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Faunistic studies on the subfamily Paederinae (Coleoptera: Staphylinidae) in Uşak Province, Western Anatolia

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Abstract: In this study, fauna of Paederinae from Uşak province of western Turkey were studied and 22 species belonging to 12 genera were reported. *Paederus littoralis* Gravenhorst, 1802 and *Rugilus maltzevi* Gusarov, 1991 recorded for the first time from Aegean region of Turkey. In addition, *Achenium anatolicum* Jarrige, 1952 and *Scopaeus minutoides* Coiffait, 1969 are known endemics in Turkey.

Keywords: Staphylinidae, Paederinae, Fauna, Uşak, Turkey.

Introduction

Staphylinidae comprises 33 subfamily, more than 3.500 genera and 58.000 species all over the world (Newton, 2007; Grebennikov and Newton, 2009; Solodovnikov et al., 2013). According to Anlaş (2009), 1600 species and subspecies of the family Staphylinidae have been known from Turkey. The subfamily Paederinae contains about 6000 valid species in the world (Herman, 2001) which of 192 species of 30 genera occur in Turkey and 80 of them are endemic to Turkey (Anlaş, 2009). However, many Turkish regions and provinces are sparsely investigated regarding their Paederinae species inventory.

Uşak Province is not specifically studied in terms of Paederinae fauna up to now. Seven species of Paederinae have been recorded from the Uşak Province (Anlaş et al., 2011; Anlaş and Frisch, 2014; Anlaş, 2015a). Therefore, present study attempted to facilitate knowledge on the distribution of Uşak Province and Turkish Paederinae fauna.

Materials and Methods

Field studies were conducted from different localities in Uşak Province (Fig. 1) during the years of 2013 and 2014. All specimens listed in this study are deposited in the collection of the Alaşehir Zoological Museum, Manisa (AZMM) of Celal Bayar University.

Classification and nomenclature of the subfamily Paederinae suggested by Schülke and Smetana (2015) have been followed in this study.

Results and Discussion

Before this study, 7 species have been recorded from Uşak Province (Anlaş et al., 2011; Anlaş and Frisch, 2014; Anlaş, 2015a). In conclusion of this study, 22 species belonging to 12 genera were reported. 17 species of 22 recorded species were reported for the first time in Uşak province. Thus, 24 species of Paederinae are known from Uşak Province now. *Paederus littoralis* Gravenhorst, 1802 and *Rugilus maltzevi* Gusarov, 1991 recorded for the first time from Aegean region of Turkey.

Tribe Paederini Fleming, 1821
Subtribe Astenina Hatch, 1957
Genus *Astenus* Dejean, 1833
Astenus lyonessius (Joy, 1908)
Material examined: Banaz: 2♂♂, 1♀, 15.IV.2013, Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 1209 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur; 1♂, 02.VI.2014, Susuz 3 km S, 38°38'47"N, 29°43'17"E, 928 m, magrin of flooded field, under stone, leg. Örgel & Yağmur. Sivaslı: 1♂, 2♀♀, 04.IV.2014, Karanlıcak Tepe, 38°29'33"N, 29°44'16"E, 1672 m, grassy slope, under stones, leg. Örgel & Yağmur; 1♂, 04.IV.2014, Cinoğlu, 38°54'02"N, 29°45'06"E, 1437 m, grassy slope, under stones, leg. Örgel & Yağmur.
Distribution in Turkey: Aydın, Gaziantep, Hatay, Isparta,

