 13 genera in this study as follows:

### **Tachyporinae MacLeay, 1825**

#### ***Tachyporus nitidulus* (Fabricius, 1781)**

**Material examined:** 2 exs., 11.VIII.2006; 3 exs., 31.VIII.2007. Totally 5 specimens.

**Distribution in Turkey:** Kayseri, Mersin (Peyron, 1858; Fauvel, 1875; Ganglbauer, 1905; Sahlberg, 1912-1913; Coiffait, 1978; Herman, 2001; Löbl & Smetana, 2004). First record for Aegean Region of Turkey.

### **Aleocharinae Fleming, 1821**

#### ***Aleochara laticornis* Kraatz, 1856**

**Material examined:** 1 ex., 24.VIII.2006; 2 exs., 08.IX.2006; 2 exs., 14.VIII.2007; 1 ex., 31.VIII.2007. Totally 6 specimens.

**Distribution in Turkey:** Antalya, Hatay (Antakya), Konya, Mersin (Bernhauer, 1901; Scheerpeltz, 1960; Horion, 1967; Löbl & Smetana, 2004; Assing, 2007a). First record for Aegean Region of Turkey.

#### ***Aleochara tristis* Gravenhorst, 1806**

**Material examined:** 2 exs., 11.VIII.2006; 1 ex., 24.VIII.2006; 3 exs., 14.VIII.2007; 2 exs., 31.VIII.2007. Totally 8 specimens.

**Distribution in Turkey:** Artvin, Bingöl, Bitlis, Erzurum, Gaziantep, Hatay (Antakya), Kahramanmaraş, Konya, Malatya, Mardin, Mersin, Osmaniye (Deyrolle, 1873; Horion, 1967; Löbl & Smetana, 2004; Assing, 2007a). First record for Aegean Region of Turkey.

#### **Oxytelinae Fleming, 1821**

##### ***Anotylus inustus* (Gravenhorst, 1806)**

**Material examined:** 1 ex., 11.VIII.2006; 2 exs., 31.VIII.2007. Totally 3 specimens.

**Distribution in Turkey:** Adana, İstanbul, Mersin (Peyron, 1858; Fauvel, 1872; Ganglbauer, 1905; Scheerpeltz, 1958; Horion, 1963; Smetana, 1967; Herman, 2001; Löbl & Smetana, 2004). First record for Aegean Region of Turkey.

##### ***Carpelimus bilineatus* Stephens, 1834**

**Material examined:** 3 exs., 28.VI.2005; 4 exs., 11.VIII.2006; 2 exs., 24. VIII.2006; 2 exs., 14.VIII.2007. Totally 11 specimens.

**Distribution in Turkey:** Adana, Ankara, Mersin, Niğde (Smetana, 1967; Herman, 2001; Löbl & Smetana, 2004). First record for Aegean Region of Turkey.

##### ***Carpelimus insularis* (Kraatz, 1858)**

**Material examined:** 2 exs., 28.VI.2005; 1 ex., 27.VII.2006; 2 exs., 14.VIII.2007. Totally 5 specimens.

**Distribution in Turkey:** Adana, Antalya, Kilis, Mersin (Smetana, 1967; Löbl & Smetana, 2004; Schülke, 2004). First record for Aegean Region of Turkey.

#### **Paederinae Fleming, 1821**

##### ***Domene stilicina* (Erichson, 1840)**

**Material examined:** 2 exs., 19.VII.2006. Totally 2 specimens.

**Distribution in Turkey:** Manisa, Mersin (Sahlberg, 1912-1913; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

##### ***Homaeotarsus chaudirii* Hochhuth, 1851**

**Material examined:** 1 ex., 11.VIII.2006. Totally 1 specimen.

**Distribution in Turkey:** Adana (Rambousek, 1906; Coiffait, 1984; Löbl & Smetana, 2004). First record for Aegean Region of Turkey.

##### ***Medon fuscus* (Mannerheim, 1830)**

**Material examined:** 2 exs., 28.VI.2005; 3 exs., 11.VIII.2006; 1 ex., 14.VIII.2007. Totally 6 specimens.

**Distribution in Turkey:** Adana, Adiyaman, Amasya, Ankara, Antalya, Aydın, Bingöl, Bitlis, Bolu, Denizli, Hatay (Antakya), İsparta, İstanbul, İzmir, Kahramanmaraş, Kastamonu, Kocaeli, Konya, Manisa, Mardin, Mersin, Muğla, Ordu, Osmaniye, Sinop, Tokat, Yalova, Zonguldak (Sahlberg, 1912-1913; Assing, 2004, 2004a, 2006, 2007b, c; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

***Medon dilutus pythonissa* (Saulcy, 1865)**

**Material examined:** 1 ex., 28.VI.2005. Totally 1 specimen.

**Distribution in Turkey:** Ankara, Antalya, Aydın, Balıkesir, Denizli, Hatay (Antakya), İstanbul, İzmir, Kahramanmaraş, Konya, Manisa, Mersin, Muğla, Niğde (Fagel, 1970; Bordoni, 1980; Assing, 2004, 2004a, 2006, 2007b, c; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

***Paederus fuscipes* Curtis, 1826**

**Material examined:** 3 exs., 19.VII.2006. Totally 3 specimens.

**Distribution in Turkey:** İzmir (Kemalpaşa-Armutlu), Manisa, Trabzon (Sahlberg, 1912-1913; Fagel, 1963; Öncüler, 1991; Tezcan & Amiryar, 2003; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

***Pseudomedon obsoletus* (Nordmann, 1837)**

**Material examined:** 1 ex., 28.VI.2005. Totally 1 specimen.

**Distribution in Turkey:** Manisa (Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

***Scopaeus bicolor* Baudi di Selve, 1848**

**Material examined:** 7 exs., 19.VII.2006; 1 ex., 27.VII.2006; 15 exs., 11.VIII.2006; 4 exs., 24. VIII.2006; 11 exs., 08.IX.2006; 23 exs., 14.VIII.2007; 7 exs., 31.VIII.2007. Totally 68 specimens.

