

Orijinal araştırma (Original article)

Faunistical, Ecological and Zoogeographical Evaluations on the Subfamily Paederinae (Coleoptera: Staphylinidae) in the Central Anatolian Region of Turkey

Türkiye’de İç Anadolu Bölgesi Paederinae altfamilyası (Coleoptera: Staphylinidae) üzerine faunistik, ekolojik ve zoocoğrafik değerlendirmeler

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Summary

The scope of this study is to make evaluations on faunistic, ecological and zoogeographical situation of the subfamily Paederinae (Coleoptera: Staphylinidae) in the Central Anatolian Region of Turkey. As a result of the study, 31 species belonging to 7 subtribes and 12 genera have been determined by field trips between years 2009-2011 in the Central Anatolian Region. Among them, one species, *Rugilus longicollis* (Fauvel,1900), is reported as new record for Turkish fauna. Also three species, *Scopaeus minutoides* Coiffait 1969, *Rugilus tauricus* (Rougemont,1988) and *Tetartopeus adanensis* Assing,2004, were endemic for Turkey. Ten species *Lathrobium wrasei* Schülke,1990, *Astenus immaculatus* Stephens,1833, *Paederus mesopotamicus* Eppelsheim,1889, *Paederus riparius* (Linnaeus, 1758), *Rugilus angustatus* (Geoffray,1785), *Rugilus orbiculatus* (Paykull,1789), *Rugilus rufipes* Germar,1836, *Scopaeus bicolor* Baudi Di Selve, 1848, *Scopaeus minutoides* Coiffait,1969 and *Tetartopeus adanensis* Assing,2004 are reported as the first records for Central Anatolian Region.

Key words: Staphylinidae, Paederinae, Turkey, faunistic, zoogeographical and ecological evaluation

Özet

Bu çalışmanın amacı, İç Anadolu Bölgesi Paederinae altfamilyasını (Coleoptera: Staphylinidae) faunistik, ekolojik ve zoocoğrafik olarak değerlendirmektir. 2009-2011 yılları arasında İç Anadolu Bölgesi’nde yapılan arazi çalışmaları sonucunda 4 alttribüs ve 12 cinse ait 31 tür tespit edilmiştir. Bu türlerden bir tanesi, *Rugilus longicollis* (Fauvel 1900), Türkiye faunası için yeni kayıt olarak bildirilmiştir. Ayrıca 3 tür *Scopaeus minutoides* Coiffait 1969, *Rugilus tauricus* (Rougemont,1988) ve *Tetartopeus adanensis* Assing, 2004, Türkiye için endemiktir. 10 tür *Lathrobium wrasei* Schülke 1990, *Astenus immaculatus* Stephens 1833, *Paederus mesopotamicus* Eppelsheim,1889, *Paederus riparius* (Linnaeus,1758), *Rugilus angustatus* (Geoffray,1785), *Rugilus orbiculatus* (Paykull,1789), *Rugilus rufipes* Germar,1836, *Scopaeus bicolor* Baudi Di Selve,1848, *Scopaeus minutoides* Coiffait,1969 ve *Tetartopeus adanensis* Assing,2004 İç Anadolu Bölgesi için yeni kayıttır.

Anahtar sözcükler: Staphylinidae, Paederinae, Türkiye, faunistik, zoocoğrafik ve ekolojik değerlendirme

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Alınış (Received): 03.09.2013

Kabul edilmiş (Accepted): 31.10.2013

Introduction

The subfamily Paederinae is a widespread and rather large subfamily of Staphylinidae, comprising about 6000 species and 225 genera worldwide (Herman, 2001). Paederinae species, usually depending on humidity and water, are present in almost all habitats.

According to Anlaş (2009a), there are 192 species in 30 genera in Turkey; 80 of them (41.7 %) are endemic to Turkey. Assing (2009a, 2009b, 2009c, 2009d, 2009e, 2009f), Anlaş (2009b, 2010, 2012), Anlaş and Rose (2009), and Anlaş et al. (2011a, b) added 10 new species and 9 new records for Turkey. Up to now, the Central Anatolian Region is not specifically studied in terms of Paederinae fauna; faunistic records of only a few species have been reported. Therefore, this study attempted to reduce the information deficiencies about the Paederinae fauna in this region.

Materials and Methods

Field studies were conducted in Central Anatolian Region during the years of 2009-2011. Specimens were collected from vegetation using aerial nets, by sifting the ground and leaf debris and by pitfall traps. All specimens were killed with 90% ethanol and ethyl acetate. Their localities were recorded by using GPS. At the end of the field trips, specimens were brought to laboratory and put in collection for their identifications to be processed. Materials have been deposited in our private collection at Hacettepe University in Turkey. Classification and nomenclature of the subfamily Paederinae, as suggested by Löbl and Smetana (2004), have been followed in this study. Collecting information is given as province-county, coordinates, elevations and dates of collecting site, number of male-female specimens and collectors name. Furthermore, faunistic composition, ecological properties of fauna and zoogeographical composition of fauna are given with graphs.

Results and Discussion

Subfamily: Paederinae Fleming, 1821

Tribe: Paederini Fleming, 1821

Subtribe: Astenina Hatch, 1957

Genus: *Astenus* Dejean, 1833

Astenus immaculatus Stephens, 1833

Material Examined: Konya: Doğanhisar, 1249 m, 38°06'00"N, 31°43'14"E, 21.VI.2010, 1♂, leg. S. Fırat.

Distribution in the world: Azerbaijan, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, France, Great Britain, Germany, Georgia, Greece, Hungary, Italy, The Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Algeria, Turkey (Smetana, 2004).

Distribution in Turkey: This new and exact locality is registered for the first time from Turkey with this study.

Astenus procerus (Gravenhorst, 1806)

Material Examined: Nevşehir: Avanos, 1026 m, 38°44'56"N, 34°54'06"E, 24.VI.2009, 1♂, 2♀♀, leg. Y. Turan.

Distribution in the world: Azerbaijan, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Macedonia, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland,

Ukraine, Yugoslavia, Algeria, Egypt, Morocco, Cyprus, Lebanon, Tajikistan, Uzbekistan, Turkey (Smetana, 2004).

Distribution in Turkey: Adıyaman, Denizli, Gaziantep, İzmir, Kahramanmaraş, Kayseri, Malatya, Manisa, Mersin (Fauvel, 1885; Ganglbauer, 1905; Sahlberg, 1912-1913; Anlaş & Çevik, 2008; Anlaş & Rose, 2009; Anlaş, 2009a; Anlaş & Deveci, 2011).

Astenus thoracicus (Baudi Di Selve, 1857)

Material Examined: Eskişehir: Mihalgazi, 381 m, 39°59'07"N, 30°35'14"E, 16.VI.2010, 1♂, leg. Y. Turan; Kırıkkale: Çelebi, 1200 m, 39°27'46"N, 33°28'48"E, 26.IV.2011, 1♂, leg. S. Fırat.