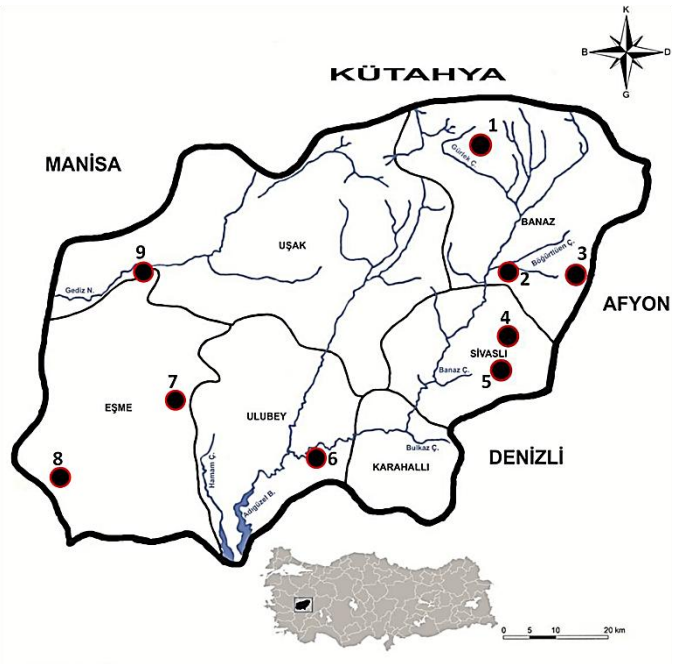

Figure 1. Localities of studied area: Banaz: 1.Gürlek, 2. Susuz, 3. Susuz. Sivaslı: 4. Cinoğlu, 5. Karanlıcak Tepe. Ulubey: 6. Ulubey-Karahallı road. Eşme: 7. Eşme-Ulubey road 5. km, 8. Alaşehir-Eşme road, Hardallı. Uşak (Merkez): 9. Kısık.

İzmir, Manisa, Mersin (Anlaş, 2009; Assing, 2013a). The species recorded for the first time from Uşak Province.

Distribution in the world: This species is known from Europa, North Africa, Israel and Anatolia (Schülke and Smetana, 2015).

Astenus procerus (Gravenhorst, 1806)

Material examined: Banaz: 2♂♂, 15.IV.2013, Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 1209 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur. Eşme: 1♂, 21.XI.2013, Alaşehir-Eşme road 10. km, Hardallı village, 38°20'12"N, 28°49'13"E, 943 m, litter under shrubs sifted, leg. Örgel & Yağmur.

Distribution in Turkey: Adıyaman, Denizli, Gaziantep, İzmir, Kahramanmaraş, Kayseri, Malatya, Manisa, Mersin Nevşehir (Anlaş, 2009; Anlaş and Rose, 2009; Assing, 2013a; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: This species is widely distributed in Europe and known from North Africa, West and Middle Asia (Schülke and Smetana, 2015).

Astenus thoracicus (Baudi di Selve, 1857)

Material examined: Banaz: 1♂, 03.VI.2014, Susuz 2 km S, 930 m, 38°38'55"K, 29°42'51"E, grassy slope, under stones, leg. Anlaş.

Distribution in Turkey: Ankara, Antalya, Eskişehir, Gaziantep, Isparta, İzmir, Kahramanmaraş, Kırıkkale, Konya, Manisa (Anlaş, 2009; Anlaş and Rose, 2009; Assing, 2013a; Sert et al, 2013). The species is reported from Uşak province for the first time.

Distribution in the world: This species is known from West and East Europa, West and Middle Asia and Canary Islands (Schülke and Smetana, 2015).

Subtribe Dolicaonina Casey, 1905

Genus *Leptobium* Casey, 1905

Leptobium gracile (Gravenhorst, 1802)

Material examined: Banaz: 1♂, 15.IV.2013, Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 1209 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur; 1♂, 1♀, 01.VII.2014, Susuz, 924 m, 38°38'47"N, 29°43'17"E, grassy slope, under stones, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey (Assing, 2005; Anlaş, 2009, 2012; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: According to Assing (2005) and Schülke and Smetana (2015), the distribution of *L. gracile* ranges from Canary Islands to Middle Asia.

Subtribe Lathrobiina Laporte, 1835

Genus *Achenium* Leach, 1819

Achenium anatolicum Jarrige, 1952

Material examined: Banaz: 1♂, 19.V.2014, 38°38'56"N, 29°42'52"E, 908 m, magrin of flooded field, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Ankara, Antalya, Bayburt, Burdur, Çanakkale, Çankırı, Çorum, Eskişehir, Isparta, İzmir, Karaman, Kırşehir, Konya, Kütahya, Manisa, Muğla (Anlaş, 2009; Assing, 2010, 2013; Anlaş et al., 2011). The species is reported from Uşak Province for the first time.

