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On some *Acanthoglossa* and *Hypomedon* species II. Two new species, a new synonymy, and additional records (Coleoptera: Staphylinidae: Paederinae)

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A b s t r a c t : Two species of *Hypomedon* MULSANT & REY, 1878 are described and illustrated: *H. nasutus* nov.sp. (Thailand) and *H. bicornutus* nov.sp. (Laos). Based on a study of types, the following synonymy is proposed: *Acanthoglossa hirta* KRAATZ; 1859 = *Medon sutteri* SCHEERPELTZ, 1957 nov.syn. Records of *Hypomedon debilicornis* (WOLLASTON, 1857) and *H. galilaeus* (BORDONI, 1980) are reported, among them the first records of the *H. galilaeus* from Pakistan and Taiwan. The enormous range of this species, which now extends from the Middle East to Taiwan, is mapped. Unlike the populations from other regions, the material of *H. galilaeus* from Taiwan is brachypterous.

K e y w o r d s : Coleoptera, Staphylinidae, Paederinae, Medonina, *Acanthoglossa*, *Hypomedon*, Palaearctic region, Oriental region, taxonomy, new species, new synonymy, wing dimorphism, parthenogenesis, zoogeography.

Introduction

Acanthoglossa KRAATZ, 1859 and *Hypomedon* MULSANT & REY, 1878 are small medonine genera. In the Palaearctic region, they are represented by only eight and three species, respectively (SCHÜLKE & SCHEERPELTZ 2015). The exact number of species in the Oriental region is largely unknown, mainly because the generic affiliations of many Medonina have not been subject to modern revisions and are consequently doubtful. It seems likely, however, that the diversity of both genera in the Oriental region is significantly greater than that of the Palaearctic region, where they are confined to the south.

Some of the species of *Acanthoglossa* and *Hypomedon* were studied earlier (ASSING 2009). An examination of material that has become available since then yielded two new species, an new synonymy, and remarkable records of *Hypomedon galilaeus* (BORDONI, 1980), which expand the known range of this species thousands of kilometres to the east.

Material, methods, and measurements

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

NHMBNaturhistorisches Museum Basel (M. Geiser, I. Zürcher)

NHMWNaturhistorisches Museum Wien (H. Schillhammer)

cAss.....author's private collection

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) and a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. The map was created using Map-Creator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra (at the suture), and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Results

Acanthoglossa hirta KRAATZ, 1859

Medon sutteri SCHEERPELTZ, 1957: 280 ff.; **nov.syn.**

Type material examined: *Acanthoglossa hirta*: see ASSING (2009).

Medon sutteri: **Paratypes**: 1 ♂: "♀ [sic] /582 W-Sumba, Waikarudi, 3.-7.9.49 / Lichtfang / Expedition Bühler-Sutter/ Sumba-Exped. d. Naturhist. Mus. Basel 1949 / ex coll. Scheerpeltz / Cotypus *Medon Sutteri* O. Scheerpeltz / *Acanthoglossa hirta* Kraatz, det. V. Assing 2014 (NHMW); 1 sex? [apical segments of abdomen missing]: "♂ / 228. O-Sumba, Baing, 29.6.49 / Lichtfang / Expedition Bühler-Sutter/ Sumba-Exped. d. Naturhist. Mus. Basel 1949 / ex coll. Scheerpeltz / Cotypus *Medon Sutteri* O. Scheerpeltz / *Acanthoglossa hirta* Kraatz, det. V. Assing 2014 (NHMW).

Additional material examined: **Thailand**: 17 exs., Chumphon province, Pha To env., 9°48'N, 98°47'E, 27.III.-14.IV.1996, leg. Majer (NHMB, cAss); 4 exs., same data, but III.1996 (NHMB, cAss); 1 ex., Ranong province, Ban Na env., 9°34'N, 98°42'E, 22.-26.III.1996, leg. Majer (NHMB); 1 ex., Chum Thong, 18°26'N, 98°41'E, 24.-27.IV.1991, leg. Dembický (cAss). **Laos**: 1 ex., Vientiane province, Vang-Vieng, 18°55'N, 102°26'E, 300 m, V-VI.2000, leg. Kolibáč (NHMB). **India**: 3 exs., Orissa state, Similipal N. P., Lulung, 21°56'N, 86°32'E, V-VI.1998, leg. Majer (NHMB, cAss).

