Taxonomic and faunistic notes on some West Palaearctic and Middle Asian Xantholinini, with a revalidation and new synonymies

(Coleoptera: Staphylinidae: Staphylininae)

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Abstract:

Key words: Coleoptera, Staphylinidae, Staphylininae, Xantholinini, Xantholinus, West Palaearctic, Middle Asia, taxonomy, new synonymies, revalidation, neotype designation, new records, distribution map.

Introduction

By the end of 2014, the staphylinine tribe Xantholinini was represented in the West Palaearctic region and Middle Asia (including Afghanistan, but exclusive of Pakistan) by 214 species and four subspecies in 14 genera, two nomina dubia, one overlooked synonymy (Xantholinus nicolasi Coiffait, 1972 = X. pantokratoris Bordoni, 1975; see Assing (2007)), and one adventive species not considered (Schülke & Smetana 2015). Approximately half of them (108 species and two subspecies) belong to the genus Xantholinus Dejean, 1821. In the meantime, ten additional species have been described, six of Xantholinus from the Mediterranean and Iran (Assing 2015a, b, Bordoni 2016a, 2017a), two of Vulda Jacquelin du Val, 1853 from Turkey (Anlaş 2016, Assing 2016), one of Gyrohypnus Leach, 1819 from Afghanistan, and one of Leptacinus Erichson, 1839 from Afghanistan (Bordoni 2016b). Moreover, two synonymies were proposed (Assing 2016, Bordoni 2017b).

A reliable identification of Xantholinini and particularly of Xantholinus species generally requires an examination of the aedeagus. Even a subgeneric assignment of a Xantholinus species exclusively relies on the male primary sexual characters. Nevertheless, the
description of one of the three *Xantholinus* species described by BORDONI (2016a) is based on a unique female and that of a second species on a unique male with a damaged aedeagus, both from Syria. While it is still possible to interpret the latter (see the section on *Xantholinus gridelli* COIFFAIT, 1956 in this paper), the identity of the former, *X. syriacus*, will have to remain doubtful until a male from the vicinity of the type locality is discovered. In the diagnosis of this species, the author justifies the description stating that "no other species of *Xantholinus* known to [him] has the appearance and depigmented coloration as this taxon". However, *X. wunderlei* (holotype examined), a species described by BORDONI (1994) from South Turkey, is just as depigmented as the holotype of *X. syriacus*.

Recently examined material of *Xantholinus reitteri* COIFFAIT, 1966 from Georgia and a comparison with previously identified material gave rise to the suspicion that the synonymy of *X. motschulskyi* BORDONI, 1999 proposed earlier (ASSING 2007) was erroneous. In order to clarify the identities of these names, the available material, including the type material of *X. motschulskyi*, was re-examined. Moreover, type material from the lablokkoff-Khnzorian collection, which is housed in the private home of Mark Kalashian, was revised. Finally, material of Xantholiniini made available to me from various public and private collections and studied during the past few years is reported.

**Material and methods**

The material treated in this study is deposited in the following collections:

BMNH ............. The Natural History Museum, London (M. Barclay, R. Booth)
HNHM ............. Hungarian Natural History Museum, Budapest (Gy. Makranczy)
MNB ............... Museum für Naturkunde, Berlin (J. Frisch, B. Jaeger, M. Schülke, J. Willers)
cAnl............... private collection Sinan Anlas, Izmir
cAss............... author´s private collection
cFel............... private collection Benedikt Feldmann, Münster
cKal............... private collection Mark Kalashian, Yerevan
cKoc............... private collection Matúš Kocian, Prague
cSha............... private collection Alexey Shavrin, Daugavpils
cSko............... private collection Vladimir Skoupý, Kamenné Žehrovice
cWun............... private collection Paul Wunderle, Mönchengladbach

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a digital camera (Nikon Coolpix 995). In order to fully assess the internal aedeagal structures of *Xantholinus* species, the aedeagi were dissected after macerating them in KOH. The internal structures were removed from the capsule, embedded in water-soluble Lompe medium on a plastic slide, and then squeezed using another slide ("squeeze preparation").
Results

Comments are provided only for records of special interest. Records of widespread species that are within the known ranges are merely listed. For a synopsis of the distributions of these species see SCHÜLKE & SMETANA (2015).

**Gauropterus fulgidus** (FABRICIUS, 1787)

Material examined: Tunisia: 1 ex. [det. Feldmann], Jendouba, 10 km S Tabarka, 36°52'N, 8°43'E, 60 m, shore of reservoir, 2.III.2012, leg. Hetzel (cFel); 1 ex. [det. Feldmann], Jendouba, El Feja National Park, 36°28'N, 8°14'E, 590 m, 3.III.2012, leg. Starke (cFel). Lebanon: 1 ex. [det. Feldmann], ca 48 km NE Beirut, Chatine river near Arz Tannourine, ca 1500 m, river bank, 29.IV.2014, leg. Reuter (cFel). Israel: 1 ex. [det. Feldmann], ca 48 km NE Beirut, Chatine river near Arz Tannourine, ca 1500 m, river bank, 29.IV.2014, leg. Reuter (cFel).

