

On the Lomechusini of the Palaearctic and Oriental regions XXVIII. New genera, species, and records, with a focus on the fauna of Laos and Borneo (Coleoptera: Staphylinidae: Aleocharinae)

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ASSING V. 2021: On the Lomechusini of the Palaearctic and Oriental regions XXVIII. New genera, species, and records, with a focus on the fauna of Laos and Borneo (Coleoptera: Staphylinidae: Aleocharinae). *Acta Musei Moraviae, Scientiae biologicae* **106(1)**: 1–193. – Based on a morphological study of material of 14 genera of Lomechusini from the Oriental and East Palaearctic regions, primarily from Laos and Borneo, and of some specimens from Irian Jaya, numerous species are described and illustrated, 78 of them for the first time: *Orphnebius abbreviatus* sp. nov. (Laos), *O. crassisetosus* sp. nov. (Laos), *O. taleatus* sp. nov. (Borneo), *O. geminus* sp. nov. (Borneo), *O. sextuberculatus* sp. nov. (Borneo), *O. retornatus* sp. nov. (Borneo), *O. derectus* sp. nov. (Borneo), *O. comatus* sp. nov. (Laos), *O. calvus* sp. nov. (Laos), *O. baculifer* sp. nov. (Borneo), *O. unguicatus* sp. nov. (Borneo), *O. curvatus* sp. nov. (Borneo), *O. varicornutus* sp. nov. (Laos), *O. biacer* sp. nov. (Borneo), *O. conifer* sp. nov. (Borneo), *O. mollis* sp. nov. (Borneo), *O. linguis* sp. nov. (Borneo), *O. sinulinguis* sp. nov. (Borneo), *O. cusplinguis* sp. nov., *O. colitus* sp. nov. (Borneo), *O. tensus* sp. nov. (Borneo), and *O. pressatus* sp. nov. (Borneo) of the *Orphnebius hauseri* group; *Orphnebius (Deroleptus) transfigens* sp. nov. (Borneo), *O. (D.) aciformis* sp. nov. (Borneo), *O. (D.) acifer* sp. nov. (Borneo), *O. (D.) quadricultratus* sp. nov. (Borneo), *O. (D.) floreni* sp. nov. (Borneo), *O. (D.) obelifer* sp. nov. (Borneo), *O. (D.) nodatus* sp. nov. (Borneo), *O. (D.) filiformis* sp. nov. (Borneo), *O. (D.) plexus* sp. nov. (Borneo), *O. (D.) tuberculifer* sp. nov. (Borneo), *O. (D.) tuberosus* sp. nov. (Borneo), *O. (D.) granulosus* sp. nov. (Borneo), *O. (D.) verrucosus* sp. nov. (Borneo), *O. (D.) botulus* sp. nov. (Borneo), *O. (D.) pinnatus* sp. nov. (Borneo), *O. (D.) bicarinatus* sp. nov. (Borneo), *O. (D.) immutatus* sp. nov. (Laos), *O. (D.) buccatus* sp. nov. (Laos), *O. (D.) innexus* sp. nov. (Borneo), *O. (D.) furviceps* sp. nov. (Borneo), *O. (D.) compressus* sp. nov. (Borneo), *O. (D.) bituberculatus* sp. nov. (Borneo), *O. (D.) tenticornis* sp. nov. (Borneo), *O. (D.) rogans* sp. nov. (Borneo), *O. (D.) tuberifer* sp. nov. (Borneo), *O. (D.) bulbifer* sp. nov. (Sulawesi Tengah), *O. (D.) bulbosus* sp. nov. (Philippines: Mindanao), and *O. (D.) hirsutus* sp. nov. (Borneo); *Amaurodera dentissima* sp. nov. (Myanmar), *A. setosicollis* sp. nov. (Borneo), and *A. floreni* sp. nov. (Borneo); *Drusilla trituberculata* sp. nov. (China: Hubei), *D. longispinosa* sp. nov. (Borneo), *D. iniqua* sp. nov. (Borneo), and *D. samalica* sp. nov. (Philippines: Mindanao); *Witteia arboris* sp. nov. (Borneo); *Tensusa procera* sp. nov. (Laos); *Pheidologitonetes quadruplicatus* sp. nov. (Laos), *P. artiplicatus* sp. nov. (Laos), *P. acer* sp. nov. (Vietnam), *P. retusus* sp. nov. (Vietnam), *P. sagittatus* sp. nov. (Laos), and *P. punctatus* sp. nov. (Laos); *Zyras (Zyras) bituberosus* sp. nov. (Laos), *Z. (Z.) semicalvus* sp. nov. (Laos), *Z. (Z.) janetlarae* sp. nov. (Borneo), *Z. (Z.) parvihirtus* sp. nov. (Borneo), *Z. (Z.) cyaniceps* sp. nov. (Irian Jaya), *Z. (Z.) maindai* sp. nov. (Irian Jaya), *Z. (Z.) interruptus* sp. nov. (Irian Jaya), *Z. (incertae sedis) pressitibialis* sp. nov. (Borneo), and *Z. (i. s.) cuneatus* sp. nov. (Laos); *Mimaenictus bisetosus* sp. nov. (Thailand); *Scapaenictus longiscapus* sp. nov. (Laos); *Planusa granulosa* sp. nov. (Laos); *Sulciusa boops* sp. nov. (Borneo). Four monotypical genera are described: *Tensusa* gen. nov. (type species: *T. procera*); *Scapaenictus* gen. nov. (type species: *S. longiscapus*); *Planusa* gen. nov. (type species: *P. granulosa*); *Sulciusa* gen. nov. (type species: *S. boops*). Nine new combinations are established: *Orphnebius mirabilis* (Pace, 2014), comb. nov. (ex *Keratodegnathus* Pace, 2014); *Pheidologitonetes thaifuscicollis* (Pace, 2012), comb. nov. (ex *Drusilla* Leach, 1819); *P. rubricollis* (Cameron, 1939), comb. nov. (ex *Episkiodrusilla* Pace, 2013); *P. malayrubricollis* (Pace, 2013), comb. nov. (ex *Episkiodrusilla*); *P. neocoenonicacollis* (Pace, 2008), comb. nov. (ex *Episkiodrusilla*); *P. vedda* Pace, 1992, comb. nov. (ex *Drusilla*); *P. veluticollis* (Pace, 2013), comb. nov. (ex *Episkiodrusilla*); *Drusilla nilgiriensis* (Pace, 2001), comb. nov. (ex *Pheidologitonetes*); *D. bartolozzii* (Pace, 2001), comb. nov. (ex *Pheidologitonetes*). Four new species groups are proposed within *Orphnebius* Motschulsky, 1858: the *O. mollis*, *O. colitus*, and *O. tensus* subgroups of the *O. hauseri* group, and the *O. hirsutus* species group of *Deroleptus* Bernhauer, 1915. The intrageneric affiliations of *Orphnebius*, their systematic implications, and their nomenclatural consequences are discussed. Two synonymies are established: *Deroleptus* Bernhauer, 1915 = *Aulacothoracobi* Bernhauer, 1929, syn. nov.; *Pheidologitonetes* Cameron, 1939 = *Episkiodrusilla* Pace, 2013, syn. nov. Updated catalogues of *Orphnebius* sensu lato and of *Pheidologitonetes* are provided. Additional records of 59 previously described species are reported, among them numerous new country records.

Key words. Coleoptera, Staphylinidae, Aleocharinae, Lomechusini, Palaearctic region, Oriental region, Laos, Borneo, taxonomy, new genera, new species, new species groups, new combinations, new synonymies, catalogues, zoogeography, new records.

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1. Introduction

The taxonomy and zoogeography of various genera of the mega-diverse polyphyletic tribe Lomechusini in the Palaearctic and Oriental regions has been studied in numerous previous contributions (see ASSING 2019a, b, and references cited therein). HLAVÁČ *et al.* (2011) provided a world catalogue, but numerous additional species have been described in the meantime (NEWTON 2019). While some genera and subgenera have been subject to comprehensive revisions or at least synoptic studies (e.g., *Pella* Stephens, 1835, West Palaearctic and Middle Asian *Drusilla* Leach, 1819, *Lomechusa* Gravenhorst, 1806, *Lomechusoides* Tottenham, 1939, *Tetrabothrus* Bernhauer, 1915 *Amaurodera* Fauvel, 1905, *Orphnebius* Motschulsky, 1858, *Zyras* Stephens, 1835, s.str.), the taxonomy and systematics of others are currently in considerable confusion. This is particularly true of all the subgenera, except the nominal subgenus, of the speciose “genus” *Zyras*. There is little doubt that *Zyras* sensu lato will eventually have to be split up into numerous genera. For more specific information on the various genera of Lomechusini see the respective sections in this study.

The Lomechusini faunas of Laos and Borneo have been addressed in numerous papers mostly containing individual descriptions. More comprehensive accounts are provided by BERNHAUER (1915), PACE (1987, 2007, 2008, 2014, 2015), and ASSING (2016b, 2019a) for Borneo and ASSING (2016b) for Laos.

Since the latest contribution to the Lomechusini of the Palaearctic and Oriental regions (ASSING 2019b), abundant material from various sources has been made available for study. In particular, approximately 50,000 specimens of Staphylinidae from Laos, among them numerous Lomechusini, were provided by Matthias Borer, Naturhistorisches Museum Basel. Moreover, nearly a thousand lomechusine specimens collected by canopy fogging in Sabah (Borneo) were contributed by Andreas Floren, University of Würzburg. Additional material was made available by Max Barclay (London), Adam Brunke (Ottawa), Benedikt Feldmann (Münster), Tobias Mainda (Berlin), Harald Schillhammer (Wien), Michael Schülke (Berlin), and Alexey Shavrin (Daugavpils). An examination and identification of this material revealed that it included several new genera, numerous new species, and records of zoogeographic interest.

2. Material and methods

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

BMNH	.....	The Natural History Museum, London (M. Barclay)
CNC	.....	Canadian National Collection of Insects, Arachnids, and Nematodes, Ottawa (A. Brunke)
MMB	.....	Moravian Museum Brno (P. Baňai)
MNB	.....	Museum für Naturkunde Berlin (coll. Schülke)
NHMB	.....	Naturhistorisches Museum Basel (M. Borer)
NHMW	.....	Naturhistorisches Museum Wien (H. Schillhammer)
cAss	.....	author’s private collection
cFel	.....	private collection Benedikt Feldmann, Münster

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

Body length was measured from the anterior margin of the labrum to the apex of the abdomen, the length of the forebody from the anterior margin of the labrum to the posterior margin of the elytra, head length from the anterior margin of the clypeus (without ante-clypeus) to the posterior constriction of the head, the length of the pronotum along the middle, the length of the elytra along the suture from the apex of the scutellum to the posterior margin of the elytra, the length of the median lobe of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule (if not noted otherwise), and the length of the spermatheca is given as the maximal extension (measured from the apex of the distal portion of the capsule). The “parameral” side of the median lobe of the aedeagus (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 accordance with those mapped in SCHÜLKE & SMETANA (2015).

3. Results

3.1 Genus *Peltodonia* Bernhauer, 1936

Peltodonia currently includes 16 species distributed in the Palaearctic and Oriental regions. As many as 13 species have been reported only from Borneo.

Peltodonia atripalpis Assing, 2015

Material examined. Laos: 1♀, Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss).

This species was originally described based on a unique male from North Vietnam (ASSING 2015b). The above female represents the first record from Laos.

Peltodonia notaticornis (Pace, 2008)

Material examined. Malaysia: Sabah: 1♂, Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging [Aporusa sp.; Fog A62/F2], 23[?].I.1993, leg. Floren (cAss).

The original description is based on three males from “Sabah, Poring Hot Springs” (PACE 2008).

3.2 Genus *Orphnebius* Motschulsky, 1858

3.2.1 Diversity and intrageneric systematics

Orphnebius previously included 248 species, six of them distributed in the Afrotropical region, 49 in the Neotropics, two in New Guinea, and the remainder in the southern East

Palaearctic and the Oriental regions (ASSING 2017a, 2019a; NEWTON 2019). In the present study, 50 new species are added, 22 of the *O. hauseri* group and 28 currently assigned to *Deroleptus*. The vast majority of the newly described species is distributed in Borneo (40 species) and Laos (eight species). One species originally described in *Keratodegnathus* is moved to the *O. hauseri* group. New country records are reported for eight previously described species.

The type species of *Orphnebius*, *O. ventricosus* Motschulsky, 1858, was described from Colombia. *Orphnebius* has a junior synonym, *Hygroptera* Motschulsky, 1860; the type species of this name is *H. termitis* Motschulsky, 1860 from Sri Lanka. At present, several valid subgenera are recognized, but numerous species are listed as incertae sedis.

