

Original article (Orijinal araştırma)

**Notes on the genus *Astenus* Dejean, 1833 from the Palearctic Region
(Coleoptera: Staphylinidae: Paederinae)¹**

Palaeartik Bölgedeki *Astenus* Dejean, 1833 cinsi üzerine notlar (Coleoptera:
Staphylinidae: Paederinae)

Sinan ANLAŞ^{2*}

Summary

The genus *Astenus* Dejean, 1833 (Coleoptera: Staphylinidae: Paederinae) contains more than 200 species in the Palearctic Region. In this paper, new and additional distributional data concerning 20 species of the genus *Astenus* in the Palearctic Region are presented. The studied material has been collected between 1928-2016 and also contained the types and additional specimens from some European museums. Among them nine species are first country records: Armenia (1), Azerbaijan (1), Bulgaria (2), Bosnia Herzegovina (1), France (1), Iraq (2), Israel (1), Syria (2), Kazakhstan (2), Turkey (1) and Turkmenistan (4). Besides, the original specimens of *Astenus rufopacus* Reitter, 1909 have been studied, the lectotype designated, the species redescribed and illustrated.

Keywords: *Astenus*, fauna, lectotype, Paederinae, Palearctic Region

Özet

Astenus Dejean, 1833 (Coleoptera: Staphylinidae: Paederinae) cinsi Paleartik Bölgede 200'den fazla tür içermektedir. Bu çalışmada, Paleartik Bölgede bulunan *Astenus* Dejean cinsine bağlı 20 türe ait yeni ve ek yayılışsal kayıtlar sunulmuştur. İncelenen materyal 1928-2016 yılları arasında toplanmış olup, bazı Avrupa müzelerindeki tip ve diğer örnekleri de içermektedir. Bu 20 türden dokuz tür ilk ülke kaydı niteliğindedir: Ermenistan (1), Azerbaycan (1), Bulgaristan (2), Bosna Hersek (1), Fransa (1), Irak (2), İsrail (1), Suriye (2), Kazakistan (2), Türkiye (1) ve Türkmenistan (4). Ayrıca, *Astenus rufopacus* Reitter, 1909 türünün tip örnekleri incelenmiş, lektotipi seçilmiş ve bu tür yeniden tanımlanarak şekillendirilmiştir.

Anahtar sözcükler: *Astenus*, fauna, lektotip, Paederinae, Palaeartik Bölge

¹ This study was in part supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK, Project Numbers 112T907 and 215Z080).

² Manisa Celal Bayar University, Alaşehir Vocational School, TR-45600, Alaşehir, Manisa, Turkey

* Corresponding author (Sorumlu yazar) e-mail: sinan.anlas@gmail.com

Received (Alınış): 18.09.2017

Accepted (Kabul edilmiş): 18.03.2018

Published Online (Çevrimiçi Yayın Tarihi): 31.03.2018

Introduction

The genus *Astenus* (Coleoptera: Staphylinidae: Paederinae) was described by Dejean (1833) and is attributed to the subtribe *Astenina* Hatch, 1957 of the tribe Paederini Fleming, 1821 (Schülke & Smetana, 2015). Members of this genus occur in many places, mainly in dry and semi-dry biotopes, most often under stones and in the nests of ants at a wide range of elevations, from near sea-level to almost 3000 m. They also found sometimes in wet areas and on the banks of rivers and lakes.

Reliable identification of *Astenus* species is possible mostly on the basis of the male primary and sexual secondary characters, particularly the shape of the ventral process of aedeagus. Many external characters, such as body size, coloration, relative density of puncturation and microsculpture, are highly variable even in specimens from the same locality, so that an identification of females is usually very difficult. Especially, the widespread species were found to be extremely variable. According to recent catalog by Schülke & Smetana (2015; updated), the genus *Astenus* contains more than 200 species in the Palearctic Region. The genus divided into four subgenera: the nominate subgenus (92 species); *Astenopleuritus* Coiffait (11 species); *Eurysunus* Reitter (60 species); *Mecognathus* Wollaston (three species). In addition, 35 species as incertae sedis and one species as nomen dubium are known. However, in the opinion of the author the subgeneric concept currently in use is not phylogenetic. For this reason, the application of DNA data should be made to reveal the subgeneric status of the genus. Molecular approach to systematic and taxonomic studies is a helpful way to complement traditional morphological methods of species identification.

In the present study, 20 species of the nominate subgenus and the subgenus *Astenopleuritus* are reported from different countries of the Palearctic Region, including some records of zoogeographic interest. Additionally, the original specimens of *Astenus rufopacus* Reitter, 1909 have been studied, the lectotype designated, the species redescribed and the habitus and genitalic structures illustrated. The main aim of the study was to contribute to the knowledge of *Astenus* fauna of the Palearctic Region.

Material and Methods

Primary and secondary sexual characters of the species redescribed herein are termed following Coiffait (1984). The morphological studies were conducted using a Stemi 2000-C microscope (Zeiss, Germany). For the photographs a digital camera (Zeiss Axiocam ERC5s) was used. The following abbreviations are used for the measurements, which are given in mm:

AL, length of antenna; AW, maximal width of abdomen; EL, length of elytra from apex of scutellum to posterior margin; EW, combined width of elytra; HL, head length from anterior margin of clypeus to posterior margin of head; HW, head width (including eyes); ML, length of aedeagus from apex of ventral process to base; PL, length of pronotum along median line; PW, maximal width of pronotum; TaL, length of metatarsus; TiL, length of metatibia; and TL, total body length.