**Gauropterus bucharicus** BERNHAUER, 1905

Material examined: Iran: Kerman: 1 ex., 40 km NNE Jiroft, 4 km SE Deh Bid, 29°01'N, 57°56'E, 2320 m, 21.V.2010, leg. Frisch (MNB); 1 ex., pass Mahan-Sirch, 30°12'N, 57°26'E, 2410 m, 21.V.2010, leg. Frisch & Serri (cAss).

**Gauropterus sanguinipennis** (KOLENATI, 1846)


**Gauropterus sanguinipes** REITTER, 1889

Material examined: Iran: 1 ex., Kerman, Rayen-Darb Behesh, 6 km W Goruh, 29°22'N, 57°19'E, 2870 m, 28.V.2010, leg. Frisch (MNB).

**Gauropterus semenovi** KIRSHENBLAT, 1951

Material examined: Iran: 1 ex., Kerman, Bardsir-Asht, 10 km SE Qal'eh Askar, Mt. Lalehzar, 29°26'N, 56°45'E, 3360 m, 22.V.2010, leg. Frisch & Serri (MNB).

Comment: The above specimen apparently represents the first record since the original description. The species is readily distinguished from its congeners particularly by the conspicuous coloration of the abdomen (segments V-VI and posterior margin of segment IV reddish and distinctly contrasting with the black remainder of the abdomen).
**Gyrohypnus wagneri** (SCHEERPELTZ, 1926)

*Material examined:* Tunisia: 1♂ [det. Feldmann], Jendouba, 8 km S Ain Draham, Beni M'Tir, 36°43'N, 8°12'E, oak forest, sifted, 610 m, 2.III.2012, leg. Hetzel (cFel).

*Comment:* The above male represents the first record from Tunisia (ASSING 2003, SCHULKE & SMETANA 2015).

**Gyrohypnus punctulatus** (PAYKULL, 1789)

**Gyrohypnus quadratus** STEPHENS, 1833: 260 ff.; nov.syn.


*Comment:* The original description of *Gyrohypnus quadratus* is based on an unspecified number of syntypes "taken in Suffolk by Mr. Kirby" (STEPHENS 1833). STEPHENS (1839) subsequently assigned the species to *Xantholinus*. The name is listed as a nomen dubium by HERMAN (2001) and as *Xantholinus* incertae sedis by SCHÜLKE & SMETANA (2015). It has not been in use since 1839 (HERMAN 2001).

According to Roger Booth (e-mail, 19 January, 2017), a thorough search for the type material in both the Kirby and Stephens collections at the BMNH revealed that there is no material named as *Gyrohypnus quadratus* in either of the two collections. Consequently, the type material must be regarded as lost.

It can be inferred from the original description that the name *Gyrohypnus quadratus* indeed refers to a species of *Xantholinini*. The details mentioned for the head ("oblong, as wide as the thorax, with confluent excavated lines"), the pronotum ("short, with about ten deep punctures on the disc, disposed in two lines"), and the coloration (body, including the elytra, black with the "extreme apex [of the abdomen] reddish" suggest that *G. quadratus* belongs to *Gyrohypnus* LEACH, 1819; they clearly rule out *Xantholinus* (head with fine and sparse punctuation; pronotum long and slender), *Gauropterus* THOMSON, 1860 (elytra red), and *Nudobius* THOMSON, 1860 (elytra reddish). Among the *Gyrohypnus* species distributed in Britain, the most likely candidate is *G. punctulatus* ("legs pitchy-black"); "Long. corp. 3 lin."). The possibility that *G. quadratus* refers to an overlooked species in Britain can be ruled out. Therefore, in order to dispose of an obsolete and doubtful name, a male of *G. punctulatus* from East Ardsley in West Yorkshire (according to Max Barclay situated at 53.7250°N, 1.5392°W) is designated as the neotype (see above) and *Gyrohypnus quadratus* STEPHENS, 1833 is placed in synonymy with *G. punctulatus* (PAYKULL, 1789).

**Gyrohypnus ochripennis** (EPPELSHEIM, 1892)

*Material examined:* Iran: Kerman: 8 exs., pass Mahan-Sirch, Banan mts., 30°12'N, 57°24'E, 2800 m, 20.V.2010, leg. Frisch & Serri (MNB, cAss); 2 exs., Bardisir-Baft, 10 km SE Qal'eh Askar, Mt. Lalehzar, 29°28'N, 56°43'E, 2950 m, 23.V.2010, leg. Frisch & Serri (MNB, cAss); 4 exs., Issyk-Kul, 2 km W Balykchy, 2 km S Kek Mojnok Vtoroe, 42°27'N, 75°31'E, 1670 m, 18.VI.2011, leg. Frisch (MNB, cAss); Kyrgyzstan: 5♂♂, 1♀, Charyn NP, Ashen Grove, 43.67°N, 79.39°E, 630 m, leaf litter sifted, 16.-18.V.2014, leg. Kocian & Nakládal (cKoc).

*Comment:* According to SCHULKE & SMETANA (2015), this species was previously
unknown from Iran. It was recently also reported from Afghanistan, Tajikistan, and China (BORDONI 1916b).

**Gyrohypnus vomer** ASSING, 2003

*Material examined:* Kazakhstan: 7 exs., Almaty region, Talgar district, Ak-Bulak, 43.27°N, 77.37°E, 1750 m, horse and cow dung, 12.-15.V.2014, leg. Kocian & Nakládal (cKoc, cAss).

