

On the taxonomy and zoogeography of some *Xantholinus* species of the Caucasus region, with descriptions of a new species from Georgia and two new synonymies (Coleoptera: Staphylinidae: Staphylininae)

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ASSING V. 2019: On the taxonomy and zoogeography of some *Xantholinus* species of the Caucasus region, with description of a new species from Georgia and two new synonymies (Coleoptera: Staphylinidae: Staphylininae). *Acta Musei Moraviae, Scientiae biologicae* **104(1)**: 23–34. – *Xantholinus* (*Calolinus*) *mesheticus* sp. nov. (Southwest Georgia: Adjara: Mesheti Range), a micropterous species with a presumably restricted distribution, is described and illustrated. Two synonymies are proposed: *Xantholinus* (*Helicophallus*) *variabilis* Hochhuth, 1851 = *X. kirschenblati* Bordoni, 1975, syn. nov., = *X. ceviki* Anlaş, 2014, syn. nov. New records of five species of *Xantholinus* Dejean, 1821 are reported from Georgia. The distributions of six Caucasian species are mapped.

Keywords. Coleoptera, Staphylinidae, Staphylininae, *Xantholinus*, taxonomy, zoogeography, new species, new synonymies, new records, Caucasus region, Georgia, distribution maps

Introduction

According to the latest edition of the Palaearctic Catalogue (SCHÜLKE & SMETANA 2015), including additions (new species and synonymies) up to the end of 2015, the genus *Xantholinus* Dejean, 1821 is represented in the Palaearctic region by 133 species in 14 subgenera, with six species listed as incertae sedis. The subgenus *Calolinus* Coiffait, 1956 probably represents an artificial taxon and currently includes eleven species.

Twelve *Xantholinus* species have been reported from Georgia, *X. maykopensis* Coiffait, 1966 and *X. variabilis* Hochhuth, 1851 of the subgenus *Helicophallus*, *X. fortepunctatus* Motschulsky, 1860 and *X. khnזורiani* Coiffait, 1966 of *Heterolius* Coiffait, 1983, *X. crassicornis* Hochhuth, 1851 of *Idiolinus* Casey, 1906, *X. procerus* Erichson, 1839 of *Paracyclinus* Bordoni, 1975, *X. tricolor* (Fabricius, 1787) of *Purrolinus* Coiffait, 1956, *X. haematodes* Kolenati, 1846 of *Tetralinus* Bordoni, 1975, *X. reitteri* Coiffait, 1966 of *Typhlolinus* Reitter, 1908, and *X. audrasi* Coiffait, 1956, *X. linearis* (Olivier, 1795), and *X. longiventris* Heer, 1839 of the nominal subgenus. At least the records of *X. maykopensis* (confusion with other *Helicophallus* species?), *X. linearis* (confusion with *X. audrasi*?), and *X. longiventris* (confusion with *X. audrasi*?) are doubtful and require confirmation. The zoogeography of several Caucasian *Xantholinus* species was revised recently (ASSING 2017).

The present study is based primarily on material collected during several recent field trips to Georgia conducted by Volker Brachat (Geretsried) and Heinrich Meybohm (Großhansdorf) from 2015 to 2019 and by Michael Schülke and the author in summer

2019. This material included at least one undescribed species and additional records of several species previously reported from Georgia.

Material and methods

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

MNB Museum für Naturkunde, Berlin (incl. coll. Schülke; J. Frisch, M. Schülke)
 cAss author's private collection
 cKoc private collection Matúš Kocian, Prague
 cPüt private collection Andreas Pütz, Eisenhüttenstadt

The morphological studies were conducted using Stemi SV 11 and Discovery V12 microscopes (Zeiss) and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (AxioCam ERc 5s, Nikon Coolpix 990), as well as Labscope and Picolay stacking software. The maps were created using MapCreator 2.0 (primap) software.

The measurements are given in mm. Body length was measured from the anterior margin of the mandibles (in resting position) to the posterior margin of abdominal tergite VIII, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, and elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra.

The photographs of the internal structures of the aedeagus were prepared by dissecting the macerated aedeagus, removing the internal structures, and squeezing them with a plastic slide. This procedure allows for a nearly two-dimensional view of the structures and is indispensable for their accurate assessment, particularly so in *Helicophallus* species.