The current systematic concept of the genus is evidently largely erroneous. Previous works (ASSING 2016b, 2017a), the present paper, and other unpublished studies suggest the following:

1. The subgeneric concept currently in use is largely artificial and does not reflect phylogenetic relationships.
2. The species distributed in the East Palaearctic and Oriental region belong to two distinct lineages, one of them here and in previous contributions (ASSING 2006a, b, 2015c, 2016b, 2017a, 2019a) referred to as the *Orphnebius hauseri* group and the other as *Deroleptus* Bernhauer, 1915 (subgenus). Both lineages are represented by several distinct species groups and will eventually have to be treated as distinct genera.
3. The type species of the subgeneric names *Mesocephalobius* Bernhauer, 1929 (type species *O. bakeri* Bernhauer, 1929) and *Microcephalobius* Bernhauer, 1929 (type species *O. miricornis* Bernhauer, 1929) belong to the lineage referred to as the *O. hauseri* group in the present paper and in previous contributions. The type species of *Aulacothoracobius* Bernhauer, 1929 (type species *O. wasmannianus* Bernhauer, 1929) belongs to *Deroleptus*, so that the following synonymy is established: *Deroleptus* Bernhauer, 1915 = *Aulacothoracobius* Bernhauer, 1929, syn. nov. The phylogenetic affiliations of *O. brevicollis* Bernhauer, 1929, type species of *Thoracobius* Bernhauer, 1929, are currently unclear and require clarification based on a study of type material.
4. Similarly, the systematic affiliations of *Micrororphnebius* Pace, 1985 (type species *O. ruficollis* Pace, 1985 from Venezuela) a subgenus characterized by small body size, the tarsal formula 4,4,5, and a tergite VII without non-setiferous punctation, and of *Stenaspidobius* Bernhauer, 1929 (type species *O. burgeoni* Bernhauer, 1929 from Zaire) require revision.
5. Based on an analysis of the description of *O. ventricosus* and on illustrations of other more recently described *Orphnebius* species from South America, the type species of *Orphnebius* may not be congeneric with either of the two lineages from the Palaearctic and Oriental regions.
6. The type species of *Strabocephalium* Bernhauer, 1911, *S. mirabile* Bernhauer, 1911, appears to be a morphologically extremely derived congener of the species currently assigned to *Deroleptus*, which would render *Deroleptus* a junior synonym of

Strabocephalium and the latter the valid generic name of the *Deroleptus* lineage if the above conclusions should eventually be confirmed.

7. Based on the description provided by CAMERON (1939), *Hygroptera termitis* undoubtedly belongs to the lineage previously referred to as the *O. hauseri* group. Consequently, if an examination of *Orphnebius ventricosus* should confirm the suspicion outlined in (5), *Hygroptera* would have to be revalidated and all the species of the *O. hauseri* group would have to be assigned to this genus.

In consequence, if the above conclusions should prove to be correct, this would evidently result in a multitude of nomenclatural changes. In order to avoid premature steps in this direction, the previously adopted systematic concept is maintained for the time being.

3.2.2 Catalogue of the *Orphnebius* (sensu lato) species of the East Palaearctic and Oriental regions

Owing to numerous subsequent additions and some omissions, the catalogue provided by ASSING (2017a) is now rather outdated. Therefore, a revised and updated catalogue is compiled below. The checklist also includes taxa currently regarded as distinct genera, but closely allied to *Orphnebius*.

Only recent articles containing illustrations and/or confirmed records are listed in the References column. They are abbreviated as follows: A06a = ASSING (2006a); A06b = ASSING (2006b); A08 = ASSING (2008); A09 = ASSING (2009); A10 = ASSING (2010); A11 = ASSING (2011); A15b = ASSING (2015b); A15c = ASSING (2015c); A16b = ASSING (2016b); A17a = ASSING (2017a); A19a = ASSING (2019a); App = ASSING (present paper); Jal20 = JIANG *et al.* (2020); Kal97 = KISTNER *et al.* (1997); KK96 = KISTNER & KLEIN (1996); KM91 = KISTNER & McNAIRN (1991); M04 = MARUYAMA (2004); P86 = PACE (1986); P87 = PACE (1987); P92 = PACE (1992); P93 = PACE (1993); P00 = PACE (2000); P01b = PACE (2001b); P04 = PACE (2004); P07 = PACE (2007); P08b = PACE (2008b); P10 = PACE (2010); P12a = PACE (2012a); P12b = PACE (2012b); P13 = PACE (2013); P14 = PACE (2014); P15 = PACE (2015). References containing illustrations of taxonomically important characters are underlined. Species of doubtful identity (species of the *O. hauseri* group whose description is based on females or on specimens whose genitalia are not illustrated and probably lost) are marked with an asterisk.

Species	Distribution	References
<i>Orphnebius hauseri</i> group		
<i>abbreviatus</i> sp. nov.	Laos	App
<i>acutissimus</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14
<i>acutus</i> Pace, 2014	Borneo (Malaysia: Sabah, Sarawak)	P14, A17a, App
<i>alesi</i> Assing, 2010	China: Yunnan; Laos	A10, A15c, App
<i>ancorarius</i> Assing, 2011	Nepal	A11, A15c
<i>anguliceps</i> Cameron, 1943	Borneo (Brunei, Malaysia: Sabah)	P07, P14, App
<i>antennarius</i> Bernhauer, 1929	Borneo (Malaysia: Sabah)	P07, A17a, App
<i>appendiculatus</i> Assing, 2006	Nepal	A06a, A09, A17a
<i>baculifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>bakeri</i> Bernhauer, 1929	Singapore; Borneo (Malaysia, Indonesia)	A16b, App, P07
<i>biacer</i> sp. nov.	Borneo (Malaysia; Indonesia)	App
<i>biapicalis</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>bicuspis</i> Assing, 2016	Laos; India: Arunachal Pradesh	A16b, A19a, App
<i>biformis</i> Assing, 2016	Indonesia: Sumatra	A16b
<i>breviceps</i> Cameron, 1946	Thailand	A16b
= <i>vorax</i> Pace, 2000		
<i>cachemiricus</i> Coiffait, 1983	Kashmir	A06a, A19a
<i>calvus</i> sp. nov.	Laos	App
<i>cernens</i> Assing, 2016	Laos	A16b, App
* <i>chiangmaiensis</i> Pace, 2000	Thailand	
<i>colitus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>comatus</i> sp. nov.	Laos	App
<i>concausus</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14
<i>conicornis</i> Assing, 2006	China: Sichuan, Shaanxi	A06b
<i>conifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>crassisetosus</i> sp. nov.	Laos	App
* <i>crassus</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>curvatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>cusplinguis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>depressicollis</i> Assing, 2006	Central Nepal	A06a, A16b, A17a
<i>derectus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>dhaulagiricus</i> Assing, 2006	Nepal: Dhaulagiri	A06a, A17a
<i>dilatatus</i> Assing, 2016	Laos	A16b, App
<i>dishamatus</i> Assing, 2015	China: Yunnan	A15b, A15c, A19a
<i>effeminatus</i> Assing, 2016	Malaysia: Pahang	A16b
<i>extensus</i> Assing, 2016	Laos	A16b, App
<i>fansipanicus</i> Assing, 2015	Vietnam	A15b
<i>flaviventris</i> Champion, 1921	N-India: Uttar Pradesh	A06a
<i>fodens</i> Assing, 2016	Borneo (Malaysia: Sabah)	A16b
<i>formosanus</i> Assing, 2015	Taiwan	A15c, A17a
<i>fortesetosus</i> Assing, 2019	China: Sichuan	A19a
<i>fuscipicalis</i> Assing, 2016	Laos	A16b
<i>fusicollis</i> Assing, 2016	Laos	A16b, App
<i>geminus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>gibber</i> Assing, 2006	China: Shaanxi, Yunnan	A06a, A16b, A19a
<i>grandicollis</i> Assing, 2016	Laos	A16b

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<i>hamatus</i> Assing, 2006	Nepal	A06a, A19a
<i>harpagonum</i> Pace, 2010	Indonesia: Sumatra	P10
<i>hastatus</i> Assing, 2006	Nepal	A06a, A15c
<i>hauseri</i> Eppelsheim, 1895	Pakistan; North India: Himachal Pradesh, Uttarakhand; Nepal	A06a, A09, A15c, A17a
<i>ideogramma</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07, P14
* <i>incertus</i> Pace, 2004	Thailand	
<i>incisus</i> Pace, 2000	Thailand; Yunnan?	P00
<i>incrassatus</i> Assing, 2015	China: Yunnan	A15c, A16b
<i>integer</i> Assing, 2016	Laos	A16b
<i>jumlaicus</i> Assing, 2006	Pakistan; Kashmir; North India (Himachal Pradesh, Uttarakhand); Nepal	A06a, A15c, A16b, A17a, A19a
<i>kleini</i> Kistner, 1996	Peninsular Malaysia	KK96
<i>krypticola</i> Pace, 2007	Borneo: Brunei	A16b, P07
<i>latitibialis</i> Assing, 2016	Laos	A16b, App
<i>lilizheni</i> Jiang, Li et Wang, 2020	China: Xizang	Jal20
<i>linguis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>loebli</i> Pace, 1992	Nepal	A06a, P92
<i>longistriatus</i> Assing, 2006	China: Sichuan	A06b
<i>lunatus</i> Assing, 2016	Laos	A16b, App
<i>minor</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
♂ <i>irabilis</i> (Pace, 2014) comb. nov.	Borneo (Malaysia: Sabah)	P14, App
<i>miricornis</i> Bernhauer, 1929	Philippines: Luzon; [Indonesia: Sulawesi]	
<i>mollis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>mutabilis</i> Assing, 2006	Nepal	A06a, A15c, A17a, A19a
<i>newar</i> Pace, 1992	Nepal	A06a, P92
<i>nigrapicalis</i> Assing, 2016	Laos	A16b
<i>ocularis</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14, A17a
<i>oculatus</i> Coiffait, 1982	N-India: Himachal Pradesh; Nepal	A06a, A09
<i>opticus</i> Cameron, 1946	Thailand	A16b
<i>parvilobus</i> Assing, 2006	China: Sichuan	A06b
<i>paucisetosus</i> Assing, 2009	Nepal	A09, A15c
<i>penangensis</i> Pace, 2007	Malaysia: Penang	P07
<i>perpenetrans</i> Pace, 2007	Borneo (Malaysia: Sabah)	A16b, A17a, App, P07
<i>pressatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>prominens</i> Assing, 2006	Nepal	A06a
<i>pugiunculus</i> Assing, 2006	Nepal	A06a
<i>reductus</i> Assing, 2016	Laos	A16b, App
<i>retornatus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>retunsus</i> Assing, 2016	Laos	A16b, App
<i>rosiszewskii</i> Kistner, 1997	Peninsular Malaysia	Kal97
<i>rougemonti</i> Pace, 1986	Myanmar	P86
* <i>rufiventris</i> (Eppelsheim, 1895)	Pakistan	A06a
* <i>sailender</i> Pace, 2010	Indonesia: Java	P10
<i>schuelkei</i> Assing, 2006	China (Sichuan, Shaanxi/Chongqing)	A06b, A16b, A19a
<i>scissus</i> Assing, 2009	China: Yunnan	A09, A15c

Lomechusini of the Palaearctic and Oriental regions (Coleoptera: Staphylinidae)

<i>*semivorax</i> Pace, 2000	Thailand	
<i>serratus</i> Assing, 2016	Laos	A16b, App
<i>*setiger</i> Pace, 1992	Thailand, Vietnam	
<i>sextuberculatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>*silvarum</i> Pace, 1987	Borneo (Malaysia: Sabah)	P87
<i>sinolinguus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>spinans</i> Assing, 2016	India: Arunachal Pradesh	A16b, A19a
<i>taleatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>taurus</i> Assing, 2019	Cambodia; Laos	A19a, App
<i>tensus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>termitis</i> (Motschulsky, 1860)	Sri Lanka	
<i>thai</i> Pace, 2000	Thailand	P00
<i>truncus</i> Assing, 2009	China: Yunnan	A09
<i>uncinatus</i> Pace, 2012	China: Sichuan	P12
<i>unguicus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>uniformis</i> Pace, 2007	Borneo (Malaysia: Sabah, Sarawak)	P07, A19a, App
<i>varicornutus</i> sp. nov.	Laos	App
subgenus <i>Deroleptus</i> Bernhauer, 1915		
= <i>Megalocephalobius</i> Bernhauer, 1929		
= <i>Aulacothoracobius</i> Bernhauer, 1929; syn. nov.		
<i>draco</i> group		
<i>draco</i> Assing, 2010	China: Yunnan	A10
<i>multimpressus</i> Assing, 2015	China: Yunnan; Taiwan; Vietnam	A15c, A16b, A17a, A19a, App
<i>triacuminatus</i> Assing, 2017	Thailand	A17a
<i>hirsutus</i> group		
<i>hirsutus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>niger</i> group		
<i>acifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>aciformis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>arachnoides</i> (Bernhauer, 1929)	Borneo (Malaysia: Sabah)	
<i>bakerianus</i> Bernhauer, 1929	Borneo (Malaysia: Sabah, Sarawak)	App, P07
<i>ceylonicus</i> (Cameron, 1939)	Sri Lanka	A16b
<i>cultellatus</i> Assing, 2016	China: Yunnan; Thailand; Laos; ?Borneo (Malaysia: Sabah, Sarawak)	A16b, A17a, A19a, App
<i>discrepans</i> Assing, 2016	China: Yunnan; Thailand; Laos	A16b, A17a, App
<i>gracilior</i> Assing, 2016	India: Arunachal Pradesh	A16b
<i>gracilis</i> Assing, 2017	South India: Tamil Nadu	A17a
<i>loeiensis</i> Pace, 2004	Thailand	P04
<i>nanlingensis</i> Pace, 2004	China: Fujian, Guangdong	A06a, A06b, P04
<i>niger</i> (Cameron, 1939)	India: West Bengal, Assam, Meghalaya	A16b, A17a, A19a
= <i>turensis</i> Pace, 2012		
<i>parabigladiosus</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14
<i>protuberatus</i> Assing, 2017	South India: Kerala	A17a
<i>quadricuspidatus</i> Bernhauer, 1929	Borneo (Malaysia: Sabah)	P87, P07, P14
= <i>quadrigladiosus</i> Pace, 1987		
<i>septemcuspis</i> Assing, 2016	Laos	A16b, App

