

## New and Additional Notes on the Aleocharinae Subfamily (Coleoptera: Staphylinidae) of Türkiye

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**Abstract:** In this study, new and additional records of 15 species of the Aleocharinae subfamily (Coleoptera: Staphylinidae) are presented from Türkiye. Among them, *Dinusa cretica* Assing, 2013 is the first record from Türkiye. Besides, *Autalia longicornis* Scheerpeltz, 1947 and *Maurachelia roubali* (Lohse, 1970) from the Marmara Region and *Enalodroma hepatica* (Erichson, 1839) from the Aegean Region are reported for the first time. In addition, new records are given for many provinces of Türkiye.

**Keywords:** New records, fauna, endemism, Anatolia.

### Türkiye Aleocharinae (Coleoptera: Staphylinidae) Altfamilyası Üzerine Yeni ve Ek Notlar

**Öz:** Bu çalışmada, Aleocharinae (Coleoptera: Staphylinidae) alt familyasına ait 15 türün Türkiye'den yeni ve ek kayıtları sunulmaktadır. Bunlar arasından, *Dinusa cretica* Assing, 2013, Türkiye'den ilk kez kaydedilmiştir. Ayrıca, *Autalia longicornis* Scheerpeltz, 1947 ve *Maurachelia roubali* (Lohse, 1970) Marmara Bölgesi'nden ve *Enalodroma hepatica* (Erichson, 1839) Ege Bölgesi'nden ilk kez rapor edilmiştir. Ayrıca, Türkiye'nin birçok ili için yeni kayıtlar verilmiştir.

**Anahtar kelimeler:** Yeni kayıtlar, fauna, endemizm, Anadolu.

#### 1. Introduction

The Staphylinidae family is the most diverse group of the Coleoptera order, comprising more than 64.000 valid species belonging to 33 subfamilies in the world, over 16.500 of them belonging to the Aleocharinae subfamily (Newton, 2019).

According to Anlaş (2007), Turkey, especially Anatolia, is one of the most interesting countries in terms of staphylinid taxonomy and biogeography. The Turkish fauna comprises most of the staphylinid subfamilies occurring the Palaearctic region and includes many endemic species.

The Staphylinidae family currently includes more than 2000 species from Turkey (Anlaş, 2009; updated, Schülke & Smetana, 2015). About 700 of them are restricted to Anatolia and represent more than 30% of the Turkish staphylinid fauna (Anlaş, 2009; updated). Even some genera have an endemism rate of almost one hundred percent. The staphylinid genera and subgenera with the highest diversity of endemic species in Turkey are *Geostiba* (83 endemics of 88 species), *Sunius* (43 endemics of 39 species), and *Eurysunius* (24 endemics of 25 species) (Anlaş, 2009, 2020, 2021, 2022; Örgel & Anlaş, 2020; Örgel, 2021).

In Turkey, the Aleocharinae subfamily contains 620 species (Anlaş, 2009; updated). The Aleocharinae species can be found in many habitats, mostly in moist places, under stones, on streams, in leaf litter of forest and meadows, and in decaying matter. In addition, many species are known as predator and parasitoid of pests. Especially some *Aleochara* species are parasitoids of

Diptera pest species and, at the same time, they can be very effective as biological control agents (Özgen & Mamay, 2022).

The aim of this study is to give new faunistic records on Turkish Aleocharinae fauna.

#### 2. Material and Methods

The present paper is based on the material collected during many field studies from different provinces of Turkey (Fig. 1 and Table 1) between the years of 2013 and 2017. The specimens have been collected by pitfall trap, shifting, and aspirator.



Figure 1. Locations in Anatolia in which the material used in this study were collected.

The morphological studies were carried out by a Stemi 508 (Zeiss Oberkochen, Germany) stereomicroscope. Habitus and forebody photographs of the new record for Turkey (*Dinusa cretica*) were taken with a Zeiss Axiocam ERC5s digital camera. Adobe Photoshop 2020 was used for focus stacking of these photos.