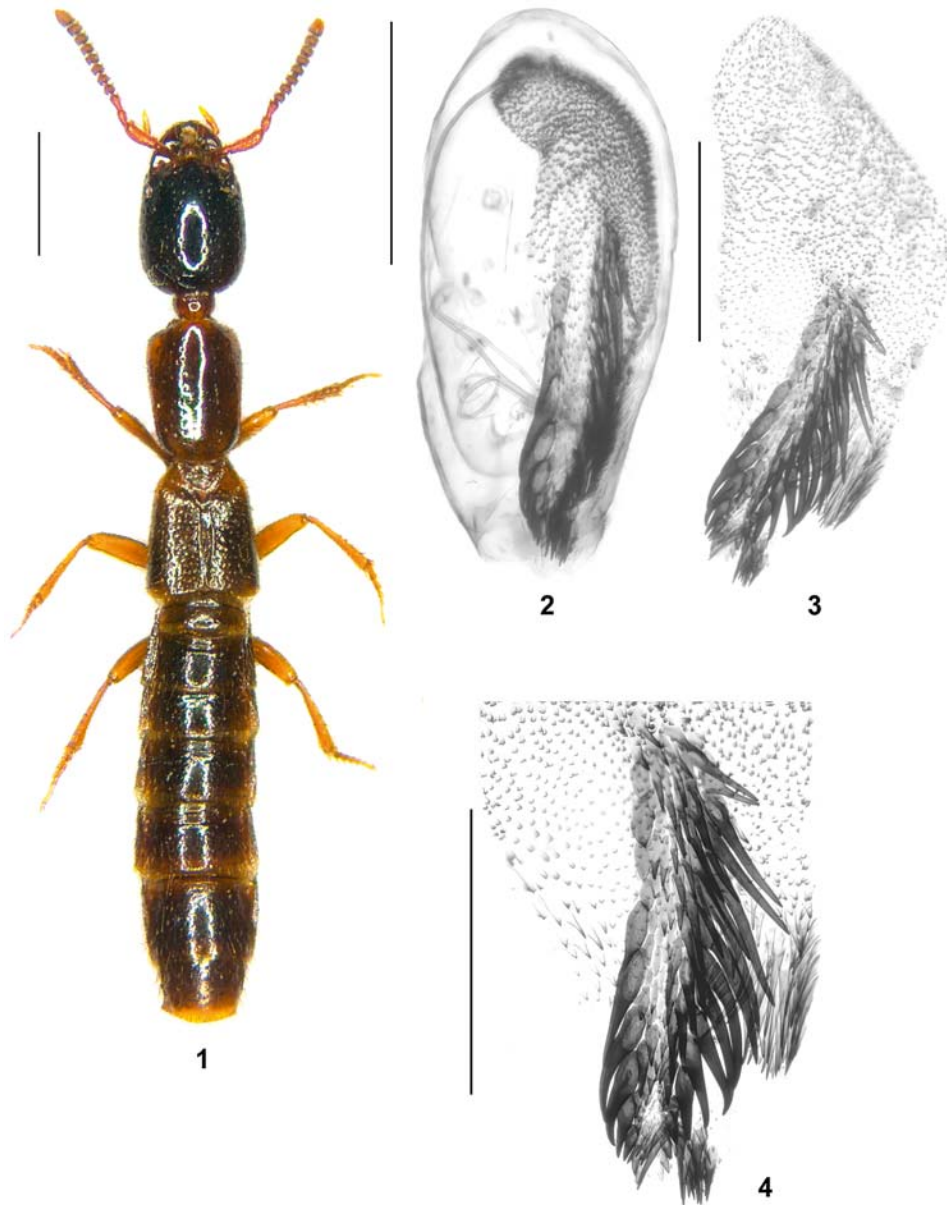
Results

Xantholinus (Calolinus) meskheticus sp. nov. (Figs 1–4, Map 2)

Type material. Holotype ♂: "GEORGIA [30] – Adjara NW Shuakhevi, 41°39'18"N, 42°02'41"E, 710 m, stream valley, 15.VII.2019, V. Assing / Holotypus ♂ *Xantholinus meskheticus* sp. n., det. V. Assing 2019" (cAss). Paratypes: 1♂, 3♀♀: same data as holotype (cAss).

Description. Habitus as in Fig. 1. Body length 6.5–7.8 mm; length of forebody 3.6–3.9 mm. Coloration: head black with the posterior constriction dark-reddish; pronotum dark-brown with the antero-lateral portions slightly and diffusely paler; elytra brown to dark-brown with the humeral portions dark-yellow; abdomen dark-brown to blackish-brown; legs pale-reddish; antennae brown to dark-brown with antennomeres I–III and XI reddish.

Head slender, approximately 1.25 times as long as broad; dorsal series of pronotum each composed of approximately 10 punctures. Elytra short, 0.55–0.60 times as long as pronotum. Hind wings completely reduced. Posterior margin of abdominal tergite VII without palisade fringe.



Figs 1–4. *Xantholinus meskheticus*. 1 – male habitus; 2 – aedeagus; 3 – internal structures of aedeagus in squeeze preparation; 4 – proximal portion of internal structures of aedeagus in squeeze preparation. Scale bars: 1: 1.0 mm; 2–4: 0.5 mm.

♂: aedeagus (Figs 2–4) 1.15 mm long; internal structures composed of a series of numerous moderately long to very long spines, a second series of stouter spines of different sizes and lengths, of a proximal brush-like structure composed of long, very thin, and weakly sclerotized spines, and of a membranous structure furnished with numerous minute scales.

Comparative notes. *Xantholinus meskheticus* is assigned to *Calolinus*, mainly because of similarities in the aedeagal morphology to some other species currently in this subgenus: *X. penicillatus* Assing 2007 and *X. bayrami* Anlaş, 2014 from Southwest Turkey, and *X. corallinus* Reitter, 1901 from Middle Asia. The new species is distinguished from them by the position, shapes, and numbers of the internal spines of the aedeagus and additionally as follows:

- from *X. penicillatus* by the coloration (*X. penicillatus*: forebody distinctly bicolored with blackish head and pronotum and red elytra), much smaller body size (*X. penicillatus*: length of forebody 4.6 mm), significantly shorter elytra, completely reduced hind wings, and the absence of a palisade fringe at the posterior margin of tergite VII;
- from *X. bayrami* by much smaller body size (*X. bayrami*: body length 8.9–9.4 mm), the coloration (elytra much paler than head and pronotum), longer elytra (*X. bayrami*: elytra 0.83–0.84 times as long as pronotum), completely reduced hind wings (fully developed in *X. bayrami*), the absence of a palisade fringe, and a much smaller aedeagus (*X. bayrami*: aedeagus approximately 1.5 mm long);
- from *X. corallinus*, a species of similarly small size and with reduced hind wings, by completely different coloration (*X. corallinus*: pronotum bright red, strongly contrasting with the black head).