*Comment:* This species had been recorded only from the Russian Far East (ASSING 2003). The above record expands the known distribution westwards by several thousand kilometres.

**Leptacinus nigerrimus** COIFFAIT, 1971


*Comment:* *Leptacinus nigerrimus* was previously known only from Turkey and from "Caucasus" without specified locality (SCHÜLKE & SMETANA 2015). The above material represents the first records from Iran.

**Leptacinus mirus** ASSING, 2011


*Comment:* This recently described species was previously known only from Gilan and Mazandaran provinces, Iran (ASSING 2011).

**Leptacinus armeniacus** COIFFAIT, 1966


*Comment:* According to COIFFAIT (1966), the type material is composed of a male holotype deposited in the Khnzorian collection and a male paratype deposited in the Coiffait collection, both from the type locality in Armenia. An examination of the holotype, however, revealed that it is in fact a female. In external characters, this species is not distinctive. The holotype is characterized by rather small size (similar to *L. formicetorum* MÄRKEL, 1841), brownish coloration, and the absence of microsculpture in the anterior portion of the pronotum.

**Megalinus flavocinctus** (HOCHHUTH, 1849)

*Material examined:* Turkey: 1 ex. [det. Feldmann], Hatay, 15 km WSW Antakya, Batayaz, Musa Dağ, ca 500 m, 8.IV.2014, leg. Reuter (cFel). Lebanon: 1 ex. [det. Feldmann], 27 km NE Beirut, Kfardebian env., ca 1100 m, mixed oak forest, pitfall trap, 30.X.2012, leg. Reuter (cFel); 1 ex. [det. Feldmann], same data, but 16.X.2013 (cFel); 1 ex. [det. Feldmann], ca 48 km NE
Beirut, Chatine river near Arz Tannourine, ca 1500 m, river bank, 9.VI.2013, leg. Reuter (cFel); 1 ex. [det. Feldmann], same data, but 29.IV.2014 (cFel); 1 ex. [det. Feldmann], same data, but 24.V.2014 (cFel); 1 ex. [det. Feldmann], Ehmej, ca. 34°08'N, 35°47'E, ca. 1300 m, 25.V.-9.VI.2013, leg. Reuter (cFel); 1 ex. [det. Feldmann], Rachaya, Tannoura, ca 33°29'N, 55°48'E, oak forest and shrubs, 900 m, IV.2015, leg. Reuter (cFel), Israel: 2 exs., North District, Upper Galilee, northern shore of Sea of Galilee, tamarisk flood plain forest between Kfar Nakhum (Capernaum) and mouth of Jordan river, -200 m, 31.III.-1.IV.2008, leg. Wrase (MNB, cAss); 1 ex. [det. Feldmann], Sea of Galilee, mouth of Jordan river near Capernaum, ca 32°54'N, 35°37'E, -220 m, tamarisk forest, 19.III.2011, leg. Hetzel (cFel); 1 ex. [det. Feldmann], Upper Galilee, Z'von Batha, 8.III.2008, leg. Buse (cFel); 13 km S Haifa, Lower Nahal Oren, ca 32°43'N, 34°59'E, flight interception trap, 8.IV.2009, leg. Buse (cFel); 2 exs. [det. Feldmann], Haifa, Mt. Carmel, Ya'ar Ha'arbaim, 32°45'N, 35°01'E, 13.IV.2009, leg. Buse & Pavlicek (cFel).

Stenistoderus versicolor (SOLSKY, 1871)

Material examined: Kazakhstan: 2♂♀, Charyn NP, Ashen Grove, 43.67°N, 79.39°E, 630 m, leaf litter sifted, 16.-18.V.2014, leg. Kocian (cKoc, cAss).

Stenistoderus cephalotes cephalotes (KRAATZ, 1858)

Leptolinus cephalotes armeniacus COIFFAIT, 1966: 197; nov.syn.

Type material examined: Holotype ♀: "Erevan, Dzhrvezh, ASSR - 2-4-52 / Type / Leptolinus cephalotes ssp. armeniacus COiff., H. Coiffait det. 1963 / Leptolinus cephalotes Kr., V.I. Gusarov det. 2000 / Stenistoderus cephalotes (Kraatz), det. V. Assing 2017" (cKal).

Paratype ♀: "Erevan, Sovetashen, ASSR, 4-4-52 / Préparation microscopique / Paratype / Stenistoderus cephalotes (Kraatz), det. V. Assing 2017" (cKal).

Material examined: Armenia: 1♂, Yerevan, Dzhrvezh, 25.V.1952 (cKal), Iran: 1♀, Ilam, Sarabeh-Kuhdasht, NW Sarnesh, 33°41'N, 47°04'E, 890 m, 17.X.2011, leg. Frisch (MNB).

Comment: The original description of Stenistoderus cephalotes armeniacus is based on a male holotype and three paratypes, one male and two females, from Armenia (COIFFAIT 1966). An examination of the holotype revealed that it is in fact a female. The aedeagus of the male paratype is missing, that of the additional male from Armenia examined, however, is identical to that of Stenistoderus cephalotes males from other regions. Moreover, the presence of a distinct subspecies in Armenia would be zoogeographically implausible. Consequently, S. cephalotes armeniacus is placed in synonymy with the nominate subspecies.

