

**On *Orsunius* IV. Three new species, new records,
and the first record of the genus from the Australian region
(Coleoptera: Staphylinidae: Paederinae: Medonina)**

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ASSING V. 2020: On *Orsunius* IV. Three new species, new records, and the first record of the genus from the Australian region (Coleoptera: Staphylinidae: Paederinae: Medonina). *Acta Musei Moraviae, Scientiae biologicae* **105(2)**: 227–235. – Three species of the genus *Orsunius* Assing, 2011 are described and illustrated: *Orsunius tortus* sp. nov. (Thailand) and *O. frischii* sp. nov. (Indonesia: Jawa Barat), both of them belonging to the *O. wunderlei* group, as well as *O. maindai* sp. nov. (Indonesia: Papua), the first record of the genus from the Australian region. Additional records of nine previously described species are reported, among them five new country records from Thailand (2), China (1), Hong Kong (1), and Cambodia (1). The genus now includes 24 named extant species distributed in the southern East Palaearctic, the Oriental, and the northern Australian regions.

Keywords. Coleoptera, Staphylinidae, Paederinae, *Orsunius*, taxonomy, new species, new records, Palaearctic region, Oriental region, Australian region

Introduction

The medonine genus *Orsunius* Assing, 2011 previously included 21 named extant species distributed in the Oriental and southern East Palaearctic region sensu SCHÜLKE & SMETANA (2015) (ASSING 2011, 2014, 2015). An updated key and a new catalogue were provided by ASSING (2015). Recently, KYPKE & SOLODOVNIKOV (2018) attributed a fossil species found in Rovno amber to *Orsunius*, but based on the illustrations and morphological details specified in the description, this species is unlikely to be congeneric with the extant representatives of the genus.

Since the latest contribution (ASSING 2015), additional material of *Orsunius* has been examined, this material including three new species and records of nine previously described species.

Material and methods

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

MMB	Moravian Museum, Brno (P. Baňář)
ZFMK	Zoologisches Forschungsmuseum Alexander Koenig, Bonn (D. Ahrens)
cAss	author's private collection
cKle	private collection Andreas Kleeberg, Berlin
cRou	private collection Guillaume de Rougemont, Oxford (now in Oxford University Museum)
cWun	private collection Paul Wunderle, Mönchengladbach

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axiocam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the apex of the abdomen, the length of the forebody from the mandibles to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the median lobe 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.

The limits of the zoogeographic regions are in agreement with those illustrated by SCHÜLKE & SMETANA (2015).

New records

Orsunius immsi (Bernhauer, 1914)

Material examined. India: 1♀, border Assam-Arunachal Pradesh, Bhalukpong, 27°01'N, 92°39'E, 150 m, flight interception trap, 1–8.V.2012, leg. Dembický (ZFMK). **Cambodia:** 1♂, Siem Reap province, N Siem Reap city, 13°26'N, 103°52'E, light trap, 12–13.XI.2018, leg. Rossi (cAss).

This species was previously known from North India, Laos, Thailand, and Malaysia (ASSING 2015). The above male from Cambodia represents a new country record.

Orsunius wunderlei Assing, 2011

Material examined. Thailand: 1♂, 1♀, Chiang Rai, Wiangpapao Distr., Huam Nam Guen, 1250 m, 21–22.II.2017, leg. Rossi & Bernardi (cAss).

The known distribution of *O. wunderlei* is confined to North Thailand.

Orsunius excisus Assing, 2011

Material examined. Thailand: 7 exs., Nan district, Ban Boluang env., 19°08'N, 101°09'E, 650 m, 15–25.V.2002, leg. Pacholátko & Peša (MMB, cAss).

Orsunius excisus had been recorded only from Taiwan (ASSING 2011). The above specimens represent the first record since the original description and the first record from Thailand.

Orsunius parvexcisus Assing, 2011

Material examined. India: 3♂♂, 2♀♀, Goa, Canacona distr., 100 m, primary forest, 6–10.I.1997, leg. Schulz & Vock (cAss); 1♂, Kerala, Periyar Sanctuary, Thekkady, 1000 m, moist broad-leaved forest, 2–5.I.1997, leg. Schulz & Vock (cAss).

The above specimens from Goa were collected together with the holotype. This species has been recorded only from Southwest India and Nepal.

***Orsunius spathulatus* Assing, 2014**

Material examined. Philippines: 2♂♂, 1♀, Mindanao, Sitio Bitaugan, Kawa-kawa River, 6°46'31"N, 126°08'41"E, 300 m, stream bank, wet litter, debris, dead wood, 24–26.III.2018, leg. Shavrin (cAss).