The studied material has been collected between 1928-2016 and contained types and additional male specimens from the museums. The material referred to in this study stored in the following collections:

- AZMM – Alaşehir Zoological Museum, Manisa, Turkey (S. Anlaş);
- HNHM – Hungarian Natural History Museum, Budapest, Hungary (G. Makranczy and O. Merkl);
- IRSNB – Inst. Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium (W. Dekoninck);
- MHNG – Muséum d'Histoire Naturelle, Genève, Switzerland (G. Cuccodoro);
- NMNHs – National Museum of Natural History, Sofia, Bulgaria (R. Bekchiev); and
- NMPC – National Museum, Praha, Czech Republic (M. Fikáček).

Results

Genus *Astenus* Dejean, 1833

Subgenus *Astenopleuritus* Coiffait, 1982

Astenus melanurus (Küster, 1853)

Material examined: Bulgaria: 2 exs, 19.IV.2010, Strandzha Mts., Bliznak vill., 42°04'41" N, 27°42'59" E, leg. Bekchiev (NMNHS). Cyprus: 3 exs, XII.1965, Cypre, Yermasoyia (MHNG). Egypt: 1 ex., 12.VI.1995, Beni Suef, El Shanawaya (MHNG); 10 exs, 29.V.1996, Cairo, Dahshur, ca. 23 km S Cairo, 29°48'00" N, 31°14'30" E, light trap collection, leg. Ullrich (MHNG). Iran: 2 exs, 25.V.1974, Kohkiluyeh Basht, 30°20' N, 51°15' E, leg. Senglet (MHNG). Morocco: 1 ex., 08.IV.1974, Morocco, Sud Oued Massa, leg. Besuchet (MHNG); 3 exs, Morocco (NMPC). Turkey: 5 exs, Adana, Asia Min., leg. Boyadjani (NMPC); 1 ex., 04.V.1998, Antakya 7 km E, Yeşilkent 350-400 m, leg. Besuchet & Löbl (MHNG); 1 ex., 18.IV.1978, Konya (=Karaman), Sertavul Pass, 1500-1600 m, leg. Besuchet & Löbl (MHNG); 1 ex., 29.IV.1978, Mersin, Yeniköy, 1000-1200 m, leg. Besuchet & Löbl (MHNG); 1 ex., 15.V.1976, Zonguldak, Ereğli-Beliköy, leg. Besuchet & Löbl (MHNG); 1 ex., 06.V.1978, Kayseri, Sultan Sazlığı, 1000 m, leg. Besuchet & Löbl (MHNG); 3 exs, 15.IV.2013, Afyonkarahisar, İhsaniye, Döğer 2 km E, 39°09'13" N, 30°25'52" E, 1286 m, leg. Anlaş, Yağmur & Örgel (AZMM); 1 ex., 22.III.2015, Aydın, Dilek peninsula national park, 37°39'49" N, 27°12'57" E, 969 m, leg. Yağmur & Örgel (AZMM); 2 exs, 12.VI.2013, Denizli, Acıpayam, Alaattin, Bozdağ, 37°24'55" N, 29°13'11" E, 1470 m, leg. Yağmur & Örgel (AZMM); 2 exs, 12.IV.2015, Denizli, Güney, 38°04'26" N, 28°59'02" E, 210 m, leg. Anlaş, Yağmur & Örgel (AZMM); 5 exs, 14.XI.2014, İzmir, Karaburun 5 km SW, 38°37'39" N, 26°29'26" E, leg. Anlaş, Yağmur & Örgel (AZMM); 5 exs, 13.IV.2015, Kütahya, Simav, Akdağ, 39°14'58" N, 28°49'41" E, 1670 m, leg. Anlaş & Örgel (AZMM); 1 ex., 21.V.2015, Muğla, Dalaman, 36°53'37" N, 28°53'37" E, 127 m, leg. Yağmur & Örgel (AZMM); 1 ex., 30.IV.1975, Muğla, Gökova, Akyaka, leg. Besuchet & Löbl (MHNG); 2 exs, 19. IX.2013, Kütahya, Gediz, Sandıklı 2 km S, 38°55'03" N, 29°52'54" E, 854 m, leg. Özgen & Örgel (AZMM).

Distribution: This species is known from southern Europe, North Africa, Cyprus, Iran, Syria, Turkey in Palearctic Region, and also in Oriental and Afrotropical Region (Schülke & Smetana, 2015). The records from Bulgaria are reported for the first time.

Subgenus *Astenus* Dejean, 1833

Astenus adonis Coiffait, 1960

Material examined: Turkey: 1 ex., 19.V.1962, Samsun, Bafra, leg. Besuchet (MHNG); 1 ex., 26.VII.1969, Istanbul, Halkalı, leg. Besuchet (MHNG); 1 ex., 17.VII.1969, Bergama, leg. Besuchet (MHNG). Greece: 1 ex., Attica (MHNG). Syria: 1 ex., Syrie (=Syria) (MHNG).

Distribution: *Astenus adonis* was known from Greece, Lebanon, Saudi Arabia and Turkey (Schülke & Smetana, 2015). The above specimen in Syria represents the first records for this country.

Astenus assingi Bordoni, 1994

Material examined: Turkey: 2 exs, 03.I.2010, Antalya, Gazipaşa, Beyrebucağı, 36°13'10" N, 32°24'17" E leg. Kunt (AZMM); 2 exs, 17.IV.1978, Antalya, 18 km SE of Gazipaşa, leg. Besuchet & Löbl (MHNG).

Distribution: *Astenus assingi* is endemic to southwestern Anatolia (Bordoni, 1994; Schülke & Smetana, 2015).