Distribution in the world: Azerbaijan, Georgia, Greece, Italy, Canary Islands, Cyprus, Syria, Uzbekistan, Turkey (Smetana, 2004).

Distribution in Turkey: Ankara, Antalya, Gaziantep, İzmir, Kahramanmaraş, Manisa (Sahlberg, 1912-1913; Coiffait, 1960; Anlaş & Çevik, 2008; Anlaş & Rose, 2009; Anlaş, 2009a).

Subtribe: Dolicaonina Casey, 1905

Genus: *Leptobium* Casey, 1905

Leptobium gracile (Gravenhorst, 1802)

Material Examined: Ankara: Kızılcahamam, 1567 m, 40°40'57" N, 32°43'53"E, 16.IV.2011, 1♀, leg. B. Şabanoğlu; Kırıkkale: Balışeyh, 1042 m, 40°01'13"N, 33°39'29"E, 10.IV.2010, 1♀, leg. B. Şabanoğlu.

Distribution in the world: Albania, Austria, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, France, Germany, Georgia, Greece, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Ukraine, Yugoslavia, Algeria, Canary Islands, Morocco, Tunisia, Cyprus, Iran, Israel, Uzbekistan, Turkey (Smetana, 2004).

Distribution in Turkey: Adana, Adıyaman, Afyonkarahisar, Ankara, Antalya, Ardahan, Artvin, Balıkesir, Bayburt, Bilecik, Burdur, Bursa, Çankırı, Diyarbakır, Erzincan, Erzurum, Eskişehir, Giresun, Gümüşhane, Hakkari, Isparta, İstanbul, İzmir, Kayseri, Konya, Kütahya, Malatya, Manisa, Muğla, Samsun, Sivas, Tunceli (Pülümür), Van (Saulcy, 1865; Koch, 1937; Coiffait, 1982; Assing, 2005a; Anlaş & Çevik, 2008; Kesdek et al., 2009; Anlaş, 2012).

Subtribe: Lathrobiina Laporte, 1835

Genus: *Achenium* Leach, 1819

Achenium humile (Nicolai, 1822)

Material Examined: Ankara: Kızılcahamam, 1567 m, 40°40'57"N, 32°43'53" E, 16.IV.2011, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Russia: Central European Territory, Czech Republic, Denmark, France, Great Britain, Germany, Hungary, Italy, Luxembourg, The Netherlands, Poland, Romania, Slovakia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Turkey (Smetana, 2004; Anlaş et al, 2011).

Distribution in Turkey: Erzincan, Eskişehir, Gümüşhane, Isparta, Kars, Kastamonu, Muş, Niğde, Van; (Horion, 1965; Assing, 2010; Anlaş et al., 2011b).

Genus: *Domene* Fauvel, 1873

Domene stilicina (Erichson, 1840)

Material Examined: Ankara: Lalahan, 1107 m, 39°57'06"N, 33°07'07"E, 27.V.2011, 2♂♂, leg. B. Şabanoğlu.

Distribution in the world: Albania, Greece, Italy, Malta, Egypt, Libya, Tunisia, Cyprus, Israel, Jordan, Lebanon, Syria, Turkey (Smetana, 2004).

Distribution in Turkey: Adıyaman, Ankara, Hatay, Kahramanmaraş, Kilis, Manisa, Mersin (Bolkar Dağları), Şırnak (Sahlberg, 1912-1913; Anlaş & Çevik, 2008; Anlaş, 2009a).

Genus: *Lathrobium* Gravenhorst, 1802

Lathrobium fulvipenne (Gravenhorst 1806)

Material Examined: Ankara: Kızılcahamam, 40°40'57" N, 32°43'53" E, 1567 m, 16.IV.2011, 3♀♀, leg. Y. Turan.

Distribution in the world: Azerbaijan, Andorra, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Russia: North European Territory, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Russia: East Siberia, Heilongjiang (China), Iran, Kazakhstan, Turkmenistan, Turkey, Uzbekistan, Russia: West Siberia, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Eskişehir, Giresun, Kars, Kastamonu, Ordu (Horion, 1965; Korge, 1971; Coiffait, 1982; Assing, 2009a).

Lathrobium pallidipenne Hochhuth, 1851

Material Examined: Niğde: Bor, 1461 m, 37°44'30"N, 34°47'01"E, 02.VI.2010, 1♀, leg. Y. Turan.

Distribution in the world: Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Czech Republic, Denmark, France, Great Britain, Germany, Hungary, Ireland, Italy, Latvia, The Netherlands, Russia: North European Territory, Poland, Romania, Slovakia, Spain, Switzerland, Ukraine, Turkey (Smetana, 2004).

Distribution in Turkey: Eskişehir (Koch, 1937; Horion, 1965; Coiffait, 1982).

Lathrobium wrasei Schülke, 1990

Material Examined: Nevşehir: Ürgüp, 1228 m, 38°32'55"N, 34°55'16"E, 21.V.2010, 2♂♂, leg. B. Şabanoğlu; Sivas: Zara, 1530 m, 39°45'32"N, 37°50'31"E, 24.VI.2011, 3♀♀, leg. Y. Turan.

Distribution in the world: Georgia, Turkey (Smetana, 2004; Anlaş & Rose, 2009).

Distribution in Turkey: Antalya (Anlaş & Rose, 2009).

Genus: *Lobrathium* Mulsant & Rey, 1878

Lobrathium rugipenne (Hochhuth, 1851)

Material Examined: Aksaray: Ortaköy, 1001 m, 38°46'51"N, 34°09'57"E, 22.V.2010, 2♂♂, leg. Y. Turan; Ankara: Kızılcahamam, 1567 m, 40°40'57"N, 32°43'53"E, 16.IV.2011, 2♂♂, leg. B. Şabanoğlu; Lalahan, 1107 m, 39°57'06"N, 33°07'07"E, 27.V.2011, 3♀♀, leg. Y. Turan; Beypazarı, 1163 m, 40°18'56"N, 32°00'08"E, 13.VI.2011, 2♂♂, leg. S. Fırat; Beypazarı, 1288 m, 40°17'08"N, 31°56'34"E, 13.VI.2011, 1♂, leg. B. Şabanoğlu; Çubuk, 1179 m, 40°23'19"N, 32°56'46"E, 05.VII.2011, 1♀, leg. S. Fırat; Eskişehir: Mihaliççık, 643 m, 39°59'13"N, 31°20'32"E, 30.VI.2009, 1♀, leg. Y. Turan; Central county, 947 m,