The original description is based on a unique holotype from Mindanao (ASSING 2014).

***Orsunius affimbriatus* Assing, 2015**

Material examined. Hong Kong: 9 exs., Hong Kong, Winkler extraction, 20.VI.1996, leg. Rougemont (cRou, cAss).

The original description is based on three specimens from one locality in the Chinese province Guangdong. The above specimens represent the first record from Hong Kong.

***Orsunius granulosus* Assing, 2014**

Material examined. Laos: 1♂, 3♀♀, Vientiane Prov., Phou Phanang National Biodiversity, 18°37'N, 102°25'E, near river, 23.VII.2014, leg. Cibulskis (cAss); 1♂, 1♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nat. Res., 20°27'–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The known distribution of this species includes Laos, Thailand, and North Vietnam (ASSING 2015).

***Orsunius cuneatus* Assing, 2014**

Material examined. Thailand: 1♂, Chiang Mai, Mae Rim env., Huay Tung Tao reservoir, 24.X.2016, leg. Rossi (cAss); 6♂♂, 3♀♀, Chiang Mai, road 118 to Chiang Rai, Mae Lai river near Ban Pong Din, 18°54'59"N, 99°14'09"E, 470 m, 19.II.2017, leg. Rossi (cAss); 15 exs, Chiang Mai, Mae Tang, bank of Mae Taeng river, 16.XI.2017, leg. Kleeberg (cKle, cAss). **Laos:** 88 exs., Khammouan prov., Ban Khoun Ngeun, 18°07'N, 104°29'E, 250 m, XI.2000, leg. Jendek & Pacholátko (MMB, cAss).

Orsunius cuneatus was originally described from Laos and subsequently reported also from Thailand (ASSING 2014, 2015).

***Orsunius heissi* Assing, 2014**

Material examined. China: Guangxi: 1♂, Nong Gang National Reserve, Long Rui, 25.V.1998, leg. Fellowes (cRou); 1♂, same data, but 27.V.1998 (cAss); 1♀, Nong Gang National Reserve, 22.V.1998, leg. Fellowes (cRou). **Thailand:** 6 exs., Chiang Mai, Doi Suthep, 1580 m, leaf litter, 13.XI.1995, leg. Wunderle (cWun, cAss); 12 exs., Chiang Mai, Sandoeng, 550 m, under bark, 11.XI.1995, leg. Wunderle (cWun, cAss); 10♀♀, Pukhet, Katu waterfall, 17.XI.1995, leg. Wunderle (cWun, cAss).

Orsunius heissi was originally described from Pulau Langkawi Island, Kedah, Malaysia (ASSING 2014). The above specimens represent the first records since the original description and the first records from China and Thailand.

Descriptions of new species

Orsunius tortus sp. nov.

(Figs 1–3, 12–13, 16)

Type material examined. Holotype ♂: “THAILAND [49] – Doi Pha Hom Pok, Pong Nam Dang waterf., 30°00'N, 99°10'E, 710 m, litter, 26.I.2014, leg. Ob / Holotypus ♂ *Orsunius tortus* sp.n. det. V. Assing 2015” (cAss). Paratypes: 2♂♂, 1♀ [1♂ without head and pronotum]: same data as holotype (cAss); 1♂: “THAILAND [3], Doi Inthanon, Mae Aeb stream, 18°32'N, 98°26'E, 550 m, stream bank, 20.XII.2013, leg. Ob” (cAss); 1♂, 2♀♀: “THAILAND [11], Doi Inthanon, Muenang, 18°32'N, 98°31'E, 410 m, river bank, sweeping, 17.XII.2013, leg. Ob” (cAss).

Description. Body length 4.2–5.0 mm; length of forebody 2.2–2.5 mm. Habitus as in Fig. 1. Coloration: body blackish, with the posterior margin of the elytra sharply and rather broadly yellowish; legs yellowish; antennae dark-yellowish to yellowish-brown.

Head (Fig. 3) distinctly transverse, 1.20–1.25 times as broad as long; lateral margins behind eyes subparallel in dorsal view; postero-median dorsal portion weakly elevated; punctation very dense, moderately coarse, and umbilicate, mostly slightly less dense in a small patch in median dorsal portion, or median dorsal portion with a small shiny patch; interstices without microsculpture. Eyes rather large and bulging, distinctly longer than postocular portion in dorsal view. Antennae 1.3–1.4 mm long. Anterior margin of labrum with usually U-shaped excision in the middle. Right mandible with three molar teeth.