Stenistoderus turcicus (COIFFAIT, 1956)

Material examined: Israel: 1♂, S Hadera, Breikhat Ya’ar, 35°25'N, 34°54'E, 10 m, ponds and wet meadows, [date not specified], leg. Allmann (cFel); 2♂♂, Golan Heights, Bental Reservoir near Merom Golan, 33°08'N, 35°47'E, 940 m, 25.VIII.2008, leg. Allmann (cFel, cAss).

Xantholinus corallinus CORRETTI, 1901 (Fig. 5)

Xantholinus corallinus REITTER, 1901: 68.
Type material examined: Lectotype ♂ [dissected prior to present study]: "Buchara, Karatak / coll. Reitter / Holotypus Xantholinus corallinus Reitter 1901 [curator label] / X. corallinus m. 1900 type / Xantholinus (Typhlolinus Reitt. sensu meo) corallinus Reit. sensu meo, det. A. Bordoni 1972 / Lectotypus Xantholinus corallinus Reitter, rev. V. Assing 2009" (HNHM).

Additional material examined: Turkmenistan: 1♂, Turkestan, Auli-Ata, C. Aris (HNHM).

Comment: The original description is based on an unspecified number of syntypes from "Buchara: Karatak" (REITTER 1901). BORDONI (1999) designated the above syntype from the Reitter collection at the HNHM as the lectotype. It was not labelled as such, although BORDONI (1999) states that he attached a lectotype label to it. The aedeagus of the lectotype is illustrated in Fig. 5.

Xantholinus (Calolinus) rufipennis ERICHSON, 1839

Material examined: Greece: 1 ex., Rhodos, Theologos, 36°23'N, 28°02'E, beach, 5.IV.2007, leg. Bahr et al. (MNB); Turkey: 6 exs., Balikesir, Kalabak, 5.XI.2009 (cAnl, cAss); 1♂ [det. Feldmann], Antalya, Kemer, Comyova, 20.XI.2010, leg. Röwekamp (cFel); 1♂ [det. Feldmann], Alanya, Incikum, 26.XI.2009, leg. Röwekamp (cFel); Lebanon: 1♂ [det. Feldmann], Elhmej, ca 34°08'N, 35°47'E, ca 1300 m, mixed oak forest, pitfall trap, 12.XII.2012, leg. Reuter (cFel). Syria: 1♂, W Crac des Chevaliers, 8.XII.2006, leg. Skoupý (cSko); 2♂♂, E Safita, Mashtalhelu, 30.IV.2008, leg. Skoupý (cSko); 1♂, 27 km NE Beirut, Kfardebian env., ca 1100 m, mixed oak forest, pitfall trap, 12.XII.2012, leg. Reuter (cFel).

Xantholinus (Calolinus) nicolasi COIFFAIT, 1972


Xantholinus (Heterolius) fortipunctatus MOTSCHULSKY, 1860


Xantholinus (Heterolius) khnzoriani COIFFAIT, 1966

Xantholinus (Heterolius) khnzoriani COIFFAIT, 1966: 199.

Xantholinus (Heterolius) caucasicus BORDONI, 1975: 73 f.; nov.syn.

Xantholinus (Heterolius) tabloukkii COIFFAIT, 1975: 31 f.; nov.syn.

Type material examined: Holotype ♂: "Aparan [Amaran?], Husagjur, ASSR - 30-5-49 / Xantholinus (Phalacrolinus) khnzoriani Coiff., V.I. Gusarov det. 2000" (cKal). Paraetypes: 1♂, same data as holotype (cKal); 1♀: same data as holotype, but "29-5-49" (cKal).