39°32'57"N, 30°24'26"E, 14.VI.2010, 4♂♂, 6♀♀, leg. Y. Turan; Mihalgazi, 381 m, 39°59'07"N, 30°35'14"E, 16.VI.2010, 1♂, leg. S. Fırat; Central county, 1214 m, 39°58'55"N, 30°52'00"E, 17.VI.2010, 4♂♂, 5♀♀, leg. B. Şabanoğlu; Karaman: Central county, 1322 m, 36°56'45"N, 33°02'15"E 13.VI.2009, 3♂♂, 3♀♀, leg. Y. Turan; Central county, 959 m, 36°56'11"N, 32°56'11"E, 13.VI.2009, 3♂♂, 1♀, leg. Y. Turan; Central county, 965 m, 36°57'25"N, 32°53'52"E, 23.VI.2010, 4♂♂, 5♀♀, leg. S. Fırat; Central county, 469 m, 36°56'53"N, 33°00'18"E, 23.VI.2010, 1♂, 2♀♀, leg. Y. Turan; Central county, 1160 m, 37°09'12"N, 33°29'32"E, 05.V.2011, 5♂♂, leg. B. Şabanoğlu; Ayrancı, 1418 m, 37°13'24"N, 33° 49' 52"E, 05.V.2011, 2♂♂, leg. Y. Turan; Kayseri: Yahyalı, 686 m, 37°46'43"N, 33°25'10"E, 22.VII.2009, 1♂, leg. Y. Turan; Pınarbaşı, 1517 m, 38°46'23"N, 36°08'16"E, 06.VI.2010, 1♂, 5♀♀, leg. B. Şabanoğlu; Felahiye, 1478 m, 39°09'57"N, 35°40'15"E, 07.VI.2010, 2♂♂, 1♀, leg. B. Şabanoğlu; Yahyalı, 1400 m, 38°02'53"N, 35°23'59"E, 08.VI.2010, 6♂♂, leg. Y. Turan; Yahyalı, 1419 m, 38°02'47"N, 35°24'04"E, 27.IV.2011, 1♀, leg. Y. Turan; Yeşilhisar, 1336 m, 38°20'40"N, 34°58'13"E, 18.VI.2011, 1♀, leg. S. Fırat; Kırıkkale: Sulakyurt, 668 m, 40°12'57"N, 33°36'34"E, 25.IV.2011, 3♂♂, leg. S. Fırat; Keskin, 1519 m, 39°48'04"N, 33°43'29"E, 26.IV.2011, 4♂♂, leg. Y. Turan; Kırşehir: Kaman, 1022 m, 39°11'21"N, 33°53'52"E, 28.VI.2009, 3♀♀, leg. B. Şabanoğlu; Kaman, 1025 m, 39°11'20"N, 33°53'51"E, 27.V.2010, 1♂, leg. S. Fırat; Konya: Hadim, 1083 m, 37°03'01"N, 32°03'33"E, 04.VI.2009, 2♂♂, leg. B. Şabanoğlu; Doğanhisar, 1249 m, 38°06'00"N, 31°43'14"E, 12.VI.2010, 1♂, leg. B. Şabanoğlu; Niğde: Altunhisar, 1294 m, 38°00'26"N, 34°23'18"E, 17.VIII.2009, 1♀, leg. S. Fırat; Çamardı, 1611 m, 37°51'31"N, 34°57'31"E, 19.VIII.2009, 2♀♀, leg. Y. Turan; Ulukışla, 1352 m, 37°36'29"N, 34°41'16"E, 02.VI.2010, 2♂♂, leg. S. Fırat; Central county, 1596 m, 38°00'01"N, 34°51'32"E, 30.IV.2011, 2♂♂, leg. B. Şabanoğlu; Sivas: Ulaş, 1434 m, 39°24'05"N, 37°10'05"E, 05.VII.2010, 5♂♂, leg. B. Şabanoğlu; İmranlı, 1695 m, 39°45'39"N, 37°58'10"E, 24.VI.2011, 1♀, leg. Y. Turan; Yıldızeli, 1292 m, 39°52'33"N, 36°49'01"E, 25.VI.2011, 5♂♂, leg. Y. Turan.

Distribution in the world: Albania, Armenia, Bulgari, Georgia, Greece, Russia: South European Territory, Yugoslavia, Turkey (Smetana, 2004).

Distribution in Turkey: Adana, Afyonkarahisar, Artvin, Bolu, Burdur, Bursa, Denizli, Düzce, Erzurum, Giresun, Gümüşhane, Hatay, Isparta, İstanbul, İzmir, Kayseri, Manisa, Mersin, Muğla, Ordu, Rize, Sakarya, Zonguldak (Apfelbeck, 1901; Sahlberg, 1912-1913; Korge, 1971; Assing, 2007; Anlaş & Çevik, 2008).

Genus: *Tetartopeus* Czwalina, 1888

Tetartopeus adanensis Assing, 2004

Material Examined: Karaman: Ayrancı, 1408 m, 37°13'24"N, 33°49'52"E, 24.VI.2010, 2♂♂, 1♀, leg. Y. Turan; Kayseri: Yahyalı, 1419 m, 38°02'47"N, 35°24'04"E, 27.IV.2011, 1♀, leg. Y. Turan.

Distribution in the world: Turkey (Assing, 2011b).

Distribution in Turkey: Adana, Osmaniye, Gaziantep, Malatya (Assing, 2004; Anlaş 2009b). The species is endemic for Turkey.

Subtribe: *Medonina* Casey, 1905

Genus: *Sunius* Curtis, 1829

Sunius melanocephalus (Fabricius, 1793)

Material Examined: Eskişehir: Sivrihisar, 824 m., 38°11'50"N, 31°28'07"E, 09.V.2011, 1♀, leg. S. Fırat; Kayseri: Tomarza, 1377 m., 38°25'49"N, 35°58'47"E, 18.VI.2011, 1♀, leg. B. Şabanoğlu; Kırşehir: Akpınar, 931 m., 39°31'11"N, 33°59'49"E, 27.V.2010, 1♀, leg. S. Fırat; Yozgat: Yerköy, 996 m., 39°50'41"N, 34°27'24"E, 23.V.2011, 1♂, leg. Y. Turan.

Distribution in the world: Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, France, Great Britain, Germany, Georgia, Greece,

Hungary, Ireland, Italy, Latvia, The Netherlands, Poland, Romania, Slovakia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, China, Iran, Turkey, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Adıyaman, Ankara, Antalya, Balıkesir, Bolu, Burdur, Erzincan, Isparta, İstanbul, Kars, Kastamonu, Kütahya, Manisa, Muğla, Rize, Samsun, Sinop, Yalova, Zonguldak (Apfelbeck, 1901; Horion, 1965; Assing, 1995, 2001, 2005b,c, 2008b,c; Anlaş & Çevik, 2008; Anlaş, 2009a).