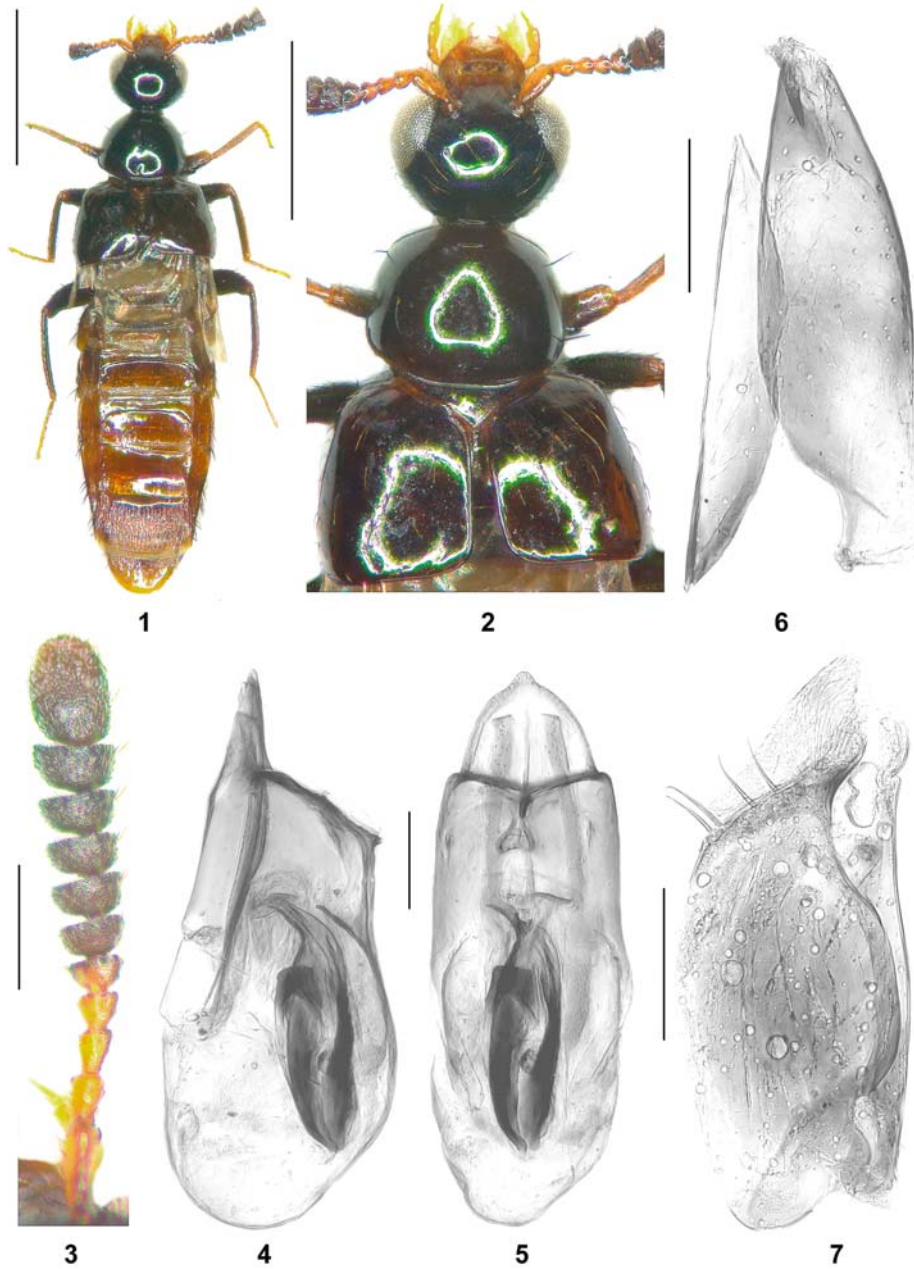
<i>sexcarinatus</i> Assing, 2016	Indonesia: Sumatra	A16b
<i>siamensis</i> Cameron, 1939	Thailand	A16b
<i>spoliatus</i> Assing, 2016	Laos; Vietnam; China: Sichuan	A16b, A19a, App
<i>transfigens</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>triapicalis</i> Assing, 2016	China: Sichuan; Laos	A16b, App
<i>tricuspis</i> Assing, 2009	China: Yunnan	A09, A15c
<i>tridentatus</i> Assing, 2015	China: Yunnan	A15c
<i>siwalikensis</i> group		
<i>alumnus</i> Pace, 1987	Peninsular Malaysia	P87
<i>baccillatus</i> Assing, 2016	Laos; Taiwan	A16b, A17a
<i>bartolozii</i> Pace, 2013	Malaysia	P13
<i>bicarinatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>bigladiosus</i> (Bernhauer, 1915)	Borneo (Malaysia: Sarawak, Sabah)	P07, App
<i>biimpressus</i> Assing, 2016	Indonesia: Sumatra	A16b
<i>bituberculatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>borneanus</i> Pace, 2007	Borneo (Malaysia: Sabah, Sarawak)	App, P07
<i>borneofuscipes</i> Pace, 2015	Borneo (Malaysia: Sabah)	P15
<i>borneorum</i> (Pace, 2014)	Borneo (Malaysia: Sabah)	A16b, P14
<i>botulus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>buccatus</i> sp. nov.	Laos	App
<i>bulbifer</i> sp. nov.	Indonesia: Sulawesi Tengah	App
<i>bulbosus</i> sp. nov.	Philippines: Mindanao	App
<i>carinatus</i> Assing, 2016	Laos	A16b, App
<i>clarus</i> Pace, 2000	Thailand	P00
<i>compressus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>directus</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>dispar</i> Assing, 2016	India: Meghalaya, Arunachal Pradesh	A16b, A19a
<i>dohertyi</i> (Cameron, 1945)	Borneo (Indonesia)	
<i>drugmandi</i> Pace, 2004	Thailand	P04
<i>elevatus</i> Assing, 2019	Laos	A19a
<i>falagrioides</i> Bernhauer, 1929	Philippines: Luzon	A16b
<i>ferrugineus</i> Cameron, 1939	Sri Lanka	App
<i>filiformis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>floreni</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>fugangensis</i> Pace, 2008	China: Guangdong	P08
<i>furviceps</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>globifer</i> Assing, 2019	Malaysia: Pahang	A19a
<i>granulosus</i> sp. nov.	Borneo (Malaysia: Sabah, Sarawak)	App
<i>grootaerti</i> Pace, 2004	Thailand; Laos	P04, A19a
<i>hartmanni</i> Pace, 2012	Malaysia	P12b
<i>immutatus</i> sp. nov.	Laos	App
<i>innexus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>laticeps</i> Cameron, 1925	Indonesia: Sumatra; Borneo (Malaysia: Sarawak)	A16b, App
<i>malaypusillus</i> Pace, 2012	Malaysia	P12b
<i>migrus</i> Assing, 2017	Northeast India: Meghalaya	A17a
<i>moruliflavus</i> Assing, 2019	Borneo (Malaysia: Sabah)	A19a
<i>morulus</i> Assing, 2019	Vietnam	A19a

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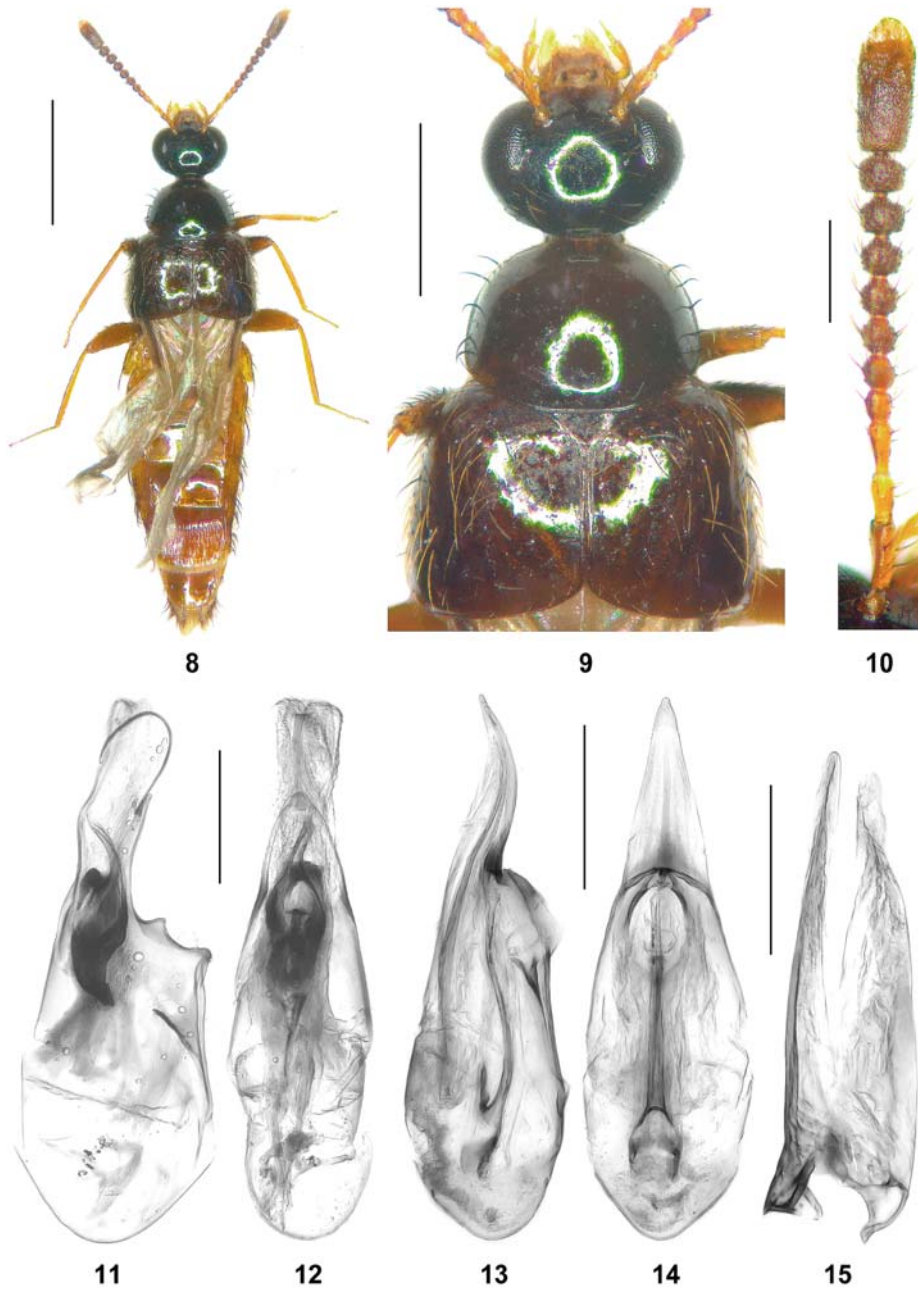
<i>nodatus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>obelifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>*orousseti</i> Pace, 1990	Philippines	
<i>pertortus</i> Assing, 2017	North India: West Bengal	A17a
<i>pinnatus</i> sp. nov.	Borneo (Malaysia: Sarawak)	App
<i>planicollis</i> Assing, 2015	China: Yunnan	A15c
<i>platycephalus</i> Pace, 1987	Borneo (Malaysia: Sabah)	P87
<i>plexus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>quadricultratus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>reticulipennis</i> Assing, 2017	Indonesia: Java	A17a
<i>rogans</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>scalaris</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>siwalikensis</i> Cameron, 1939	N-India: Himachal Pradesh	A06a
<i>tautauorum</i> Pace, 1993	Indonesia: Sulawesi	P93
<i>tensicornis</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>toradya</i> Pace, 1993	Indonesia: Sulawesi	P93
<i>tortus</i> Assing, 2016	India: Meghalaya	A16b
<i>tuberculifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>tuberifer</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>tuberipennis</i> Assing, 2008	South India: Goa; Myanmar	A08, App
<i>tuberosus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>ulcerosus</i> Assing, 2016	Borneo (Malaysia: Sabah)	A16b
<i>vates</i> Assing, 2016	Laos	A16b, A19a
<i>verrucosus</i> sp. nov.	Borneo (Malaysia: Sabah)	App
<i>willersi</i> Pace, 2001	Vietnam	A15b, P01b
subgenus <i>Deroleptus</i>, incertae sedis		
<i>angkorensis</i> Pace, 2004	Thailand; Cambodia	P04
<i>cavipennis</i> (Bernhauer, 1929)	Philippines: Luzon	
<i>ceylonicus</i> (Cameron, 1939)	Sri Lanka	
<i>excellens</i> Cameron, 1939	Indonesia: Java	
<i>impressipennis</i> (Cameron, 1950)	Peninsular Malaysia	
<i>minarzi</i> (Bernhauer, 1929)	Philippines: Biliran	
<i>rufocastanea</i> (Cameron, 1920)	Sri Lanka	
<i>splendens</i> Bernhauer, 1929	Borneo (Malaysia: Sabah)	P07
<i>superbus</i> (Bernhauer, 1916)	Philippines: Luzon	
<i>terminalis</i> Cameron, 1936	Peninsular Malaysia	
<i>wasmannianus</i> Bernhauer, 1929	Philippines: Samar	
subgenus <i>Strabocephalum</i> Bernhauer, 1911		
<i>kistneri</i> (Löbl, 1997)	Philippines	L97
<i>mirabilis</i> (Bernhauer, 1911)	Borneo (Malaysia: Sarawak, Sabah)	A16b, P87, P14
<i>mroczkowskii</i> (Löbl, 1997)	Philippines	L97
<i>Orphnebius</i>, incertae sedis		
<i>bajauorum</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>birmanus</i> Cameron, 1939	Myanmar	
<i>brevicollis</i> Bernhauer, 1929	Singapore, Peninsular Malaysia	P87