Pronotum (Fig. 2) 1.15–1.20 times as wide as long and about as broad as head; posterior angles rounded, weakly marked; punctation similar to that of head; midline with rather narrow impunctate band, this band often short and confined to posterior portion; interstices without microsculpture.

Elytra (Fig. 2) approximately as long as, or slightly longer than pronotum; punctation fine and dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV distinctly dilated. Metatarsomere I as long as, or slightly shorter than the combined length of metatarsomeres II and III.

Abdomen slightly narrower than elytra; punctation very fine and dense, somewhat sparser on tergites VII and VIII; interstices with distinct microreticulation; posterior margin of tergite VII with palisade fringe.

♂: sternite VII with weakly concave posterior margin, otherwise unmodified; sternite VIII (Fig. 16) as long as broad and with shallow, broadly triangular posterior excision; aedeagus (Figs 12–13) 0.70–0.75 mm long, ventral process distinctly separated from median lobe, slender, somewhat twisted, asymmetric in ventral view, and with very acute apex.

Comparative notes. Based on external and particularly the male sexual characters, *O. tortus* is related to *O. wunderlei* and allied species. Among the species of this group, its aedeagus is most similar to that of *O. incurvatus* Assing, 2015, from which *O. tortus* differs by much darker coloration (*O. incurvatus*: body predominantly reddish), a more transverse pronotum, a broader and less deep posterior excision of the male sternite VIII, and a more slender and distinctly asymmetric ventral process of the aedeagus. For illustrations of the male sexual characters of *O. incurvatus* and other species of the *O. wunderlei* group see ASSING (2011, 2014, 2015).

Distribution and natural history. *Orsunius tortus* is currently known from two mountains, Doi Inthanon and Doi Pha Hom Pok, in North Thailand. The relatively low altitudes (410–710 m) and the fully developed hind wings suggest that the species is more widespread. The specimens were sifted from moist leaf litter along streams.

Etymology. The specific epithet is the past participle of the Latin verb *torquere* (to turn, to twist) and alludes to the shape of the ventral process of the aedeagus.

***Orsunius frischi* sp. nov.**

(Figs 4–6, 14–15, 17)

Type material examined. Holotype ♂: “Indonesia, Jawa Barat, Mount Halimun, 19.–25.VIII.2009, leg. Majer / Holotypus ♂ *Orsunius frischi* sp.n. det. V. Assing 2017” (cAss). Paratypes: 2♂♂, 1♀: same data as holotype (cAss).

Description. Body length 3.2–3.6 mm; length of forebody 1.9–2.0 mm. Habitus as in Fig. 4. Coloration: forebody reddish to reddish-brown; abdomen reddish-brown to dark-brown; legs dark-yellowish; antennae pale-reddish.

Head (Figs 5–6) transverse, 1.12–1.21 times as broad as long; lateral margins behind eyes parallel or very weakly converging in dorsal view; posterior angles marked; punctation coarse and rather dense, not umbilicate, sparser in postero-median dorsal portion; interstices without microsculpture. Eyes rather large and moderately bulging, as long as, or slightly longer than postocular portion in dorsal view. Antennae 1.0–1.1 mm long. Anterior margin of labrum with V-shaped excision in the middle.

Pronotum (Fig. 5) 1.10–1.15 times as wide as long and 1.00–1.05 times as broad as head; posterior angles rounded, moderately marked; lateral margins with slight concavity anterior to middle; punctation slightly denser and less coarse than that of head; midline with broad impunctate band; interstices without microsculpture.

Elytra (Fig. 5) 0.90–0.95 times as long as pronotum; punctation fine and dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV distinctly dilated, without sexual dimorphism. Metatarsomere I longer than metatarsomere II, but shorter than the combined length of metatarsomeres II and III.

Abdomen approximately as broad as elytra; punctation very fine and dense; interstices with distinct microreticulation; posterior margin of tergite VII with palisade fringe.

♂: sternite VII with indistinctly concave posterior margin, otherwise unmodified; sternite VIII (Fig. 17) oblong, posterior margin without posterior excision, weakly concave in the middle at most; aedeagus (Figs 14–15) 0.62 mm long, ventral process distinctly separated from median lobe, slender, distinctly angular in lateral view, asymmetric and apically acute in ventral view.