Subtribe: Paederina Fleming, 1821

Genus: Paederidus Mulsant & Rey, 1878

Paederidus rubrothoracicus (Goeze, 1777)

Material Examined: Eskişehir-Central county, 947 m, 39°32'57"N, 30°24'26"E, 14.VI.2010, 2♂♂, 2♀♀, leg. Y. Turan; Konya-Derebucak, 1375 m, 39°32'57"N, 30°24'26"E, 03.VI.2009, 3♂♂, 2♀♀, leg. Y. Turan; Sivas-Hafik, 1316 m, 39°55'14"N, 37°23'39"E, 07.VII.2010, 4♂♂, 7♀♀, leg. S. Fırat; Doğanşar, 1135 m, 40°12'34"N, 37°37'37"E, 07.VII.2010, 1♂, leg. S. Fırat; Doğanşar, 1595 m, 40°04'53"N, 37°33'49"E, 22.VI.2011, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Albania, Armenia, Austria, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, France, Great Britain, Germany, Georgia, Greece, Hungary, Italy, Macedonia, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Switzerland, Ukraine, Yugoslavia, Turkey (Smetana, 2004).

Distribution in Turkey: Ankara, Antalya, Artvin, Aydın, Bolu, Erzurum, Eskişehir, Konya, Manisa, Trabzon, Tunceli, Van (Scheerpeltz, 1957; Fagel, 1963; Horion, 1965; Coiffait, 1982; Anlaş & Çevik, 2008).

Genus: Paederus Fabricius, 1775

Paederus fuscipes Curtis, 1826

Material Examined: Kırıkkale: Keskin, 723 m, 39°34'25"N, 33°25'58"E, 09.IV.2010, 1♂, leg. B. Şabanoğlu; Sivas: Suşehri, 1541 m, 39°59'12"N, 38°08'23"E, 19.VII.2009, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Albania, Armenia, Austria, Belgium, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Algeria, Egypt, Tunisia, Afghanistan, Bhutan, Russia: East Siberia, Fujian, Hebei, Hongkong, India: Himachal Pradesh, Iran, Iraq, Israel, Japan, Jordan, India: Kashmir, Kyrgyzstan, Kazakhstan, North Korea, Nepal, Pakistan, South Korea, Sichuan, India: Sikkim, Dmjeeling District, Shaanxi, Syria, Taiwan, Tajikistan, Turkmenistan, India: Uttaranchal, Uttar Pradesh, Uzbekistan, Yunnan, Russia: west Siberia, Turkey, Afrotropical, Australian, Oriental Regions (Smetana, 2004).

Distribution in Turkey: Ankara, Diyarbakır, Gaziantep, İstanbul, İzmir, Manisa, Mardin, Trabzon (Apfelbeck, 1901; Sahlberg, 1912-1913; Fagel, 1963; Öncüer, 1991; Tezcan & Amiryman, 2003; Anlaş & Çevik, 2008; Anlaş, 2009a).

Paederus littoralis Gravenhorst, 1802

Material Examined: Aksaray: Ağaören, 1335 m, 38°49'42"N, 33°53'17"E, 15.V.2011, 2♂♂, leg. Y. Turan; Kırıkkale: Sulakyurt, 1055 m, 40°09'50"N, 38°53'44"E, 25.IV.2011, 1♂, leg. Y. Turan; Kırşehir: Akpınar, 931 m, 39°31'11"N, 33°59'49"E, 27.V.2010, 1♂, leg. B. Şabanoğlu; Kaman, 906 m, 39°25'03"N, 33°45'56"E, 27.V.2010, 1♂, leg. S. Fırat; Kaman, 1059 m, 39°12'49"N, 33°52'05"E, 02.VI.2011, 2♂♂, leg. S. Fırat; Yozgat: Çandır, 1261 m, 39°15'13"N, 35°33'58"E, 24.V.2011, 1♂, leg. B. Şabanoğlu; Yerköy, 996 m, 39°50'41"N, 34°27'24"E, 23.V.2011, 1♂, leg. Y. Turan.

Distribution in the world: Albania, Austria, Belgium, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Moldavia, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Algeria, Cyprus, West Siberia, Turkey (Smetana, 2004).

Distribution in Turkey: Ardahan, Bilecik, Erzurum, Kars, Mardin, Mersin-Karaman county (Caramania), Sakarya (SapancaLake), Samsun, Şanlıurfa, Trabzon (Ganglbauer, 1905; Sahlberg, 1912-1913; Coiffait, 1982; Öncüer, 1991; Anlaş, 2009a; Kesdek et al., 2009).

Paederus mesopotamicus Eppelsheim, 1889

Material Examined: Sivas: Suşehri, 903 m, 40°10'12"N, 38°07'29"E, 19.VII.2009, 2♂♂, leg. B. Şabanoğlu; Suşehri, 895 m, 40°09'43"N, 38°08'08"E, 19.VII.2009, 4♂♂, 5♀♀, leg. S. Fırat.

Distribution in the world: Iran, Iraq, Syria (Smetana, 2004).

Distribution in Turkey: Tunceli (Anlaş, 2009a).

Paederus riparius (Linnaeus, 1758)

Material Examined: Ankara: Lalahan, 1107 m, 39°57'06"N, 33°07'07"E, 27.V.2011, 1♂, leg. B. Şabanoğlu.

Distribution in the world: Azerbaijan, Albania, Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Russia: North European Territory, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Algeria, Egypt, Russia: East Siberia, Russia: Far East, Iran, Kazakhstan, Uzbekistan, Turkey, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Ordu (Coiffait, 1978).

Subtribe: Scopaeina Mulsant & Rey, 1878

Genus: Scopaeus Erichson, 1839

Scopaeus bicolor Baudi Di Selve, 1848

Material Examined: Aksaray: Güzelyurt, 1154 m., 38°17'56"N, 34°15'52"E, 22.VI.2009, 2♂♂, leg. Y. Turan; Güzelyurt, 1127 m., 38°19'33"N, 34°14'28"E, 16.V.2011, 2♂♂, leg. Y. Turan; Kayseri: Yahyalı, 1229 m., 38°02'15"N, 35°34'01"E, 08.VI.2010, 1♂, leg. B. Şabanoğlu; Akkışla, 1217 m., 39°01'39"N, 36°03'44"E, 19.VI.2011, 1♂, leg. S. Fırat; Yozgat: Sarıkaya, 1028 m., 39°32'50"N, 35°12'00"E, 12.VI.2010, 5♂♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Albania, Austria, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Greece, Hungary, Italy, Macedonia, Romania, Slovakia, Turkey (Smetana, 2004).

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

Scopaeus cameroni Coiffait, 1968

Material Examined: Ankara-Şereflikoçhisar, 910 m., 39°04'24"N, 33°24'45"E, 28.VI.2011, 1♂, leg. Y. Turan; Karaman-Central county, 959 m, 36°56'11"N, 32°56'11"E, 13.VI.2009, 3♂♂, leg. Y. Turan; Kırşehir-Kaman, 1022 m, 39°11'21"N, 33°53'52"E, 28.VI.2009, 1♂, leg. B. Şabanoğlu; Sivas-Şarkışla, 1210 m., 39°30'28"N, 36°22'22"E, 08.VII.2010, 1♂, leg. S. Fırat.