Additional material examined: Russia: 4 exs., Karachayevo-Cherkeskaya, 13 km SW Teberda, 43°20′N, 41°40′E, 1450 m, moist spruce forest with scattered beech, litter, moss, and dead wood sifted, 22.VII.2011, leg. Assing (cAss); 1 ex., Karachayevo-Cherkeskaya, 20 km SW Teberda, Dombai, 43°18′N, 41°39′E, 2160 m, subalpine birch forest, litter sifted, 23.VII.2011, leg. Assing (cAss); 2 exs., Karachayevo-Cherkeskaya, 4 km NNE Teberda, 43°29′N, 41°45′E, 1250 m, river bank, flood debris sifted, 24.VII.2011, leg. Assing (cAss); 4 exs., Karachayevo-Cherkeskaya, 20 km SW Teberda, above Dombai, 43°17′N, 41°38′E, 1950 m,
mixed forest (fir, spruce, beech), leaf litter sifted, 25.VII.2011, leg. Assing (cAss); 2 exs., Karachayevo-Cherkesskaya, 9 km SW Teberda, Teberdinski range, Badak river valley, 43°23′N, 41°40′E, 2000 m, spruce forest, bark of spruce and maple sifted, 27.VII.2011, leg. Assing (cAss); 1♂, Karachayevo-Cherkesskaya, Bofshaya Laba river valley, 1500 m, 31.VIII.1992, leg. Savinsky (cAss); 1♂, Krasnodar region, Tsebucash mountain range, 2500-2600 m, 28.VIII.1998, leg. Koval (cAss); 1♀, Krasnodar region, Caucasian reserve, Mt. Yatigvarta, 2200 m, 26.VII.1992, leg. Solodovnikov (cAss); 1♂, Musaateru Khebreti, 3000 m, VL.1976, leg. Gottwald (cAss). Gegeos: 1♀, Central Caucasus, Schatili-Mutso, 42°40′N, 45°11′E, 1390 m, 15.V.2015, leg. Brachat & Meybohm (cAss); 1♀, Central Caucasus, Schatili-Mutso, 42°37′N, 45°12′E, 1510 m, 15.V.2015, leg. Brachat & Meybohm (cAss); 2♂♂, 1♀, Central Caucasus, Schatili-Gudani, 42°32′N, 44°58′E, 1620 m, 18.VII.2015, leg. Brachat & Meybohm (cAss); 1♀, Central Caucasus, Stepanznimda, 42°40′N, 44°37′E, 2120 m, 20.VII.2015, leg. Brachat & Meybohm (cAss); 1♂, 2♀♀, Central Caucasus, Sno valley, 42°36′N, 44°39′E, 1800 m, 21.VII.2015, leg. Brachat & Meybohm (cAss); 1♀, Central Caucasus, Sno valley, 42°35′N, 44°45′E, 2210 m, 21.VII.2015, leg. Brachat & Meybohm (cAss); 1♂, 2♀♀, Central Caucasus, Svaneti, 43°07′N, 42°03′E, 1940 m, litter beneath Azalea sifed, 6.VII.2015, leg. Kocian (cKoc); 1♀, Svaneti, Mestia env., Ughviri pass, 43.03°N, 42.03°E, 1940 m, litter beneath Azalea sifed, 9.VII.2015, leg. Kocian (cKoc); 1♂, 1♀, Svaneti, 2 km E Lakhumula, Madlina river valley, 43°05′N, 42.46′E, 1100 m, sifted, 8.VII.2015, leg. Kocian (cKoc, cAss); 1♂, Lesser Caucasus, Trialetsky Khebet, Bakuriani, 1800-2200 m, 15.-20.VI.1987, leg. Wrase & Schülke (cAss). Armenien: 1♂, 2♀♀, N Yerevan, NW Hrazdan, 40°38′06′′N, 44°27′37′′E, 2110 m, stream valley, moist margin of pista, 25.VI.2016, leg. Assing (cAss). Comment: The original description of X. khnzoriani is based on a male holotype and nine paratypes from "Aparan", Armenia (COIFFAIT 1966); the species had been recorded only from Armenia (HERMAN 2001, SCHÜLKE & SMETANA 2015). The type locality of X. caucasicus is situated near Teberda in the Northwest Caucasus; paratypes were collected also near Dombai and in Arvin, Northeast Anatolia (BORDONI 1975). In the original description of X. iablokoffi, which is based on a male holotype and nine paratypes, COIFFAIT (1975) states that this species resembles X. khnzoriani, except that the punctuation of the head was finer and that of the elytra was denser and coarser. The holotype was looked for, but not found, in the Khnzorian collection, where it should be deposited according to the original description. An examination of the type material of X. khnzoriani and of additional material from numerous localities in the Caucasus and adjacent mountain ranges (Russia, Georgia, Armenia), including the immediate vicinity of the type localities of both X. caucasicus and X. iablokoffi, revealed that the aedeagal characters are identical. The external characters, including the punctuation of the head and of the elytra, are subject to some variation, as is usually the case with widespread Xantholinus species. Consequently, there is little doubt that all three names refer to the same species, and X. caucasicus and X. iablokoffi are placed in synonymy with the senior name X. khnzoriani.

Xantholinus (Idiolinus) crassicornis HOCHHUTH, 1851

Material examined: Turkey: 1♂, Ardahan, Ikizdere, Dereköy, 5.VII.1996, leg. Skoupý (cSk); 1♂, Ardahan, Cam gecidi, 2400 m, 27.V.2000, leg. Skoupý (cAss). Georgia: 1♂, Algeti National Park, W Manglisi, 41°42′N, 44°19′E, 1120 m, 11.VII.2015, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Algeti National Park, W Manglisi, 41°42′N, 44°19′E, 1120 m, 11.VII.2015, leg. Brachat & Meybohm (cAss); 3♂♂, 1♀, Algeti National Park, W Manglisi, 41°42′N, 44°19′E, 1210 m, 11.VII.2015, leg. Brachat & Meybohm (cAss); 2♂♂, 1♀, Samutsche-Dschawach, Timotesubani, 41°49′N, 43°31′E, 1140 m, 13.V.2016, leg. Brachat & Meybohm (cAss); 1♂,
Samazche-Dschawach., Bakuriani, 41°46'N, 42°50'E, 1370 m, 15.V.2016, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Samazche-Dschawach., N Abastumani, 41°46'N, 42°50'E, 1370 m, 15.V.2016, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Samazche-Dschawach., S Abastumani, 41°46'N, 42°50'E, 1370 m, 15.V.2016, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Imereti, 6 km W Nakerala, 42°23'N, 42°57'E, 1450 m, 17.V.2016, leg. Brachat & Meybohm (cAss); 5♂, 5♀, Ratcha, Nakerala pass, 42°23'N, 43°02'E, 1260 m, 18.V.2016, leg. Brachat & Meybohm (cAss); 1♀, Ratcha, 4 km NW Nikortsminda, 42°29'N, 43°06'E, 1395 m, 23.V.2016, leg. Brachat & Meybohm (cAss); 1♀, Zemo Svaneti, 4 km N Mazeri, 43°06'N, 42°36'E, 1690 m, 28.VII.2016, leg. Meybohm (cAss).