Astenus bimaculatus bimaculatus (Erichson, 1840)

Material examined: Algeria: 1 ex., 13.V.1988, Algérie, Gyde Kabylie, 9 km E of Yakouren, 930 m, leg. Besuchet, Löbl & Buchardt (MHNG). Bosnia Herzegovina: 1 ex., V.1928, Bosnia, Hrid, Gorazde, leg. Fodor (HNHM). Cyprus: 2 exs, 23.VII.1977, Chypren, Polis, leg. Besuchet (MHNG). Iran: 1 ex., VII.2006, Mazandaran, Savadkooh, leg. Ghahari (AZMM); 3 exs, 14.VI.1975, Esfahan, Falâvariân, 32°34' N, 51°31' E, leg. Senglet (MHNG); 1 ex., 20.VI.1974, Bakhtiyari, N-E du Zardeh-Küh, 2700 m, 32°23' N, 50°07' E, leg. Senglet (MHNG); 1 ex., 05.VII.1973, Guilan, Lahidjan, 37°11' N, 49°54' E, leg. Senglet (MHNG). Italy: 5 exs,

22.IX.1996, Basilicata, str. Irsina-Grassanosu F. Bradano Mts., 150 m, leg. Angelini (AZMM). Kazakhstan: 2 exs, 05.IV.2010, Yuzhno-Kazakhstan Region, Boralday Range, Satur Mts, hole of the Kulan nv., high Krasnye Vorota pass, 1000 m, 42°35'13" N, 70°26'53" E, leg. Matalin (AZMM); 2 exs, Turkestan, Reitter, Leder (NMPC). Spain: 1 ex., 25.V.1991, Espana, Bilbao, Marquina, leg. Podlussány (HNHM). Tunisie: 1 ex., Lekef, coll. J. Clermont (MHNG). Turkey: 3 exs, 15.V.2011, Gümüşhane, Gümüşhane-Bayburt road 5 km, leg. Anlaş (AZMM). Turkmenistan: 1 ex., 8-10.V.1952, Repetek (IRSNB); 2 exs, 25.VI.1992 Turkmenisian, Kopet-Dagh, 400-600 m, Fkyuza, 37°50' N, 58°05' E, leg. Fábíán, Herczig, Podiussány & Varga (HNHM).

Distribution: This species is widespread in Europe, North Africa, Afghanistan, Cyprus, Iran, Israel, Pakistan, Syria, Turkey, Tajikistan and Uzbekistan (Schülke & Smetana, 2015). Thus, this species is reported for the first time from Bosnia Herzegovina, Kazakhstan and Turkmenistan.

***Astenus bucharensis* Bernhauer, 1902**

Material examined: Kazakhstan: 1 ex., "Aulia Atia" (=Almaty), "Syr Dari" (=Syr Darya) (NMPC).

Distribution: This species is known from Kazakhstan and Turkey (Coiffait, 1984; Schülke & Smetana, 2015). Coiffait (1984) reported this species from eastern Turkey without exact locality. In my opinion, occurrence of this species in Turkey is highly doubtful. This record should be confirmed by future studies.

***Astenus bulgaricus* Coiffait, 1971**

Material examined: Bulgaria: 1 ex., 19.IV.2010, Strandzha Mts., Bliznak vill., 42°04'41" N, 27°42'59" E, leg. Bekchiev (AZMM); 2 exs, 18.IV.2010, Strandzha Mts., Malko Tarnova env., 41°58'52" N, 27°52'46" E, leg. Bekchiev (NMNHS). Russia: 1 ex., 22.VII.1999, Rostov Region, Veshenskaya vill., leg. Khachikov (AZMM). Turkey: 4 exs, 25.V.2016, Karaman, Sariveliler, Göktepe, Saçaktepe, 36°38'22" N, 32°32'09" E, 1847 m, leg. Anlaş, Örgel & Yaman (AZMM); 1 ex., 21.V.2015, Muğla, Dalaman, 36°53'37" N, 28°53'37" E, 127 m, leg. Yağmur & Örgel (AZMM).

Distribution: This species is known from Bulgaria, southern European territory of Russia, Turkey and Ukraina (Schülke & Smetana, 2015).

***Astenus cribrellus* (Baudi di Selve, 1870)**

Material examined: Turkey: 1 ex., 28.VI.2016, Yozgat, Aydıncık, Kuşsaray, 40°05'07" N, 35°11'59" E, 1341 m, leg. Örgel & Yaman (AZMM); 3 exs, 22.III.2015, Aydın, Dilek peninsula national park, 37°39'49" N, 27°12'57" E, 969 m, leg. Yağmur & Örgel (AZMM); 3 exs, 17.IV.2013, Eskişehir, İncesu, Porsuk Dam, 39°37'09" N, 30°14'07" E, 917 m, leg. Yağmur & Örgel (AZMM).

Distribution: According to Schülke & Smetana (2015), this species occurs in Belgium, Croatia, France, Georgia, southern European territory of Russia and Turkey.

***Astenus fauveli* (Eppelsheim, 1888)**

Material examined: Turkmenistan: 3 exs, 25.VI.1992 Turkmenisian, Kopet-Dagh, 400-600 m, Fkyuza, 37°50' N, 58°05' E, leg. Fábíán, Herczig, Podiussány & Varga (HNHM).

Distribution: This species was reported from Kyrgyzstan, Tajikistan and Uzbekistan (Schülke & Smetana, 2015). It is recorded from Turkmenistan for the first time.