Comment: The original description of *Medon sutteri* is based on a male holotype and seven paratypes from the "Insel Sumba" (SCHEERPELTZ 1957). An examination of the aedeagus of the above male paratype revealed that it is conspecific with the type material of *Acanthoglossa hirta*. For recent records from the Yemenitic island Socotra see ASSING (2012). The vast distribution of *A. hirta* ranges from the Middle East across the Himalaya, India, and Sri Lanka to Indonesia (Sumatra, Sumba).

***Hypomedon debilicornis* (WOLLASTON, 1857)**

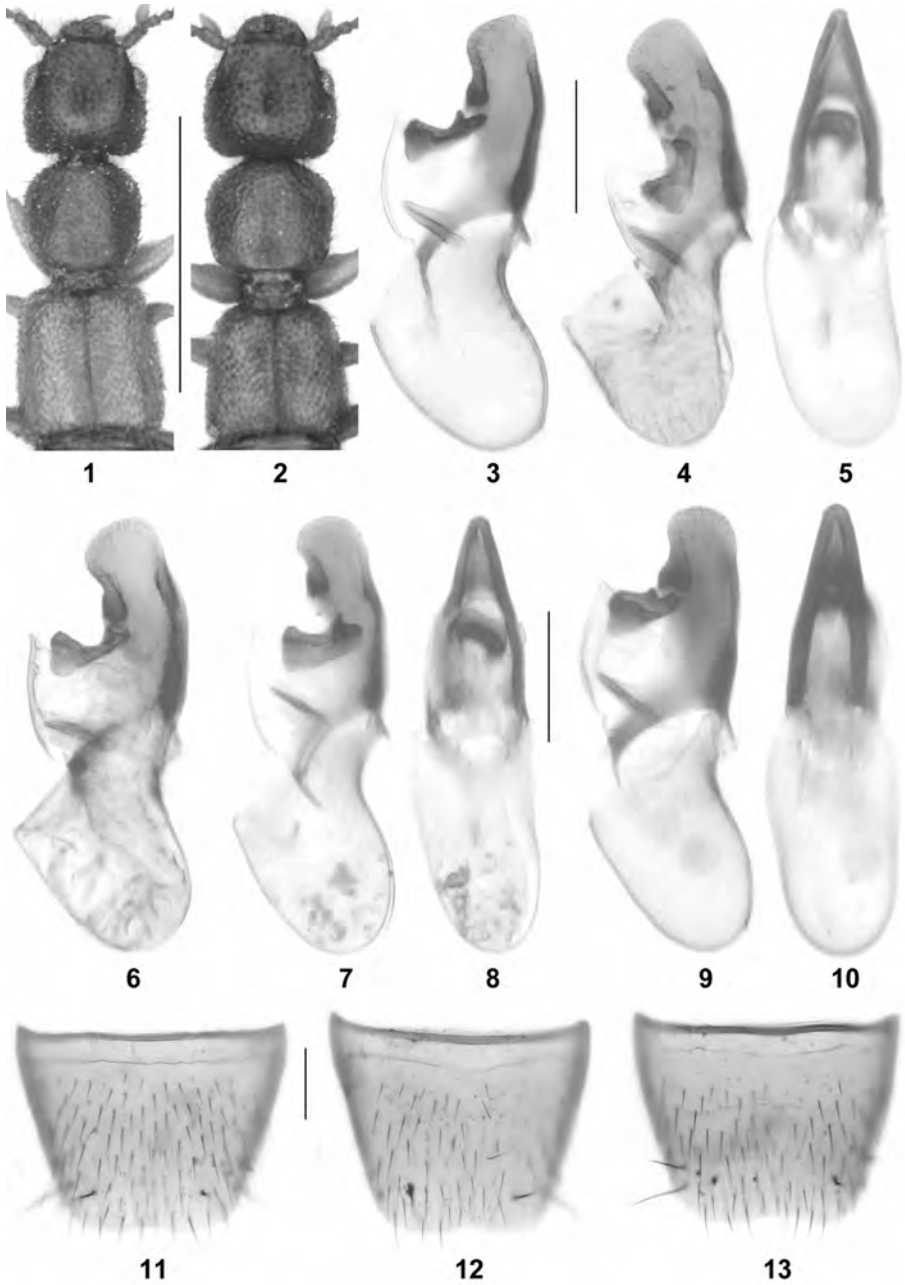
M a t e r i a l e x a m i n e d : Spain: Canary Islands: 1 ex., Gran Canaria, Las Palmas, 20.-22.II.1949, leg. Lindberg (NHMW); 6 exs., Tenerife, Puerto de la Cruz, in seaweed, 21.IX.1965, leg. Benick (cAss); 2 exs., Tenerife, Puerto de la Cruz, in hay, 22.IX.1965, leg. Benick (cAss); 1 ex., 4 km E Puerto de la Cruz, La Quinta, 160 m, 6.-19.VII.1996, leg. Pütz (cAss); 1 ex., La Palma, W La Galga, Cubo de la Galga, 450 m, laurisilva, 9.IV.1999, leg. Assing (cAss); 1 ex., La Palma, La Grama, 30.XII.1990, leg. García (cAss); 1 ex., Barranco de Augustias, 800 m, IV.2007 (cAss). Spain: mainland: 1 ex., Murcia, El Portichuelo, Olmeda, 38°30'N, 1°22'W, 28.VI.2007, leg. Lencina (cAss); 2 exs., Valencia, coast near Puig, leg. Franz (cAss). Azores: 1 ex., Santa Maria, Barreiro da Faneca, 37°00'N, 25°07'W 220 m, old dung heap sifted, 19.VII.2013, leg. Assing (cAss). Madeira: 2 exs., Funchal, IV.1957, leg. Coiffait (cAss); 7 exs., N Caniçal, 32°45'N, 16°45'W, 230 m, under *Eucalyptus* bark, 28.XII.2011, leg. Assing (cAss); 1 ex., Canico de Baixo, at window, 27.IX.1989, leg. Piper (cAss). France: 3 exs., Provence, locality not specified, leg. Rey (NHMW). Germany: 1 ex., Berlin, Glienicke, 2.X.1962 (cAss). Italy: 3 exs., Genova, botanical garden, X.1887, leg. Flach (NHMW); 1 ex., Roma, Sacrotanio, 2.X.1957, leg. Scirocchi (NHMW). Cyprus: 1 ex., NW Akrotiri, 25.II.2011, leg. Ziegler (cAss). Israel: 1 ex., Galilee, Mt. Meron, 26.IV.1982, leg. Besuchet & Löbl (cAss). Saudi Arabia: 1 ex., Wadi Birk, 11.IX.1979, leg. Büttiker (NHMB). Yemen: 1 ex., Lahej env., VI.1986, leg. Materlik (cAss); 6 exs., Socotra island, Deiqub cave, 12°23'N, 54°00'E, 115 m, cave & shrubland, 12.VI.2012, leg. Bezděk et al. (cAss). Nepal: 1 ex., Surkhet District, Bheri Khola Bridge, 500 m, 24.-25.V.1998, leg. Schawaller (cAss). India: 1 ex., Himachal Pradesh, 25 km S Kullu, 3 km SW Aut, 600 m, 4.X.1996, leg. Schulz & Vock (cAss); 1 ex., border Assam-Arunachal Pradesh, Bhalukpong, 27°01'N, 92°39'E, 150 m, 1.-8.V.2012, leg. Dembický (cAss); 1 ex., Goa, Canacona district, Cortigao Sanctuary, 100 m, primary forest, 6.-10.I.1997, leg. Schulz & Vock (cAss). China: 1 ex., Shanghai, 11.V.1944, leg. Suenson (cAss); 1 ex., Hubei, Xingshan Co., Zhenziling, 1600 m, 3.VII.1998, leg. Bolm (NHMB); 1 ex., Guangxi, Miaoyer Shan, S-slope, 1300-2000 m, 25.-26.VI.1997, leg. Bolm (NHMB); 1 ex., Jiangsu, Nanjing Agricultural University, VII.1991, leg. Cooter (cAss); 3 exs., Yunnan, Dali Bai Aut. Pref., 22 km NNE Dali, 25°57'N, 100°09'E, 1990 m, field margin, sifted, 12.VI.2007, leg. Pütz (cAss). Thailand: 14 exs., Ranong province, Ranong: Hot Springs, 9°56'N, 98°40'E, 23.-25.II.1996, leg. Majer (NHMB, cAss); 11 exs., Chumphon province, Pha To env., 9°48'N, 98°47'E, 27.III.-14.IV.1996, leg. Majer (NHMB, cAss); 9 exs., same data, but III.1996 (NHMB). Japan: 1 ex., Yogushi, leg. Sauter (NHMW); 3 exs., Okinawa Pref., Iriomote-jima, Star Sand Beach, compost, 25.XII.2008, leg. Vít (cAss); 1 ex., Okinawa Pref., Iriomote-jima, Mt. Jarabu, decaying wood, 26.XII.2008, leg. Vít (cAss); 1 ex., Hyogo, Sasabe, 25.IX.1994, leg. Ito (cAss). Australia: 9 exs., Queensland, "Dig Tree", UV-light trap, 22.XI.1998, leg. Hangay (cAss). Argentina: 1 ex., Iguazu, 21.I.1981, leg. Förster (cAss). Ecuador: 1 ex., Manabi, swamp between S. Antonio and Bachillero, 0°43'S, 80°10'W, VII.2008, leg. Rossi (cAss).