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CorelDRAW Graphics Suite X7 was used for editing photographs and drawings of median lobe of aedeagus in lateral view and spermatheca. The map was generated using the Google Earth Pro. Classification and

nomenclature were made according to Newton (2019) and Schülke and Smetana (2015). The material referred to in this study is stored in the Alaşehir Zoological Museum, Manisa (AZMM).

Table 1. Information about coordinates of locations in distribution map.

Species	Province	Latitude	Longitude
<i>Aleochara (Coprochara) bipustulata</i>	Denizli	38°02'50"N	28°46'11"E
	Kütahya	39°15'37"N	28°48'37"E
		38°57'04"N	29°39'26"E
<i>Aleochara (Ceranota) erythroptera</i>	Denizli	37°37'01"N	29°26'55"E
	İzmir (Bozdağlar)	unknown	unknown
<i>Aleochara (Xenochara) grandeguttata</i>	Afyonkarahisar	38°39'42"N	30°06'05"E
	Kütahya	38°56'15"N	29°35'45"E
<i>Aleochara (Aleochara) lata</i>	Antalya	37°07'57"N	31°33'48"E
<i>Aleochara (Rheochara) leptocera</i>	Denizli	37°40'37"N	29°17'10"E
<i>Aleochara (Ceranota) subtumida</i>	İzmir (Bozdağlar)	unknown	unknown
<i>Amarochara (Lasiochara) siculifera</i>	Antalya	36°30'49"N	32°10'02"E
<i>Autalia longicornis</i>	Bursa	39°48'40"N	28°56'04"E
<i>Dinusa cretica</i>	Aydın	37°39'54"N	27°13'04"E
<i>Ocalea (Ocalea) ruficollis</i>	Aydın	37°39'45"N	28°15'51"E
	Denizli	38°18'03"N	29°54'39"E
	Manisa	38°51'40"N	28°49'11"E
<i>Maurachelia roubali</i>	Balıkesir	39°13'17"N	28°01'50"E
<i>Tetralaucopora longitarsis</i>	Aydın	37°41'10"N	27°14'33"E
	Balıkesir	39°18'57"N	28°23'53"E
	İzmir	38°23'41"N	28°02'54"E
<i>Liogluta longiuscula</i>	Adıyaman	37°53'07"N	37°43'05"E
	Afyonkarahisar	38°39'42"N	30°06'05"E
	Antalya	36°30'49"N	32°10'02"E
	Denizli	37°19'57"N	29°10'47"E
	Elazığ (Hazarbaba)	unknown	unknown
<i>Enalodroma hepatica</i>	Kütahya	39°02'52"N	29°17'46"E
<i>Pseudosemiris kaufmanni</i>	İzmir	38°17'26"N	28°01'06"E

### 3. Results

Family: Staphylinidae Latreille, 1802

Subfamily: Aleocharinae Fleming, 1821

Tribe: Aleocharini Fleming, 1821

*Aleochara (Coprochara) bipustulata* (Linnaeus, 1760)

*Material examined.* Denizli: 4 exs., 30.V.2014, Buldan, Yaylagöl, 1155 m, 38°02'50"N, 28°46'11"E, leg. Örgel. Kütahya: 5 exs., 01.VI.2015, Simav, Akdağ, 1963 m, 39°15'37"N, 28°48'37"E, leg. Örgel & Yağmur; 2 exs., 19.VI.2013, Gediz, Murat Mts., 2073 m, 38°57'04"N, 29°39'26"E, leg. Örgel & Yağmur.

*Distribution in the world.* This species is widely distributed in Europe, Asia, and North Africa (Schülke & Smetana, 2015).

*Distribution in Turkey.* Widespread in Turkey (Anlaş, 2009; Özgen, 2011; Sert et al., 2014, 2015, 2021; Tezcan et al., 2019).

*Aleochara (Ceranota) erythroptera* Gravenhorst, 1806

*Material examined.* Denizli: 3 exs., 17.IV.2015, Acıpayam, Elmadağ, 1659 m, 37°37'01"N, 29°26'55"E, leg. Örgel & Altın. İzmir: 1 ex., 15.IV.2014, Bozdağ Mts., Sazlı, leg. Örgel.