***Astenus gracilis* (Paykull, 1789)**

Material examined: Azerbaijan: 2 exs, Caucasus, Leder, Reitter (NMPC); 1 ex., 9-10.V.1959, Caucase oriental, Talysh: Lerik (IRSNB). Czech Republic: 1 ex., 04.VI.1947, Hradec Králové (NMPC). Greece: 1 ex., 14.III.1976, Krete, umg. Anogia (MHNG). Iraq: 3 exs, 17-20.V.2008, northern Iraq, ca 10 km NW Suleimaniyah province, leg. Sevinç (AZMM). Morocco: 1 ex., 08.IV.1974, Morocco, s-Oued, Massa, leg. Besuchet (MHNG).

Distribution: *Astenus gracilis* is known from Europe, North Africa, west and east Siberia, Iran, Uzbekistan and Turkey (Schülke & Smetana, 2015). The records from Iraq are reported for the first time.

***Astenus immaculatus* Stephens, 1833**

Material examined: Azerbaijan: 1 ex., Caucasus, Leder, Reitter (NMPC). Italy: 1 ex., 22.VII.1993, Basilicata, F. Sinni a Episcopia (PZ), leg. Angelini (AZMM). Iran: 2 exs, 18.VI.1974, Bakhtiyari, barrage de Kührang, 32°26' N, 50°06' E, leg. Senglet (MHNG). Russia: 1 ex., 05.V. 1991, Rostov Region, Rostov-on-Don city, leg. Khachikov (AZMM). Turkey: 15 exs, 22.VI.2016, Ankara, Beypazarı, Üreğil, 40°17'07" N, 32°04'11" E, 1375 m, leg. Örgel & Yaman (AZMM); 1 ex., 24.V.2016, Konya, Sarıveliler 25 km W, 36°52'08" N, 32°25'19" E, 1976 m, leg. Anlaş, Örgel & Yaman (AZMM); 5 exs, 14.VI.2013, Denizli, Acıpayam, Yassica Tepe, 37°16'52" N, 29°13'06" E, 1700 m, leg. Yağmur & Örgel (AZMM); 3 exs, 14.XI.2014, İzmir, Karaburun 5 km SW 38°37'39" N, 26°29'26"E, leg. Anlaş, Yağmur & Örgel (AZMM); 2 exs, 13.IV.2015, Kütahya, Simav, Akdağ, 39°14'58" N, 28°49'41" E, 1670 m, leg. Anlaş & Örgel (AZMM); 1 ex., 30.XI.2014, Manisa, Spil Mts., 38°33'44" N, 27°23'10" E, 1100 m, leg. Yağmur & Örgel (AZMM); 4 exs, 17.XI.2014, Muğla, Datça, 36°47'27" N, 28°03'05" E, 100 m, leg. Yağmur & Örgel (AZMM); 4 exs, Adana, Asia min. (NMPC).

Distribution: This species is known from Europe, Algeria, Iran and Turkey (Schülke & Smetana, 2015).

***Astenus lithocharoides* (Solsky, 1874)**

Material examined: Turkmenistan: 2 exs, 09.V.1991, USSR, Turkmenia, Karakum desert, 200 m, 20 km SW Repetek, 38°25' N, 63°09' E, leg. Gsoroba, Fabian, Herczig, Hrebiay & Ronkay (HNHM).

Distribution: This species was known from Georgia, Afghanistan, Iran, Kyrgyzstan, Tajikistan and Uzbekistan (Schülke & Smetana, 2015). It is recorded from Turkmenistan for the first time.

***Astenus lyonessius* (Joy, 1908)**

Material examined: Morocco: 1 ex., 21.III.1982, Morokko, Hoher Atlas, umg. Tahanaoute (as *A. brevelytratus* Lohse, 1987 det. V. Assing) (MHNG). Turkey: 2 exs, 28.V.2016, Karaman, Ayrancı, Yüğük Mts., 37°00'57" N, 33°46'48" E, 1942 m, leg. Anlaş, Örgel & Yaman (AZMM); 1 ex., 29.V.2016, Ayrancı, Berendi 5 km E, 37°15'59" N, 34°05'39" E, 1986 m, leg. Anlaş, Örgel & Yaman (AZMM); 1 ex., 27.V.2016, Konya, Ereğli, Kartal Hill, 37°23'34" N, 34°02'06" E, 1900 m, leg. Anlaş, Örgel & Yaman (AZMM); 3 exs, 14.IV.2016, Konya, Beyşehir, Dumanlı, 37°27'51" N, 31°19'44" E, 1828 m, leg. Örgel & Yaman (AZMM); 2 exs, 21.V.2016, Beyşehir, Geyik Mts., 37°25'36" N, 31°43'00" E, 2000 m, leg. Örgel & Yaman (AZMM); 1 ex., 12.IV.2013, Afyonkarahisar, Düzağaç 2 km N, 38°48'01" N, 30°09'03" E, 1172 m, leg. Anlaş, Yağmur & Örgel (AZMM); 1 ex., 24.III.2014, Aydın, İmambaba Hill, 37°56'06" N, 27°53'56" E, 1644 m, leg. Anlaş & Örgel (AZMM); 2 exs, 13.O4.2014, Balıkesir, Sındırgı, Ulus Mts., leg. Özgen & Örgel (AZMM); 2 exs, 15.IV.2014, Denizli, Çal, Küçük Çökelez Mts., 38°02'48" N, 29°22'11" E, 1575 m, leg. Anlaş & Örgel (AZMM); 6 exs, 06.IV.2015, İzmir, Bergama, Kozak, Güneşli, 39°22'20" N, 27°06'40" E, 1002 m, leg. Yağmur & Örgel (AZMM); 1 ex., 23.VI.2013, Kütahya, Simav, Kabaarmut, 39°10'24" N, 29°01'02" E, 1244 m, leg. Yağmur & Örgel (AZMM); 1 ex., 01.XI.2013, Manisa, Demirci, Bardakçı, 39°07'06" N, 28°33'02" E, 1386 m, leg. Anlaş & Örgel (AZMM); 2 exs, 04.IV.2013, Muğla, Datça, Emecik 2 km SW, 36°46'01" N, 27°48'39" E, 110 m, leg. Yağmur & Örgel (AZMM).

