



Original article (Orijinal araştırma)

Notes on the genus *Xantholinus* Dejean, 1821 (Coleoptera: Staphylinidae, Staphylininae, Xantholinini) from the western Palearctic Region

Batı Palearktik Bölgedeki *Xantholinus* Dejean, 1821 (Coleoptera: Staphylinidae, Staphylininae, Xantholinini) cinsi üzerine notlar

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Abstract

The genus *Xantholinus* Dejean, 1821 (Coleoptera: Staphylinidae, Staphylininae, Xantholinini) contains 105 species in the western Palearctic region. In the present study, new and additional distribution data for 22 species of the genus *Xantholinus* are reported from various countries of the western Palearctic Region. The material examined was collected between 1898 and 2017; and contained types and additional specimens mostly in European museums. Among them, five species are the first country records: Azerbaijan (1), Armenia (1), Bosnia Herzegovina (1), Iraq (2), Jordan (1) and Macedonia (2). The original specimens of *Xantholinus araxis* Reitter, 1898 have been studied, the lectotype designated, the species redescribed and illustrated. Besides, the type specimens of *Xantholinus phenicius* Coiffait, 1971 (syn of *Xantholinus rufipennis* Erichson, 1839), *Xantholinus kirschenblati* Bordoni, 1975, *Xantholinus fageli* Coiffait, 1971 and *Xantholinus gridellii carius* Coiffait, 1972 (syn of *Xantholinus varnensis* Coiffait, 1972) are illustrated.

Keywords: Fauna, lectotype, new records, Staphylinidae, *Xantholinus*, western Palearctic Region

Öz

Xantholinus Dejean, 1821 (Coleoptera: Staphylinidae, Staphylininae, Xantholinini) Batı Palearktik Bölgede 105 türle temsil edilen bir cinistir. Bu çalışmada, Batı Palearktik Bölgenin farklı ülkelerdeki *Xantholinus* cinsine dâhil 22 türe ait yeni ve ek yayılışsal kayıtlar rapor edilmiştir. İncelenen materyal, 1889-2017 yılları arasında toplanmış olup, çoğunlukla Avrupa müzeleri'nde bulunan tip ve diğer örnekleri içermektedir. Belirtilen türlerden, beş tanesi ilk ülke kaydı niteliğindedir: Azerbaycan (1), Ermenistan (1), Bosna Hersek (1), Irak (2), Ürdün (1) ve Makedonya (2). *Xantholinus araxis* Reitter, 1898 türünün tip örnekleri incelenmiş, lektotipi seçilmiş ve bu tür yeniden tanımlanarak şekillendirilmiştir. Ayrıca, *Xantholinus phenicius* Coiffait, 1971 (*Xantholinus rufipennis* Erichson, 1839 türünün sinonimi), *Xantholinus kirschenblati* Bordoni, 1975, *Xantholinus fageli* Coiffait, 1971 ve *Xantholinus gridellii carius* Coiffait, 1972 (*Xantholinus varnensis* Coiffait, 1972 türünün sinonimi) türlerinin tip örnekleri şekillerle gösterilmiştir.

Anahtar sözcükler: Fauna, lektotip, yeni kayıtlar, Staphylinidae, *Xantholinus*, Batı Palaearktik Bölge

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Introduction

The genus *Xantholinus* Dejean, 1821 (Coleoptera, Staphylinidae, Staphylininae, Xantholinini) is divided into 14 subgenera (Schülke & Smetana, 2015). *Xantholinus* contains 105 species, with three species as incertae sedis and one species as nomen dubium in the western Palearctic region (Schülke & Smetana, 2015; Anlaş, 2017; Assing, 2017). The main center of diversity of the genus is in the Mediterranean countries and adjacent regions, especially in Anatolia with 38 species, Italy with 26 species, Caucasus with 20 species, Spain with 15 species and Greece with 12 species.

Members of the genus can be seen in many habitats, but most often in plant matter, under stones or bark, in grasslands, on flowers and in leaf litter. They are free-living and most probably predators of small insects and mites.

The present study is the result of the examination of the types of the *Xantholinus* species in the Hungarian Natural History Museum and the Institut Royal des Sciences Naturelles de Belgique. In this context, the syntypes of *Xantholinus araxis* Reitter, 1898 have been examined, the lectotype designated, the species redescribed and illustrated. Additionally, the type specimens of *Xantholinus fageli* Coiffait, 1971, *Xantholinus phenicius* Coiffait, 1971, *Xantholinus gridellii carius* Coiffait, 1972 and *Xantholinus kirschenblati* Bordoni, 1975 were studied for the first time after their description and internal structures of the aedeagus and habitus of these species are illustrated. Consequently, it was confirmed that *Xantholinus phenicius* is a synonym of *Xantholinus rufipennis* Erichson, 1839 and *Xantholinus gridellii carius* Coiffait, 1972 is a synonym of *Xantholinus varnensis* Coiffait, 1972. Also, numerous records from Palearctic Region of zoogeographic interest for *Xantholinus* species are given.

Material and Methods

Examination of the material was collected between 1898 and 2017, and included types and additional specimens in museums. Specimens were examined using a Stemi 2000-C microscope (Zeiss, Oberkochen, Germany). Photographs of the habitus, forebody and aedeagus were taken with a digital camera (Zeiss Axiocam ERC5s). All photographs were edited with Helicon Focus V6 (Helicon Soft Ltd., Kharkov, Ukraine) and CorelDRAW Graphics Suite X5 (Corel Corporation, Ottawa, Canada). Nomenclature of the terminalia and abbreviations of other morphological measurements (in mm) follow Assing (2007): HL, head length from anterior margin of clypeus to posterior margin of head; HW, head width (including eyes); AL, length of antenna; PL, length of pronotum along median line; PW, maximal width of pronotum; EL, length of elytra from apex of scutellum to posterior margin; EW, combined width of elytra; AW, maximal width of abdomen; TaL, length of metatarsus; TiL, length of metatibia; ML, length of aedeagus from apex of ventral process to base; and TL, total body length.

The material referred to in this study is deposited in the following collections: AZMM, Alaşehir Zoological Museum, Manisa, Turkey (S. Anlaş); HNHM, Hungarian Natural History Museum, Budapest, Hungary (G. Makranczy, O. Merkl); IRSNB, Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium (W. Dekoninck); MHNG, Muséum d'Histoire Naturelle, Genève, Switzerland (G. Cuccodoro); NMPC, National Museum, Praha, Czech Republic (M. Fikáček, Jiří Hájek); and NMNHS, National Museum of Natural History, Sofia, Bulgaria (R. Bekchiev).