For illustrations of *X. bayrami*, *X. penicillatus*, and *X. corallinus* see ANLAŞ (2014) and ASSING (2007, 2017).

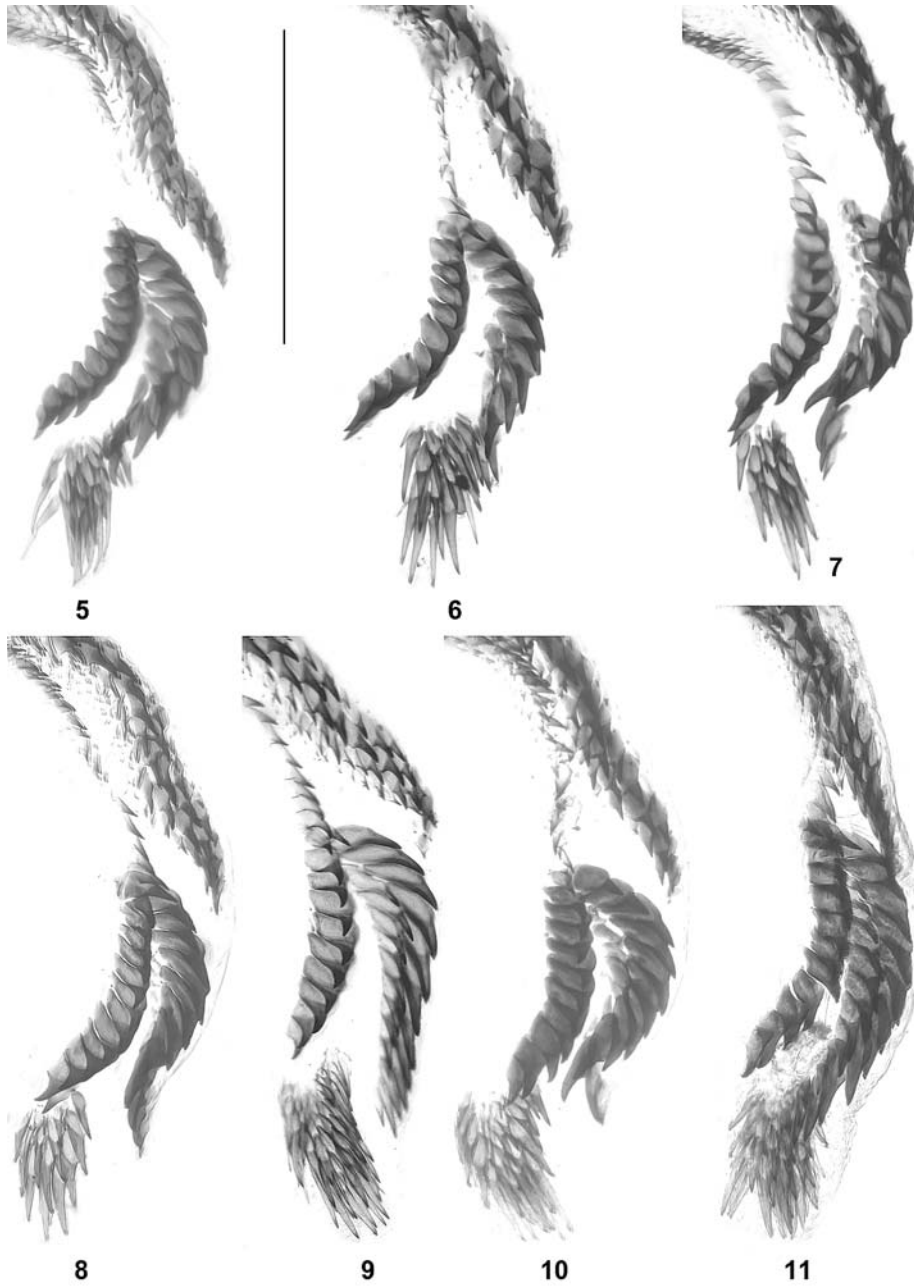
Distribution and natural history. The type locality is situated to the northwest of Shuakhevi in the western part of the Meskheti Range, Adjara region, Southwest Georgia (Map 2). The reduced hind wings suggest that the species has a restricted distribution. The type specimens were sifted from leaf litter in a stream valley with deciduous trees and bushes at an altitude of 710 m. Two of the female paratypes are somewhat teneral.

Etymology. The specific epithet is an adjective derived from Meskheti, the name of the mountain range where the type locality is situated.