C o m m e n t : According to SCHÜLKE & SMETANA (2015), this cosmopolitan species was previously unknown from Greece, Cyprus, Israel, Yemen, North India, and the Chinese provinces Shanghai, Hubei, Guangxi, Jiangsu, and Yunnan.

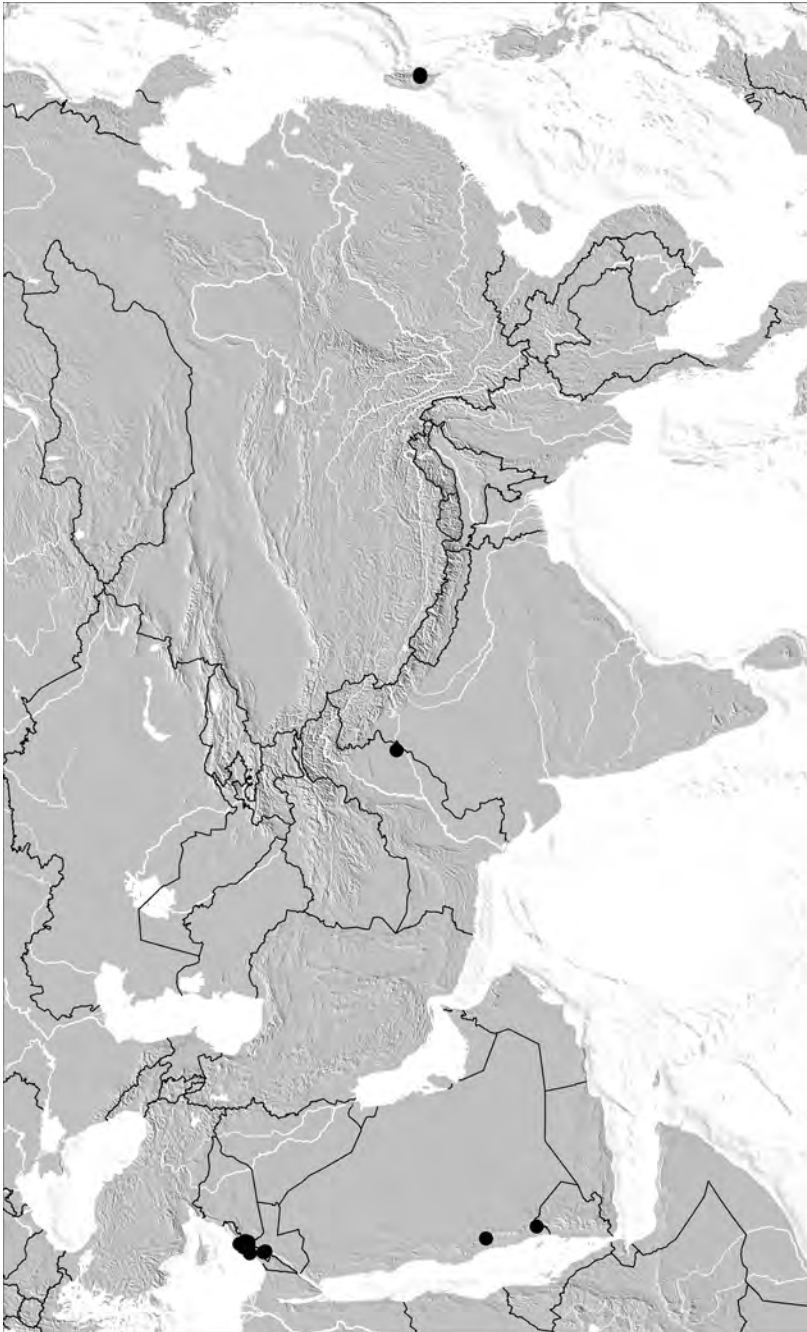
All the above specimens are females, suggesting that this species is parthenogenetic. COIFFAIT (1984) figures the aedeagus of a male from Cameroon, but this specimen may well belong to a different species.