Results

Genus *Xantholinus* Dejean, 1821

Subgenus *Calolinus* Coiffait, 1956

Xantholinus rufipennis Erichson, 1839 (Figure 1)

Syn: *Xantholinus phenicius* Coiffait, 1971 (Figure 1a-e)

Material examined: Cyprus: 1♂, 12.III.2011, Lefkoşa, Değirmenlik, Yaylatepe 2 km S, environs Alevkayası, 35°17'28" N, 33°33'03" E, 820 m, leg. Anlaş (AZMM). Greece: 1♂, 1♀, 11.IV.1977, Rhodes Profitis, Ilias, 650 m, leg. Besuchet (MHNG). 1♀, 15.IV.1977, Rhodes, Ebouas, leg. Besuchet & Löbl (MHNG). 2♂♂, 25-26.IV.1935, Chios Island, Ayio Georgios, leg. Fodor (HNHM). Macedonia: 1♂, 16.VII.1937, Han Mavrova, leg. Fodor (HNHM). Turkey: 1♂, 2♀♀, 29.IV.2006, Kilis Province, Küplüce, leg. Yağmur (AZMM); 1♂, 16.III.2008, Ömerli 1 km SE, 1200 m, 36°52'01" N, 37°12'02" E, leg. Yağmur (AZMM). 2♂♂, 5♀♀, 03.IV.2017, Adıyaman Province, 37°50'04" N, 38°18'56" E, 980 m. leg. Yağmur & Örgel (AZMM). 2♂♂, 4♀♀, 23.VIII.2017, Gaziantep Province, Oğuzeli, Çaybaşı 2 km S, 36°59'58" N, 37°30'48" E, 720 m, pitfall traps, leg. Yağmur.

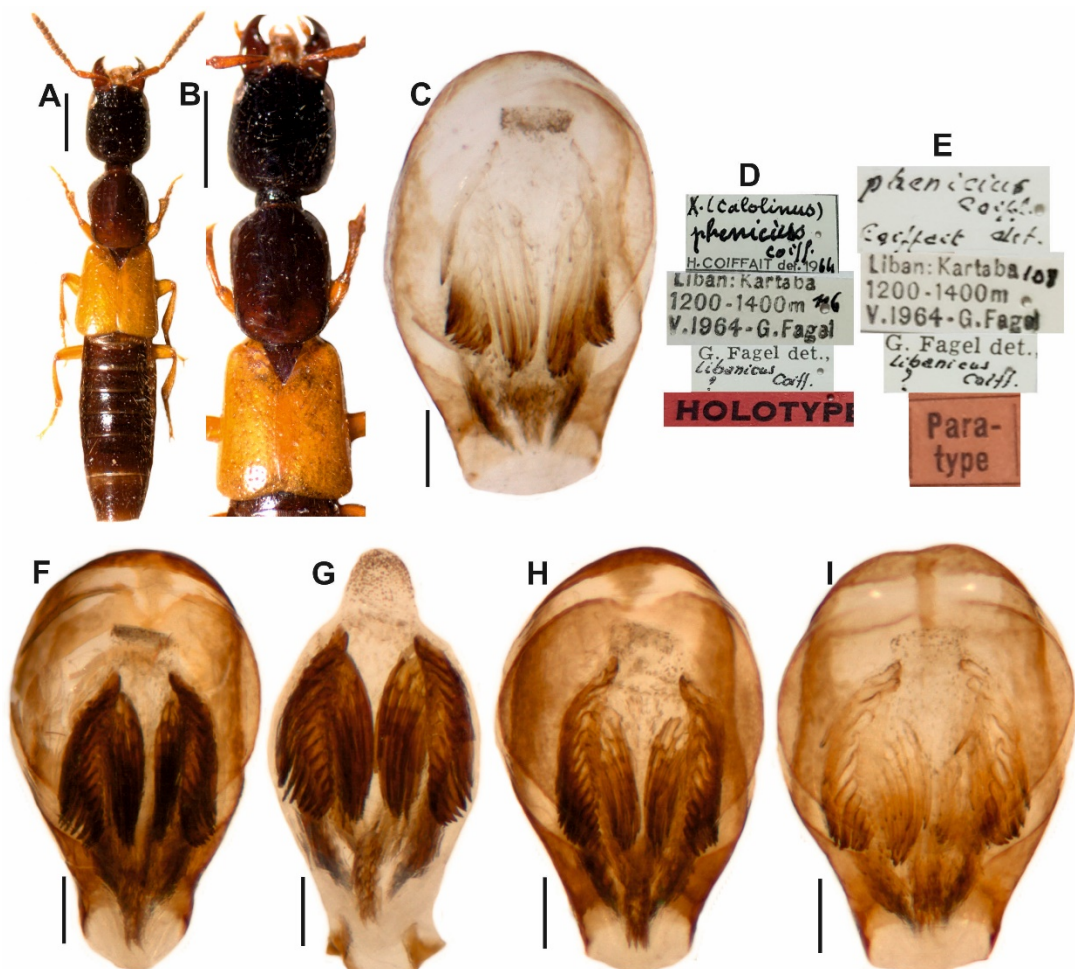


Figure 1. *Xantholinus rufipennis*: A-C) types of *X. phenicius*: A) habitus (Holotype); B) forebody (Paratype); C) aedeagus (Holotype); D-E) type labels of *X. phenicius*; F-I) aedeagus (F-G: Adıyaman, Turkey; H-I: Gaziantep, Turkey). (Scale bars: A-B: 1 mm; C, F-I: 0.2 mm).

Type examined: *Xantholinus phenicius* Coiffait: Holotype: 1♂: "Liban: Kartaba, 1200-1400 m, 116, V.1964-G. Fagel / G. Fagel det., *libanicus* Coiff. ? / *X. (Calolinus) phenicus* [sic] Coiff., H. Coiffait det. 1964 / Holotype" (IRSNB). Paratype: 1♀ "Liban: Kartaba, 1200-1400 m, 108, V.1964-G. Fagel / G. Fagel det., *libanicus* Coiff. ? / *X. (Calolinus) phenicus* [sic] Coiff., H. Coiffait det. 1964 / Paratype" (IRSNB).

Remarks: Coiffait (1971) based the original description of *Xantholinus phenicus* (Coiffait, 1971) on a male holotype and a female paratype from "Kartaba, Liban." The types are deposited in the Fagel collection in Brussels (IRSNB). This species has been proposed as a synonym of *X. rufipennis* by Assing (2007) without seeing the male holotype. The type specimens of *X. phenicus* was found at IRSNB during a visit in 2016. An examination of the aedeagus of the male holotype of *X. phenicius* revealed that it is identical to *X. rufipennis*. Consequently, it was confirmed that *X. phenicius* is a synonym of *X. rufipennis*. For illustrations of the type specimens of *X. phenicus* see Figures 1a-e.

Distribution: This species widespread in the Eastern Mediterranean region (Assing, 2007; Schülke & Smetana, 2015; Anlaş, 2017). But, it had not been recorded from Macedonia.