Distribution in the world: Bulgaria, Greece, Romania, Ukraine, Turkey (Smetana, 2004).

Distribution in Turkey: Afyonkarahisar, Amasya, Ankara, Antalya, Aydın, Bayburt, Bolu, Burdur, Bursa, Çankırı, Çorum, Denizli, Erzincan, Erzurum, Gümüşhane, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kastamonu, Konya, Kütahya, Manisa, Muğla, Samsun, Sinop, Tokat, Zonguldak (Frisch, 2010).

Scopaeus elegans Luze, 1910

Material Examined: Aksaray: Güzelyurt, 1196 m., 38°16'01"N, 34°17'18"E, 01.VII.2011, 1♀, leg. Y. Turan; Ağaören, 1131 m., 38°45'54"N, 33°50'02"E, 14.IX.2011, 3♀♀, leg. Y. Turan; Güzelyurt, 1127 m., 38°15'53"N, 34°17'25"E, 15.IX.2011, 1♀, leg. B. Şabanoğlu; Ortaköy, 14.IX.2011, 1♂, 1118 m., 38°40'40"N, 34°10'32"E, Y. Turan; Kayseri: Central county, 1177 m., 38°55'50"N, 35°11'24"E, 09.VI.2010, 1♀, leg. B. Şabanoğlu; Nevşehir: Gülşehir, 972 m., 38°42'48"N, 34°29'04"E, 25.VI.2009, 2♂♂, leg. B. Şabanoğlu; Niğde: Çamardı, 1486 m., 37°49'55"N, 34°58'56"E, 18.VIII.2010, 2♀♀, leg. S. Fırat; Central county, 1658 m., 37°59'19"N, 34°32'56"E, 22.VIII.2011, 2♀♀, leg. S. Fırat; Çamardı, 1807 m., 37°53'07"N, 34°55'21"E, 21.VIII.2011, 2♂♂, leg. S. Fırat; Sivas: Şarkışla, 1310 m., 39°16'55"N, 36°28'59"E, 23.VI.2011, 2♀♀, leg. Y. Turan; Yozgat: Yerköy, 807 m., 39°52'44"N, 34°11'05"E, 11.VI.2010, 1♂, leg. Y. Turan; Çandır, 1261 m., 39°15'13"N, 35°33'58"E, 24.V.2011, 1♂, leg. B. Şabanoğlu.

Distribution in the world Lebanon, Israel, Syria, Turkey (Smetana, 2004).

Distribution in Turkey: Adana, Amasya, Ankara, Antalya, Aydın, Bingöl, Bitlis, Bolu, Burdur, Çorum, Denizli, Diyarbakır, Gümüşhane, Hatay, Isparta, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Konya, Kütahya, Malatya, Mardin, Mersin, Muğla, Muş, Niğde, Sinop, Sivas, Tokat, Tunceli (Frisch, 2010).

Scopaeus gracilis (Sperk, 1835)

Material Examined: Aksaray: Gülağaç, 1120 m., 38°19'35"N, 34°14'27"E, 22.VI.2009, 1♂, leg. Y. Turan; Ankara: Çamlıdere, 1020 m., 40°25'44"N, 32°23'27"E, 14.VI.2011, 1♂, leg. S. Fırat; Kırşehir: Kaman, 1025 m., 39°11'20"N, 33°53'51"E, 27.V.2010, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Albania, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Malta, Macedonia, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Switzerland, Ukraine, Yugoslavia, Algeria, Canary Islands, Libya, Morocco, Tunisia, Afghanistan, Cyprus, Iran, Syria, Uzbekistan, Turkey, Afrotropical Region (Smetana, 2004).

Distribution in Turkey: Adana, Adıyaman, Ağrı, Antalya, Artvin, Bingöl, Bolu, Burdur, Denizli, Giresun, Hatay, Isparta, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Konya, Kütahya, Malatya, Manisa, Mersin, Muğla, Muş, Sivas, Trabzon, Van, Zonguldak (Sahlberg, 1912-1913; Coiffait, 1984; Frisch, 1998, 2007; Frisch et al., 2002; Anlaş & Çevik, 2008).

Scopaeus haemusensis Frisch, 1997

Material Examined: Eskişehir: Alpu, 1141 m, 40°00'14"N, 31°07'41"E, 30.VI.2009, 1♂, leg. Y. Turan; Central county, 947 m, 39°32'57"N, 30°24'26"E, 14.VI.2010, 1♂, leg. S. Fırat.

Distribution in the world: Bulgaria, Turkey (Smetana, 2004).

Distribution in Turkey: Ankara, Bolu, Bursa, Çankırı, İzmir, Kastamonu, Sinop (Frisch, 2010).

Scopaeus laevigatus (Gyllenhal, 1827)

Material Examined: Ankara: Beytepe, 1006 m, 39°52'24"N, 32°44'25"E, 02.V.2011, 1♂, 1♀, leg. Y. Turan; Çankırı: Yapraklı, 1214 m, 40°48'49"N, 33°51'22"E, 29.VI.2010, 2♂♂, leg. B. Şabanoğlu; Eskişehir: Sarıcakaya, 250 m, 40°05'22"N, 30°50'38"E, 01.VII.2009, 3♂♂, 2♀♀, leg. Y. Turan; Sivrihisar, 824 m, 38°11'50"N, 31°28'07"E, 09.V.2011, 2♂♂, 2♀♀, leg. Y. Turan; Yozgat: Kadışehri, 916 m, 39°55'34"N, 35°50'42"E, 03.VII.2010, 1♂, leg. B. Şabanoğlu.

Distribution in the world: Albania, Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Italy, Latvia, Lithuania, Macedonia, Moldavia, The Netherlands,

Norway, Russia: North European Territory, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Afghanistan, China, Russia: Far East, Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan, Turkey, Uzbekistan, West Siberia (Smetana, 2004).

Distribution in Turkey: Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bingöl, Bitlis, Burdur, Bursa, Diyarbakır, Edirne, Erzincan, Erzurum, Giresun, Gümüşhane, Isparta, İstanbul, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Kütahya, Manisa, Muğla, Muş, Niğde, Rize, Samsun, Sinop, Tokat, Trabzon, Van, Yozgat (Frisch, 2010).

Scopaeus minimus (Erichson, 1839)

Material Examined: Eskişehir: Sivrihisar, 827 m, 39°15'14"N, 31°22'49"E, 09.V.2011, 1♂, leg. Y. Turan

Distribution in the world: Albania, Austria, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Georgia, Hungary, Italy, Macedonia, Poland, Romania, Slovakia, Ukraine, Yugoslavia, Turkey (Smetana, 2004).

Distribution in Turkey: Adıyaman, Antalya, Hatay, Isparta, İstanbul, Kayseri, Muğla Samsun (Frisch, 2010).