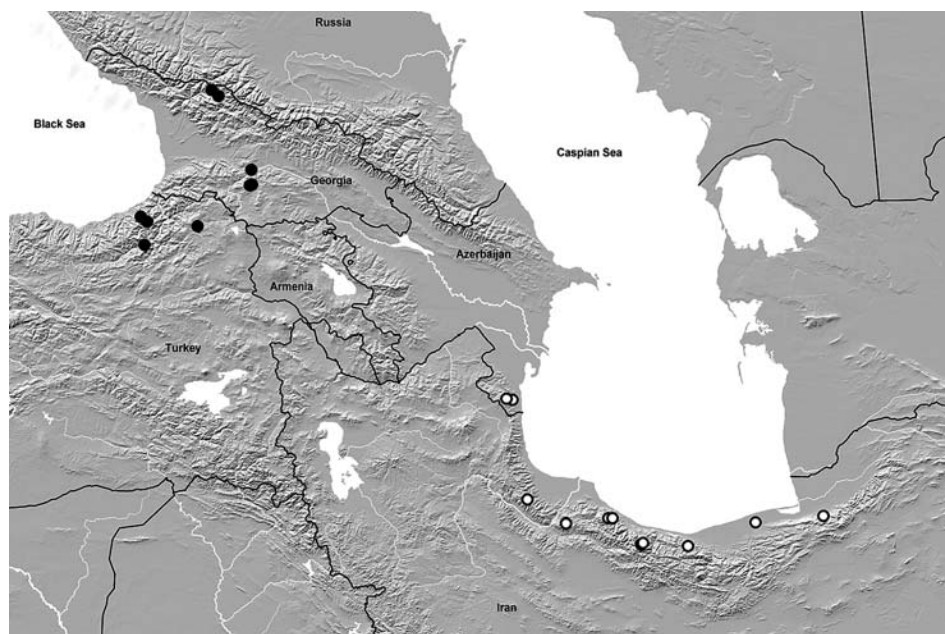
Xantholinus (Typhlolinus?) reitteri Coiffait, 1966

(Map 1)

Material examined. Georgia: 2♂♂, 5♀♀, Samtskhe-Javakheti, Trialeti Range, SW Bakuriani, 41°43'14"N, 43°28'33"E, 1640 m, gallery forest (predominantly alder) and grassland with scattered trees, litter sifted, 10.VII.2019, leg. Assing (cAss); 1♂, Svaneti, Mesti-Hatsvali, 43°01'N, 42°45'E, 2350 m, 27.VI.2017, leg. Brachat & Meybohm (cAss); 1♂, Kartli, Kvishkheti–Tashiskari, 41°56.83'N, 43°29.78'E, *Picea* zone, 840 m, 16+27.VII.2019, leg. J. & B. Martens (cAss).



Figs 5–11. Proximal series of internal spines of aedeagus of *Xantholinus variabilis* males from Armenia (5–7) and Georgia (8–11). Scale bar: 0.5 mm.



Map 1. Distributions of *Xantholinus reitteri* (black circles) and *X. motschulskyi* (white circles), based on examined records.

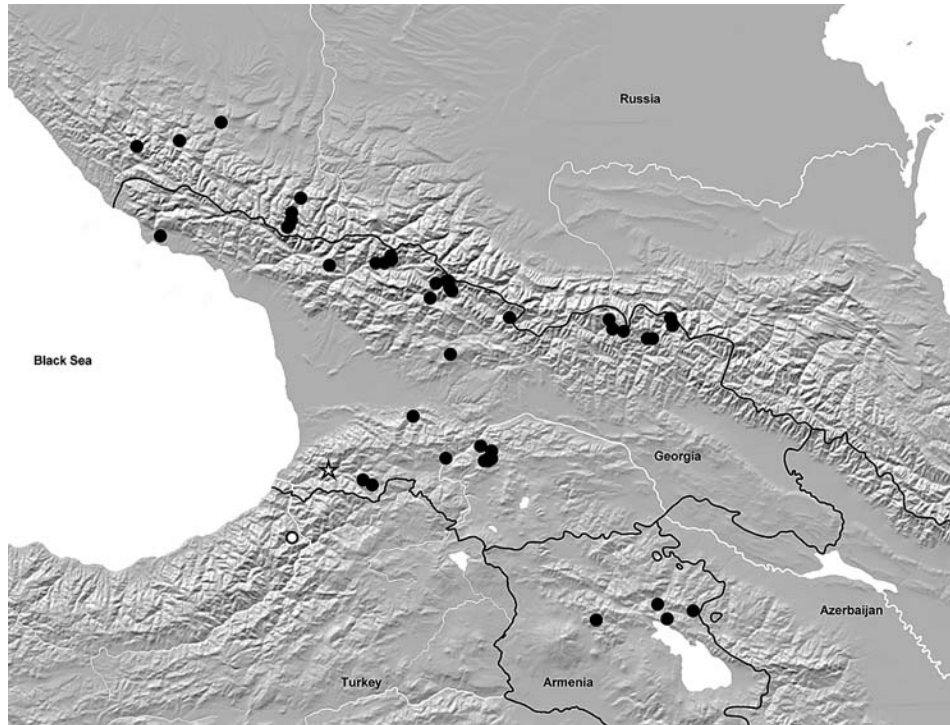
Comment. Previously examined material from Northeast Turkey and Georgia was recorded by ASSING (2007, 2017). A revision of material previously reported as *X. reitteri* from Southeast Azerbaijan revealed that it was misidentified and in fact belongs to *X. motschulskyi* Bordon, 1999 (first records from Azerbaijan). The revised distributions of both *X. reitteri* and *X. motschulskyi* are illustrated in Map 2.

Both *Xantholinus reitteri* and *X. motschulskyi* are currently assigned to the subgenus *Typhlolinus*. The structure of the male apical abdominal segments and the internal structures of the aedeagus, however, do not suggest a close relationship to *X. azuganus* Reitter, 1908, the type species of the subgenus.