Subgenus *Helicophallus* Coiffait, 1956

***Xantholinus araxis* Reitter, 1898 (Figure 2)**

Type examined: Lectotype (here designated): 1♂: "Caucasus, Araxesthal. Leder. Reitter. / *Xantholinus (Helicophallus) araxis* Reitter sensu / det. A. Bordoni 19..... / aedeotypus / *Xantholinus (Helicophallus) araxis* Reitter sensu Bordoni, 1972 / Paratypus, 1898, *Xantholinus araxis* Reitter" with red printed label reading "Lectotype", *Xantholinus araxis* Reitter, 1898; des. S. Anlaş 2017. (HNHM). Paralectotypes (here designated): 1♀: "Caucasus, Araxesthal. Leder. Reitter. / coll. Reitter / *Xantholinus araxis* m. / Holotypus, 1898, *Xantholinus araxis* Reitter" with red printed label reading "Paralectotype", *Xantholinus araxis* Reitter, 1898; des. S. Anlaş 2017. (HNHM). 2♀♀: "Caucasus, Araxesthal. Leder. Reitter. / coll. Reitter / Paratypus, 1898, *Xantholinus araxis* Reitter / with red printed label reading "Paralectotype", *Xantholinus araxis* Reitter, 1898; des. S. Anlaş 2017. (HNHM).

Redescription: Measurements (in mm) and ratios (range, n = 4): AL: 1.75-1.88, 182; HL: 1.23-1.33, 128; HW: 0.95-1.06, 1.01; PL: 1.25-1.34, 1.30; PW: 0.82-0.90, 0.86; EL: 0.90-0.99, 0.95; EW: 1.12-1.22, 1.17; AW: 1.14-1.26, 1.20; ML: 1.38 (n=1); TiL: 0.78-0.82, 0.80; TaL: 0.63-0.69, 0.66; TL: 9.1-9.4, 9.3; HL/HW 1.26-1.29, 1.27; PW/HW 0.85-0.86, 0.85; PW/PL 0.66-0.67, 0.66; EL/PL 0.72-0.74, 0.73; EW/PW 1.36-1.37, 1.36; EL/EW 0.80-0.81, 0.80; AW/EW 1.01-1.03, 1.02; TiL/TaL: 1.19-1.24, 1.21.

Habitus as in Figure 2a. Coloration: head blackish, pronotum dark brown to black, elytra yellowish red to bright reddish; abdomen dark brown to black; legs yellowish red; antennae reddish to brown.

Head strongly oblong, average 1.25-1.30 times as long as wide (see ratio HL/HW and Figure 2a), and weakly dilated posteriorly; eyes small, not distinctly projecting from lateral outline of head, about a fifth the length of postocular region in dorsal view; dorsal surface with sparse, not well-defined, and relatively coarse punctation and with a few interspersed micropunctures, central dorsal region without punctures, microsculpture absent; antenna not slender, with eight to 10 antennomeres weakly transverse (Figure 2a). Pronotum narrower than head (see ratio PW/HW and Figure 2a), and strongly oblong (see ratio PW/PL and Figure 2a); distinctly tapering posteriad; lateral margins almost straight in dorsal view; dorsal series composed of nine to 11 punctures; microsculpture absent. Elytra distinctly wider than pronotum and, at suture distinctly shorter than pronotum (see ratio EL/PL, EW/PW and Figure 2a), puncturation well-defined. Hind wings at least in some specimens of reduced length. Legs relatively long (see measurements TiL and TaL). Abdomen about as wide as elytra (see ratio AW/EW and Figure 2a); punctation fine and moderately dense; all tergites with distinct transverse microsculpture; pubescence blackish; posterior margin of tergite VII with narrow palisade fringe.

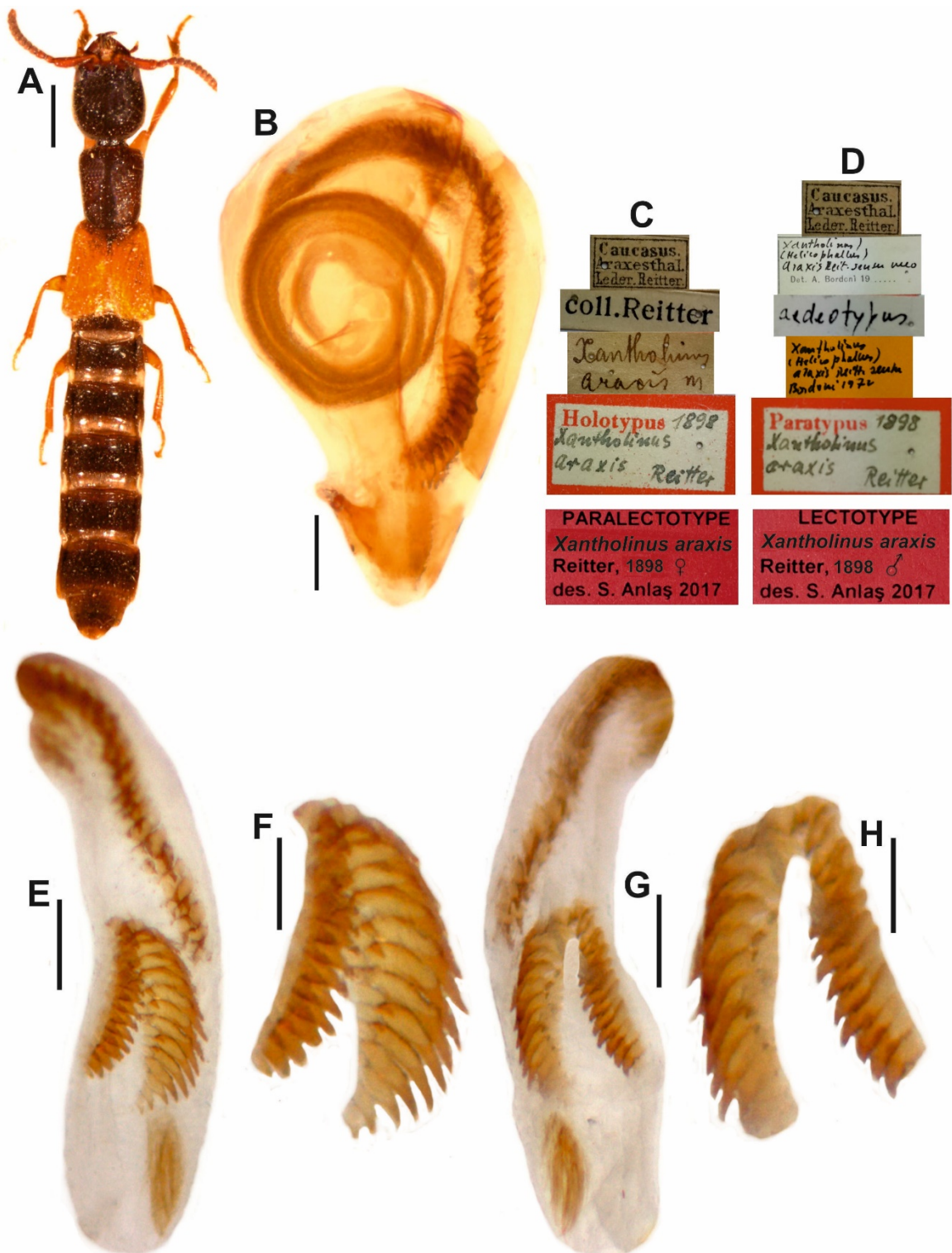


Figure 2. *Xantholinus araxis*: A) habitus; B) aedeagus in dorsal view; C) paralectotype labels; D) lectotype labels; E-H) internal structures of aedeagus in squeeze preparation. (Scale bars: A: 1 mm; B, E-H: 0.2 mm).