V. ASSING

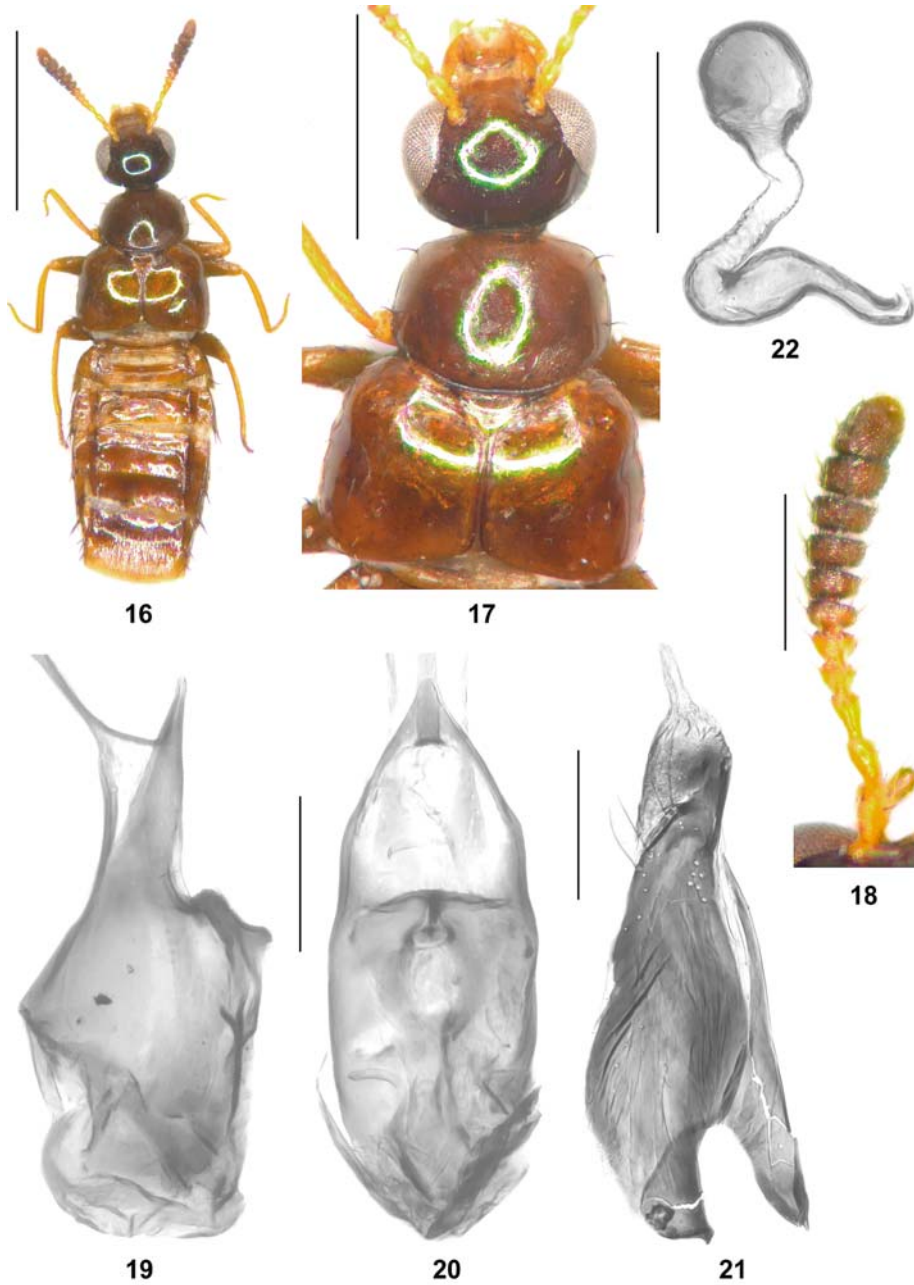
<i>bryanti</i> Cameron, 1920	Sri Lanka	
<i>cingulatus</i> Cameron, 1920	Sri Lanka	
<i>curticornis</i> Pace, 2007	Borneo (Malaysia: Sabah)	P07
<i>densicauda</i> Bernhauer, 1929	Philippines: Samar	
<i>derougemonti</i> Pace, 1987	Borneo (Malaysia: Sabah)	P87
<i>drescheri</i> Cameron, 1939	Indonesia: Java	
<i>fugangensis</i> Pace, 2008	China: Guangdong	P08b
<i>glaberrimus</i> Cameron, 1941	Philippines: Luzon	
<i>indicus</i> Cameron, 1939	India	
<i>javanus</i> Cameron, 1939	Indonesia: Java	
* <i>laetus</i> Pace, 1987	Borneo (Malaysia: Sabah)	P87
<i>laevigatus</i> (Kraatz, 1859)	“India orientali”: Myanmar?	
<i>luzonicus</i> Bernhauer, 1915	Philippines: Luzon	
<i>magniceps</i> Bernhauer, 1929	Singapore	
<i>makilinganus</i> Bernhauer, 1929	Philippines: Luzon	
<i>minutissimus</i> Bernhauer, 1929	Philippines: Luzon	
* <i>nocturnus</i> Pace, 1987	Indonesia: Lombok	P87
<i>ophthalmicus</i> Cameron, 1936	Indonesia: Sumatra	
<i>politus</i> Cameron, 1930	Malaysia: Langkawi Islands	
<i>puangorum</i> Pace, 1993	Indonesia: Sulawesi	P93
<i>rufoflavus</i> Cameron, 1939	Indonesia: Java	
<i>setiferus</i> Cameron, 1939	Indonesia: Java	
* <i>thailandensis</i> Pace, 1986	Thailand	P86
<i>Keratodegnathus</i> Pace, 2014		
<i>cornutus</i> Assing, 2019	Malaysia: Pahang	A19a
<i>rougemonti</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14
<i>Myrmecopella</i> Bernhauer, 1911		
= <i>Aethorphnebius</i> Pace, 1993		
<i>borneensis</i> Pace, 2014	Borneo (Malaysia: Sabah)	P14
<i>brendelli</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>celebensis</i> Kistner et McNairn, 1991	Indonesia: Sulawesi	KM91, P93
= <i>rantepaoensis</i> (Pace, 1993)		
<i>horii</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>marlowi</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>miricollis</i> (Pace, 1993)	Indonesia: Sulawesi	P93
<i>talodonis</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>tengahensis</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>utarana</i> Maruyama, 2004	Indonesia: Sulawesi	M04
<i>yamauchii</i> Maruyama, 2004	Indonesia: Sulawesi	M04



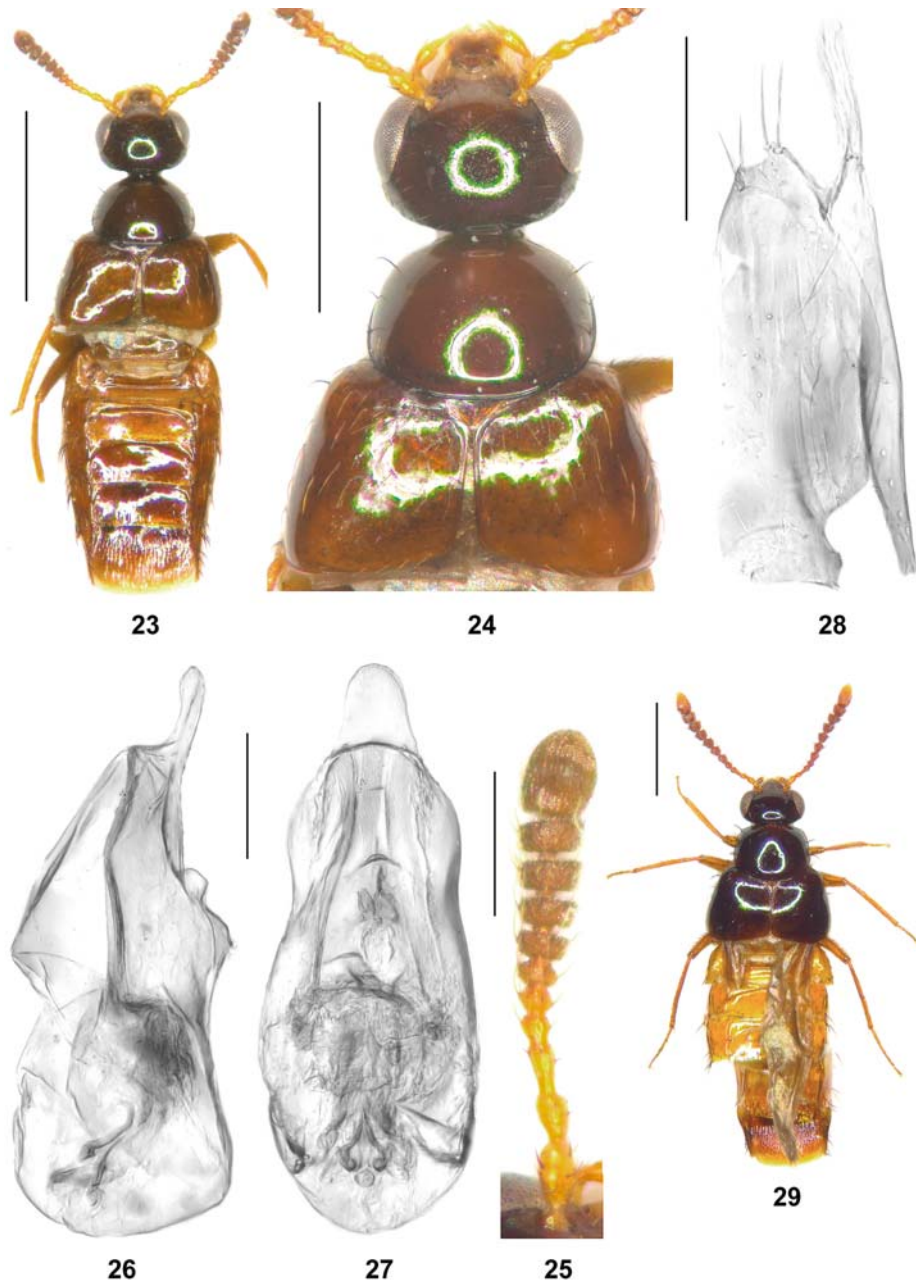
Figs 1–7. *Orphnebius abbreviatus* sp. nov. (1–6) and *O. crassisetosus* sp. nov. (7). 1 – habitus; 2 – forebody; 3 – antenna; 4–5 – median lobe of aedeagus in lateral and in ventral view; 6–7 – paramere. Scale bars: 1: 1.0 mm; 2: 0.5 mm; 3: 0.2 mm; 4–7: 0.1 mm.



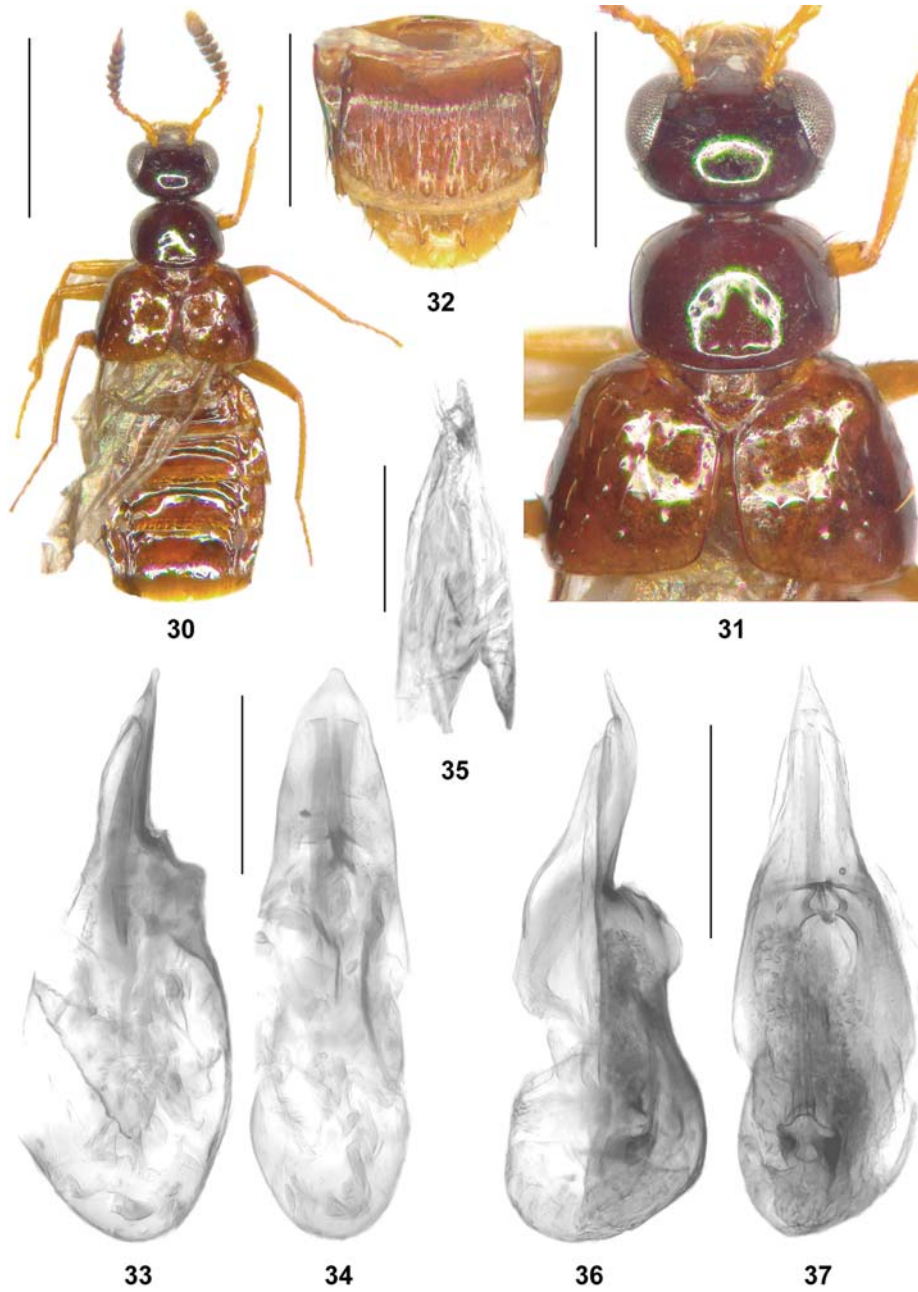
Figs 8–15. *Orphnebius crassisetosus* sp. nov. (8–12) and *O. cf. perpenetrans* (13–15). 8 – habitus; 9 – forebody; 10 – antenna; 11–14 – median lobe of aedeagus in lateral and in ventral view; 15 – paramere. Scale bars: 8: 1.0 mm; 9: 0.5 mm; 10–14: 0.2 mm; 15: 0.1 mm.