**Distribution in Turkey:** Manisa, Trabzon (Korge, 1971; Coiffait, 1984; Frisch et al., 2002; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

***Sunius melanocephalus* (Fabricius, 1793)**

**Material examined:** 2 exs., 19.VII.2006. Totally 2 specimens.

**Distribution in Turkey:** Bolu, Burdur, Erzincan, İstanbul, Kars, Kastamonu, Manisa, Muğla, Samsun, Sinop, Zonguldak (Assing, 2001, 2005; Löbl & Smetana, 2004; Anlaş & Çevik, 2008).

**Staphylininae Latreille, 1802**

***Gabrieus nigritulus* (Gravenhorst, 1802)**

**Material examined:** 1 ex., 19.VII.2006; 1 ex., 14.VIII.2007. Totally 2 specimens.

**Distribution in Turkey:** Adana (Suluhan-Toros), Ankara (Hasanođlan), İzmir (Kemalpařa-Armutlu), Konya, Manisa (Muradiye), Mersin (Peyron, 1858; Fauvel, 1874; Smetana, 1953, 1967a; Herman, 2001; Tezcan & Amiryan, 2003; Löbl & Smetana, 2004).

***Xantholinus rufipennis* Erichson, 1839**

**Material examined:** 1 ex., 19.VII.2006. Totally 1 specimen.

**Distribution in Turkey:** Antakya, Antalya, Bilecik, Bursa, Çanakkale, Diyarbakır, Gaziantep, İstanbul, İzmir, Kahramanmarař, Kilis, Manisa, Mardin, Mersin, Muđla, Zonguldak (Sahlberg, 1912-1913; Coiffait, 1966, 1972; Bordoni, 1971, 1976, 1994; Öncüer, 1991; Herman, 2001; Assing, 2003, 2006a, 2007; Löbl & Smetana, 2004).

In this study, a total of 16 species belonging to 13 genera were recorded in integrated cherry orchards in the village of Yukarı Kızılca (Kemalpařa, İzmir) at western Turkey. Four species (*Domene stilicina*, *Pseudomedon obsoletus*, *Scopaeus bicolor*, *Sunius melanocephalus*) were recorded for the first time from İzmir province and seven species (*Tachyporus nitidulus*, *Aleochara laticornis*, *A. tristis*, *Anotylus inustus*, *Carpelimus bilineatus*, *C. insularis* and *Homaetarsus chaudirii*) were recorded for the first time from Aegean Region of Turkey. Among those, *P. fuscipes* and *G. nigrifulus* had been recorded from ecologically managed cherry orchards by sticky yellow traps (Tezcan & Amiryan, 2003).

The total number of specimens collected from orchards were 9 in 2005; 67 in 2006 and 49 in 2007. Among those, *S. bicolor* was the more abundant species than the others. The species of *C. bilineatus*, *A. tristis*, *A. laticornis*, and *Medon fusculus* were followed them with 11, 8, 6, 6 individuals, respectively.

The total numbers of captured species were 5 in 2005; 14 in 2006 and 9 in 2007. The number of species found only in 2005 were two (*M. dilutus pythonissa*, *P. obsoletus*), but it was five in 2006 (*D. stilicina*, *H. chaudirii*, *P. fuscipes*, *S. melanocephalus*, *X. rufipennis*); the numbers of species captured in both 2006 and 2007 were six (*T. nitidulus*, *A. laticornis*, *A. tristis*, *A. inustus*, *S. bicolor*, *G. nigrifulus*) and the number of species captured during the three years period were three (*C. bilineatus*, *C. insularis*, *M. fusculus*).

We have not encountered any study regarding the collection of staphylinid beetles by light traps in the studies conducted beforehand. But despite this, we have obtained information on the collection of the species belonging to the genera *Aleochara*, *Anotylus* and *Carpelimus* by flight intercept traps (Chatzimanolis et al., 2004), and *Paederus*, *Oxytelus* and *Tachyporus* by window traps (Markgraf & Basedov, 2002). It is hoped that

current data will be contributed other studies that will be carried out both in other cultures and in other locations in Turkey.

## Özet

### İzmir yöresi entegre kiraz bahçelerinde ışık tuzaklarla yakalanan Staphilinid'ler (Coleoptera: Staphylinidae) üzerine notlar

Bu çalışmada İzmir-Kemalpaşa'daki entegre kiraz bahçelerinde 2005-2007 yıllarında ışık tuzaklarıyla toplanan Staphilinid'ler değerlendirilmiştir. Çalışmanın sonunda 13 cinsle bağlı 16 tür belirlenmiştir. Bunlardan yedisi [*Tachyporus nitidulus* (Fabricius, 1781), *Aleochara laticornis* Kraatz, 1856, *Aleochara tristis* Gravenhorst, 1806, *Anotylus inustus* (Gravenhorst, 1806), *Carpelimus bilineatus* Stephens, 1834, *Carpelimus insularis* (Kraatz, 1858), *Homaeotarsus chaudirii* Hochhuth, 1851] Ege Bölgesi'nden ilk kez bildirilmiştir.

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