♂: Posterior margins of tergite and sternite VIII weakly convex and narrowly semitransparent; aedeagus with internal structures composed of a proximal series of about 20 relatively short and sclerotized spines, a distal series of about 15 long and distinctly sclerotized spines, a second distal series of about 15 moderately long and distinctly sclerotized spines, an intermediate distal series composed of eight short and weakly sclerotized spines of gradually decreasing length, and a distal brush-like cluster of long and weakly sclerotized spines (Figure 2b and e-h).

Comparative notes: *Xantholinus araxis* is distinguished from all its congeners by the internal structures of the aedeagus. The similarly derived morphology of the aedeagal characters suggests that this new species is most closely related to *Xantholinus luteipennis* Coiffait, 1970, which is distributed in Anatolia. *X. luteipennis* is readily separated from *X. araxis* by the presence of more distinct sclerotized spines in intermediate distal series and by the less oblong pronotum.

Remarks: Although the types of *X. araxis* have labels “Holotypus” and “Paratypus”, Reitter (1898), in the original descriptions of species, mentioned a series of specimens without selecting a holotype. The curators in HNHM most probably labeled the types as holotypus (a female) and paratypes (a male and two females). Therefore, the types of *X. araxis* actually were syntypes. Reitter (1898) mentioned specimens from only one location, “Araxesthal, near Ordubad” (now in Nakhchivan, Azerbaijan), without specifying the numbers of specimens. A dissected male, is designated here as a lectotype, in order to fix the identity of the species for future studies. The species is illustrated in Figure 2.

Distribution: This species is known from Armenia, Azerbaijan and Iran (Bordoni, 1975; Schülke & Smetana, 2015; Assing, 2017).

***Xantholinus bulgaricus* Coiffait, 1972**

Material examined: Bulgaria: 1♂, 1936, Čamkorija Mussalla, leg. Purkyně (NMPC).

Distribution: This species is only known from Bulgaria (Schülke & Smetana, 2015).

***Xantholinus distans* Mulsant & Rey, 1853** (Figure 3a-d)

Material examined: Belgium: 1♂, 1♀, 25.IV.1951, Dinant route de Neufchâteau, leg. and det. Fagel. (IRSNB). 1♂, 2♀♀, 18.IV.1949, Ben-Ahin, ruisseau de soliére, leg. Fagel. (IRSNB). 1♂, 16.VI.1943, Andenne (Ankan), leg. and det. Fagel. (IRSNB). Germany: 1♂, 2♀♀, Stuttgart 26 km SW, leg. Anlaş (AZMM). Italy: 1♂, 14.VI.1994, Calabria, Castiglione Cos. (CS) torr. Padula, leg. Angelini (AZMM).

Distribution: This species is widespread in Europe (Schülke & Smetana, 2015). The species is illustrated in Figure 3a-d.

***Xantholinus kirschenblati* Bordoni, 1975** (Figure 3e-g)

Material examined: Azerbaijan: 2♂♂, 26.VI.2003, Ismalinsky nat. reserved, environs Valyasin village, leg. Nabozhenko (AZMM).

Type examined: *Xantholinus kirschenblati* Bordoni: Paratype: 1♂ "Kaukas, Leder / *Xanth. variabilis* Hochh. Coll. Reitter / *Xantholinus kirschenblati* n. sp. det. A. Bordoni 1972, paratypus / *Xantholinus kirschenblati* Paratypus, Bordoni 1972" (HNHM).

Remarks: Bordoni (1975) based the original description of *X. kirschenblati* on a male holotype from “Ahti, distr. Novo, Bajazet (=Armenia, Yerevan, Sevan lake)” and a male paratype from “Kaukas”, without specification of the locality. The paratype is deposited in the Reitter collection in Budapest (HNHM). The paratype of this species in the collections of the HNHM were studied during a visit in 2015. The species is illustrated in Figure 3e-f.

Distribution: This species is known from Armenia (Bordoni, 1975; Schülke & Smetana, 2015; Assing, 2017). The specimens from Azerbaijan detailed here represent the first record for that country.



Figure 3. A-D) *Xantholinus distans*, E-G) *X. kirschenblati*: A) habitus; B) forebody; C-F) aedeagus in dorsal view; G) paratype labels. (Scale bars: A: 1 mm; B: 0.5 mm; C-F: 0.2 mm).

***Xantholinus maykopensis* Coiffait, 1966** (Figure 4)

Material examined: Russia: 2♂♂, 2♀♀, V.2017, Adygeya, env. Maykop, by pitfall traps (AZMM).

Type examined: 1♂, Caucas. occ. Circassien, Leder Reitter, *Xantholinus forcepunctatus* coll. Reitter (HNHM). 1♂, Caucas. occ. Circassien, Leder Reitter, G. Fagel det. *X. forcepunctatus* Mots. (IRSNB).

Remarks: Coiffait (1966) based the original description of *X. maykopensis* on a male holotype and six female paratypes from the surroundings "Maykop" in the Northwestern Caucasus region. According to Bordoni (2011), the type specimens of *X. maykopensis* is deposited in the Muséum national d'Histoire Naturelle of Paris and the holotype was without genital segment and aedeagus. For that reason, A. Bordoni designated a neotypus for this species (Bordoni, 2011) from "Krasnaya Polyana", preserved in the Zoological Museum of Copenhagen. The aedeagus illustrations of this species provided by Coiffait (1966, 1972) and Bordoni (1975). But later, the illustrations of aedeagus were drawn differently by Bordoni (2011). The species is illustrated in Figure 4.

Distribution: The species was known from Northwestern Caucasus region and Georgia (Coiffait, 1966, 1972; Bordoni, 1975, 2011; Assing, 2007).