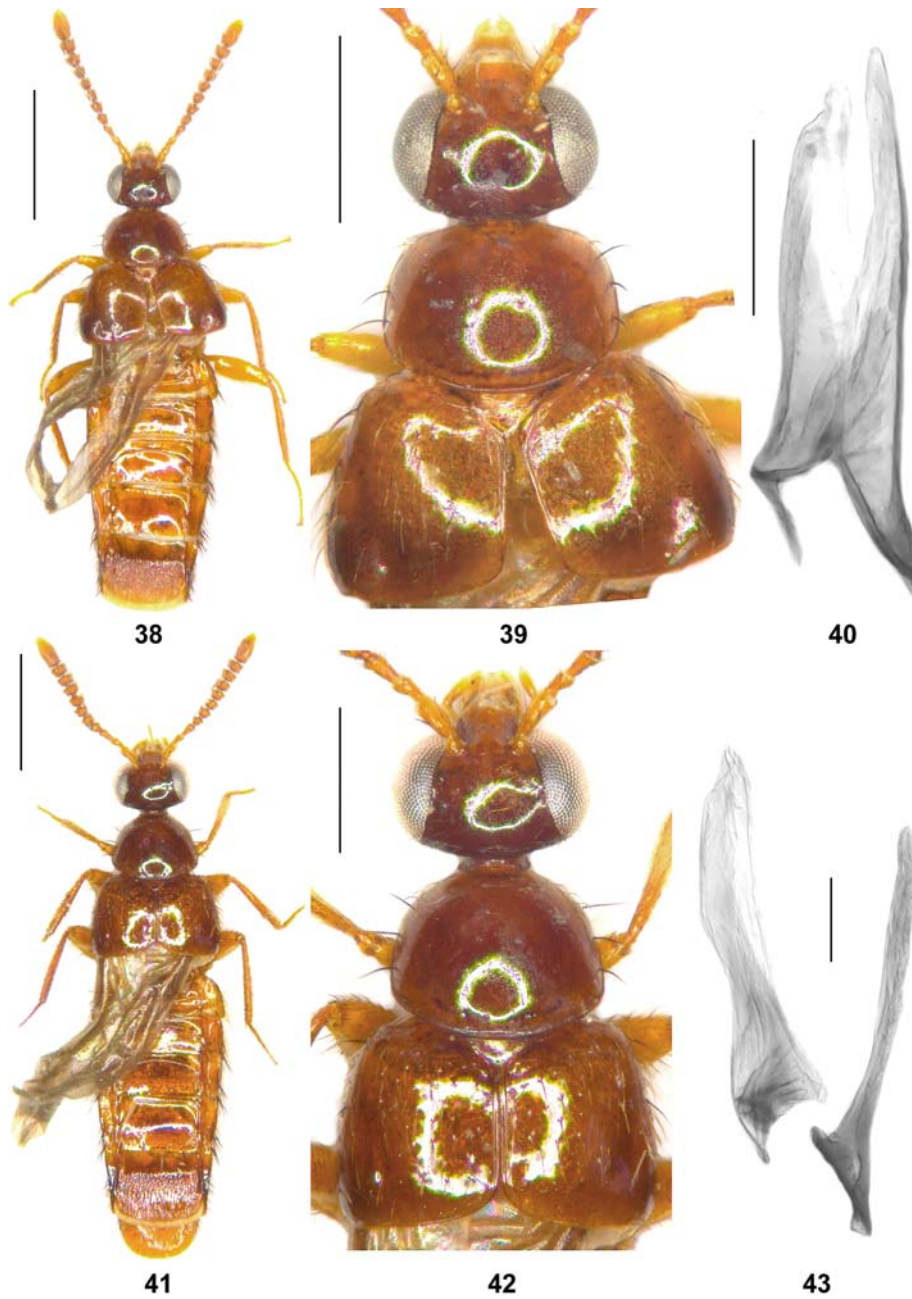
Figs 16–22. *Orphnebius taleatus* sp. nov. 16 – habitus; 17 – forebody; 18 – antenna; 19–20 – median lobe of aedeagus in lateral and in ventral view; 21 – paramere; 22 – spermatheca. Scale bars: 16: 1.0 mm; 17: 0.5 mm; 18: 0.2 mm; 19–22: 0.1 mm.



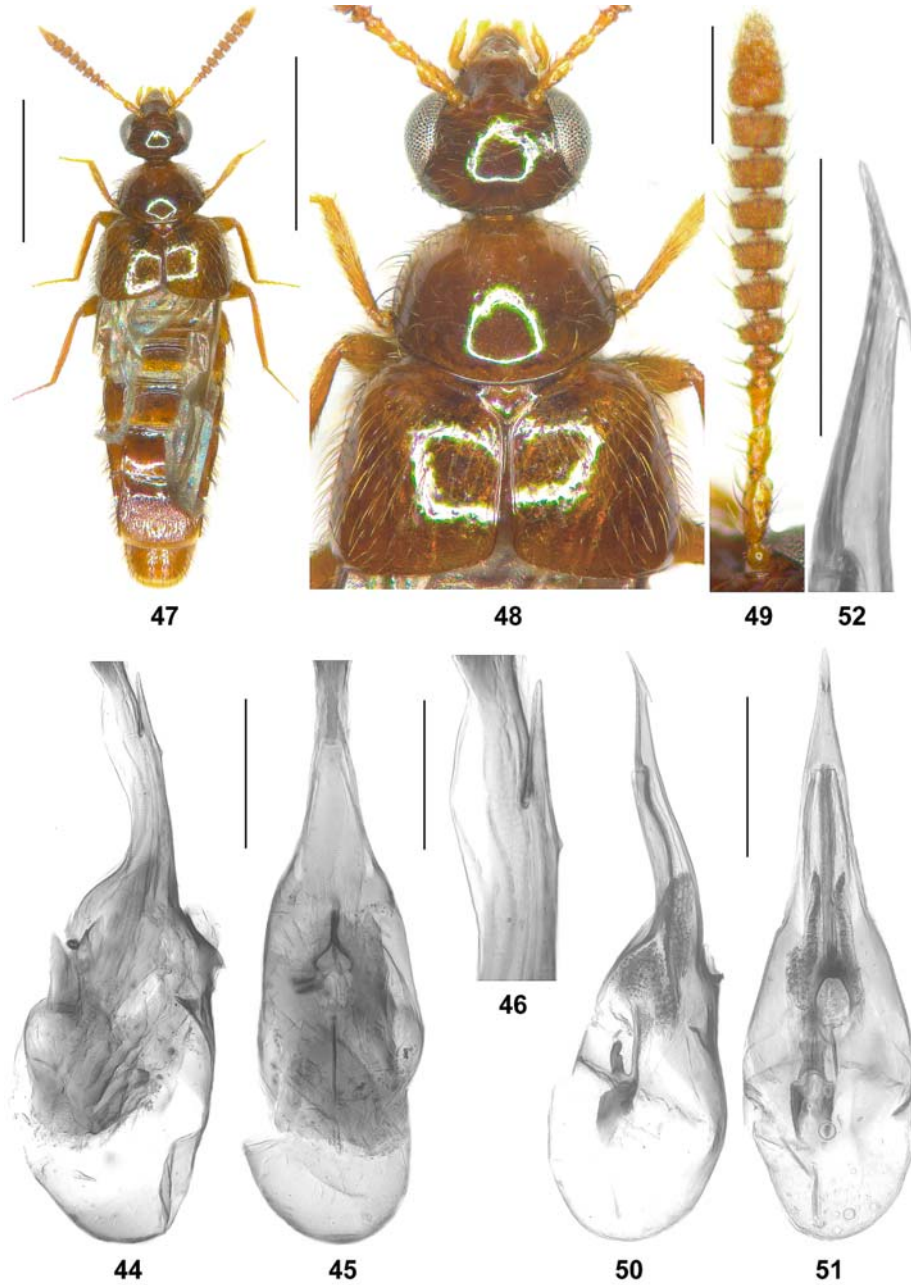
Figs 23–29. *Orphnebius geminus* sp. nov. (23–28) and *O. cf. perpenetrans* (29). 23, 29 – habitus; 24 – forebody; 25 – antenna; 26–27 – median lobe of aedeagus in lateral and in ventral view; 28 – paramere. Scale bars: 23, 29: 1.0 mm; 24: 0.5 mm; 25: 0.2 mm; 26–28: 0.1 mm.



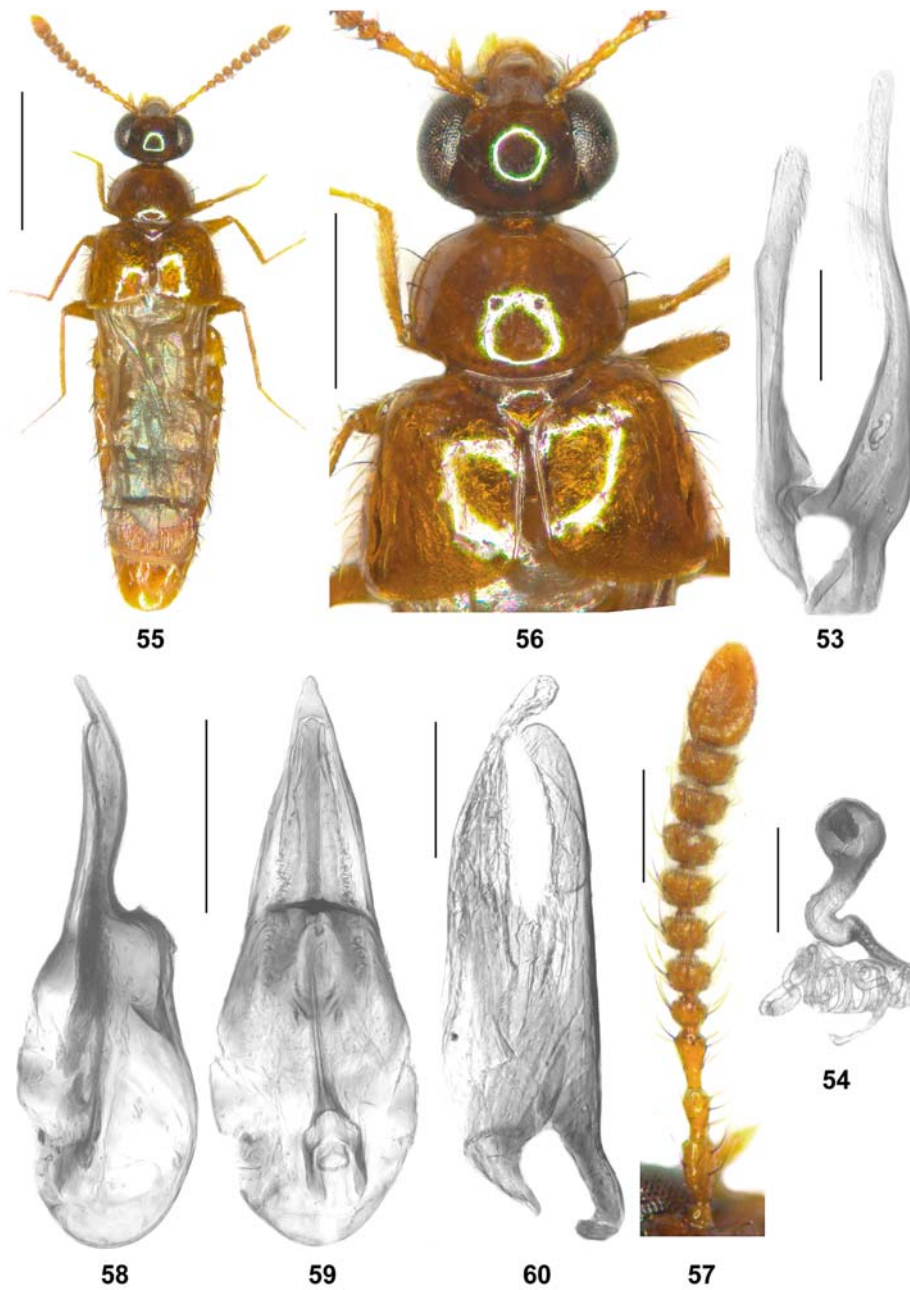
Figs 30–37. *Orphnebius sextuberculatus* sp. nov. (30–35) and *O. retornatus* sp. nov. (36–37). 30 – habitus; 31 – forebody; 32 – abdominal tergites VII–VIII; 33–34, 36–37 – median lobe of aedeagus in lateral and in ventral view; 35 – paramere. Scale bars: 30: 1.0 mm; 31–32: 0.5 mm; 33–34, 36–37: 0.2 mm; 35: 0.1 mm.