Scopaeus minutoides Coiffait, 1969

Material Examined: Kırşehir: Akpınar, 986 m, 39°30'45"N, 34°02'40"E, 03.VI.2011, 1♂, leg. Y. Turan.

Distribution in the world: Turkey (Smetana, 2004).

Distribution in Turkey: Adana, Antalya, Aydın, Burdur, İstanbul, İzmir, Manisa, Mersin, Muğla (Frisch, 2010). The species is endemic for Turkey.

Subtribe: Stilicina Casey, 1905

Genus: *Rugilus* Leach, 1819

Rugilus angustatus (Geoffroy, 1785)

Material Examined: Aksaray: Güzelyurt, 1127 m, 38°15'53"N, 34°17'25"E, 23.V.2010, 2♂♂, 2♀♀, leg. S. Fırat; Güzelyurt, 1127 m, 38°15'53"N, 34°17'25"E, 15.IX.2011, 2♂♂, 1♀, leg. S. Fırat; Ankara-Çamlıdere, 1258 m, 40°29'51"N, 32°27'48"E, 14.VI.2011, 3♂♂, 2♀♀, leg. S. Fırat; Karaman-Central county, 1110 m, 37°09'20"N, 33°25'50"E, 05.V.2011, 2♂♂, 1♀, leg. Y. Turan; Kayseri: Pınarbaşı, 1517 m, 38°46'23"N, 36°08'16"E, 06.VI.2010, 1♀, leg. Y. Turan; Yahyalı, 1400 m, 38°02'53"N, 35°23'59"E, 08.VI.2010, 1♂, leg. B. Şabanoğlu; Pınarbaşı, 1681 m, 38°36'28"N, 36°25'56"E, 17.VI.2011, 1♂, leg. B. Şabanoğlu; Yozgat: Sarıkaya, 1247 m, 39°29'45"N, 35°37'35"E, 12.VI.2010, 1♂, leg. Y. Turan.

Distribution in the world: Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Russia: Central European Territory, Czech Republic, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Italy, Latvia, The Netherlands, Russia: North European Territory, Poland, Romania, Slovakia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Cyprus, Turkey, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Çankırı, İzmir, Manisa, Samsun (Rougement, 1988; Anlaş & Çevik, 2008; Anlaş, 2009a).

Rugilus longicollis (Fauvel, 1900)

Material Examined: Yozgat: Yerköy, 807 m., 39°52'44"N, 34°11'05"E, 11.VI.2010, 7♂♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Georgia, Iran (Smetana, 2004).

Distribution in Turkey: The species is reported from Turkey for the first time.

Rugilus orbiculatus (Paykull, 1789)

Material Examined: Eskişehir: Seyitgazi, 970 m., 39°24'59"N, 30°38'49"E, 14.VI.2010, 2♂♂, leg. B. Şabanoğlu; Karaman: Central county, 1371 m., 37°08'58"N, 33°38'31"E, 24.VI.2010, 1♂, leg. B. Şabanoğlu; Kayseri: Akkışla, 1307 m., 39°02'47"N, 36°07'03"E, 19.VI.2011, 1♂, leg. S. Fırat; Bünyan, 1341 m., 38°51'19"N, 35°51'50"E, 07.VI.2010, 1♂, leg. S. Fırat; Niğde: Çamardı, 1628 m., 37°51'48"N, 34°57'17"E, 04.VI.2010, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Albania, Armenia, Austria, Azores, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Macedonia, The Netherlands, Norway, Russia: North European Territory, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Algeria, Canary Islands, Morocco, Madeira Archipelago, Tunisia, China, Cyprus, Iran, Israel, Kyrgyzstan, Syria, Tajikistan, Turkey, Australian, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Erzurum, Istanbul, Izmir, Manisa (Rougement, 1988; Anlaş & Çevik, 2008; Anlaş, 2009a; Kesdek et al., 2009).

Rugilus rufipes Germar, 1836

Material Examined: Eskişehir: Seyitgazi, 1073 m., 39°15'00"N, 30°33'25"E, 14.VI.2010, 1♂, 1♀, leg. B. Şabanoğlu; Eskişehir: Mihalıççık, 1217 m., 39°51'29"N, 31°31'43"E, 12.V.2011, 1♂, leg. Y. Turan.

Distribution in the world: Azerbaijan, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Russia: North European Territory, Poland, Slovakia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Iran, Turkey, West Siberia, Nearctic Region (Smetana, 2004).

Distribution in Turkey: Bolu, Istanbul, Kırklareli (Apfelbeck, 1901; Horion, 1965; Rougement, 1988; Assing, 2011a, 2012).

Rugilus similis (Erichson, 1839)

Material Examined: Aksaray: Güzelyurt, 1127 m., 38°15'53"N, 34°17'25"E, 30.VI.2011, 2♂♂, leg. B. Şabanoğlu; Çankırı: Orta, 1245 m., 40°38'31"N, 33°07'08"E, 06.VI.2011, 1♂, leg. Y. Turan; Eskişehir: Günyüzü, 1279 m., 39°19'25"N, 31°44'12"E, 15.VI.2010, 2♂♂, leg. S. Fırat; Karaman: Central county, 1160 m., 37°09'12"N, 33°29'32"E, 05.V.2011, 1♂, leg. Y. Turan.

Distribution in the world: Armenia, Austria, Belgium, Bosnia Herzegovina, Belarus, Croatia, Russia: Central European Territory, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Georgia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Russia: North European Territory, Poland, Romania, Slovakia, Spain, Russia: South European Territory, Sweden, Switzerland, Ukraine, Yugoslavia, Turkey (Smetana, 2004).

Distribution in Turkey: Mersin-Karaman (Sertavul Ravine), Muğla, Osmaniye (Rougement, 1988; Assing, 2008a, 2012).

Rugilus tauricus Rougemont, 1988

Material Examined: Niğde: Ulukışla, 1303 m., 37°35'22"N, 34°43'34"E, 02.VI.2010, 1♂, leg. Y. Turan.

Distribution in the world: Turkey (Assing, 2012).

Distribution in Turkey: Antalya, Isparta, Konya (Rougement, 1988; Anlaş & Rose, 2009; Japoshvili & Anlaş, 2011; Assing, 2012). The species is endemic for Turkey.

Faunistic Evaluations

A total of 31 species belonging to 12 genera were identified in the research area, the Central Anatolian Region. The distribution of the species are shown in Figure 1. According to this figure the most

abundant genera were *Scopaeus* with 8 collected species and *Rugilus* with 6 collected species. They were followed by *Paederus* with 4 species, *Lathrobium* and *Astenus* with 3 species each, and *Achenium*, *Domene*, *Leptobium*, *Lobrathium*, *Paederidus*, *Sunius* and *Tetartopeus* with 1 species each (Figure 1).