Xantholinus (Idiolinus) translucidus SCRIBA, 1870


Xantholinus (Helicophallus) kirschchenblati BORDONI, 1975

Material examined: Armenia: 1♂, N Yerevan, NW Hrazdan, 40°38'N, 44°30'E, 2010 m, mixed deciduous forest, litter and grass roots sifted, 27.VI.2016, leg. Asissing (cAss); 1♂, 40 km NW Susian, W-side of Vorotan Pass, 39°43'N, 45°41'E 1960 m, dry oak forest, litter and roots sifted, 30.VI.2016, leg. Asissing (cAss); 1♂, 20 km SSE Goris, Shurnash, 39°22'N, 46°25'E, 1720 m, Quercus and Carpinus forest, litter and dead wood sifted, 5.VII.2016, leg. Asissing (cAss); 1♂, SW Kapan, 10 km N Meghri, 38°59'N, 46°11'E, 1350 m, slope with oak, other trees, and bushes, litter sifted, 6.VII.2016, leg. Asissing (cAss); 1♂, 1♀, 25 km S Kapan, N Gorazarins Pass, 39°02'N, 46°22'E, 2190 m, oak forest, litter and dead wood sifted, 7.VII.2016, leg. Asissing (cAss); 2♂, 1♀, SW Kapan, S Meghri Pass, 39°05'N, 46°11'E, 2170 m, oak forest margin, litter (partly moist litter under bushes) sifted, 8.VII.2016, leg. Asissing (cAss); 1♂, WSW Kapan, S Meghri Pass, 39°06'N, 46°10'E, 2090 m, stream valley, litter near stream sifted, 8.VII.2016, leg. Asising (cAss); 2♂, 1♀, Lori province, Teghut mine, 41°09'11"N, 44.812'E, 900 m, artificial pond, soil traps, 1-24.V.2014, leg. Kalashian (cKal); 1♂, 1♀, Yerevan, Dzhrvezh, 7.III.1948 (cKal).

Comment: The identification of the above material is based on a photo of the aedeagus of a paratype.

Xantholinus (Helicophallus) araxis REITTER, 1898

Material examined: Armenia: 1♂, 2♀, SW Kapan, 10 km N Meghri, 38°59'N, 46°11'E, 1350 m, slope with oak, other trees, and bushes, litter sifted, 6.VII.2016, leg. Asissing (cAss); 1♂, Yerevan, Dzhrvezh, 7.III.1948 (cKal).

Comment: The identification of the above material is based on a photo of the aedeagus of a type specimen.

Xantholinus (Helicophallus) libanicus COIFFAIT, 1956

Material examined: Lebanon: 1♂ [det. Feldmann], 27 km NE Beirut, Kfardebian env., ca 3100 m, mixed oak forest, pitfall trap, 16.X.2013, leg. Reuter (cFel). Israel: 1♂, 5♀, Khermon Mts., Khermon ridge, Har Khavushit, 1800 m, small Quercus libani forest, leaf litter sifted, 10.III.2008, leg. Wrase (MNB, cAss); 1♂, North district, Upper Galilee, Meron Mts.

Comment: In external morphology (body size, eye size) and coloration of the elytra (ranging from blackish brown to bright reddish), the species is remarkably variable. The above record from Jordan represents a new country record (Schülke & Smetana 2015).

Xantholinus (Typhlolinus) graecus Kraatz, 1858


Xantholinus (Typhlolinus) varnensis Coiffait, 1972

Material examined: Greece: 6 exs., Chalkidiki, Sithonia, Sarti, 10 m, 40°05’N, 23°59’E, IX.2007, leg. Frisch (MNB, cAss); 1 ex., Rhodos, Theologos, 36°23’N, 28°02’E, beach, 5.IV.2007, leg. Bahr et al. (MNB).

Xantholinus (Typhlolinus) minos Assing, 2008

Map 1: Distributions of Xantholinus reitteri (circles) and X. motschulskyi, based on revised records.
Material examined: Greece: Crete: 1 ♀, Mourtzana, 35.36°N, 24.74°E, 120 m, river bank, 29.IV.2015, leg. Kocian (cKoc).

Xantholinus (Typhlolinus) gridelli COIFFAIT, 1956


Comment: Xantholinus gridelli was revised and illustrated by Assing (2007). This species is widespread and rather common in the Middle East, from Cyprus and South Turkey across Lebanon and Syria to Israel. In the original description of X. tronqueti, which is based on a unique male with a damaged aedeagus from "Syria: Lac Zanzar", Bordoni (2016a) does not compare this taxon with any other species, not even those recorded from Syria. As can be inferred from the photograph of the aedeagus, particularly its internal structures (Bordoni 2016a: figure 4), the holotype of X. tronqueti undoubtedly belongs X. gridelli. Hence the synonymy proposed above.

Xantholinus (Typhlolinus) reitteri COIFFAIT, 1966 (Figs 1-2, 6-9, Map 1)

Material examined: Turkey: 1 ♀, Artvin, Yusufeli - Kiliçkaya, 1800 m, 30.V.2000, leg. Skoupý (cSko); 1 ♀, Ardahan, Yahțıçam env., 27.V.2000, leg. Skoupý (cSko). Georgia: 1 ♂, Zemo Svaneti, Mestia Ughviri Pass, 43°02′N, 42°50′E, 1900 m, 27.VII.2016, leg. Meybohm (cAss); 1 ♂, Svaneti, Mazeri, 43°00′N, 42°36′E, 1700 m, leg. Kocian (cAss).