***Hypomedon galilaeus* (BORDONI, 1980) (Figs 1-13, Map 1)**

M a t e r i a l e x a m i n e d : Lebanon: see ASSING (2008) and ASSING & FELDMANN (2012). Saudi Arabia: see ASSING et al. (2013). Pakistan: 1 ♂, Chhanga Manga, Lahore, 26.VI.1974, leg. Baroni Urbani (NHMB). Taiwan: 1 ♂, Taitung Hsien, road no. 20, km 174, Li-Tao (Lidau), 1000 m, compost, 8.IV.2007, leg. Vít (cAss); 2 ♀♀, Taitung Hsien, road no. 20, Li-Tao (Lidau), 1000 m, base of rock, soil-washing, 8.IV.2007, leg. Vít (cAss); 1 ♀, Taitung Hsien, road no. 20, km 202, behind Chulai, forest litter, 9.IV.2007, leg. Vít (cAss).



Figs 1-13: *Hypomedon galilaeus* from Saudi Arabia (1, 3-5, 11), Israel (6), Pakistan (7-8, 12), and Taiwan (2, 9-10, 13): (1-2) forebody; (3-10) aedeagus in lateral and in ventral view; (11-13) male sternite VIII. Scale bars: 1-2: 1.0 mm; 3-13: 0.1 mm.



Map 1: Distribution of *Hypomedon galilaeus* based on examined records.

C o m m e n t : *Hypomedon galilaeus* had been reported from Lebanon, Israel, and Saudi Arabia (ASSING 2008, ASSING & FELDMANN 2012, ASSING et al. 2013). The above records from Pakistan and Taiwan considerably expand the known distribution of this species (Map 1).

The specimens from Taiwan are distinguished from those seen from other regions by distinctly shorter elytra and hind wings of reduced length (approximately as long as elytra). In material from Taiwan, the elytra are 0.78-0.85 times as long as the pronotum (Fig. 2), whereas in (macropterous) populations from other regions the elytra are 1.05-1.10 times as long as the pronotum (Fig. 1). However, the aedeagi (Figs 3-10) and the shape of the male sternite VIII (Figs 11-13), as well as other external characters are practically identical, suggesting that the specimens from Taiwan represent a brachypterous morph of *H. galilaeus* rather than a distinct species.

Based on external characters, *H. galilaeus* is practically indistinguishable from *H. debilicornis*. The question whether or not both names refer to different species or just parthenogenetic (*H. debilicornis*) and bisexual (*H. galilaeus*) populations of the same species requires clarification based on molecular evidence.

***Hypomedon nasutus* nov.sp.** (Figs 14-17)

T y p e m a t e r i a l : Holotype ♂: "Thailand, Satun Prov., Thale Ban N.P., 20 km E Satun, 400 m, 1.-4.I.1996, leg. Schulz & Vock / Holotypus ♂ *Hypomedon nasutus* sp.n. det. V. Assing 2016" (cAss).

E t y m o l o g y : The specific epithet is an adjective derived from the Latin noun *nasus* (nose) and alludes to the nose-shaped ventral process of the aedeagus.

D e s c r i p t i o n : Body length 2.9 mm; length of forebody 1.5 mm. Coloration: head and pronotum dark reddish-brown; elytra reddish; abdomen reddish-brown, with the posterior portion of segment VII and segments VIII-X reddish-yellow; legs reddish-yellow; antennae reddish.