Distribution in the world: This species endemic to Anatolia (Schülke and Smetana, 2015).

Achenium scimbalioides Koch, 1937

Material examined: Banaz: 1♂, 1♀, 19.V.2014, 38°38'56"N, 29°42'52"E, 908 m, magrin of flooded field, under stone, leg. Örgel.

Distribution in Turkey: Adana, Çanakkale, Manisa (Anlaş, 2009). The species is reported for the first time from Uşak Province.

Distribution in the world: The known distribution of A. scimbalioides is confined to Bulgaria, Greece and Turkey (Schülke and Smetana, 2015).

Genus *Lobrathium* Mulsant & Rey, 1878

Lobrathium rugipenne (Hochhuth, 1851)

Material examined: Banaz: 3♂♂, 5♀♀, 23.XI.2013, Susuz, 38°38'47"N, 29°43'17"E, 933 m, margin of flooded field, under stone, leg. Örgel & Yağmur; 1♂, 04.IV.2014, Susuz, 38°38'47"N, 29°43'17"E, 933 m, margin of flooded field, under stone, leg. Örgel & Yağmur; 2♂♂, 02.VI.2014, Susuz, 38°38'55"N, 29°42'51"E, 928 m, margin of flooded field, under stone, leg. Örgel & Yağmur; 2♂♂, 2♀♀, 01.VII.2014, Susuz, 38°38'47"N, 29°43'17"E, 924 m, margin of flooded field, under stone, leg. Örgel & Yağmur. Eşme: 3♂♂, 21.XI.2013, Eşme-Ulubey road 5. km 38°26'19"N, 29°03'38"E, 945 m, bank of a stream, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey (Assing, 2007; Anlaş, 2009; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: This species is distributed from the southern Balkans to the Caucasus region and Anatolia (Schülke and Smetana, 2015).

Genus *Micrillus* Raffray, 1873

Micrillus testaceus (Erichson, 1840)

Material examined: Banaz: 1♀, 19.V.2014, Susuz, 38°38'56"N, 29°42'52"E, 908 m, margin of flooded field, under stone, leg. Örgel; 1♂, 03.VI.2014, Susuz 2 km S, 38°38'55"N, 29°42'51"E, 930 m, margin of flooded field, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Adana, Adıyaman, Ankara, Antalya, Batman, Bitlis, Çanakkale, Diyarbakır, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Kastamonu, Konya, Mersin, Muğla, Osmaniye, Sinop, Trabzon (Anlaş, 2009; Anlaş and Rose, 2009; Özgen et al., 2010). The species is reported from Uşak Province for the first time.

Distribution in the world: The known distribution of *M. testaceus* is confined to West Palaearctic including Middle Asia and North Africa (Schülke and Smetana, 2015).

Genus *Platydomene* Ganglbauer, 1895

Platydomene picipes (Erichson, 1840)

Material examined: Eşme: 1♂, 28.I.2014, Kısık 2 km NE, Gediz river, 38°38‟06"N, 28°57‟19"E, 470 m, margin of the river, under stone, leg. Anlaş.

Distribution in Turkey: This species had been known only from Uşak Province in Turkey (Anlaş et al., 2011).

Distribution in the world: This species is widely distributed in the Europe and North Africa and known from Anatolia (Schülke and Smetana, 2015).

Subtribe Medonina Casey, 1905

Genus *Medon* Stephens, 1833

Medon abantensis Bordoni, 1980

Material examined: Ulubey: 2♂♂, 6♀♀, 16.X.2013, Ulubey-Karahallı road, 38°21'59"N, 29°19'38"E, 551 m, litter under shrubs sifted, leg. Örgel & Özgen.

Distribution in Turkey: Artvin, Bolu, Denizli İzmir, Malatya, Manisa, Mersin, Rize, Samsun, Tokat, Tunceli (Anlaş, 2009; Anlaş and Rose, 2009; Assing, 2013b, Anlaş, 2015b). The species is recorded from Uşak Province for the first time.

Distribution in the world: The known distribution of *M. abantensis* is confined to Western Anatolia and Cyprus to Georgia (Schülke and Smetana, 2015).