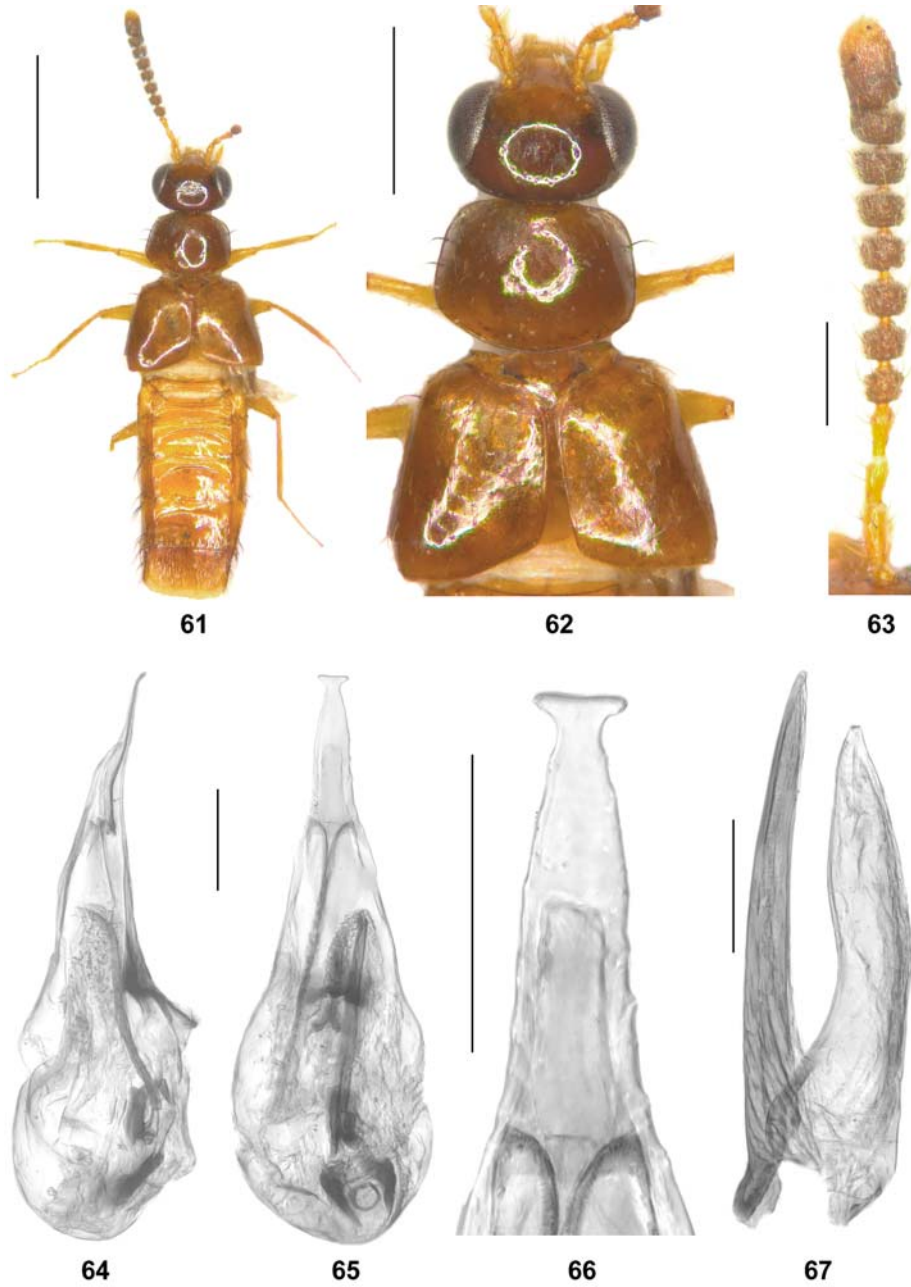
Figs 38–43. *Orphnebius retornatus* sp. nov. (38–40) and *O. directus* sp. nov. (41–43). 38, 41 – habitus; 39, 42 – forebody; 40, 43 – paramere. Scale bars: 38, 41: 1.0 mm; 39, 42: 0.5 mm; 40, 43: 0.1 mm.



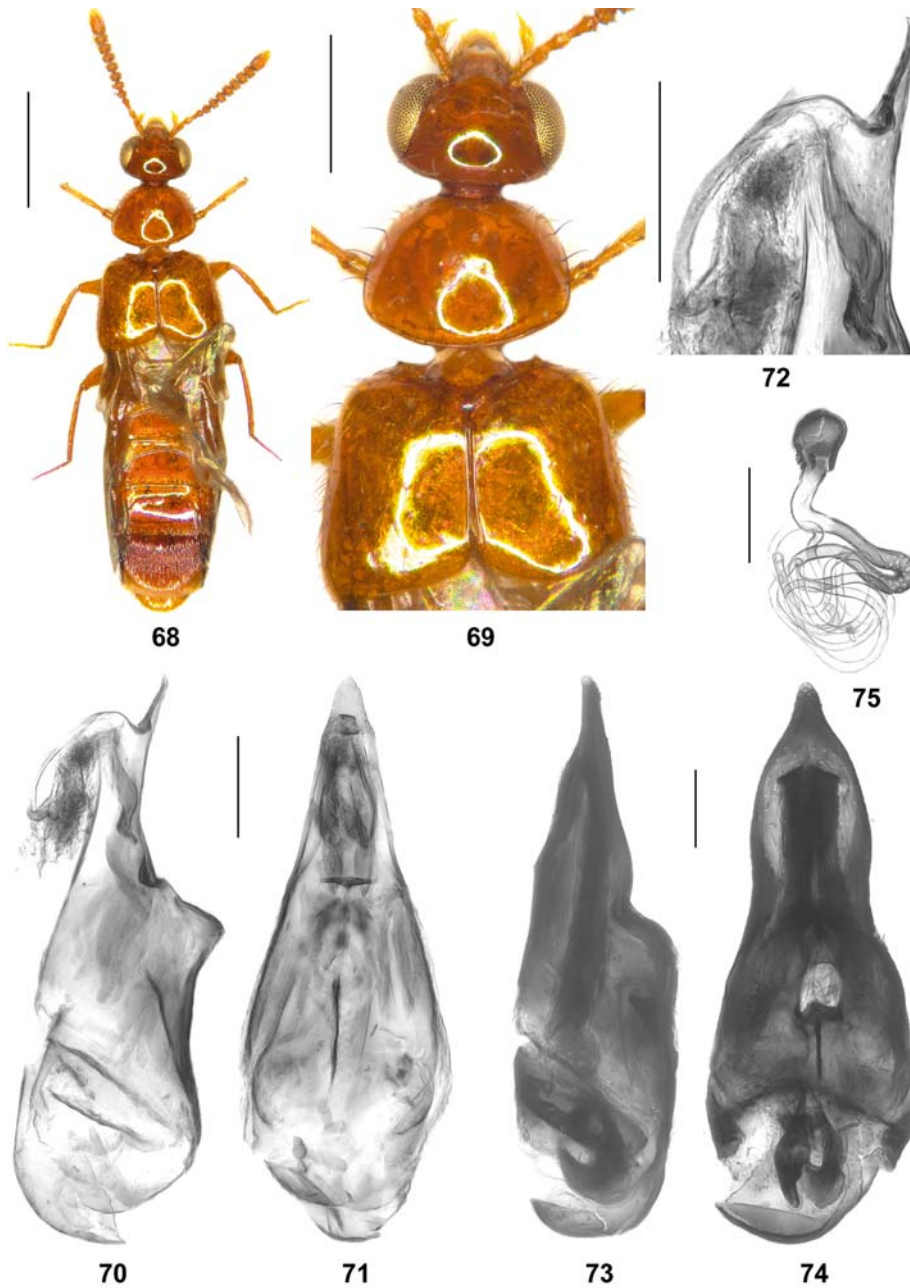
Figs 44–52. *Orphnebius directus* sp. nov. (44–46) and *O. comatus* sp. nov. (47–52). 44–45, 50–51 – median lobe of aedeagus in lateral and in ventral view; 46, 52 – apex of median lobe in lateral view; 47 – habitus; 48 – forebody; 49 – antenna. Scale bars: 47: 1.0 mm; 48: 0.5 mm; 44–45, 49–51: 0.2 mm; 46, 52: 0.1 mm.



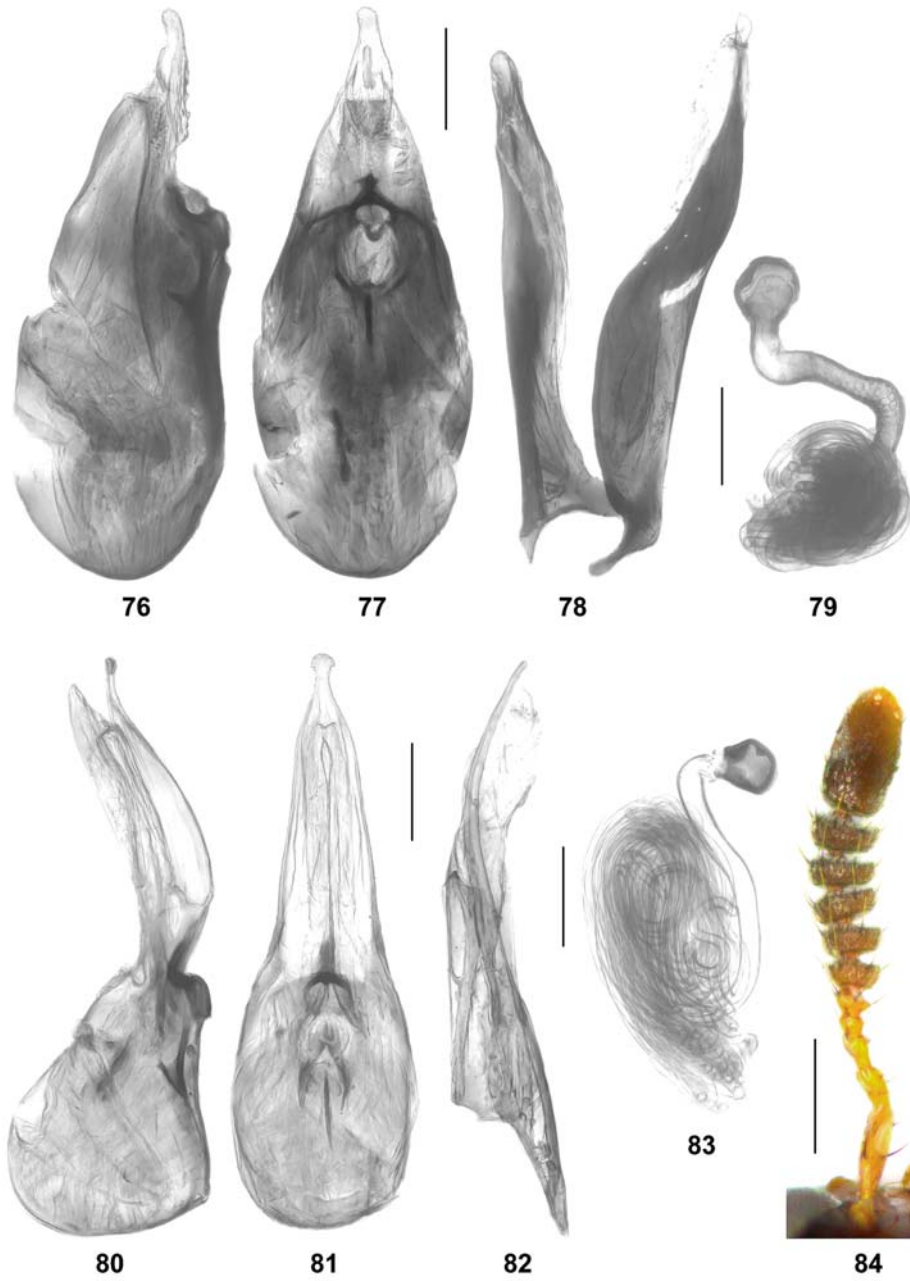
Figs 53–60. *Orphnebius comatus* sp. nov. (53–54) and *O. calvus* sp. nov. (55–60). 53, 60 – paramere; 54 – spermatheca; 55 – habitus; 56 – forebody; 57 – antenna; 58–59 – median lobe of aedeagus in lateral and in ventral view. Scale bars: 55: 1.0 mm; 56: 0.5 mm; 57–59: 0.2 mm; 53–54, 60: 0.1 mm.