Xantholinus (Heterolius) khnzoriani Coiffait, 1966

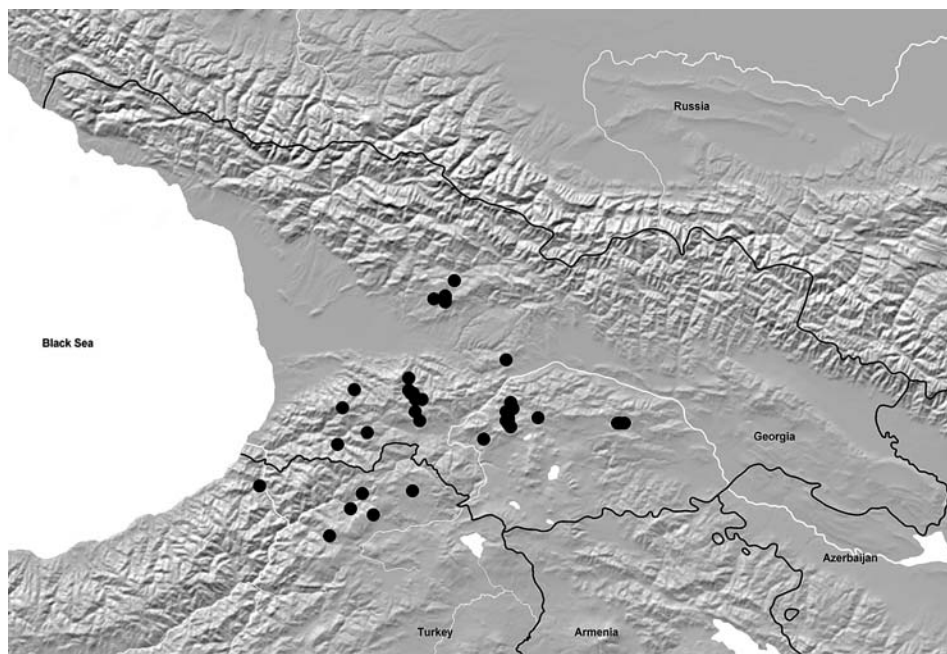
(Map 2)

Material examined. Georgia: Svaneti: 2♂♂, 4♀♀, Mazeri, 43°06'15"N, 42°35'50"E, 1660 m, 26.VI.2017, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Ushguli, Zagaro pass, 42°55'31"N, 43°07'44"E, 2250 m, 29.VI.2017, leg. Brachat & Meybohm (cAss); 1♀, Ushguli, North slope, 42°54'41"N, 43°00'34"E, 2190 m, 30.VI.2017, leg. Brachat & Meybohm (cAss); 1♂, 1♀, Ushguli–Lentekhi, 42°51'54"N, 43°09'47"E, 1530 m, 1.VII.2017, leg. Brachat & Meybohm; 1♀, Ushguli–Lentekhi, 42°48'37"N, 42°58'00"E, 1160 m, 1.VII.2017, leg. Brachat & Meybohm (cAss); 2♂♂, Mazeri env., Dolra river valley, 43.051°N, 42.538°E, 1640 m, alder litter sifted, 6.VII.2015, leg. Švec (cKoc, cAss); 1♀, Mazeri env., Dolra river valley, 43.075°N, 43.604°E, 1600 m, stream



Map 2. Distributions of *Xantholinus khnzoriani* based on examined records (black circles) and a literature record by ANLAŞ (2014) (white circle), and of *X. meskheticus* (white star).

bank, sifted, 6.VII.2015, leg. Hlaváč (cKoc). **Racha:** 1♀, E Shovi, 42°41'29"N, 43°41'40"E, 1700 m, 28.V.2018, leg. Brachat & Meybohm (cAss). **Adjara:** 1♂, 1♀, 3 exs., Shavsheti Range, SE Khulo, 41°34'52"N, 42°21'54"E, 800 m, stream valley with alder, litter and roots near stream sifted, 12.VII.2019, leg. Assing & Schülke (cAss, MNB); 1 ex., Shavsheti Range, SE Khulo, 41°33'07"N, 42°27'16"E, 1070 m, steep slope with beech forest, partly moist litter and roots sifted, 12.VII.2019, leg. Schülke (MNB). **Imereti:** 2♂♂, Meskheta Range, S Bagdati, 42°00'50"N, 42°48'56"E, 270 m, deciduous forest margin with herbs, litter sifted, 21.VII.2019, leg. Assing (cAss). **Samtskhe-Javakheti:** 2 exs., Trialeti Range, SW Bakuriani, 41°43'54"N, 43°30'21"E, 1800 m, deciduous forest with predominant beech and alder, litter near small stream sifted, 7.VII.2019, leg. Schülke (MNB); 1 ex., same data, but 10.VII.2019 (MNB); 1 ex., Trialeti Range, S Bakuriani, 41°43'11"N, 43°29'41"E, 1870 m, forest with predominant alder, litter near small stream sifted, 7.VII.2019, leg. Schülke (MNB); 1♂, 2♀♀, 1 ex., Trialeti Range, S Bakuriani, 41°43'22"N, 43°29'53"E, 1850 m, forest with predominant beech and alder, litter sifted, 7.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♀, Trialeti Range, N Bakuriani, E Tsaghveri, 41°47'22"N, 43°32'29"E, 1170 m, mixed forest margin, litter on scree sifted, 8.VII.2019, leg. Assing (cAss); 3♂♂, 4♀♀, 2 exs., Meskheta Range, ca. 30 km WSW Borjomi, 41°43'52"N, 43°06'34"E, 1020 m, moist road margin with alder, oak, etc., litter sifted, 9.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♂, 4♀♀, same data, but forest margin, roots of herbs and soil sifted, leg. Assing (cAss); 1♀, Meskheta Range, SE Borjomi, 41°48'38"N, 43°26'15"E, 950 m, grassy forest margin with *Carpinus*, *Crataegus*, and bushes, litter sifted, 9.VII.2019, leg. Assing (cAss); 1♀, 2 exs., Trialeti Range, SW Bakuriani, 41°43'14"N, 43°28'33"E, 1640 m, gallery forest (predominantly alder) and grassland with scattered trees, litter sifted, 10.VII.2019, leg. Assing & Schülke (cAss, MNB).