Comment: Xantholinus reitteri was revised, illustrated, and recorded from various localities, including Iran, by Assing (2007). A re-examination of most of this material, as well as a study of the specimens listed above, revealed that the material from Iran belongs to X. motschulskyi Bordoni, 1999 and that this name is not a synonym of X. reitteri, as proposed earlier (Assing 2007). For additional comments see the following section.

The revised range of Xantholinus reitteri includes northeastern Turkey, Georgia, and Azerbaijan (Map 1), suggesting a Caucasian distribution. Consequently, the record from Kahramanmaraş (central southern Anatolia) by Anlaş (2014) requires confirmation.

Previous records from Iran (Assing 2007) are erroneous and refer to X. motschulskyi (see below).

The internal structures of the aedeagus of males from Turkey and Georgia are illustrated in Figs 1-2 and 6-9.

Xantholinus (Typhlolinus) motschulskyi BORDONI, 1999, revalidated (Figs 3-4, 10-13, Map 1)

Xantholinus chalusianus Bordoni, 2017: 109 ff; nov.syn.

Additional material examined: Iran: 1 \( \delta \), Mazandaran, Dusht e Naz Wildlife Refuge, 36°7'N, 53°2'E, 10 m, oak trap, X.2015, leg. Barimani (cAss); 1 \( \delta \), Mazandaran, Elburz Mts., Ramsar Co, Eshkatechal, 36°51'N, 50°33'E, 1050 m, sifted, 6.VI.2008, leg. Pütz (cAss); 1 \( \delta \), Mazandaran, Nahar Khoran, 450-1000 m, 14.VIII.1967, leg. Heinz (MNB); 1 \( \delta \), 1 \( \gamma \), Mazandaran, S Alamdeh, Kolehsar, 1000-1400 m, 15.VII.1975, leg. Heinz (MNB); 2 \( \delta \), Gilan, S Ramsar, Javaherdeh, 1700-2000 m, 16.VII.1975, leg. Heinz (MNB).

Comment: A lectotype was designated by Assing (2007), who synonymized *X. motschulskyi* with *X. reitteri*. Two of the specimens listed as paralectotypes by Assing (2007) do not have type status, as one of them was collected after 1973 and the other in Mazandaran. A re-examination of the internal structures of the aedeagus (Figs 3-4, 10-13) of previously studied material revealed that *X. motschulskyi* represents a distinct species and that the previously proposed synonymy is erroneous. Though generally similar (distal cluster of long semi-transparent spines (see Figs 8-9, 12-13) and a diagonal median series of short nail-shaped spines, the aedeagus of *X. motschulskyi* differs from that of *X. reitteri* in that it has two pronounced lateral series of numerous long and strongly sclerotized spines in the proximal portion (much less numerous, shorter, and less strongly sclerotized in *X. reitteri*) and a larger proximal "brush-like" cluster of semi-transparent spines (Figs 3-4, 10-11). While these differences are not easily seen in an intact aedeagus, they are clearly visible when the internal structures are dissected and squeezed.

The availability of the name *X. motschulskyi* has been under doubt. Bordoni (1999) proposed "Xantholinus (Helicophallus) [sic] motschulskyi" to replace Coiffait’s and Korge’s misinterpretation of *X. fortepunctatus* Motschulsky, 1860, but failed to mention or illustrate any characters or designate a holotype. Herman (2001) states that *X. motschulskyi* can only be regarded as an available name if "we apply the characters published by Coiffait, 1972 and Korge, 1973 to the new name". However, since Bordoni (1999) provides bibliographical references to Coiffait (1972) and Korge (1973), he meets the requirements of Article 13.1.2 of the Code (ICZN 1999) and the name can be considered available.

In the recent description of *Xantholinus chalusianus*, which is based on a unique holotype from "Iran, Chalus", a locality situated in Mazandaran province, Bordoni (2017a) compares the species with *X. martensi* Bordoni, 1983 (Iran) of the subgenus *Idiolinus* Case, 1906 and with *X. penicillatus* Assing, 2007 (Southwest Turkey) of the subgenus *Calolinus* Coiffait, 1956, but not with *X. motschulskyi*, which too has been recorded from Mazandaran province. As can be inferred from the photograph of the aedeagus (Bordoni 2017a: figure 2), the holotype of *X. chalusianus* is undoubtedly conspecific with the type material of *X. motschulskyi*. Hence the synonymy proposed above.

The known distribution of *X. motschulskyi* is confined to the Elburz range (North Iran: Gilan and Mazandaran provinces) (Map 1). All the previous records of *X. reitteri* from Iran (Assing 2007) refer to this species.

*Xantholinus* (*Xantholinus*) linearis (OliviER, 1795)

*Xantholinus styriacus* Grimmer, 1841: 33; nov. syn.

Comment: *Xantholinus styriacus* has been listed as a nomen dubium in all recent catalogues (Herman 2001, SchüLke & Smetana 2015, Smetana 2004). The original
Figs 1-5: Internal structures of aedeagus of *Xantholinus reitteri* (1-2; 1: Turkey, 2: Georgia), *X. motschulskyi* from Mazandaran (3-4) in squeeze preparation, and of *X. corallinus*, lectotype (5).