Distribution: This species is known from Europe, North Africa, Israel and Turkey (Schülke & Smetana, 2015).

***Astenus misellus* (Mulsant & Rey, 1880)**

Material examined: Algeria: 4 exs, 13.V.1988, Algérie, Gyde Kabylie, 9 km E of Yakouren, 930 m, leg. Besuchet, Löbl & Buchardt (MHNG).

Distribution: This species is known from France, Italy, Spain, Switzerland, Algeria and Morocco (Schülke & Smetana, 2015).

***Astenus pictipennis* Fauvel, 1900**

Material examined: Turkmenistan: 2 exs, 30.VI-04.VII.1992 Turkmenisian, Kopet-Dagh, 800-1500 m, valley of the river Ipey-kala and Point-kala, 38°13'15" N, 59°54'57" E, leg. Fábíán, Herczig, Podiussány & Varga (HNHM).

Distribution: This species was reported from Afghanistan and Iran (Schülke & Smetana, 2015). It is recorded from Turkmenistan for the first time.

***Astenus procerus* (Gravenhorst, 1806)**

Material examined: Cyprus: 1 ex., XII.1965, Cypre, Yermasoyia (MHNG). Greece: 1 ex., 14.III.1976, Krete, umg. Anogia (MHNG); 1 ex., 30.III.1973, Krete, Ide-Geb. b. Anogia, leg. Fülischer & Meybohm (MHNG). Iraq: 3 exs, 19.V.2008, ca 6 km NW Suleimaniyah (AZMM). Kazakhstan: 3 exs, 05.IV.2010, Yuzhno-Kazakhstan Region, Boralday Range, Satur Mts, hole of the Kulan nv., high Krasnye Vorota pass, 1000 m, 42°35'13" N, 70°26'53" E, leg. Matalin (AZMM). Serbia: 2 exs, 15.IV.1934, Arilje, Vrané (NMPC). Turkey: 1 ex., 08.V.1978, Antalya, Bakaran-Cevizli, 1400 m, leg. Besuchet & Löbl (MHNG); 2 exs, 02.IV.2010, Manisa, Spil Mts, 1200 m, 38°33'20" N, 27°23'17" E, leg. Anlaş (AZMM); 1 ex., 27.IX.2010, Eskişehir, Alpu, Mihalıççık 25 km N, leg. Kunt (AZMM); 1 ex., 11.VII.2014, Konya, Karapınar, Meke Tuzlası, 37°41'13" N, 33°38'03" E, 995 m, leg. Anlaş (AZMM); 2 exs, 11.V.2015, Kütahya, Emet, Eğrigöz Mts., 39°22'57" N, 29°06'45" E, 1900 m, leg. Yağmur & Örgel (AZMM). 1 ex., 16.V.2013, Simav, Kabaarmut, 39°10'24" N, 29°01'02" E, 1224 m, leg. Yağmur & Örgel (AZMM); 1 ex., 27.VI.2016, Çankırı, Ilgaz Mts., Serçeler Köyü, 40°58'32" N, 33°34'44" E, 1320 m, leg. Örgel & Yaman (AZMM); 1 ex., 25.V.2016, Karaman, Sarıveliler, Göktepe, 36°37'11" N, 32°35'54" E, 1702 m, leg. Örgel & Yaman (AZMM); 1 ex., 28.V.2016, Ayrancı, Yüğük Hill, 37°00'57" N, 33°46'48" E, 1942 m, leg. Anlaş, Örgel & Yaman (AZMM); 1 ex., 26.V.2016, Ermenek, Oyukdağ, 36°51'24" N, 32°48'45" E, 2020 m, leg. Örgel & Yaman (AZMM); 1 ex., 24.V.2013, Kayseri, Lifos Mts., 38°36'29" N, 35°29'35" E, 1690 m, leg. Erdek (AZMM); 1 ex., 08.VI.2016, Sarız, Binboğa Mts., 38°19'30" N, 36°32'05" E, 2654 m, leg. Yağmur, Örgel & Yaman (AZMM); 2 exs, 09.VI.2016, Pınarbaşı, Eskiyassıpınar, Gövdeli Mts., 38°44'03" N, 36°38'21" E, 1921 m, leg. Yağmur, Örgel & Yaman (AZMM); 3 exs, 14.IV.2016, Konya, Beyşehir, Dumanlı, 37°27' N, 31°19' E, 1800 m, leg. Örgel & Yaman (AZMM); 4 exs, 19.IV.2016, Beyşehir, Erenler Mts., 37°45'54" N, 31°58'53" E, 2200 m, leg. Örgel & Yaman (AZMM); 4 exs, 30.V.2016, Meke, leg. Anlaş, Örgel & Yaman (AZMM); 2 exs, 01.VI.2016, Niğde, Madenköy, 37°24'19" N, 34°33'31" E, 2641 m, leg. Örgel & Yaman (AZMM); 4 exs, 03.VI.2016, Niğde, Çamardı, Aladağlar, Demirkazık Mts., 2277 m, leg. Örgel & Yaman (AZMM); 2 exs, 15.IV.2013, Afyonkarahisar, İhsaniye, Döğer 2 km E 39°09'13" N, 30°25'52" E, 1286 m, leg. Anlaş, Yağmur & Örgel (AZMM); 2 exs, 11.IV.2015, Denizli, Kale 5 km E, 37°25'37" N, 28°53'30" E, 1335 m, leg. Anlaş, Yağmur & Örgel (AZMM). Locality not found: 1 ex., 01.VII.1928, Karpaty, Kuzy (NMPC).