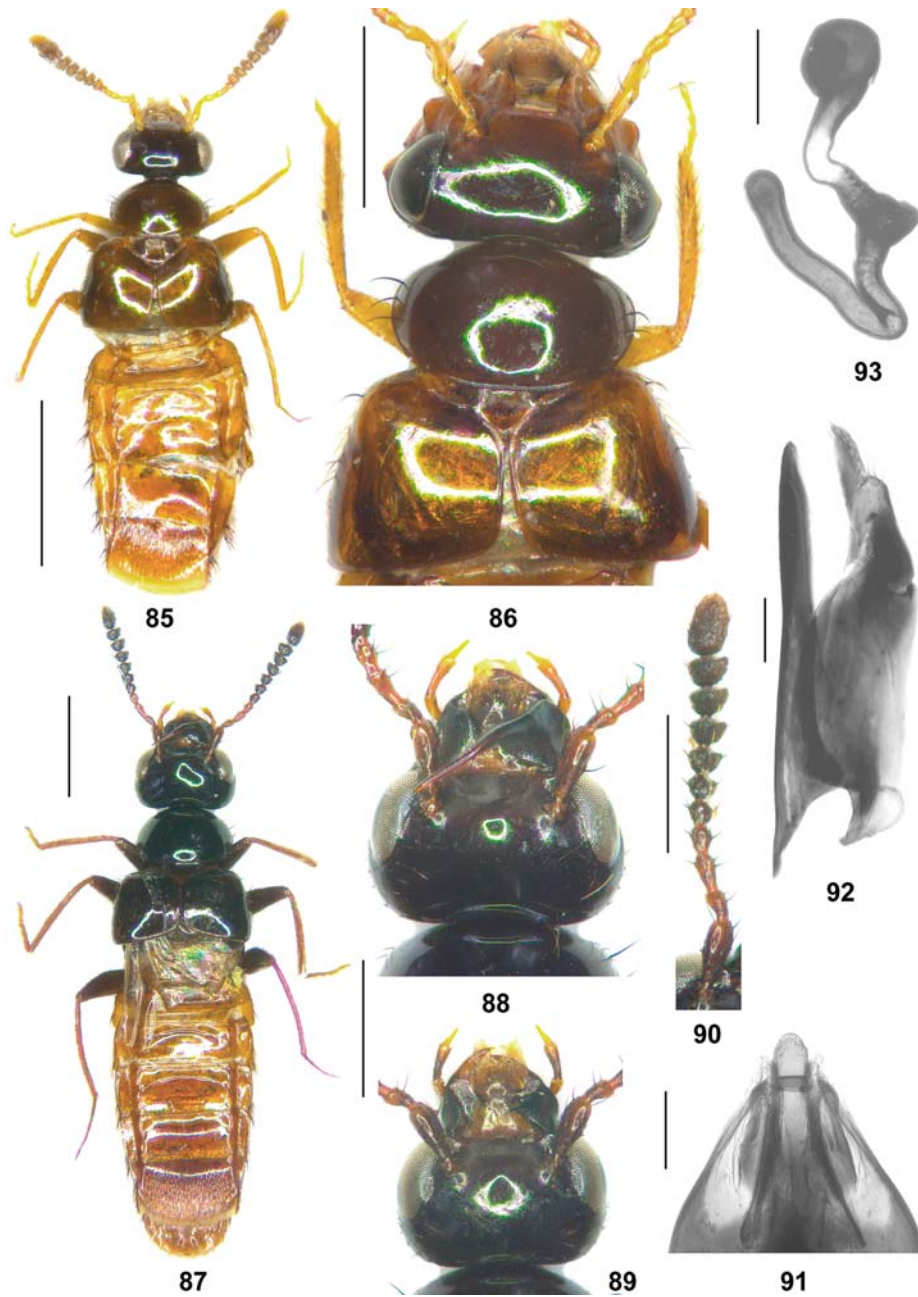
Figs 61–67. *Orphnebius baculifer* sp. nov. 61 – habitus; 62 – forebody; 63 – antenna; 64–65 – median lobe of aedeagus in lateral and in ventral view; 66 – apical portion of ventral process of aedeagus in ventral view; 67 – paramere. Scale bars: 61: 1.0 mm; 62: 0.5 mm; 63: 0.2 mm; 64–67: 0.1 mm.



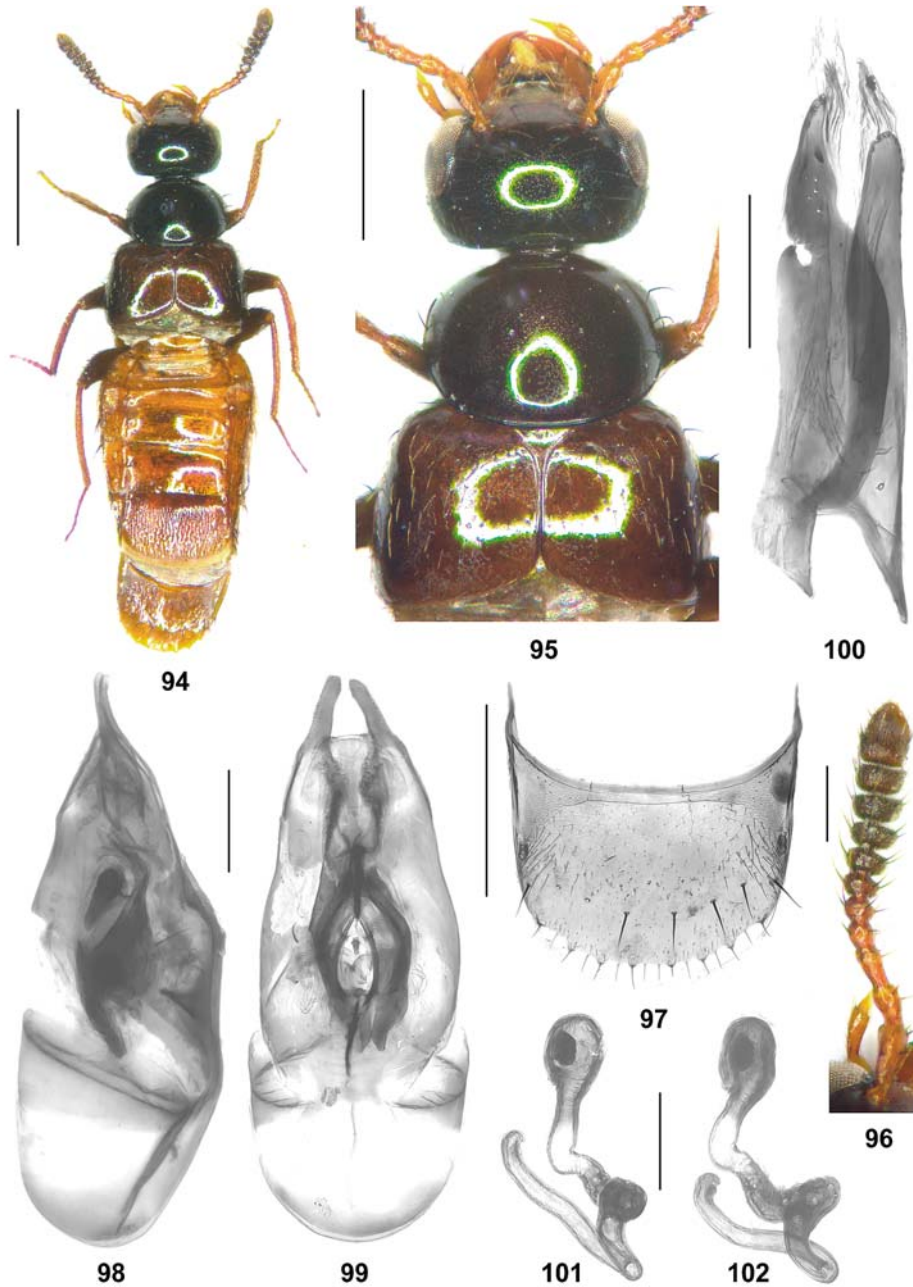
Figs 68–75. *Orphnebius unguicus* sp. nov. (68–72) and *O. taurus* Assing (73–75). 68 – habitus; 69 – forebody; 70–71, 73–74 – median lobe of aedeagus in lateral and in ventral view; 72 – apical portion of median lobe in lateral view; 75 – spermatheca. Scale bars: 68: 1.0 mm; 69: 0.5 mm; 70–75: 0.1 mm.



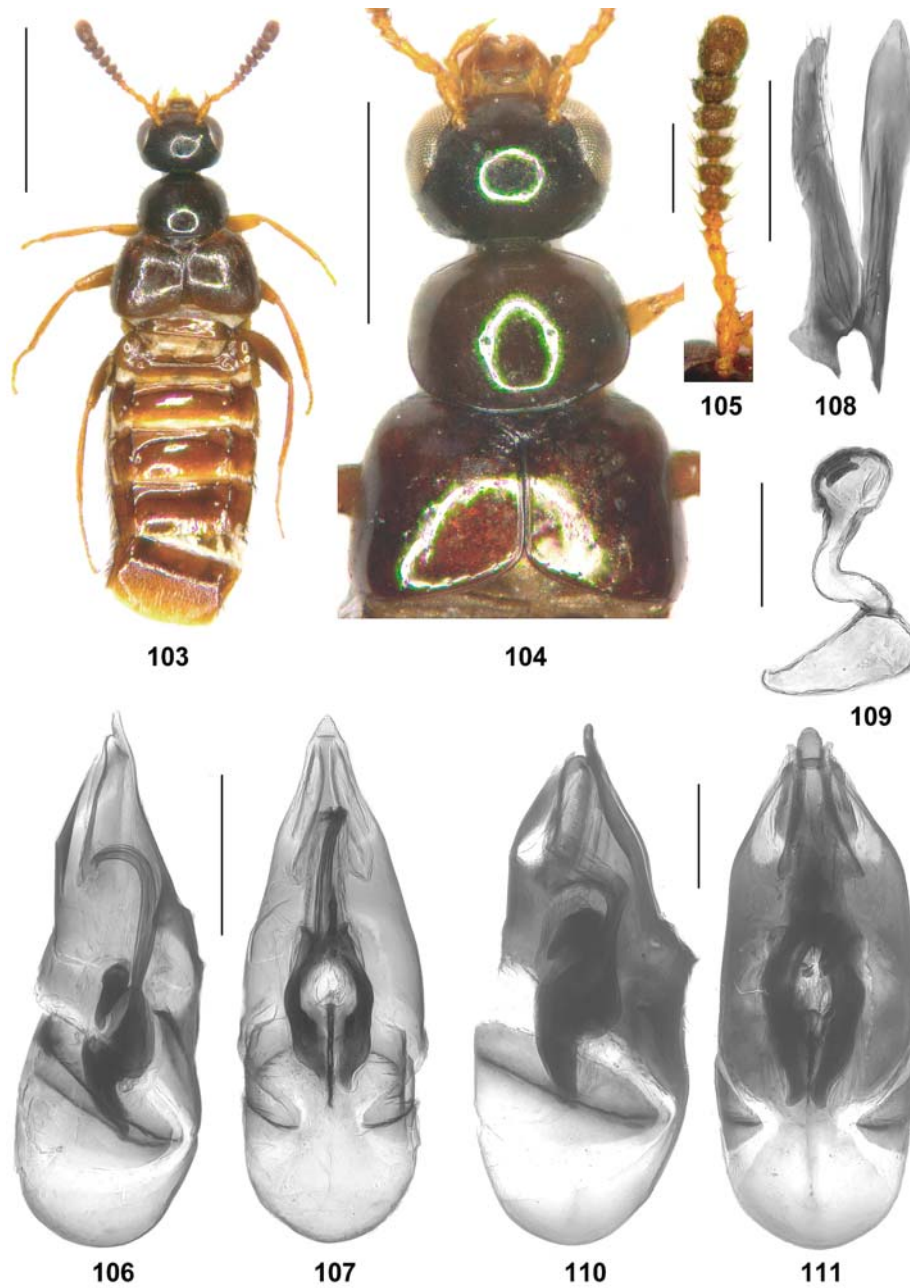
Figs 76–84. *Orphnebius anguliceps* Cameron (76–79) and *O. curvatus* sp. nov. (80–84). 76–77, 80–81 – median lobe of aedeagus in lateral and in ventral view; 78, 82 – paramere; 79, 83 – spermatheca; 84 – antenna. Scale bars: 84: 0.2 mm; 76–83: 0.1 mm.



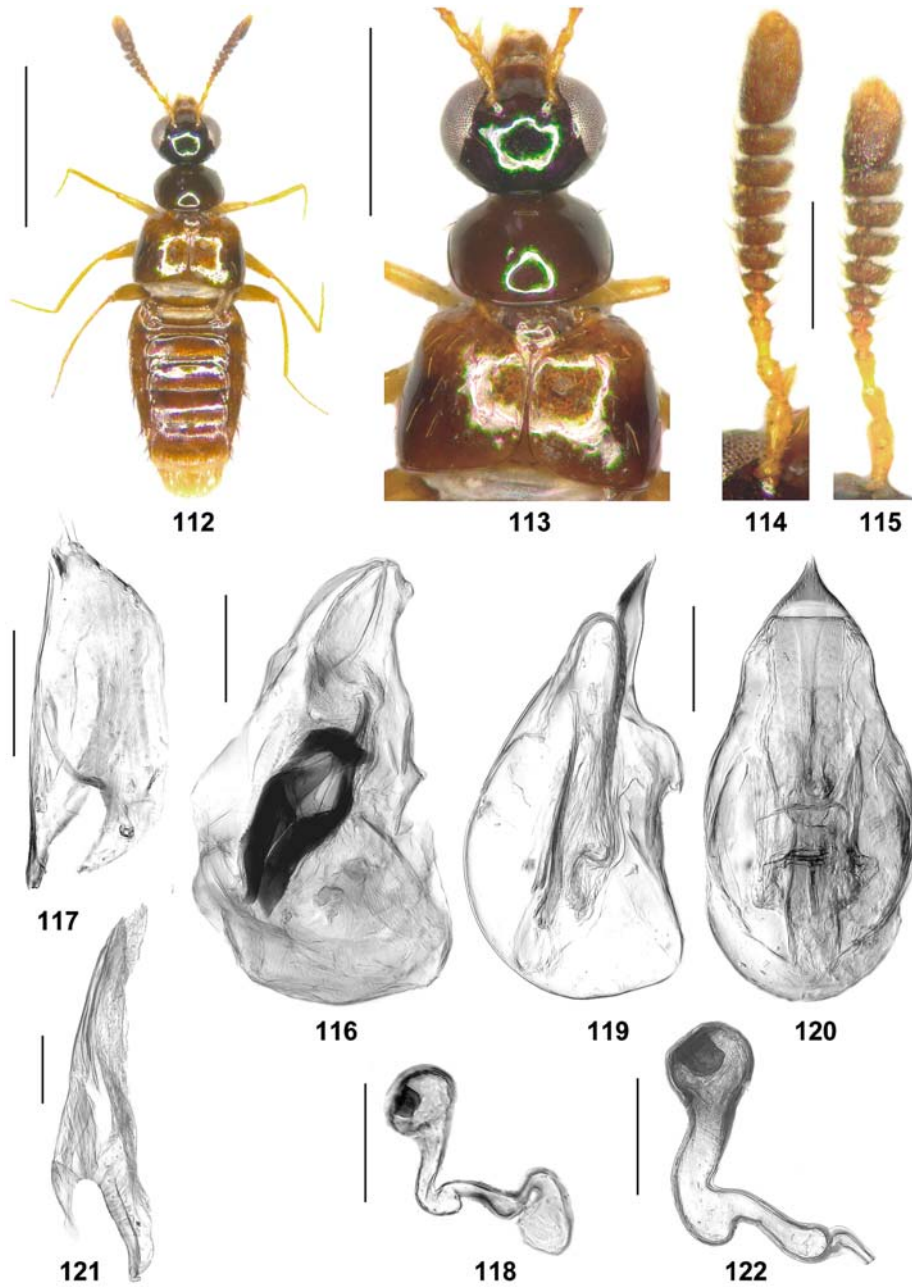
Figs 85–93. *Orphnebius curvatus* sp. nov. (85–86) and *O. varicornutus* sp. nov. (87–93). 85, 87 – habitus; 86 – forebody; 88–89 – head; 90 – antenna; 91 – apical portion of median lobe of aedeagus in ventral view; 92 – paramere; 93 – spermatheca. Scale bars: 85, 87: 1.0 mm; 86, 88–90: 0.5 mm; 91–93: 0.1 mm.