Medon dilutus pythonissa (Saulcy, 1865)

Material examined: Eşme: 1♂, 21.XI.2013, Alaşehir-Uşak road 10. km, Hardallı village, 38°20'12"N, 28°49'13"E, 943 m, litter under shrubs sifted, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey (Anlaş and Rose, 2009; Assing, 2013a, 2013b, Anlaş, 2015b). The species is reported from Uşak province for the first time.

Distribution in the world: This species is widely distributed in the Eastern Mediterranean region (Schülke and Smetana, 2015).

Genus *Sunius* Stephens, 1829

Sunius melanocephalus (Fabricius, 1793)

Material examined: Banaz: 2♂♂, 2♀♀, 15.IV.2013, , Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 1209 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur; 1♂, 02.VI.2014, Susuz 3 km S, 38°38'47"N, 29°43'17"E, 928 m, grassy slope, under stones, leg. Örgel & Yağmur. Ulubey: 3♂♂, 16.X.2013, Ulubey-Karahallı road, 38°21'59"N, 29°19'38"E, 551 m, litter under shrubs sifted, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey (Anlaş, 2009; Assing, 2013a; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: This species is widely distributed in trans-Palaearctic and North America (Schülke and Smetana, 2015).

Subtribe Paederina Fleming 1821

Genus *Paederus* Fabricius, 1775

Paederus littoralis Gravenhorst, 1802

Material examined: Banaz: 2♂♂, 02.VI.2014, Susuz 3 km S, 38°38'47"N, 29°43'17"E, 928 m, margin of flooded field, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Aksaray, Amasya, Antalya, Ardahan, Bilecik, Erzurum, İzmit, Karabük, Kars, Kastamonu, Kırşehir, Mardin, Mersin-Karaman, Sakarya, Samsun, Sinop, Şanlıurfa, Trabzon, Yozgat (Anlaş, 2009; Sert et al., 2013). It is recorded for the first time from Aegean Region of Turkey.

Distribution in the world: According to Schülke and Smetana (2015), P. littoralis was known from Europe, Algeria, Cyprus, Turkey Iran and West Siberia.

Subtribe Scopaeina Mulsant & Rey, 1878

Genus *Micranops* Cameron, 1913

Micranops pilicornis (Baudi di Selve, 1869)

Material examined: Banaz: 1♀, 19.V.2014, 38°38'56"N, 29°42'52"E, 908 m, margin of flooded field, under stone, leg. Örgel; 2♂♂, 1♀, 03.VI.2014, Susuz 2 km S, 38°38'55"N, 29°42'51"E, 930 m, margin of flooded field, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Adana, Adıyaman, Antalya, Gaziantep, İstanbul, Kahramanmaraş, Mersin-Karaman (Sertavul), Konya, Muğla, Osmaniye, Sinop (Anlaş, 2009; Frisch, 2010; Assing, 2013a; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: This species distributed from South Italy and the Balkans over Cyprus, Syria, Anatolia, South Russia and Azerbaijan to Turkmenistan (Schülke and Smetana, 2015).

Genus *Scopaeus* Erichson, 1839

Scopaeus cameroni Coiffait, 1968

Material examined: Banaz: 1♂, 1♀, 15.IV.2013, Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 939 m, margin of a stream, under stone, leg. Örgel, Anlaş & Yağmur.

Distribution in Turkey: Widespread in Turkey (Anlaş, 2009; Frisch, 2010; Sert et al., 2013; Anlaş and Frisch, 2014).

Distribution in the world: This species is distributed in the Balkans throughout Anatolia, Armenia, and Iranian Azerbaijan eastwards to the Caspian Sea (Anlaş and Frisch, 2014; Schülke and Smetana, 2015).

Scopaeus gracilis (Sperk, 1835)

Material examined: Eşme: 3♂♂, 21.XI.2013, Eşme-Ulubey road 5. km, 38°26'19"N, 29°03'38"E, 945 m, margin of a steram, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey (Anlaş, 2009; Özgen et al., 2010; Sert et al., 2013; Anlaş and Frisch, 2014).