Distribution: *Astenus procerus* widespread in Europe, North Africa and Cyprus, Iran, Lebanon, Tajikistan, Turkey, Uzbekistan and West Siberia (Schülke & Smetana, 2015). This species is recorded for the first time from Iraq and Kazakhstan.

***Astenus pulchellus* (Heer, 1839)**

Material examined: Azerbaijan: 1 ex., 2-6. VI. 2006, Astara, Motlayatag vill., leg. Snegovaya (AZMM). Turkey: 1 ex., 25.V.2016, Karaman, Sarıveliler, Göktepe, 36°37'16" N, 32°34'31" E, 1717m, leg. Örgel & Yaman.

Distribution: According to Schülke & Smetana (2015), *A. pulchellus* is known from Europe, Kyrgyzstan and Uzbekistan. Thus, this species is reported for the first time from Azerbaijan and Turkey.

***Astenus rufopacus* Reitter, 1909 (Figures 1A-H)**

Astenus rufopacus Reitter, 1909: 150

Type examined: Azerbaijan: Lectotype (here designated) 1 ♂: Lenkoran (=Lankaran), coll. Reitter (HNHM); with red printed label reading "Lectotype", *Astenus rufopacus* Reitter, 1909; des. S. Anlaş 2017. Paralectotypes: 1 ♂, same data as lectotype (HNHM), with red printed label reading "Paralectotype" *Astenus rufopacus* Reitter, 1909; des. S. Anlaş 2017. Azerbaijan or Armenia 2 ♀♀ Caucasus, "Araxesthal" (=Aras Valley), Leder, Reitter (HNHM); with red printed label reading "Paralectotype" *Astenus rufopacus* Reitter, 1909; des. S. Anlaş 2017.

Additional material examined: Azerbaijan or Armenia: 1 ♀, Kaukas (=Caucasus), Leder, coll. Reitter (HNHM). Armenia: 1 ♂, 1 ♀, 15.VII.1977, Armenia, Djruetz, leg. Zombori (HNHM). Syria: 1 ♂, Syria, coll. Reitter (HNHM).

Redescription: Measurements (in mm) and ratios (range, n = 8): AL 1.18-1.23; HL 0.67-0.74; HW 0.61-0.66; PW 0.56-0.60; PL 0.62-0.69; EL 0.70-0.74; EW 0.66-0.70; AW 0.57-0.63; ML 0.67-0.70 (n = 4); TL 5.0-5.5 HL/HW 1.10-1.12; PW/HW 0.91-0.92; PW/PL 0.87-0.90; EL/PL 1.07-1.13; EW/PW 1.17-1.18; EL/EW 1.06; AW/EW 0.86-0.90.