Comparative notes. Like *O. tortus*, *O. frischi* is closely related to *O. wunderlei* and allied species, as can be inferred particularly from the similar general morphology of the aedeagus. The new species differs from all the externally similar congeners by the absence of a distinct excision of the male sternite VIII and above all by the shape of the ventral process of the aedeagus. For illustrations of the male sexual characters of the *O. wunderlei* group see ASSING (2011, 2014, 2015).

Distribution and natural history. The type locality is situated in Mount Halimun, Jawa Barat, Indonesia. Additional data are not available.

Etymology. The species is dedicated to Johannes Frisch (Berlin), who, being a close friend of the collector's, helped in making the type material available.

***Orsunius maindai* sp. nov.**

(Figs 7–11, 18)

Type material examined. Holotype ♂: "WEST-PAPUA: Foja Mountains, 2°26'14.83"S 138°46'36.85"E, 208 m, Timua river, light trap, leg. T. Mainda 26.05.2019 / Holotypus ♂ *Orsunius maindai* sp.n. det. V. Assing 2020" (cAss).

Description. Body length 3.8 mm; length of forebody 2.1 mm. Habitus as in Fig. 8. Coloration: head and pronotum blackish; elytra blackish-brown with the humeral portions and the posterior margins slightly paler; abdomen blackish-brown with the posterior margins of the tergites narrowly dark-reddish; legs yellowish-brown; antennae dark-brown with the apical halves slightly paler.

Head (Figs 7, 9) transverse, 1.25 times as broad as long; lateral margins behind eyes weakly diverging in dorsal view; posterior angles marked; punctation coarse and dense, sparser in median dorsal portion; interstices without microsculpture. Eyes moderately large, slightly shorter than postocular portion in dorsal view. Antennae 1.2 mm long; antennomeres III–IV weakly oblong, V approximately as broad as long, VI–X of gradually increasing width and increasingly transverse, and X approximately 1.5 times as broad as long. Anterior margin of labrum strongly serrate, more incised in middle than elsewhere. Mandibles each with three distinct teeth. Maxillary palpomere large and long, apically enlarged, and somewhat flattened.

Pronotum (Fig. 9) 1.3 times as broad as long and 1.1 times as broad as head; posterior angles rounded, weakly marked; punctation similar to that of head; midline with narrow impunctate band; interstices without microsculpture.

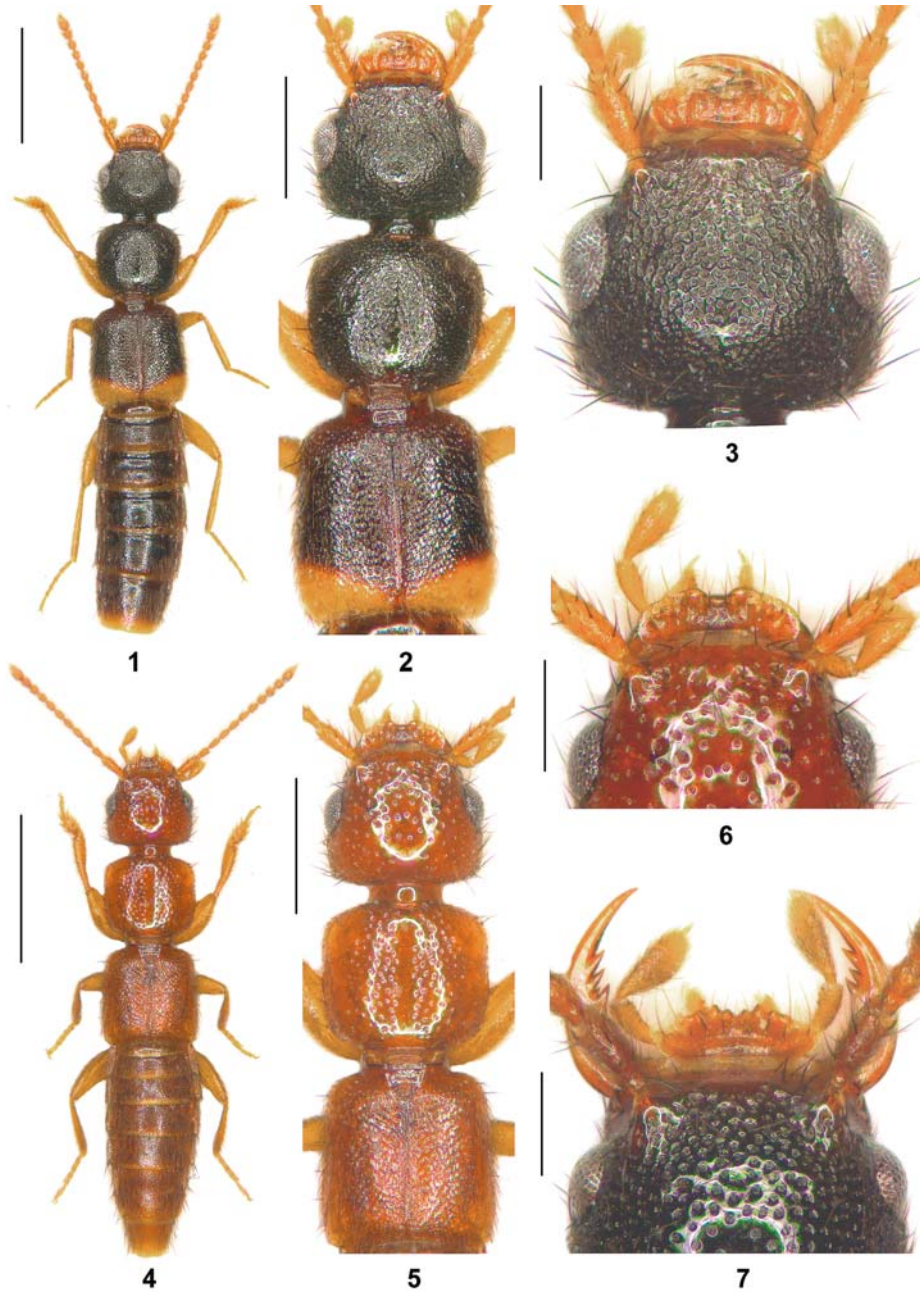
Elytra (Fig. 9) as long as pronotum; punctation fine and dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV distinctly dilated. Metatarsomere I as long as the combined length of metatarsomeres II and III.