Subgenus *Heterolius* Coiffait, 1983

***Xantholinus fortepunctatus* Motschulsky, 1860**

Material examined: Georgia: 1♂, 07-09.VII.1987, Cauc. C., Buby Fl. 1850 m, leg. Odvarka, coll. Dvořák (NMPC). 1♂, 05.VII.1989, Caucasus, Dagestan, Samursky forest, *Quercus robur-Carpinus caucasicus* sifted from litter, Leg. Z. Korsos (HNHM). Russia: 1♂, 28.VII.2000, Rostov region, Sholovsky district, Kalininsky village, leg. Khachikov (AZMM). Uzbekistan: 1♂, 08-25.VI.1989, Uzbeká SSR, Samarkand, leg. K. Hůrka (NMPC); 1♂, 11.VI.1989, Uzbek, SSR, Turk. chr. Džum-džum-saj, sníh, 2000-2400 m, alp, pásma, leg. Hůrka (NMPC).

Distribution: This species occurs in Caucasus, Moldavia, Poland, Ukrania, the southern European territory of Russia, Middle Asia, Iran and Turkey (Anlaş, 2014; Schülke & Smetana, 2015).

***Xantholinus khnzoriani* Coiffait, 1966**

Syn: *Xantholinus caucasicus* Bordoni, 1975

Material examined: Azerbaijan: 3♂♂, 4♀♀, 08.V.2004, Leriksy District, Ukhary Village, Gan lake, leg. Kasatkin (AZMM). Georgia: 2♂♂, 24.V.2004, Abkhazia, Avadchara, leg. Kasatkin (AZMM). Russia: 2♂♂, 1♀, 05.VIII.2006, Kabardino Balkariya, Lesisty range, env. Belaya rechka vill., Beshenka River, leg. Nabozhenko (AZMM). 1♂, 2♀♀, Caucasus, Teberda, VI.1902, coll. Rambausek (NMPC).

Distribution: *Xantholinus khnzoriani* is known from Caucasus and Turkey (Anlaş, 2017; Assing, 2017). Recently, *X. caucasicus* has been proposed as a synonym of *X. khnzoriani* by Assing (2017).

Subgenus *Idiolinus* Casey, 1906

***Xantholinus crassicornis* Hochhuth, 1851**

Syn: *Xantholinus lederi* Coiffait, 1966

Material examined: 2♂♂, Caucasus, Leder Reitter, 494, coll. Roelfs (misidentification as *X. variabilis* Hochhuth, 1851 det. Fagel and as *X. lederi* Coiffait, det. A. Bordoni) (IRSNB). Georgia: 1♂, Caucasus (=Ossetia), Meskisches Geb. Leder (Reitter coll.) (NMPC). 1♂, 1♀, Caucasus, Meskisches Geb., coll. Leder (Reitter) (HNHM).

Distribution: This species is known from Azerbaijan, Georgia, southern European Russia and Turkey (Schülke & Smetana, 2015; Anlaş, 2017; Assing, 2017).

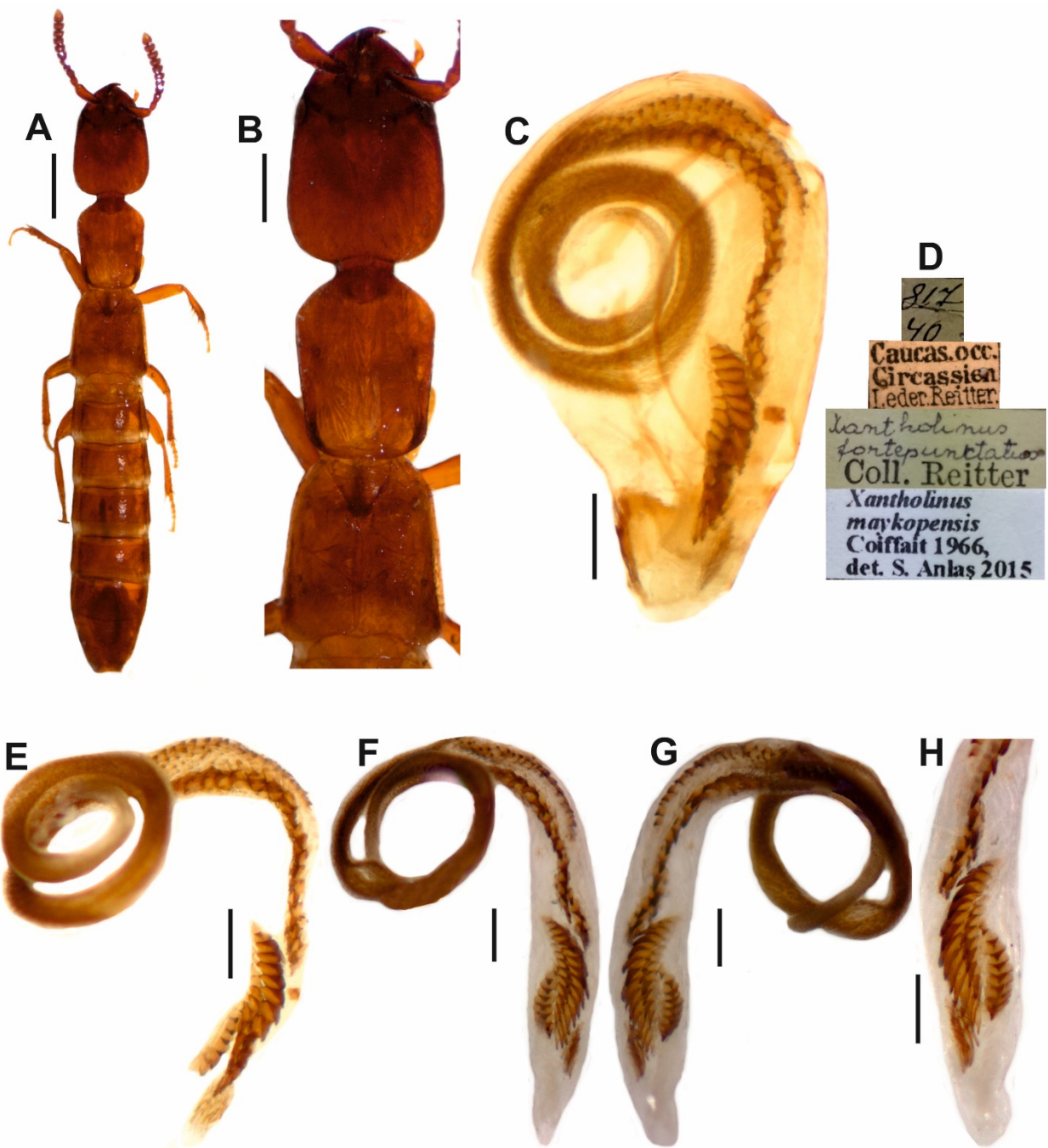


Figure 4. *Xantholinus maykopensis*: A) habitus; B) forebody; C) aedeagus in dorsal view; D) labels; E, H) internal structures of aedeagus in squeeze preparation. (Scale bars: A: 1 mm; B: 0.5 mm; C, E-H: 0.2 mm).