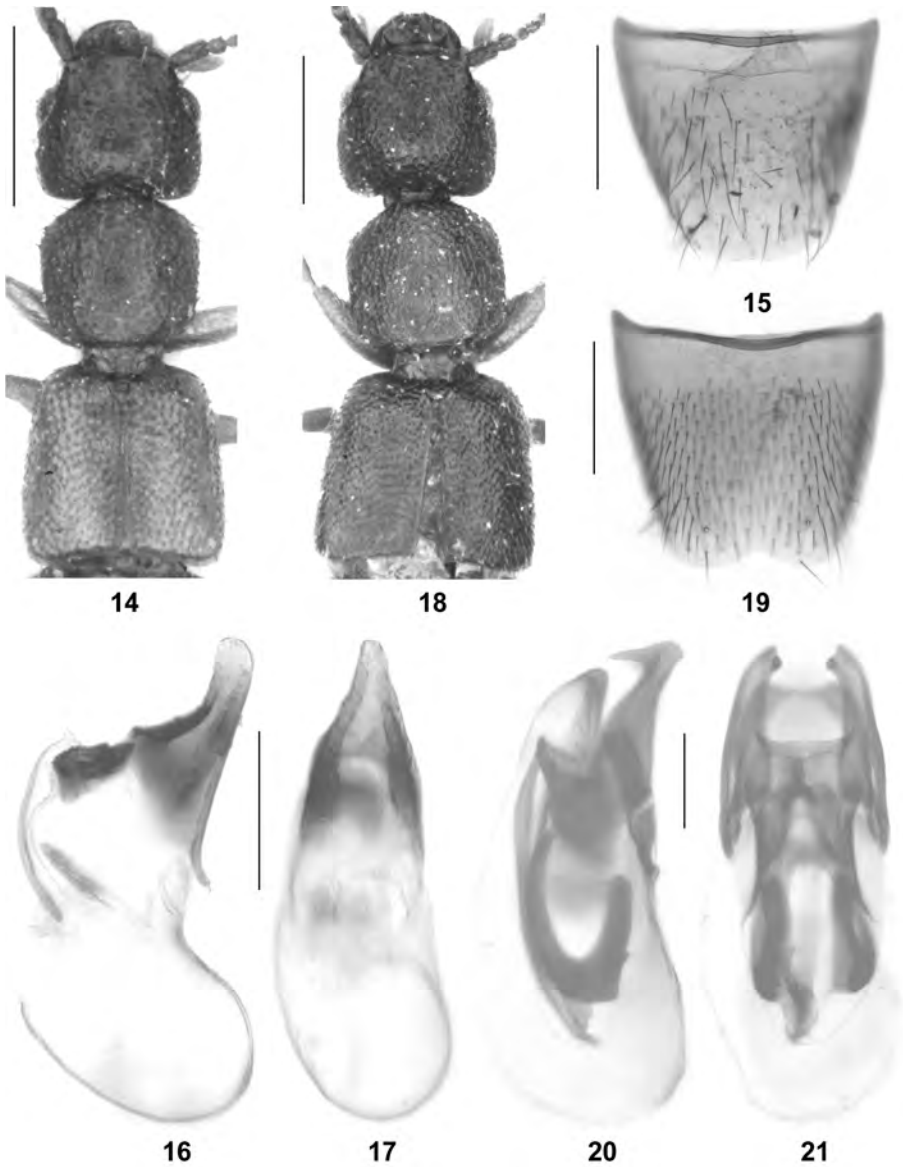
Head (Fig. 14) 1.23 times as broad as long; punctation coarse, moderately dense, and umbilicate; interstices with pronounced microsculpture. Eyes approximately 0.7 times as long as postocular region in dorsal view. Antenna: antennomere III approximately as broad as long; antennomeres IV-X of gradually increasing width and increasingly transverse; X approximately twice as broad as long.

Pronotum (Fig. 14) 1.07 times as broad as long and 0.94 times as broad as head; punctation similar to that of head, but somewhat denser; interstices with pronounced microsculpture.

Elytra (Fig. 14) approximately as long as pronotum; punctation very dense and moderately fine; interstices without microsculpture. Hind wings apparently fully developed.

Abdomen narrower than elytra; punctation dense and fine on anterior, sparse and even finer on posterior tergites; interstices with shallow microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; sternite VIII (Fig. 15) weakly transverse, posterior margin convex, in the middle very indistinctly concave; aedeagus (Figs 16-17) 0.32 mm long, with relatively short ventral process of characteristic shape.



Figs 14-21: *Hypomedon nasutus* nov.sp. (14-17) and *H. bicornutus* nov.sp. (18-21): (1-2) fore-body; (3-10) aedeagus in lateral and in ventral view; (11-13) male sternite VIII. Scale bars: 14, 18: 0.5 mm; 15-17, 19-21: 0.2 mm.