Distribution in the world: The species is widespread in the Western Palaearctic from Europe, Northwest Africa, the Caucasus and Anatolia to Iran (Frisch, 2002; Anlaş and Frisch, 2014; Schülke and Smetana, 2015).

Scopaeus laevigatus (Gyllenhal, 1827)

Material examined: Banaz: 3♂♂, 2♀♀, 03.VI.2014, Susuz 2 km S, 38°38'55"N, 29°42'51"E, 930 m, margin of flooded field, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Widespread in Turkey except for the Mediterranean coast east of Antalya and southern east Anatolia (Frisch, 2006, 2010; Anlaş, 2009; Sert et al., 2013; Anlaş and Frisch, 2014).

Distribution in the world: This species is widely distributed throughout the southern Palaearctic from Europe to East Rusia (Frisch, 2002; Schülke and Smetana, 2015).

Scopaeus minutoides Coiffait, 1969

Material examined: Banaz: 2♂♂, 2♀♀, 19.V.2014, 38°38'56"N, 29°42'52"E, 908 m, margin of flooded field, under stone, leg. Örgel; 2♂♂, 17.VI.2014, Susuz 4 km S, 38°38'55"N, 29°42'51"E, 903 m, margin of a small stream, under stone, leg. Örgel & Yağmur.

Distribution in Turkey: Antalya, Aydın, Burdur, İstanbul, İzmir, Kırşehir, Manisa, Mersin, Muğla, Uşak (Anlaş, 2009; Frisch, 2010; Sert et al., 2013; Anlaş and Frisch, 2014).

Distribution in the world: This species is an Anatolian endemic species (Anlaş and Frisch, 2014).

Subtribe Stilicina Casey, 1905

Genus *Rugilus* Leach, 1819

Rugilus angustatus (Geoffroy, 1785)

Material examined: Banaz: 1♂, 06.XII.2013, Susuz, 38°38'47"N, 29°43'17"E, 933 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur.

Distribution in Turkey: Aksaray, Ankara, Çankırı, İzmir, Karaman, Kayseri, Manisa, Mersin, Samsun, Yozgat (Rougemont, 1988; Anlaş, 2009; Anlaş and Rose, 2009; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: According to Assing (2012a) and Schülke and Smetana (2015) R. angustatus was known from West Palaearctic, West Siberia and North America.

Rugilus maltzevi Gusarov, 1991

Material examined: Banaz: 1♂, 1♀, 15.IV.2013, Gürlek 2km N, 38°51'33"N, 29°41'11"E, 939 m, grassy slope, under stones, leg. Örgel, Anlaş& Yağmur.

Distribution in Turkey: Antalya ve Konya (Assing, 2012). The species is recorded for the first time from Aegean Region of Turkey.

Distribution in the world: The known distribution of R. maltzevi is confined to Ukraine and Turkey (Assing, 2012; Schülke and Smetana, 2015).

Rugilus orbiculatus (Paykull, 1789)

Material examined: Banaz: 2♂♂, 15.IV.2013, Gürlek 2 km N, 38°51'33"N, 29°41'11"E, 1209 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur.

Distribution in Turkey: Antalya, Erzurum, Eskişehir, İstanbul, İzmir, Karaman, Kayseri, Manisa, Niğde (Rougemont, 1988; Anlaş, 2009; Anlaş and Rose, 2009; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: According to Assing (2012a) and Schülke and Smetana (2015), this species was known from West Palaearctic, Middle Asia, China, Nearctic and Australian regions.

Rugilus similis (Erichson, 1839)

Material examined: Banaz: 2♂♂, 3♀♀, 06.XII.2013, Susuz 5 km S, 38°37'37"N, 29°44'15"E, 1020 m, grassy slope, under stones, leg. Örgel, Anlaş & Yağmur.

Distribution in Turkey: Aksaray, Çankırı, Erzurum, Eskişehir, Karaman, Mersin-Karaman (Sertavul Geçidi), Muğla, Osmaniye (Rougemont, 1988; Assing, 2012, 2013c; Sert et al., 2013). The species is reported from Uşak Province for the first time.

Distribution in the world: This species is distributed in Europe, Turkey, Kazakhstan Syria and West Siberia (Assing, 2012; Schülke and Smetana, 2015).

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