Subgenus *Paracyclinus* Bordoni, 1975

***Xantholinus procerus* (Erichson, 1839)**

Material examined: Armenia: 1♂, 14-19.VI.1999, Razdansky distr., Tsakhkunyats Range, high Arzakan vill., leg. Nabozhenko (AZMM). Bosnia Herzegovina: 1♂, Bosnie (NMPC).

Distribution: *Xantholinus procerus* is distributed in Azerbaijan, Albania, Bosnia Herzegovine, Georgia, Romania, Ukraina and Turkey (Schülke & Smetana, 2015). The record from Armenia is reported here for the first time.

Subgenus *Polydontophallus* Bordoni, 1972

***Xantholinus elegans* (Olivier, 1795)**

Material examined: Italy: 1♂, 28.V.1969, Passo la Futa, leg. Mlynář (NMPC).

Distribution: This species occurs in Europe and also Nearctic Region (Schülke & Smetana, 2015).

***Xantholinus fageli* Coiffait, 1971 (Figure 5a-f)**

Type examined: *Xantholinus fageli* Coiffait: Holotype: 1♂: "Liban: Kartaba, 1200-1400 m, 114, V.1964-G. Fagel / G. Fagel det. sp. apud *semirufus* Steel. / *X. (Purrolinus) fageli* [sic] Coiff., H. Coiffait det. 1964 / Holotype" (IRSNB). Paratypes: 4♀♀ "Liban: Kartaba, 1200-1400 m, 116, V.1964-G. Fagel / G. Fagel det. sp. apud *semirufus* Steel. / *fageli* Coiffait, Coiffait det. / Paratype" (IRSNB). Allotype: 1♀ "Liban: Kartaba, 1200-1400 m, 116, V.1964-G. Fagel / G. Fagel det. sp. apud *semirufus* Steel. / *fageli* Coiffait, Coiffait det. / Paratype" (IRSNB).

Remarks: Coiffait (1971) based the original description of *X. fageli* on a male holotype and a male paratype from "Kartaba, Liban". The types are deposited in the Fagel collection in Brussels (IRSNB). The type specimens of *X. fageli* in the collections of the IRSNB were studied during a visit in 2016. The male paratype was not found, but there were five females (four paratypes and one allotype). Although the female types of *X. fageli* have labels "Allotype" and "Paratype", the author did not select any female types while describing the new species. G. Fagel most probably labeled yourself the types as allotype and paratypes. Coiffait (1971) illustrated the aedeagus of *X. fageli*, but this illustration is imprecise. For this reason, the species is illustrated in Figures 5.

Distribution: This species is known only from the type locality to Kartaba (=Qartaba, Jbel District) in Lebanon (Coiffait, 1971).

Subgenus *Purrolinus* Coiffait, 1956

***Xantholinus tricolor* (Fabricius, 1787)**

Material examined: Bulgaria: 1♂, VIII.1908, Rila, Čamkorija, coll. Rambousek (NMPC). Georgia: 1♂, 24.VI.2004, Abkhazia, Turetskaya Shapka Mountains, leg. Kolbachev (AZMM). Hungary: 1♂, 25.V.2005, Hungary, pest m. Pilisszentlászló Kopaniyoe, Cseres-tölgyes, Fühálózás egyelés, leg. Merkl (NMHM). Slovakia: 1♂, 19.V.2002, Herlany env., 500 m, leg. Skuhrovec (NMPC).

Distribution: *Xantholinus tricolor* is known from Europe, including the southern European territory of Russia, Turkey, Tajikistan, and eastern and western Siberia (Anlaş, 2014; Schülke & Smetana, 2015).

Subgenus *Typhlolinus* Reitter, 1908

***Xantholinus graecus* Kraatz, 1858**

Material examined: Bulgaria: 1♂, 28.V.2010, Strandzha Mts., Brashlian vill., 41°46'14" N, 23°01'35" E, leg. Bekchiev (NMNHS). Cyprus: 1♂, 2♀♀, 12.III.2011, Girne, Beşparmak, 530 m, 35°16'59" N, 33°28'21" E, leg. Anlaş (AZMM). 2♂♂, 1♀, Mt. Arménien (NMPC). Greece: 1♂, 11.IV.1977, Rhodes Profitis, Ilias, 650 m, leg. Besuchet (MHNG). Italy: 1♂, 11-12.V.1980, Appennino, Lombardo, Staffora-Tal, leg. Zwick (MHNG). Turkey: 1♂, 2♀♀, 04.IV.2014, Uşak Province, Banaz, Susuz, 1087 m, 38°37'41" N, 29°44'10" E, leg.

Anlaş & Yağmur (AZMM). 1♂, 3♀♀, 14.III.2014, Manisa Province, Selendi, Omurlar Village, 974 m, 38°52'15" N, 28°49'11" E, leg. Anlaş & Yağmur (AZMM).

Distribution: This species occurs in Albania, Macedonia, Greece, Italy and the southern European territory of Russia from Europe, and Lebanon, Israel, Cyprus and Turkey (Schülke & Smetana, 2015; Anlaş, 2017).