Comparative notes: *Hypomedon nasutus* is distinguished from the externally similar *H. galilaeus* and *H. debilicornis* by the completely different shape of the ventral process of the aedeagus, the different shape of the male sternite VIII, a more transverse antennomere X, and larger punctures on the pronotum. The aedeagus of the

new species is most similar to that of *H. niloticus* (KOCH, 1934), but the ventral process and the sclerotized dorso-apical structure are of different shapes. Moreover, *H. nasutus* differs from *H. niloticus* by coarser and denser punctation of the head and pronotum, larger eyes, and by a less transverse and posteriorly only indistinctly concave male sternite VIII. For illustrations of *H. niloticus* see ASSING (2009).

D i s t r i b u t i o n : The type locality is situated in Thale Ban National Park, South Thailand (close to the border with Malaysia), at an altitude of 400 m.

***Hypomedon bicornutus* nov.sp.** (Figs 18-21)

T y p e m a t e r i a l : **Holotype** ♂: "LAOS-NE, Xieng Khouang prov., ~19°37-8'N 103°20'E, Phonsavan (30 km NE): Phou Sane Mt., ~1400-1500 m, 10-30.v.2009, Z. Kraus leg. / Holotypus ♂ *Hypomedon bicornutus* sp.n. det. V. Assing 2016" (NHMB).

E t y m o l o g y : The specific epithet (Latin, adjective: with two horns) alludes to the deeply bifid ventral process of the aedeagus.

D e s c r i p t i o n : Body length 3.3 mm; length of forebody 1.9 mm. Coloration: body dark-brown; legs brown; antennae with antennomeres I-II brown and antennomeres III-XI pale-brown.

Head (Fig. 18) 1.1 times as broad as long; punctures large, but shallow, very dense, and umbilicate; interstices without microsculpture. Eyes approximately half as long as post-ocular region in dorsal view. Antenna: antennomere III approximately as broad as long; antennomeres IV-X of gradually increasing width and increasingly transverse; X approximately 1.5 times as broad as long.

Pronotum (Fig. 18) 1.06 times as broad as long and approximately as broad as head; punctation very dense, umbilicate, and shallow; punctures smaller than those of head; interstices without microsculpture.

Elytra (Fig. 18) approximately 1.05 times as long as pronotum; punctation very dense and fine; interstices without microsculpture.

Abdomen narrower than elytra; punctation extremely dense and extremely fine on all tergites; interstices with microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; sternite VIII (Fig. 19) weakly transverse and with shallow posterior excision; aedeagus (Figs 20-21) 0.5 mm long; ventral process distinctly bifid; internal structures of distinctive shapes.

C o m p a r a t i v e n o t e s : *Hypomedon bicornutus* is distinguished from *H. debilicornis*, *H. galilaeus*, and *H. nasutus* by the absence of microsculpture on the head and pronotum, denser punctation of the forebody, much denser and finer punctation of the abdomen, the shape of the male sternite VIII, and by the completely different morphology of the aedeagus (ventral process bifid; internal structures large and distinctly sclerotized). In fact, the species differs so significantly from other *Hypomedon* species that it is attributed to this genus with some doubt.

D i s t r i b u t i o n : The type locality is situated 30 km to the northeast of Phonsavan, North Laos, at an altitude of 1400-1500 m.

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My thanks are extended to the colleagues indicated in the material section for the loan of material from the collections under their care.

Zusammenfassung

Zwei Arten der Gattung *Hypomedon* MULSANT & REY, 1878 werden beschrieben und abgebildet: *H. nasutus* nov.sp. (Thailand) und *H. bicornutus* nov.sp. (Laos). Eine Typenuntersuchung ergab folgende Synonymie: *Acanthoglossa hirta* KRAATZ, 1859 = *Medon sutteri* SCHEERPELTZ, 1957 nov.syn. Nachweise von *Hypomedon debilicornis* (WOLLASTON, 1857) und *H. galilaeus* (BORDONI, 1980) werden gemeldet, darunter zahlreiche Erstnachweise. *Hypomedon galilaeus* wird erstmals aus Pakistan und Taiwan nachgewiesen. Das derzeit bekannte Verbreitungsgebiet dieser Art, das vom Nahen Osten bis nach Taiwan reicht, wird anhand einer Karte illustriert. Im Gegensatz zu Populationen aus anderen Regionen ist *H. galilaeus* auf Taiwan brachypter.

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