*Distribution in the world.* *A. erythroptera* is widely distributed in Europe and known from Israel and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* This species is known from Aydın, Denizli, Erzurum, İzmir, Kahramanmaraş, Kayseri, Kırşehir, Konya, Muğla, and Osmaniye provinces (Anlaş, 2009; Assing, 2018; Sert et al., 2015).

*Aleochara (Xenochara) grandeguttata* Assing, 2009

*Material examined.* Afyonkarahisar: 2 exs., 02.V.2015, Ahır Mts., 1925 m, 38°39'42"N, 30°06'05"E, leg. Örgel & Altın. Kütahya: 2 exs., 03.V.2015, Murat Mts., 1754 m, 38°56'15"N, 29°35'45"E, leg. Örgel & Yağmur.

*Distribution in the world.* *A. grandeguttata* is known from

Armenia, Hungary, Romania, and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* This species is known from Adana, Afyonkarahisar, Aksaray, Artvin, Bitlis, Burdur, Erzurum, Eskişehir, Gümüşhane, Hakkari, Isparta, Kayseri, Konya, Ordu, Samsun, Sinop, and Yozgat provinces (Anlaş, 2009; Assing, 2009a, 2013a; Sert et al., 2015; Örgel & Yağmur, 2021).

*Aleochara (Aleochara) lata* Gravenhorst, 1802

*Material examined.* Antalya: 1 ex., 30.IV.2016, İbradı, İbradı-Derebucak Hwy., 1337 m, 37°07'57"N, 31°33'48"E, leg. Kunt.

*Distribution in the world.* According to Schülke and Smetana (2015), this species widely distributed in Europe and Asia and known from Afrotropical Nearctic and Neotropical regions.

*Distribution in Turkey.* Ankara, Antalya, Karaman, and Konya (Anlaş, 2009; Anlaş & Rose, 2011; Sert et al., 2014, 2015).

*Aleochara (Rheochara) leptocera* Eppelsheim, 1889

*Material examined.* Denizli: 3 exs., 13.VI.2013, Honaz Mts., 2500 m, 37°40'37"N, 29°17'10"E, leg. Örgel & Anlaş.

*Distribution in the world.* The known distribution of this species is confined to Iran, Israel, Lebanon, Syria, and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* This species was known from Denizli, Kahramanmaraş, and Karaman provinces (Anlaş, 2009; Assing, 2007, 2009a, 2011, 2018).

*Aleochara (Ceranota) subtumida* (Hochhuth, 1849)

*Material examined.* İzmir: 2 exs., 14.IV.2014, Bozdağ Mts., Sorguncuk, leg. Örgel.

*Distribution in the world.* This species is distributed in Azerbaijan, Armenia, Georgia, Russia, and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* Bitlis, Bolu, Düzce, Gümüşhane, İzmir, Kahramanmaraş, Kastamonu, Kocaeli, Samsun, Sinop, and Zonguldak (Anlaş, 2009; Assing, 2013a, 2018).

*Amarochara (Lasiochara) siculifera* Assing, 2002

*Material examined.* Antalya: 2 exs., 30.III.2016, Alanya, Mahmutlar, Laertes Ancient City, 872 m, 36°30'49"N, 32°10'02"E, leg. Kunt.

*Distribution in the world.* This species is endemic to Anatolia (Schülke & Smetana, 2015).

*Distribution in Turkey.* *A. siculifera* was known from Adana, Hatay, and Mersin provinces (Anlaş, 2009; Assing, 2013a, 2015).

Tribe: Autaliini Thomson, 1859

*Autalia longicornis* Scheerpeltz, 1947

*Material examined.* Bursa: 3 exs., 02.VI.2015, Büyükorhan 5 km NE, 779 m, 39°48'40"N, 28°56'04"E, leg. Yağmur.

*Distribution in the world.* According to Schülke and Smetana (2015), this species widely distributed in Europe and known from Iran, Syria, and Turkey.

*Distribution in Turkey.* Antalya, Bartın, and Sinop (Anlaş, 2009; Assing, 2014).