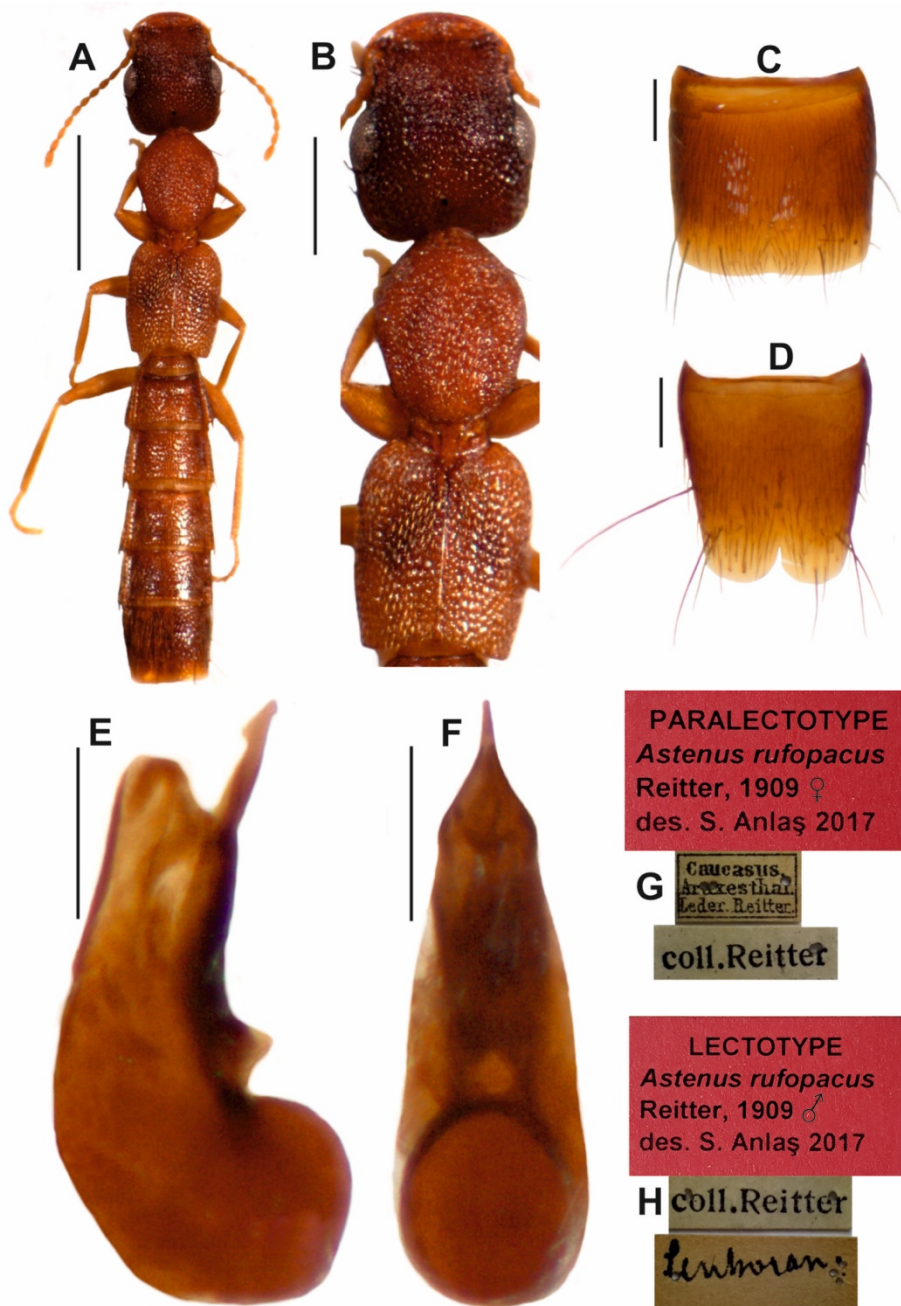


Figure 1. Detail of *Astenus rufopacus* Reitter, 1909: A) Habitus; B) forebody; C) male sternite VII; D) male sternite VIII; E) aedeagus, lateral view; F) aedeagus, ventral view; G) Paralectotype, labels; and H) Lectotype labels. Scale bars, A) 1.0 mm, B) 0.5 mm and C-F) 0.2 mm.

Habitus as in Figure 1A. Coloration: head reddish brown, pronotum reddish, elytra reddish yellow, each with one slightly black spot, abdomen reddish yellow, antennae rufous, legs pale yellow.

Head oblong (see ratio HL/HW and Figures 1A-B); closely punctured with intervals reduced to narrow ridges; eyes convex, large and prominent; pubescence short and reddish brown. Antennae long and slender, antennomere III about three times as long as wide; all antennomeres oblong, about twice as long as wide (Figure 1A). Pronotum convex and oval; oblong and narrower than head (see ratios PW/PL and PW/HW, and Figures 1A-B); distinctly narrowed anteriorly and posteriorly; two long setae on each side of pronotum and smaller setae present on front margin near neck; punctuation similar to that of head, but denser, slightly granulate, surface somewhat glossier than that of head; closely punctured with intervals reduced to narrow ridges; pubescence yellowish, of similar length as that of head, but coarser and more conspicuous. Elytra oblong and wider than pronotum (see ratios EL/EW and EW/PW, and Figures 1A-B); microsculpture absent; punctuation moderately dense and granulate, interstices narrower than diameter of punctures; pubescence yellowish, more distinct than that of head and pronotum. Hind wings present. Abdomen elongate and narrower than elytra at base (see ratio AW/EW and Figure 1A), distinctly widening to posterior; punctuation very dense and very fine; interstices with distinct microsculpture; pubescence fine and yellowish.

Male: sternite VII in posterior median area slightly depressed and with some modified dark stout setae, posterior margin weakly concave (Figure 1C). Sternite VIII deeply and acutely incised at posterior margin, pubescence unmodified (Figure 1D). Ventral process of aedeagus expanded at apex and projected part of the apical area in lateral view (Figure 1E). Median lobe of aedeagus strongly narrowed to apical region, apex pointed in ventral view (Figure 1F).

Comparative notes: The species is distinguished from all its consubgenera by the male sexual characters, especially by the morphology of the aedeagus, in both ventral and lateral view. *A. rufopacus* distinguished from its consubgenera particularly by the presence strongly acute pointed apex of ventral process of aedeagus in ventral view and by the presence of the projected part of the apical area in lateral view.

Distribution: Reitter (1909) described *A. rufopacus* from Caucasus Region of Azerbaijan. Recently, Anlaş & Rose (2009) recorded this species from Turkey. Thus, it is here recorded from Armenia and Syria for the first time.

Comments: Although the types have labels "Holotypus" and "Paratypus", the author did not select any holotype while describing the new species. The curators in HNHM most probably labeled the types as holotypus and paratypes. The types of *A. rufopacus* actually were syntypes. Reitter (1909) mentioned specimens from two localities, "Lenkoron" (i.e., Lankaran) and "Araxesthal" (i.e., Aras Valley), without specifying the numbers of specimens. The specimens from Lankaran are the only males, and one of them, a dissected male, is designated here as a lectotype, in order to fix the identity of the species for future studies. Also, Coiffait (1984) illustrated the aedeagus of *A. rufopacus*, but this illustration is imprecise. For these reasons, the species is redescribed above and illustrated in Figures 1A-F.

***Astenus thaboris* (Saulcy, 1865)**

Material examined: Syria: 2 exs, Syria, coll. Reitter (HNHM).

Distribution: This species is known from Cyprus, Middle East, Central Asia and Turkey (Schülke & Smetana, 2015).