Map 3. Distribution of *X. crassicornis* based on examined records.

Comment. *Xantholinus khnzoriani* is widespread and not uncommon in the Caucasus region from Northeast Anatolia (Artvin) and Armenia across Georgia to the Greater Caucasus (Map 2).

For previous records from Northeast Anatolia, Georgia and Russia, and Armenia see ANLAŞ (2014), ASSING (2017), and ASSING & SCHÜLKE (2019), respectively. ANLAŞ (2017) also reported the species from Tatvan (Turkey: Bitlis province), but this record is rather far outside the confirmed range of *X. khnzoriani* and consequently not included in Map 2.

***Xantholinus (Idiolinus) crassicornis* Hochhuth, 1851** (Map 3)

Material examined. Georgia: Adjara: 1♂, 1♀, Danisparauli, 41°39'01"N, 42°28'00"E, 1560 m, 21.VI.2017, leg. Brachat & Meybohm (cAss); 3♂♂, Shavsheti Range, SW Khulo, 41°34'38"N, 42°14'59"E, 1110 m, slope with walnut, hazelnut, and fern, herbs, and grass undergrowth, sifted, 13.VII.2019, leg. Assing (cAss); 4♂♂, 1♀, 4 exs., Meskheti Range, NNW Khulo, 41°47'19"N, 42°17'25"E, 2010 m, mixed beech and spruce forest, forest margin, beech litter, mushroom, and debris in ditch with *Tussilago* sifted, 14.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♂, Meskheti Range, NNW Khulo, 41°47'00"N, 42°17'22"E, 1840 m, stream valley in beech forest, beech litter near stream sifted, 14.VII.2019, leg. Assing (cAss). **Guria:** 4♂♂, 1♀, NE Bakhmaro, 41°53'10"N, 42°21'40"E, 1640 m, secondary forest with rhododendron, laurel, and *Carpinus*, litter sifted,

Xantholinus of the Caucasus region (Staphylinidae)

14.V.2019, leg. Brachat & Meybohm (cAss); 1♂, NE Bakhmaro, 41°53'10"N, 42°21'40"E, 1640 m, secondary forest with rhododendron, laurel, and *Carpinus*, litter sifted, 15.V.2019, leg. Brachat & Meybohm (cAss). **Imereti:** 1♂, N Sairme, 41°57'24"N, 42°46'10"E, 630 m, 18.V.2018, leg. Brachat & Meybohm (cAss); 2♂♂, 1♀, S Sairme, 41°51'26"N, 42°47'23"E, 1930 m, 19.V.2018, leg. Brachat & Meybohm (cAss); 1♂, S Sairme, 41°51'37"N, 42°46'59"E, 1890 m, 19.V.2018, leg. Brachat & Meybohm (cAss); 1♂, S Sairme, 41°52'47"N, 42°46'02"E, 1420 m, 20.V.2018, leg. Brachat & Meybohm (cAss); 4♂♂, S Sairme, 41°52'51"N, 42°45'33"E, 1360 m, 20.V.2018, leg. Brachat & Meybohm (cAss); 1♀, 1 ex., Meskheti Range, Zakari pass SE Sairme, 41°50'15"N, 42°49'27"E, 2290 m, moist slope with rhododendron and bushes, litter sifted, 20.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♂, 1♀, 1 ex., Meskheti Range, SE Sairme, 41°52'07"N, 42°46'53"E, 1820 m, degraded forest with predominant spruce, mushrooms, spruce bark, and spruce litter sifted, 20.VII.2019, leg. Assing & Schülke (cAss, MNB); 2♀♀, 2 exs., Meskheti Range, S Sairme, 41°52'46"N, 42°46'22"E, 1510 m, stream valley, moist deciduous forest margin, litter and herb roots sifted, 22.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♀, Meskheti Range, S Sairme, 41°52'10"N, 42°47'41"E, 1670 m, stream valley with predominant alder, ash, and *Tussilago* and fern undergrowth, litter sifted, 23.VII.2019, leg. Assing (cAss). **Samtskhe-Javakheti:** 9♂♂, 9♀♀, 5 exs., Trialeti Range, S Bakuriani, 41°42'21"N, 43°30'08"E, 2090 m, birch trees at tree line, litter and grass sifted, 6.VII.2019, leg. Assing & Schülke (cAss, MNB); 2♂♂, 3♀♀, same data, but 10.VII.2019, leg. Assing (cAss); 1 ex., Trialeti Range, SW Bakuriani, 41°43'54"N, 43°30'21"E, 1800 m, deciduous forest with predominant beech and alder, litter near small stream sifted, 7.VII.2019, leg. Schülke (MNB); 1 ex., Trialeti Range, S Bakuriani, 41°41'11"N, 43°30'43"E, 2370 m, rhododendron litter sifted, 7.VII.2019, leg. Schülke (MNB); 1♀, Trialeti Range, S Bakuriani, 41°43'22"N, 43°29'53"E, 1850 m, forest with predominant beech and alder, litter sifted, 7.VII.2019, leg. Assing (cAss); 2♂♂, 4 exs., Trialeti Range, N Bakuriani, E Tsaghveri, 41°47'25"N, 43°32'27"E, 1150 m, stream valley with mixed forest, litter near stream sifted, 8.VII.2019, leg. Assing & Schülke (cAss, MNB); 1♂, Trialeti Range, N Bakuriani, E Tsaghveri, 41°47'22"N, 43°32'29"E, 1170 m, mixed forest margin, litter on scree sifted, 8.VII.2019, leg. Assing (cAss); 2 exs., Trialeti Range, SW Bakuriani, 41°43'14"N, 43°28'33"E, 1640 m, gallery forest (predominantly alder) and grassland with scattered trees, litter sifted, 10.VII.2019, leg. Schülke (MNB); 1♂, 1♀, 3 exs., Trialeti Range, NW Bakuriani, 41°46'01"N, 43°28'48"E, 1520 m, deciduous forest margin, litter in stream valley sifted, 10.VII.2019, leg. Assing & Schülke (cAss, MNB); 3 exs., Veli Range, 1.5 km NE Ota, 41°37"N, 43°19'E, 1370 m, beech forest, sifted, 12.VI.2018, leg. Pütz (cPüt, cAss).