Scale bars: 1-4: 1.0 mm; 5: 0.5 mm.
Figs 6-13: *Xantholinus reitteri* (6-9: 6, Turkey, 7, 9: Georgia) and *X. motschulskyi* from Mazandaran (10-13): (6-7, 10-11) proximal internal structures of aedeagus in squeeze preparation; (8-9, 12-13) distal cluster of spines in squeeze preparation. Scale bars: 0.5 mm.
description is based on an unspecified number of syntypes from "Steiermark" (GRIMMER 1841). The depository of the Grimmer collection is unknown and it can be regarded as lost (SCHÜLKE 2004). Aside from the body size ("3 Linien Länge"), the only characters mentioned in the description are the colour ("Kopf, Brustschild und Leib schwarz; Fühlhörner, Flügeldecken, Füsse braun") and the presence of punctures and setae on the body. The possibility that there is an undiscovered dark-coloured Xantholinus species in what was Steiermark in Grimmer’s days can be ruled out with certainty. If the type material indeed belonged to Xantholinus, the description best fits to the common X. linearis. Hence, in order to dispose of a doubtful name, X. styriacus is placed in synonymy with X. linearis.

Xantholinus (Xantholinus) audrasi COIFFAIT, 1956

Material examined: Greece: 1♀, Thraki, 10 km N Feros, 24.IV.2012, leg. Skoupý (cSko). Turkey: 1♂ [det. Feldmann], Artvin, ENE Artvin, Daliş Dağı, ca 41°13'N, 41°55'E, 1600-1800 m, pitfall trap, 8.-18.VII.2014, leg. Reuter (cFel); 1♀, Artvin, Yuusufeli - Kiliçkaya, 2100 m, 30.V.2000, leg. Skoupý (cSko). Armenia: 6♂♀, Vorstan pass env., 39.69°N, 45.69°E, 2160 m, grass and leaf litter sifted, 27.V.-20.5.2015, leg. Kocian (cKoc). Georgia: 1♂, Kakheti, Bakurtsikhe env., 41.68°N, 45.85°E, 480 m, deciduous forest, sifted, 13.VII.2015, leg. Kocian (cKoc); 1♀, Svaneti, above Nodashi, Mshurni river valley, 43.06°N, 45.85°E, 1000 m, mixed forest, sifted, 8.-15.VII.2015, leg. Kocian (cKoc). Iran: Ardabil: 5 exs., E Abi Beyglu, Saha Dam, 38°14'N, 48°40'E, 1470 m, X.2011, leg. Frisch (MNB); 4 exs., 20 km N Khalkhal, 37°46’N, 48°23’E, 1480 m, 13.X.2011, leg. Frisch (MNB, cAss).

Xantholinus (Xantholinus) dvoraki COIFFAIT, 1956

Material examined: Kazakhstan: 1♂, 2♀, Ile-Alatau NP, Talgar env., Ak-Bulak resort, 43.27°N, 77.37°E, 1690 m, leaf litter sifted, 12.-15.V.2014, leg. Kocian (cKoc); 1♂, Almaty region, Talgar district, Ak-Bulak, 43°16’N, 77°23’E, 11.-15.V.2014, leg. Nakládal (cAss).

Xantholinus (Xantholinus) morandi COIFFAIT, 1958

Material examined: Portugal: 1♂, Algarve, 15 km N S. Bras, 4.VI.1992, leg. Wunderle (cWun).

Xantholinus (Xantholinus) coiffaiti FRANZ, 1966

Material examined: Austria: 1♂, Burgenland, Neusiedl, Kalvarienberg, dump, 17.IX.1992, leg. Siede (cWun).

Xantholinus (Xantholinus) creticus ASSING, 2006

Material examined: Greece: Crete: 3♂♀, Rethymnion, Koxare, 500 m, laurel litter, 16.X.1991, leg. Wunderle (cWun); 1♀, W-Crete, Topolia, 350 m, pine litter, 12.X.1991, leg. Wunderle (cWun).

Vulda kazachstanica (JANÁK, 1979)

Material examined: Kazakhstan: 7 exs., Almaty region, Talgar district, Ak-Bulak, 43.27°N, 77.37°E, 1750 m, 12.-15.V.2014, leg. Kocian & Nakládal (cKoc, cAss).

Comment: This species has been recorded only from the Almaty region in Kazakhstan.
Acknowledgements

I am grateful to the colleagues listed in the material section for the loan of material from the collections under their care. Michael Schülke’s (Berlin) suggestions on the availability of the name X. motschulskyi are appreciated. Roger Booth and Max Barclay (both BMNH) selected material of Gyrohypnus punctulatus from the collections of the Natural History Museum, London, for the designation of a suitable neotype of G. quadratus. Sinan Anlaş (Izmir) provided photos of the aedeagi of type specimens of Xantholinus kirschbieltai and X. araxis. Mark Kalashian (Yerevan) granted permission to study the Iablokoff-Khnzorian collection, which is currently housed in his private home. Michael Schülke and Alexey Solodovnikov (Copenhagen) helped with the transliteration of labels of material from the Khnzorian collection. Benedikt Feldmann (Münster) contributed additional records and proof-read an early version of the manuscript.

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