Abdomen approximately as broad as elytra; punctation very fine and dense; interstices with shallow microreticulation; posterior margin of tergite VII with palisade fringe.

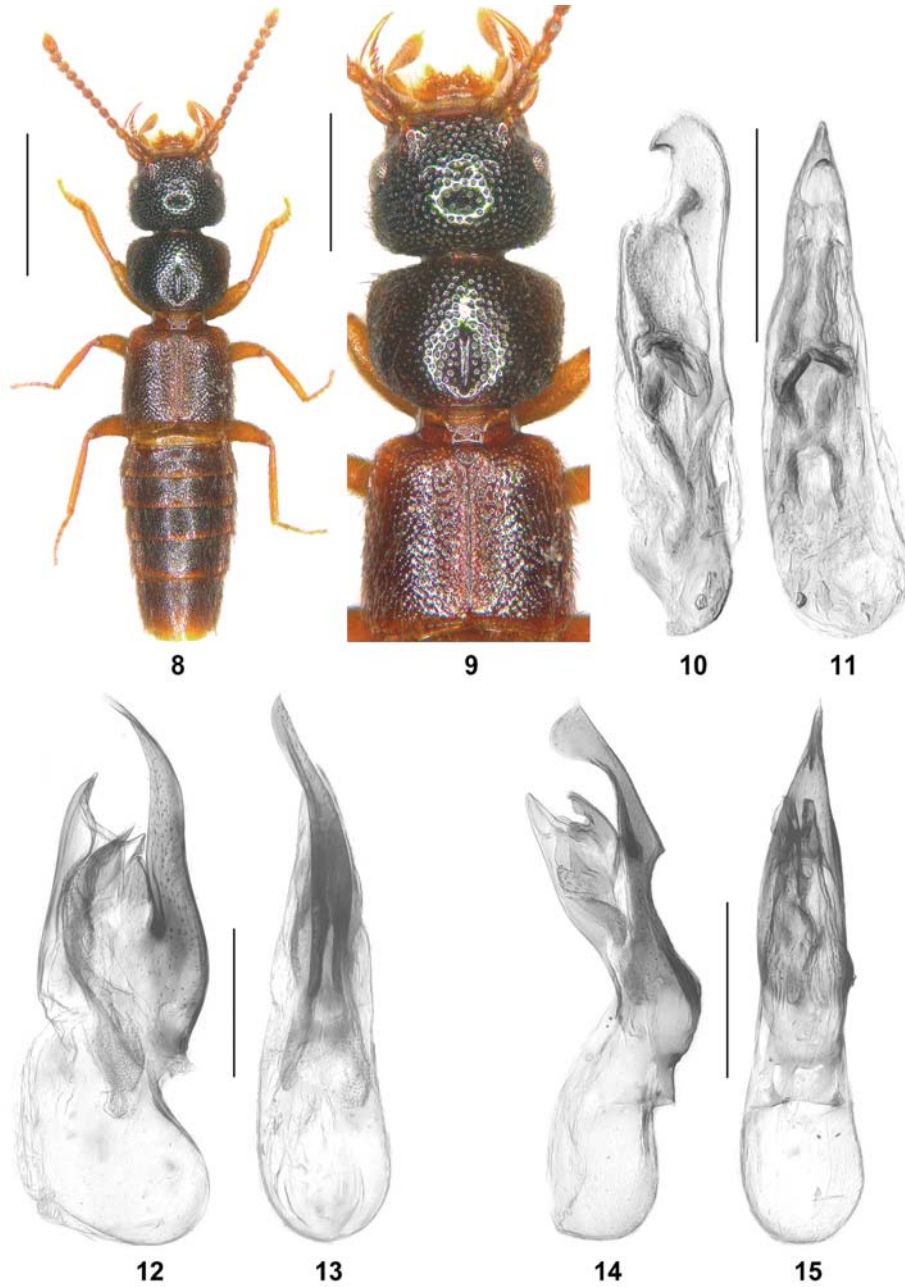
♂: sternite VII unmodified; sternite VIII (Fig. 18) oblong and with dense pubescence, posterior margin with distinct posterior excision; aedeagus (Figs 10–11) 0.5 mm long and weakly sclerotized, ventral process not separated from median lobe.