Comment. *Xantholinus crassicornis* is less widespread than *X. khnzoriani*, its confirmed distribution ranging from Northeast Anatolia northwards to the Likhi Range and eastwards to the region to the west of Tbilisi (Map 3). Literature records from Azerbaijan (SCHÜLKE & SMETANA 2015) may refer to *X. martensi* Bordoni, 1983.

For previous records from Northeast Anatolia and Georgia see ASSING (2007, 2017).

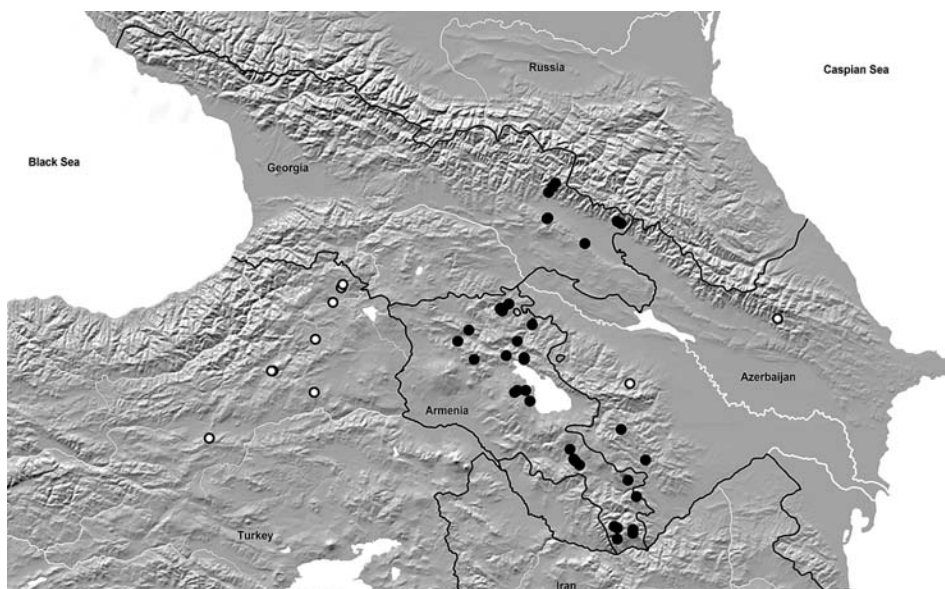
Xantholinus (Helicophallus) variabilis Hochhuth, 1851

(Map 4)

Xantholinus (Helicophallus) kirschenblati Bordoni, 1975: 82 ff.; **syn. nov.**

Xantholinus (Helicophallus) ceviki Anlaş, 2014: 17 ff.; **syn. nov.**

Material examined. Georgia: Kakheti: 3♂♂, 1♀, Pshaveli env., above Lechuri, 42.15°N, 45.41°E, 580 m, deciduous forest, sifted, 14.VII.2015 (cKoc, cAss); 1♀, Bakurtsikhe env., 41.68°N, 45.85°E, 480 m, deciduous forest, sifted, 13.VII.2015 (cKoc); 1♀, Telavi env., Akhali Shuamta, 41.91°N, 45.39°E, 900 m, leaf litter sifted, 12.VII.2015, leg. Kocian (cKoc); 1♂, 1♀, N Lechuri, 42°14'27"N, 45°29'42"E, 1510 m, stream valley with deciduous forest, litter sifted, 9.V.2019, leg. Brachat & Meybohm (cAss); 2♂♂, N Lechuri, 42°12'19"N, 45°27'45"E, 830 m, stream valley with deciduous forest, litter sifted, 9.V.2019, leg. Brachat & Meybohm (cAss); 3♂♂, Shuamta, 41°54'38"N, 45°24'26"E, 1000 m, beech forest, litter sifted, 10.V.2019, leg. Brachat & Meybohm (cAss); 4♂♂, 3♀♀, Lagodekhi NP, Ninoshkevi river valley, 41.877°N, 46.253°E, 1000 m, forest, sifted, 3.VI.2019, leg. Kocian (cKoc, cAss); 2♀♀, Lagodekhi NP, Lagodekhiskevi river valley, 41.854°N, 46.298°E, 700 m, forest, sifted, 2.VI.2019, leg. Kocian (cKoc, cAss). **Kvemo Kartli:** 1♂, Algeti National Park, Manglisi, 41°41'37"N, 44°22'46"E, 1190 m, 13.VII.2015, leg. Brachat & Meybohm (cAss).