Ecological Evaluations

When the specimen numbers of the collected 31 species were examined it is noted that the most highly collected specimens belong to *L. rugipenne* (110 specimens). Then comes *P. rubrothoracicus* (22 specimens), *S. elegans* (19 specimens), *R. angustatus* (18 specimens), *S. laevigatus* (14 specimens), *P. mesopotamicus* and *S. bicolor* (11 specimens for each), *P. littoralis* (9 specimens), *R. longicollis* (7 specimens), *R. orbiculatus*, *R. similis* and *S. cameroni* (6 specimens for each), *L. wrasei* (5 specimens), *S. s melanocephalus* and *T. adanensis* (4 specimens), *L. fulvipenne*, *A. procerus*, *R. rufipes* and *S. gracilis* (3 specimens for each), *D. stilicina*, *A. thoracicus*, *L. gracile*, *P. fuscipes* and *S. haemusensis* (2 specimens for each), *A. humile*, *L. pallidipenne*, *A. immaculatus*, *P. riparius*, *R. tauricus*, *S. minimus* and *S. minutoides* (1 specimen for each) (Table 1). The collecting altitude is an important parameter regarding ecological evaluations. In this study specimens were collected between the altitudes 250-2000 m. When the distribution of the species were examined with respect to altitude, it could be seen that the highest number of species (19 species) were collected between 1001-1250 m. Following that, 13, 11, 10, 3 and 2 species were collected from 751-1000 m, 1251-1500 m, 1501-1750 m, 250-500 m and 501-750 m respectively. The least number of species (1 species) was collected between 1751-2000 m (Figure 2, Table 1). *L. rugipenne* draws the attention with having a wide altitude range (250-1750 m). In this study, the specimens were collected between April-September. When the distribution of the species were examined with respect to months, the highest number of species (23 species) were collected in June and the least (2 species) were collected in August and September. Looking at the other months, 15, 9 and 7 species were collected in May, April and July respectively (Figure 3, Table 1). *L. rugipenne* (from April to August) and *S. elegans* (from May to September) are the species having the longest duration of presence.

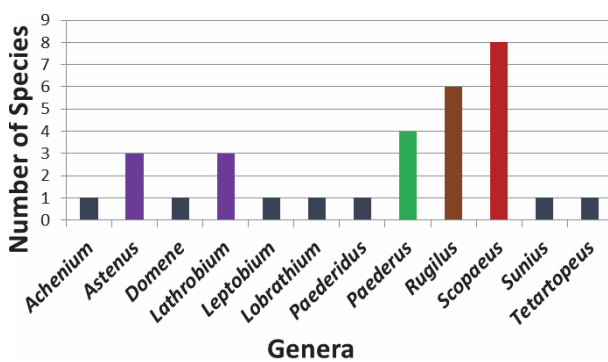


Figure 1. Number of species according to genera.

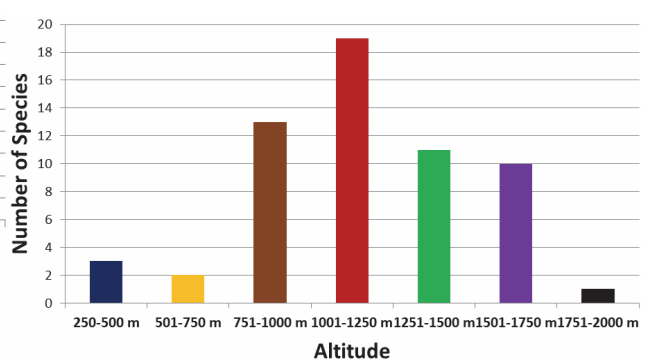


Figure 2. Distributions of determined species according to altitude.

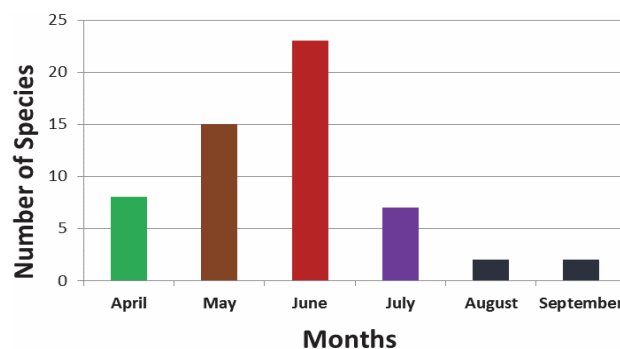


Figure 3. Distributions of determined species according to months.

Table 1. Number of species, vertical distribution, collecting months, zoogeographical regions and regions of Turkey

Species	Number of Specimens	Vertical Distributions	Collecting Months	Zoogeographical Regions	Regions of Turkey
<i>Achenium humile</i>	1	F	Apr	EWP, CAU	CAR, MIR, BSR, EAR,
<i>Astenus immaculatus</i>	1	D	Jun	EWP, NA	CAR
<i>Astenus procerus</i>	3	D	Jun	EWP, CAU, NA, MA	CAR, AR, MIR, EAR, SER
<i>Astenus thoracicus</i>	2	A, D	Apr, Jun	EWP, MA, ME	CAR, AR, MIR, SER
<i>Domene stlicina</i>	2	D	May	EWP, NA, ME	CAR, AR, MIR, SER
<i>Lathrobium fulvipenne</i>	3	F	Apr	EWP, MA, SB, NEAR	CAR, BSR, EAR
<i>Lathrobium pallidipenne</i>	1	E	Jun	EWP	CAR
<i>Lathrobium wrasei</i>	5	D, F	May, Jun	CAU	CAR, Mtr
<i>Leptobium gracile</i>	2	D, F	Apr	EWP, NA, MA, ME	CAR, MR, AR, MIR, BSR, EAR, SER
<i>Lobrathium rugipenne</i>	110	A, B, C, D, E, F	Apr, May, Jun, Jul, Aug	EWP, CAU	CAR, MR, AR, MIR, BSR, EAR
<i>Paederidus rubrothoracicus</i>	22	C, D, E, F	Jun, Jul	EWP, MA, CAU	CAR, AR, MIR, BSR, EAR
<i>Paederus fuscipes</i>	2	B, F	Apr, Jul	EWP, NA, MA, ME, FE, CAU, SB, ORR, AFR, AUR	CAR, MR, AR, BSR, SER
<i>Paederus littoralis</i>	9	C, D, E	Apr, May, Jun	EWP, NA, SB	CAR, MR, MIR, BSR, EAR, SER
<i>Paederus mesopotamicus</i>	11	C	Jul	ME	CAR, EAR
<i>Paederus riparius</i>	1	D	May	EWP, NA, MA, SB, NEAR	CAR, BSR
<i>Rugilus angustatus</i>	18	D, E, F	May, Jun, Sep	EWP, NEAR	CAR, AR, BSR
<i>Rugilus longicollis</i>	7	B	Jun	MA, CAU, ME	CAR (New Record)
<i>Rugilus orbiculatus</i>	6	C, E, F	Jun	EWP, NA, FE, ME, MA, NEAR, AUR	CAR, MR, AR, EAR
<i>Rugilus tauricus</i>	1	E	Jun	EWP	CAR, Mtr
<i>Rugilus rufipes</i>	3	D	May, Jun	EWP, ME, SB, NEAR	CAR, MR, BSR
<i>Rugilus similis</i>	6	D, E	May, Jun	EWP	CAR, AR, MIR
<i>Scopaeus bicolor</i>	11	D	May, Jun	EWP, CAU	CAR, AR, BSR
<i>Scopaeus cameroni</i>	6	C, D	Jun, Jul	EWP	CAR, MR, AR, MIR, BSR, EAR
<i>Scopaeus elegans</i>	19	C, D, E, F, G	May, Jun, Jul, Aug, Sep	ME	CAR, AR, MIR, BSR, EAR, SER
<i>Scopaeus gracilis</i>	3	D	May, Jun	EWP, NA, MA, ME, AFR	CAR, AR, MIR, BSR, EAR, SER
<i>Scopaeus haemusensis</i>	2	C, D	Jun	EWP	CAR, MR, AR, BSR
<i>Scopaeus laevigatus</i>	14	A, C, D	May, Jun, Jul	EWP, MA, FE, SB	CAR, MR, AR, MIR, BSR, EAR, SER
<i>Scopaeus minimus</i>	1	C	May	EWP	CAR, MR, AR, MIR, BSR, SER
<i>Scopaeus minutoides</i>	1	C	Jun	ETR	CAR, MR, AR, MIR
<i>Sumius melanocephalus</i>	4	C, E	May, Jun	EWP, ME, FE, NEAR	CAR, MR, AR, MIR, BSR, EAR, SER
<i>Tetartopeus adanensis</i>	4	E	Apr, Jun	ETR	CAR, MIR, EAR, SER