***Astenus thoracicus* (Baudi di Selve, 1857)**

Material examined: Bulgaria: 2 exs, 09.VIII.2010, Belasitsa Mts., Kongura hut, leg. Bekchiev (AZMM, NMNHS). Cyprus: 1 ex., XII.1965, Cyprus, Yermasoyia (MHNG). Israel: 1 ex., 14.V.1973, Galilée, audessous Safad, 500 m, leg. Löbl (MHNG); 1 ex., 27.V.1973, Galilee, Mt. Meron, 900 m, leg. Löbl (MHNG). Turkey: 1 ex., 13.V.1978, Bursa, Uludağ, 800 m, leg. Besuchet & Löbl (MHNG); 1 ex., 20.V.1976, Sinop, Lala, leg. Besuchet & Löbl (MHNG); 1 ex., 19.V.1976, Kastamonu, Ilgazdağ, 15 km N of Tosya, 1600-1700 m, leg. Besuchet & Löbl (MHNG); 1 ex., 18.V.1976, Kastamonu, Küre 5 km S, 1200 m,

leg. Besuchet & Löbl (MHNG); 1 ex., 06.VI.1986, Ercizincan (=Erzincan), Tercan, Euphrate, 1400 m, leg. Besuchet, Löbl & Burckhardt (MHNG); 1 ex., 16-20.IV.2004, Antalya, Göynük, 40 km SW from Antalya, leg. Hula (NMPC); 4 exs, 29.V.2016, Karaman, Ayrancı, Berendi 5 km E, 37°16' N, 34°04' E, 1980 m, leg. Anlaş, Örgel & Yaman (AZMM); 1 ex., 05.VI.2016, Kayseri, Yahyalı, 38°03'01" N, 35°24'01" E, 1427 m, leg. Yağmur, Örgel & Yaman (AZMM); 2 exs, 14.IV.2016, Konya, Beyşehir, Dumanlı, 37°27'51" N, 31°19'44" E, 1828 m, leg. Örgel & Yaman (AZMM); 2 exs, 19.IV.2016, Beyşehir, Erenler Mts., 37°45'54" N, 31°58'53" E, 2200 m, leg. Örgel & Yaman (AZMM); 1 ex., 03.VI.2016, Niğde, Çamardı, Pınarbaşı, 37°54'39" N, 35°07'09" E, 1652 m, leg. Örgel & Yaman (AZMM); 1 ex., 16.IX.2011, Afyonkarahisar, Sandıklı Mts., 38°27'45" N, 30°21'23" E, 1548 m, leg. Anlaş (AZMM); 3 exs, 02.V.2015, Ahır Mts., Büyükkavşak Hill, 38°43'08" N, 30°03'48" E, 1810 m, leg. Yağmur & Örgel (AZMM); 2 exs, 24.III.2014, Aydın, İmambaba Hill, 37°56'41" N, 27°53'46" E, 1430 m, leg. Anlaş & Örgel; (AZMM); 2 exs, 25.IV.2014, Denizli, Beyağaç, Yelken Mts., 37°16'22" N, 28°56'03" E, 1211 m, leg. Yağmur & Örgel (AZMM); 2 exs, 27.VI.2014, Eskişehir, Musaözü Dam, 39°41'41" N, 30°19'21" E, 950 m, leg. Yağmur & Örgel (AZMM); 3 exs, 06.IV.2014, Kütahya, Simav, Kabaarmut, 39°10'12" N, 29°00'34" E, 1271 m, leg. Yağmur & Örgel (AZMM); 3 ex., 14.IV.2015, Türkmen Mts., 39°23'31" N, 30°16'33" E, 1686 m, leg. leg. Anlaş, Yağmur & Örgel (AZMM); 3 exs, 04.IV.2013, Muğla, Datça, Emecik 2 km SW, 36°46'01" N, 27°48'39" E, 107 m, leg. Yağmur & Örgel (AZMM).

Distribution: This species is known from Azerbaijan, Georgia, Greece, Italy, Canary Islands, Cyprus, Iran, Syria, Turkey and Uzbekistan (Schülke & Smetana, 2015). The records from Israel and Bulgaria are reported for the first time.

***Astenus tristis* (Erichson, 1840)**

Material examined: France: 1 ex., Corsica, coll. Lokay (NMPC).

Distribution: This species was known only from Sardegna and Sicilia Islands in Italy (Schülke & Smetana, 2015). Thus, it is recorded here for the first time from Corsica Island, France.

Acknowledgments

I am most grateful to my colleagues for making their staphylinid collections available to me. Special thanks to György Makranczy (Budapest), Giulio Cuccodoro (Geneva), Martin Fikaček (Prague), Wouter Dekoninck (Brussels) and Rostislav Bekchiev (Sofia) for arranging the loan of the *Astenus* material. This study was in part supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK Project Numbers 112T907 and 215Z080).

References

- Anlaş, S. & A. Rose, 2009. New records of Paederinae (Coleoptera: Staphylinidae) from Turkey. *Acta Zoologica Bulgarica*, 61 (2): 209-213.
- Bordoni, A., 1994. Nuove specie di Staphylinidae della regione mediterranea (Coleoptera). *Redia*, 77: 23-32.
- Coiffait, H., 1984. Coléoptères staphylinides de la région paléarctique occidentale V. Sous famille Paederinae, Tribu Paederini 2. Sous famille Euaesthetinae. *Nouvelle Revue d'Entomologie, Supplément*, 8 (5): 1-424.
- Dejean, P. F. M. A., 1833. "Livraison 1, 1-96". In: *Catalogue des coleopteres de la collection de M. le comte Dejean*. Paris: Méquignon-Marvis Pere et Fils, 443 pp. [issued in parts: 1833-1836].
- Reitter, E., 1909. *Fauna Germanica. Die Kafer des Deutschen Reiches. Nach der analytischen Methode bearbeitet*. II Band. *Schriften des Deutschen Lehrervereins für Naturkunde* 24. Stuttgart: K.G. Lutz, 392 pp., pls. 41-80.
- Schülke, M. & A. Smetana, 2015. "Staphylinidae, 304-1134". In: *Catalogue of Palearctic Coleoptera. Volume 2. Hydrophiloidea–Staphyloidea* (Eds. I. Löbl & D. Löbl). Revised and Updated Edition. Leiden: Brill: xxvi+1702 pp.