Map 4. Distribution of *Xantholinus variabilis* based on examined (black circles) and selected literature records from Turkey (records of *X. ceviki*) and Azerbaijan (ANLAŞ 2014, 2017, 2019, pers. comm.; white circles).

Comment. The original description of *X. variabilis* is based on an unspecified number of syntypes from “Armenien” and “Helenendorf” (today Göygöl in Azerbaijan) (HOCHHUTH 1851). The Hochhuth collection is deposited in the Zoological Museum Kiev and, owing to the restrictive loan policy of this institution, inaccessible for scientific study.

Xantholinus kirschenblati was described based on a holotype from the environs of Lake Sevan in Armenia deposited in the Zoological Institute St. Petersburg and a paratype from “Kaukasus” deposited Hungarian Museum of Natural History, Budapest (BORDONI 1975). A photograph of the aedeagus of the paratype was provided by ANLAŞ (2019).

The original description of *X. ceviki* is based on type material from six localities in Erzurum and Ardahan provinces, East Turkey (ANLAŞ 2014); additional records from Ardahan province were subsequently reported by ANLAŞ (2017). A comparison of the photos provided in the description and additional photos of the internal sac in squeeze preparation sent to me by Sinan Anlaş with the external characters and the internal structures of the aedeagus of *X. kirschenblati* from Armenia revealed no principal differences suggesting that *X. ceviki* should be specifically distinct from *X. kirschenblati*.

A recent study (ASSING & SCHÜLKE 2019) revealed that only two *Helicophallus* species are present in Armenia, one of them (reported as *X. kirschenblati*) common and widespread and the other (*X. araxis* Reitter, 1898) rare and confined to the south (close to the Iranian border).

Based on photos of the aedeagi sent to me by Sinan Anlaş, males collected in two localities in North (see ANLAŞ 2019) and West Azerbaijan, the latter only some 20 km from Göygöl, belong to the same species as the one previously recorded as *X. kirschenblati* from Armenia.

It follows that, since there is only one *Helicophallus* species present in the regions from where *X. variabilis* and *X. kirschenblati* have been described, both names refer to the same species. Consequently, *X. kirschenblati* is placed in synonymy with *X. variabilis*. It seems likely that *X. coiffaitianus* Bordoni, 1975, a species described from Southeast Azerbaijan is a junior synonym of *X. variabilis*, too, but so far confirmed records of this species from the Lerik region are unknown.

Xantholinus variabilis is subject to remarkable intraspecific variation. Regarding coloration, this phenomenon was already observed by HOCHHUTH (1851). Other highly variable characters are body size, the length of the elytra and hind wings, and even the internal structures of the aedeagus. The number and sizes of the internal sclerotized spines, especially those of the median proximal series, may vary considerably (Figs 5–11); occasionally, this series may even be completely absent.

The currently known distribution extends from South Armenia and Nagorno-Karabakh to East Turkey, East Georgia, and Azerbaijan (Map 4).

Xantholinus (Xantholinus) audrasi Coiffait, 1956

Material examined. **Georgia:** **Svaneti:** 1♀, Lakhamula, 43°03.26'N, 42°25.80'E, 1110 m, pine and spruce forest with rhododendron, meadows, 21.VII.2019, leg. J. & B. Martens (MNB). **Adjara:** 1♂, 1♀, Shavsheti Range, SE Khulo, 41°34'52"N, 42°21'54"E, 800 m, stream valley with alder, litter and roots near stream sifted, 12.VII.2019, leg. Assing (cAss); 1 ex., Meskheta Range, NW Khulo, 41°44'44"N, 42°14'36"E, 1090 m, stream valley with hazelnut, litter sifted, 14.VII.2019, leg. Schülke (MNB); 1♀, Meskheta Range, NW Shuakhevi, Gobroneti, 41°39'18"N, 42°02'41"E, 710 m, stream valley with deciduous trees and bushes, litter near stream sifted, 15.VII.2019, leg. Assing (cAss); Shavsheti Range, SE Batumi, Machakhela National Park, 41°28'55"N, 41°51'29"E, 680 m, stream valley with alder, hazelnut, chestnut, and rhododendron, litter sifted, 16.VII.2019, leg. Schülke (MNB); 1♀, Meskheta Range, NE Batumi, Mtirala National Park, 41°40'35"N, 41°52'29"E, 330 m, moist deciduous forest with predominant alder, chestnut, and rhododendron, litter sifted, 18.VII.2019, leg. Assing. **Guria:** 1♀, Bakhmaro, 41°51'04"N, 42°19'33"E, 1920 m, alpine pasture, under stones, 14.V.2019, leg. Brachat & Meybohm (cAss). **Imereti:** 1 ex., Meskheta Range, N Sairme, 41°57'24"N, 42°46'10"E, 650 m, moist deciduous forest with predominant alder and chestnut, litter sifted, 21.VII.2019, leg. Schülke (MNB).

Comment. *Xantholinus audrasi* is the most widespread representative of the genus whose presence in Georgia has been confirmed, its distribution ranging from Middle Asia to West and North Europe (SCHÜLKE & SMETANA 2015). For previously examined records from the Caucasus region (Northeast Turkey, Georgia, Armenia, North Iran) see ASSING (2007, 2017) and ASSING & SCHÜLKE (2019).

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