Collecting months (Apr: April, May: May, Jun: June, Jul: July, Aug: August, Sep: September), Vertical distribution (A: 250-500 m B: 501-750 m, C: 751-1000 m, D: 1001- 1250 m, E: 1251- 1500 m, F: 1501-1750 m, G: 1751-2000 m, Zoogeographical distributions; ETR: Endemic for Turkey, EWP: European part of Western Palaearctic, CAU: Caucasus, SB: Siberia, ME: Middle East, MA: Middle Asia, NA: North Africa, FE: Far East, NEAR: Nearctic Region, ORR: Oriental Region and AFR: Afrotropical Region, AUR: Australian Region; Distribution in Turkey: CAR: Central Anatolian Region, Mtr: Mediterranean Region, BSR: Black sea Region, AR: Aegean Region, MR: Marmara Region, EAR: Eastern Anatolian Region and SER: Southeastern Anatolian Region. This table was prepared by using recorded data of species collected during field studies and specimens in the Entomology Laboratory collection.

Zoogeographical Evaluations

When appraising the detected species zoogeographically, 3 species are endemic to Turkey (Table 2). Among the remaining 29 species, 25 of them present in European part of the Western Palaearctic, 21 of them present in Caucasus, 14 of them present in Middle East, 9 of them for each present in Middle Asia and North Africa, and 6 of them present in Siberia and Far East. Apart from Palaearctic Region, 6 species are present in the Nearctic Region, 2 species for each of the Afrotropical and Australian Regions, and 1 species is present in the Oriental Region. According to these results, the European part has the highest number of species (Figure 4, Table 1). One of the detected 31 species is a new record for Turkey (Table 2) and 10 species are new records for the Central Anatolian Region. In order to evaluate the collected species, with respect to the regions of Turkey, the Mediterranean Region has the highest number of species (19 species), followed by Black Sea and Aegean Region with 18 species, Eastern Anatolian Region with 14 species, and the Southeastern Anatolian and Marmara Region have the least number of species with 12 species (Figure 5, Table 1).

Table 2. New record and endemic species for Turkey (* New record ** Endemic)

SPECIES	PROVINCES PRESENT
* <i>Rugilus longicollis</i> (Fauvel, 1900)	Yozgat
** <i>Scopaeus minutoides</i> Coiffait, 1969	Adana, Antalya, Burdur, Istanbul, Izmir, Manisa, Mersin, Muğla, Kırşehir
** <i>Tetartopeus adanensis</i> Assing, 2004	Adana, Osmaniye, Gaziantep, Malatya, Karaman, Kayseri
** <i>Rugilus tauricus</i> Rougemont, 1988	Antalya, Isparta, Konya

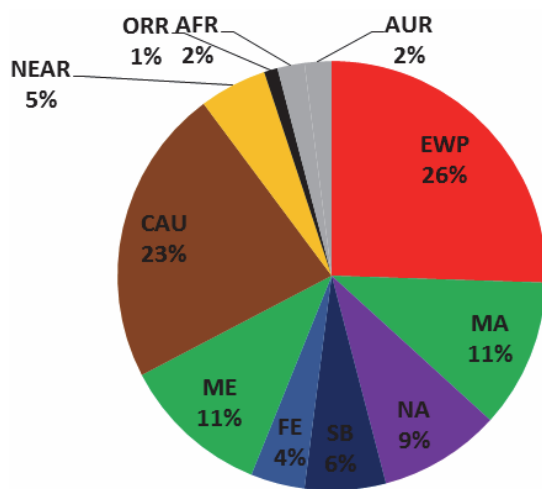


Figure 4. Distributions of determined species according to zoogeographical regions.

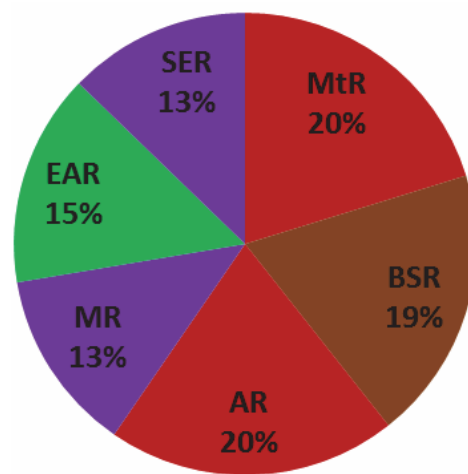


Figure 5. Distributions of determined species according to regions of Turkey.

EWP: European part of Western Palaearctic, MA: Middle Asia, NA: North Africa, SB: Siberia, FE: Far East, ME: Middle East, CAU: Caucasus, NEAR: Nearctic region, ORR: Oriental Region and AFR: Afrotropical Region, AUR: Australian Region.

MtR: Mediterranean Region, BSR: Black sea Region, AR: Aegean Region, MR: Marmara Region, EAR: Eastern Anatolian Region and SER: Southeastern Anatolian Region.

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