Tribe Oxypodini Thomson, 1859

*Dinusa cretica* Assing, 2013 (Fig. 2)

*Material examined.* Aydın: 3 exs., 05.IV.2015, Kuşadası National Park, 866 m, 37°39'54"N, 27°13'04"E, leg. Örgel & Yağmur.

*Distribution in the world.* This species was known only from Crete and Karpathos Islands (Greece) until this study (Assing, 2016; Schülke & Smetana, 2015).

*Distribution in Turkey.* *D. cretica* is recorded for the first time from Turkey.

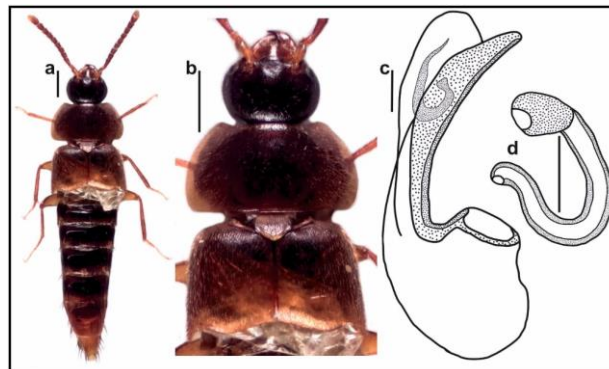


Figure 2. *Dinusa cretica* Assing, 2013. a) habitus; b) forebody; c) median lobe of aedeagus in lateral view; d) spermatheca. Scale bars: 0.5 mm (a, b) and 0.1 mm (c, d).

*Ocalea (Ocalea) ruficollis* Eppelsheim, 1888

*Material examined.* Aydın: 4 exs., 02.V.2013, Bozdoğan, Madran Yaylası, 1103 m, 37°39'45"N, 28°15'51"E, leg. Örgel & Yağmur. Denizli: 5 exs., 14.X.2013, Çivril, Işıklı, 843 m, 38°18'03"N, 29°54'39"E, leg. Örgel & Yağmur. Manisa: 2 exs., 14.III.2014, Selendi, Dedeler, 972 m, 38°51'40"N, 28°49'11"E, leg. Örgel & Yağmur.

*Distribution in the world.* This species is distributed in Algeria, Bosnia Herzegovina, Bulgaria, Greece, and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* Aksaray, Antalya, Artvin, Bolu, Çankırı, Eskişehir, Giresun, İstanbul, Kayseri, Kırşehir, Manisa, Nevşehir, Niğde, Sivas, Yozgat, and Zonguldak (Anlaş, 2009; Anlaş & Rose, 2011; Assing 2014; Sert et al., 2015, 2021).

*Maurachelia roubali* (Lohse, 1970)

*Material examined.* Balıkesir: 2 exs., 31.III.2016, Sındırgı, Koçu Mts., 1023 m, 39°13'17"N, 28°01'50"E, leg. Örgel & Yaman.

*Distribution in the world.* This species is distributed in Austria, Greece, Hungary, Slovakia, and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* *M. roubali* was only recorded from Isparta province in southern Anatolia by Assing (2013a).

*Tetralaucopora longitarsis* (Erichson, 1839)

*Material examined.* Aydın: 3 exs., 03.V.2013, Güzelçamlı, 3 km N, 503 m, 37°41'10"N, 27°14'33"E, leg. Örgel & Yağmur. Balıkesir: 2 exs., 13.IV.2014, Sındırgı, Ulus Mts., 1675 m,

39°18'57"N, 28°23'53"E, leg. Örgel & Yağmur. İzmir: 1 ex., 15.IV.2014, Bozdağlar, Çamurhamamı, 1513 m, 38°23'41"N, 28°02'54"E, leg. Örgel.

*Distribution in the world.* This species is widely distributed in Europe, Asia, and North Africa (Schülke & Smetana, 2015).

*Distribution in Turkey.* Adana, Amasya, Antalya, Artvin, Gümüşhane, İzmir, Konya, Manisa, Mersin, Niğde, and Yozgat (Anlaş, 2009; Anlaş & Rose, 2011; Assing, 2014, 2021; Sert et al., 2015, 2021; Örgel & Yağmur, 2021).