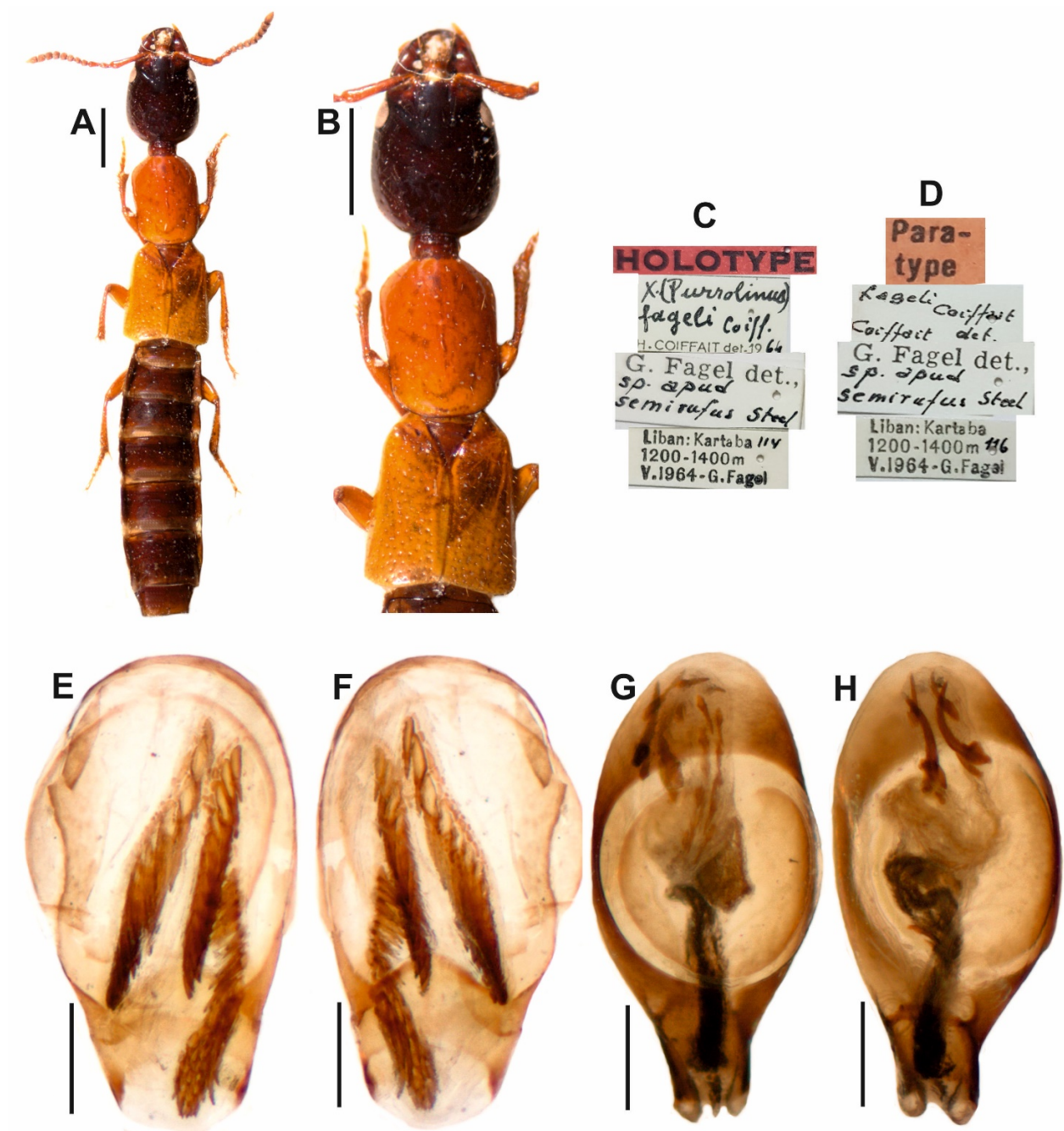


Figure 5. A-F) *Xantholinus fageli*, G-H) *X. dvoraki*: A) habitus (Holotype); B) forebody (Holotype); C) holotype labels; D) paratype labels; E, F) aedeagus in dorsal and ventral view (Paratype); G, H) aedeagus in dorsal and ventral view. (Scale bars: A-B: 1 mm; E-H: 0.2 mm).

***Xantholinus varnensis* Coiffait, 1972** (Figure 6a-f)

Syn: *Xantholinus gridellii carius* Coiffait, 1972 (Figure 6a-f)

Material examined: Turkey: 10♂♂, 7♀♀, 04.V.2013, Aydın, Bozdoğan, Koyuncular, 2 km N, 257 m, 37°39'27" N, 28°25'34" E leg. Anlaş & Yağmur (AZMM). 3♂♂, 4♀♀, 16.VI.2017, Bursa, Karacabey, Longoz Forest, leg. Yağmur (AZMM).

Type examined: *Xantholinus gridellii carius* Coiffait: Holotype: 1♂: "Anatolia merid., Marmaris, V.1969, G. Fagel / Type [sic] / *X. (Acanthophallus) gridellii* ssp. *carius* H. Coiffait 1971" (IRSNB). Paratypes: 2♂♂, 2♀♀: "Anatolia merid., Marmaris, V.1969, G. Fagel / Paratype [sic] / *X. (Acanthophallus) gridellii* ssp. *carius* H. Coiffait 1971" (IRSNB).

Remarks: Coiffait (1972) based the original description of *X. gridellii carius* on a "type" from "Anatolia merid., Marmaris". Assing (2016) remarked that the "...but the Coiffait collection contains only a male labelled as paratype (not dissected by Coiffait). There are two possible explanations: either this type is the holotype, but was mislabeled or the holotype was returned to Fagel and Coiffait (1972) failed to mention the paratype in the original description." During a visit to the Fagel collection in Brussels (IRSNB) in 2016, A "type", and two males and two females "paratype" were found. Although the specimens of *X. gridellii carius* have labels "Paratype", the author did not select any paratypes while describing the new species. It is considered that the second suggestion of Assing (2006) is more plausible.

This subspecies has been proposed as a synonym of *X. graecus* by Assing (2006). In the same paper, the type material of *X. varnensis* was studied and referred to *X. graecus*. However, *X. varnensis* was revalidated by Assing (2008) and *X. gridellii carius* has been proposed as a synonym of *X. varnensis*. The type specimen of *X. gridellii carius* in the collections of the IRSNB were studied. An examination of the aedeagus of the male type of *X. gridellii carius* revealed that it is identical to *X. varnensis*. Consequently, it was confirmed that *X. gridellii carius* is a synonym of *X. varnensis*. For illustrations of the type specimens of *X. gridellii carius* see Figure 6a-f.

Distribution: This species is known from Bulgaria, Greece and Turkey (Schülke & Smetana, 2015; Anlaş, 2017).

***Xantholinus gridellii* Coiffait, 1956**

Material examined: Cyprus: 1♂, 1♀, 24.IV.2015, Lefkoşa, Değirmenlik, 650 m, leg. Yağmur (AZMM). Iraq: 2♂♂, 17-20.V.2008, northern Iraq, ca 10 km NW Suleimaniyah Province, leg. Sevinç (AZMM). Jordan: 1♂, Jordan (NMPC).

Distribution: This species is known from Israel, Lebanon, Syria, Cyprus and Turkey (Anlaş, 2017; Assing, 2017). The records from Iraq and Jordan are reported here for the first time.

***Xantholinus laevigatus* Jacobsen, 1849** (Figure 6g)

Material examined: Austria: 1♂, Kärnten, R. I. Sc. N. B. 17.479. (IRSNB). Belgium: 1♂, 27.VII.1948, Mirwart, le Parfondry, leg. Fagel (coll. Fagel). (IRSNB). Bosnia Herzegovina: 1♂, Mac., Jablanica Plan., VII.1930, leg. Rambousek (NMPC). Bulgaria: 1♂, 1♀, 11-14.VII.1927, Rila, Rila Kloster, leg. Fodor (HNHM). Czech Republic: 1♂, Hluboká, 31.VIII.1907 (NMPC). Macedonia: 1♂, Maced. Perister SV. Petka, VII.1914, leg. Rambousek (NMPC). Italy: 1♂, 1♀, 1905, Calabria, Sta. E, d'Aspromonte, coll. Fodor (HNHM). Locality Not Found: 1♂, 22.VIII.1911, Bricnot, leg. Vrečerick (coll. Fagel). (IRSNB).

Distribution: This species is widespread in Europe and Turkey (Schülke & Smetana, 2015; Anlaş, 2017). However, it had not been recorded from Bosnia Herzegovina and Macedonia.