Comparative notes. This species is distinguished from all other representatives of the genus by the anteriorly strongly serrate labrum, the shape of maxillary palpomere III, and by the shape of the weakly sclerotized aedeagus. It is additionally characterized by a robust habitus and the shape of the male sternite VII.

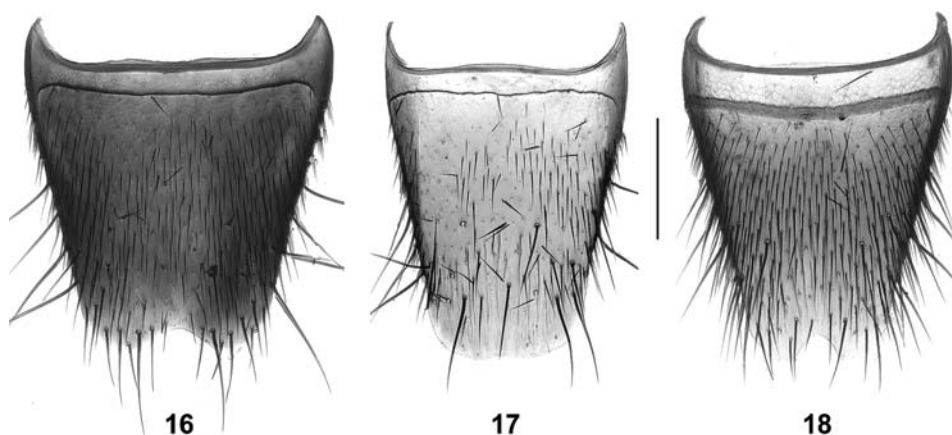
Distribution and natural history. The type locality is situated in Foja Mountains in the north of Papua province (Indonesia), New Guinea. The species represents the first record of the genus from New Guinea and the Australian region.



Figs 1–7. *Orsunius tortus* sp. nov. (1–3), *O. frischi* sp. nov. (4–6), and *O. maindai* sp. nov. (7). 1, 4 – habitus; 2, 5 – forebody; 3 – head; 6–7 – anterior portion of head. Scale bars: 1, 4: 1.0 mm; 2, 5: 0.5 mm; 3, 6–7: 0.2 mm.



Figs 8–15. *Orsunius maindai* sp. nov. (8–11), *O. tortus* sp. nov. (12–13), and *O. frischi* sp. nov. (14–15). 8 – habitus; 9 – forebody; 10–15 – aedeagus in lateral and in ventral view. Scale bars: 8: 1.0 mm; 9: 0.5 mm; 10–15: 0.2 mm.



Figs 16–18. Male sternite VIII of *Orsunius tortus* sp. nov. (16), *O. frischi* sp. nov. (17), and *O. maindai* sp. nov. (18). Scale bar: 0.2 mm.

Etymology. The species is dedicated to Tobias Mainda (Nauen), who collected the holotype.

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