Tribe: Athetini Casey, 1910

*Liogluta longiuscula* (Gravenhorst, 1802)

*Material examined.* Adıyaman: 3 exs., 06.IV.2017, Gölbaşı-Kapıdere road, 1173 m, 37°53'07"N, 37°43'05"E, leg. Örgel & Yağmur. Afyonkarahisar: 3 exs., 02.V.2015, Ahır Mts., 1925 m, 38°39'42"N, 30°06'05"E, leg. Örgel & Altın. Antalya: 1 ex., 30.III.2016, Alanya, Mahmutlar, Laertes Ancient City, 872 m, 36°30'49"N, 32°10'02"E, leg. Kunt. Denizli: 2 exs., 03.V.2014, Bozdağ Mts., ski center, 2036 m, 37°19'57"N, 29°10'47"E, leg. Örgel. Elazığ: 1 ex., 23.IV.2017, Sivrice, Hazar Baba, leg. Örgen.

*Distribution in the world.* This species is widely distributed in Europe, Asia, and North Africa (Schülke & Smetana, 2015).

*Distribution in Turkey.* Widespread in Turkey (Anlaş, 2009; Assing, 2010, 2013a, 2014).

Tribe: Geostibini SeEVERS, 1978

*Enalodroma hepatica* (Erichson, 1839)

*Material examined.* Kütahya: 3 exs., 10.V.2015, Şaphane Mts., 1736 m, 39°02'52"N, 29°17'46"E, leg. Örgel & Yağmur.

*Distribution in the world.* This species is widely distributed in Europe and known from South Korea and Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* *E. hepatica* was only recorded from Bitlis and Konya provinces (Assing 2009b, 2013a).

*Pseudosemiris kaufmanni* (Eppelsheim, 1887)

*Material examined.* İzmir: 5 exs., 25.III-12.X.2017, Ödemiş, 794 m, 38°17'26"N, 28°01'06"E, Pitfall trap, leg Yağmur.

*Distribution in the world.* *P. kaufmanni* is widely distributed in Europe and known from Turkey (Schülke & Smetana, 2015).

*Distribution in Turkey.* This species was only recorded from Antalya and Muğla provinces (Anlaş, 2009).

#### 4. Discussion

In the study, a total of 70 individuals belonging to the Aleocharinae subfamily were examined and 15 species from Turkey were identified. Among them, *Aleochara (Coprochara) bipustulata* is widespread in Turkey but it is recorded for the first time from Denizli and Kütahya provinces with this study. *Amarochara (Lasiochara) siculifera* was only known from Adana, Hatay, and Mersin provinces and it is most probably endemic to the Taurus Mountains (southern of Anatolia) and it is recorded for the first time from Antalya Province. *Autalia longicornis* was recorded from the Mediterranean, Western and Central

Black Sea regions of Turkey and it is recorded for the first time from the Marmara Region. Therefore, this species is most probably widespread in Turkey but its distribution could not be revealed due to insufficient studies. *Dinusa cretica* was described from two specimens collected in the Dikti Oros (Crete Island (Greece) (Assing, 2013b). Then, it was recorded from Karpathos Island (Greece) (Assing, 2016). This species is associated with ants of the genus *Messor* Forel, 1890. *D. cretica* is recorded for the first time from Turkey in this study. *Ocalea (Ocalea) ruficollis* is recorded for the first time from Aydın and Denizli provinces. *Maurachelia roubali* was known from the Western Taurus Mountains (Isparta Province) (Assing, 2013a) and it is recorded for the first time from Marmara Region. This species is most probably widespread in Turkey. *Tetralaucopora longitarsis* is widespread in Turkey and recorded from Aydın and Balıkesir for the first time. *Enalodroma hepatica*, previously only known from the Eastern and Central Anatolia Regions, is recorded for the first time from the Aegean Region. *Pseudosemiris kaufmanni* is recorded for the first time from İzmir Province.

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