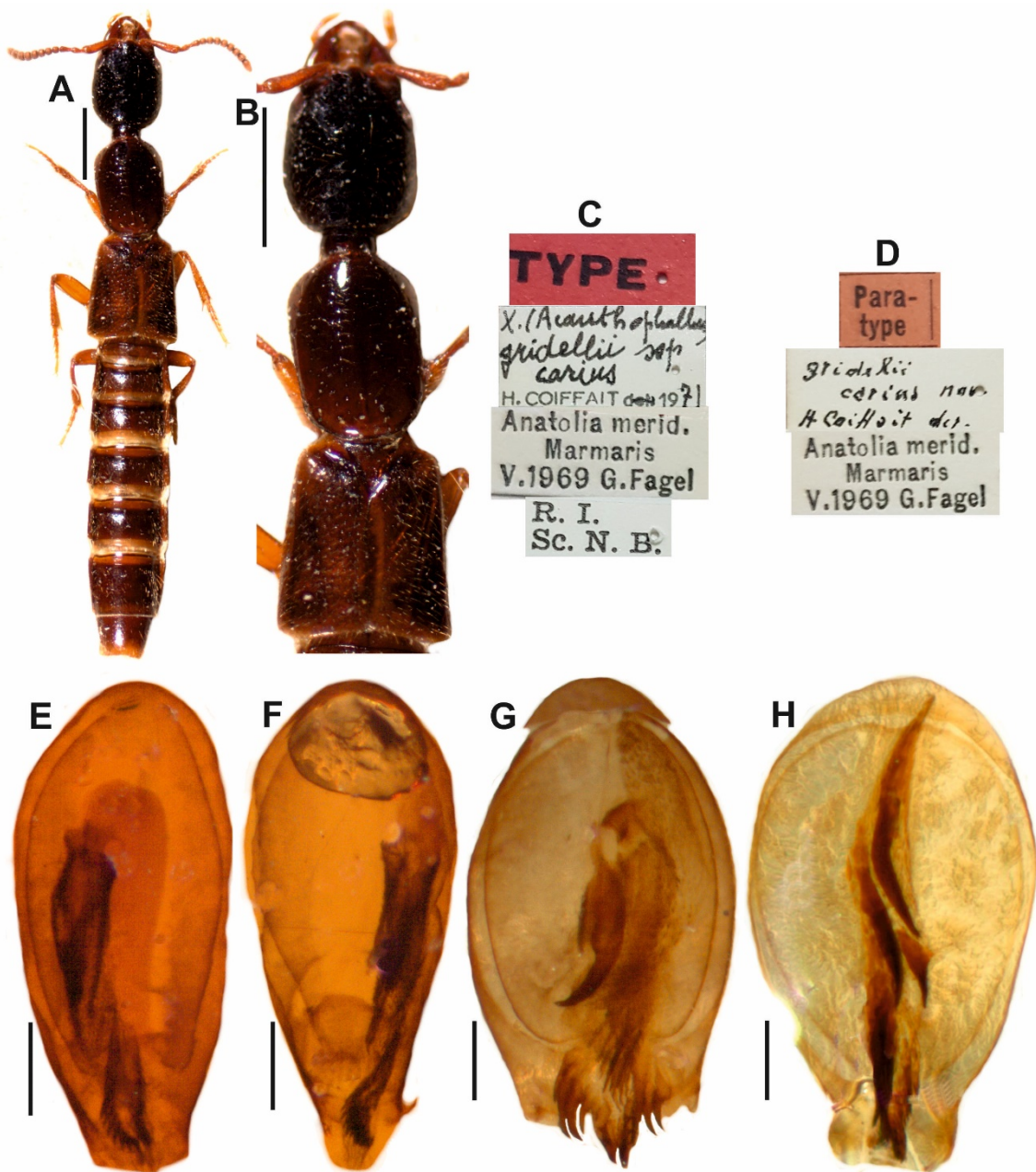


Figure 6. A-F) *Xantholinus gridellii carius* (syn of *X. varnensis*), G) *X. laevigatus*, H) *X. linearis*: A) habitus (Holotype); B) forebody (Holotype); C) type labels; D) paratype labels; E, F) aedeagus in dorsal and ventral view (E-Paratype; F-Holotype); G) aedeagus in dorsal view (G-Brussels, Belgium; H-Algeria). (Scale bars: A-B: 1 mm; E-H: 0.2 mm).

Subgenus *Xantholinus* Dejean, 1821

***Xantholinus coiffaiti* Franz, 1966**

Material examined: Bulgaria: 1♂, V.1919, Sozopol, leg. Hlisnikowski (NMPC).

Distribution: According to Schülke & Smetana (2015), this species distributed in Austria, Bulgaria, Czech Republic, Germany, Greece, Hungary, Italy, Slovakia, Slovenia and Turkey.

***Xantholinus dvoraki* Coiffait, 1956** (Figure 5g-h)

Material examined: Iraq: 1♂, 17-20.V.2008, northern Iraq, ca 10 km NW Suleimaniyah Province, leg. Sevinc (AZMM). Czech Republic: 1♂, 28.II.1937, Bohemia, Celakovice, leg. Kodym (NMPC). 1♂, Neratovice, Heyrovsky (NMPC).

Distribution: *Xantholinus dvoraki* occurs in Europe, Caucasus, Central Asia and Turkey (Bordoni, 2011, Schülke & Smetana, 2015; Anlaş, 2017). The above specimen represents the first records from Iraq.

***Xantholinus linearis* (Olivier, 1795)** (Figure 6h)

Material examined: Algeria: 1♂, 12.V.1988, Gde Kabylie Yakouren, 730 m, leg. Besuchet, Löbl & Burckhardt (MHNG). Belgium: 1♂, Calmpthout (=Kalmthout), coll. et det. A. Fauvel. R. I. Sc. N. B. 17.479. (IRSNB). Greece: 1♂, Corfu, leg. J. Sahlberg, R. I. Sc. N. B. 17.479. (IRSNB). Czech Republic: 1♂, 2♀♀, 09.XI.2002, Bohemia centr., leg. Daněk (NMPC). 1♂, Bezkydy, leg. F. Kouřil (NMPC). 1♂, Volšany, leg. Kříženeck, 1934 (NMPC). 1♂, Bohemie, Zlonice, 25.III.1914, leg. A. Procházka (NMPC).

Distribution: According to Schülke & Smetana (2015), this species is widespread in the western Palearctic Region and the Nearctic.

***Xantholinus longiventris* Heer, 1839**

Material examined: Czech Republic: 1♂, 10.V.1914, Bohemia, Klobuky, coll. A. Procházka (NMPC).

Distribution: According to Schülke & Smetana (2015), this species is widespread in the western Palearctic Region and the Nearctic.

***Xantholinus morandi* Coiffait, 1958**

Material examined: Portugal: 1♂, 2♀♀, 08.IX.1969, Setubal, Marateca/Setubal, 730 m, leg. Senglet (MHNG).

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

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