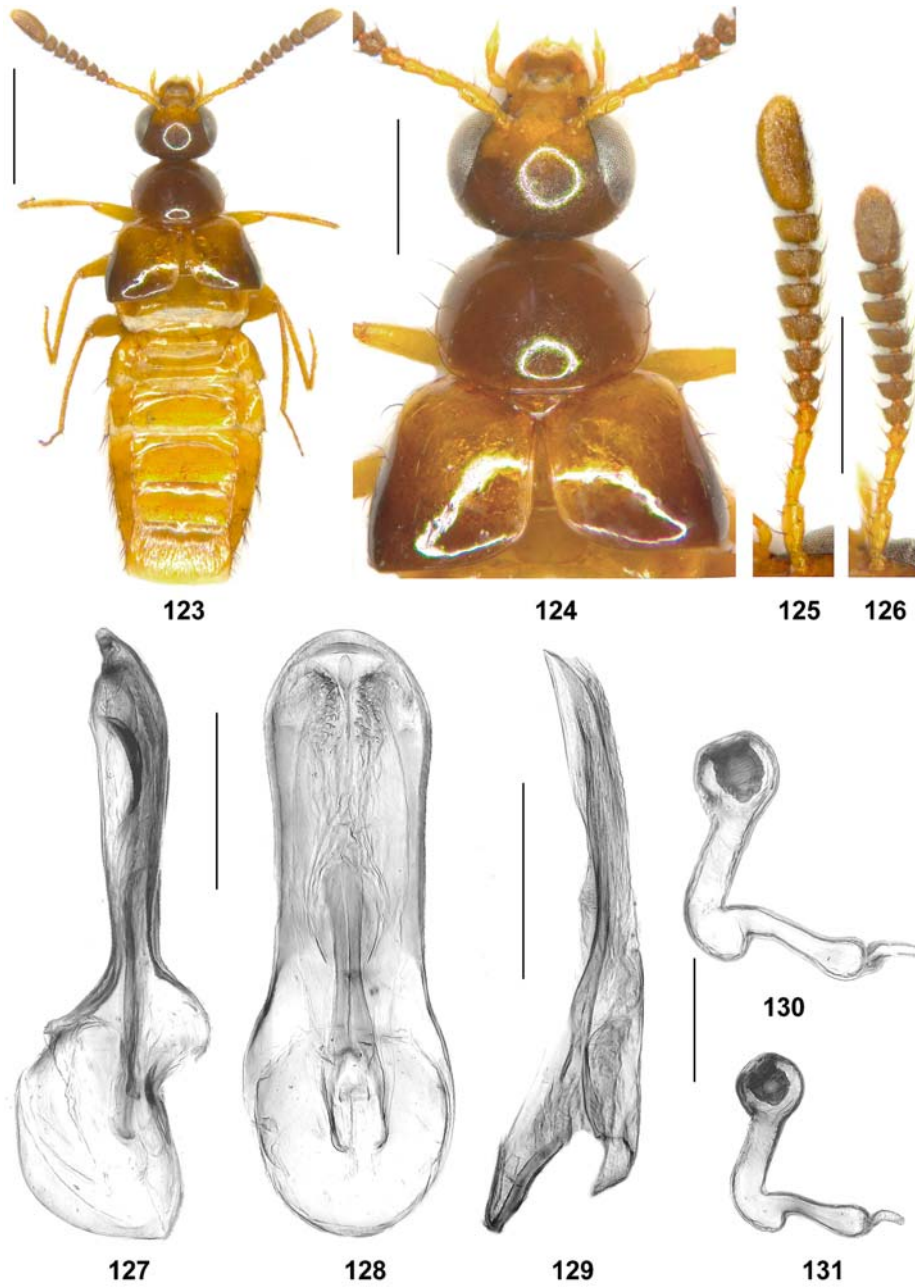
Figs 94–102. *Orphnebius biacer* sp. nov. 94 – habitus; 95 – forebody; 96 – antenna; 97 – abdominal tergite VIII; 98–99 – median lobe of aedeagus in lateral and in ventral view; 100 – paramere; 101–102 – spermatheca. Scale bars: 94: 1.0 mm; 95, 97: 0.5 mm; 96: 98–100: 0.2 mm; 101–102: 0.1 mm.



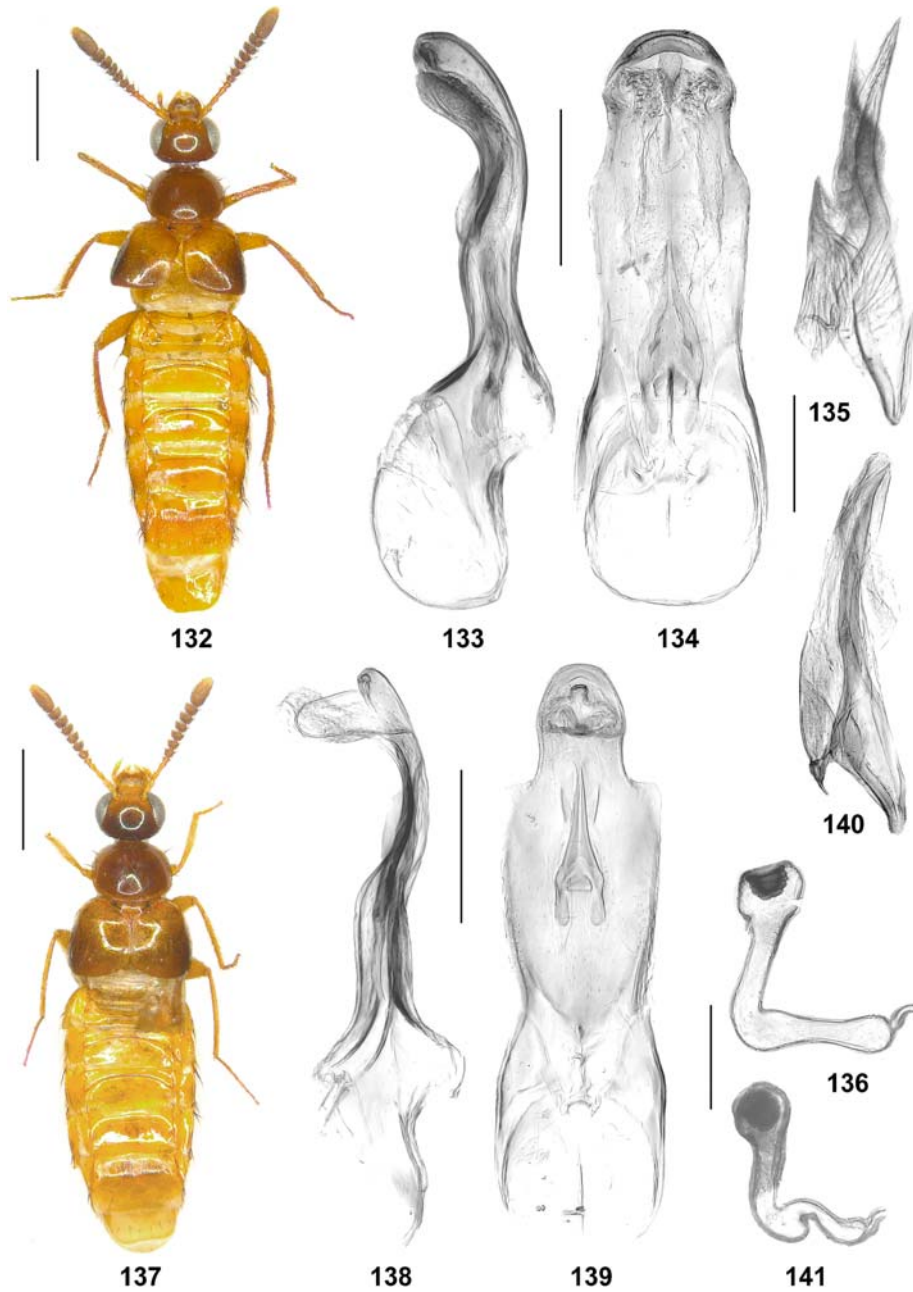
Figs 103–111. *Orphnebius conifer* sp. nov. (103–109) and *O. varicornutus* sp. nov. (110–111). 103 – habitus; 104 – forebody; 105 – antenna; 106–107, 110–111 – median lobe of aedeagus in lateral and in ventral view; 108 – paramere; 109 – spermatheca. Scale bars: 103: 1.0 mm; 104: 0.5 mm; 105–108, 110–111: 0.2 mm; 109: 0.1 mm.



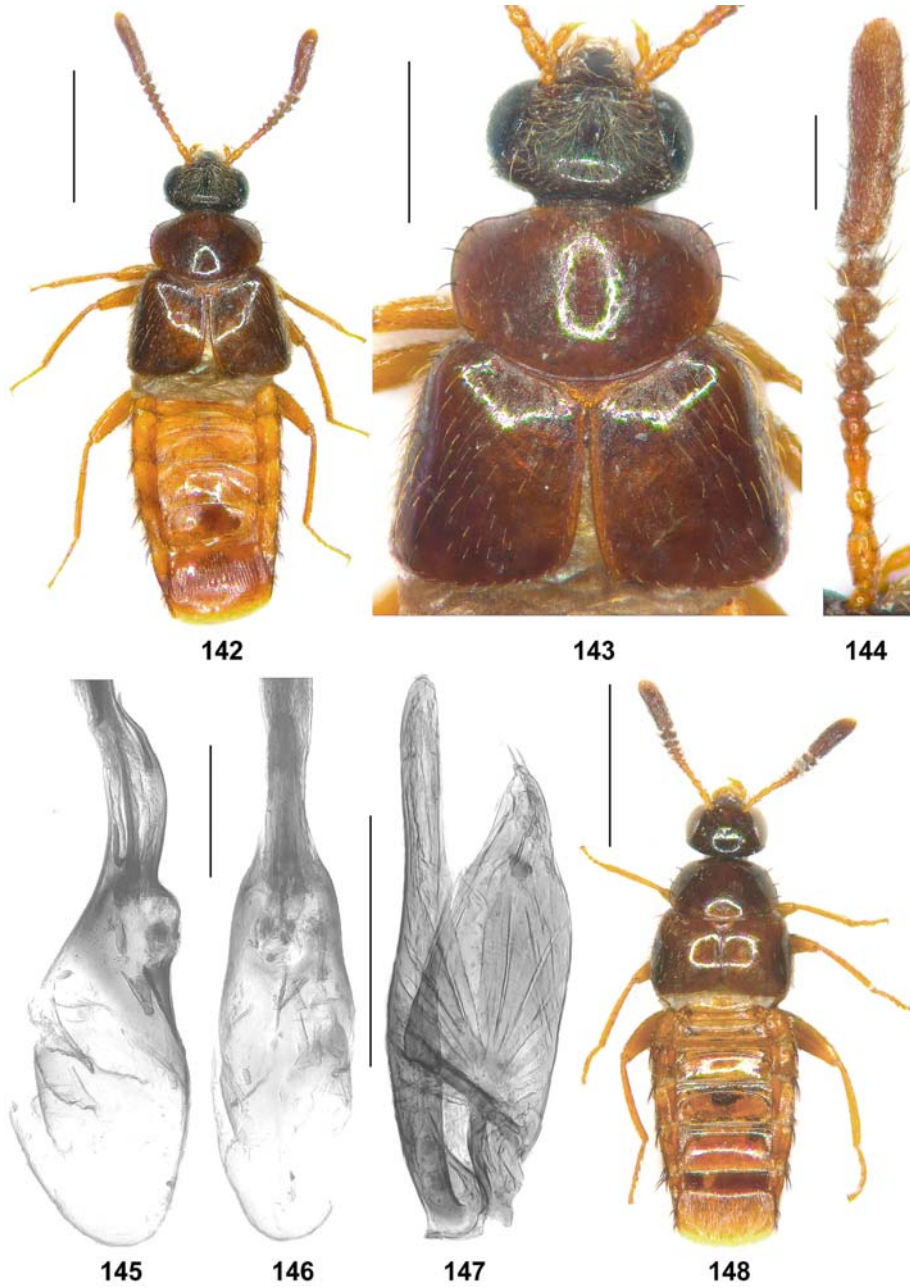
Figs 112–122. *Orphnebius mollis* sp. nov. (112–118) and *O. antennarius* Bernhauer (119–122). 112 – habitus; 113 – forebody; 114 – male antenna; 115 – female antenna; 116, 119–120 – median lobe of aedeagus in lateral and in ventral view; 117, 121 – paramere; 118, 122 – spermatheca. Scale bars: 112: 1.0 mm; 113: 0.5 mm; 114–115: 0.2 mm; 116–117, 119–122: 0.1 mm; 118: 0.05 mm.



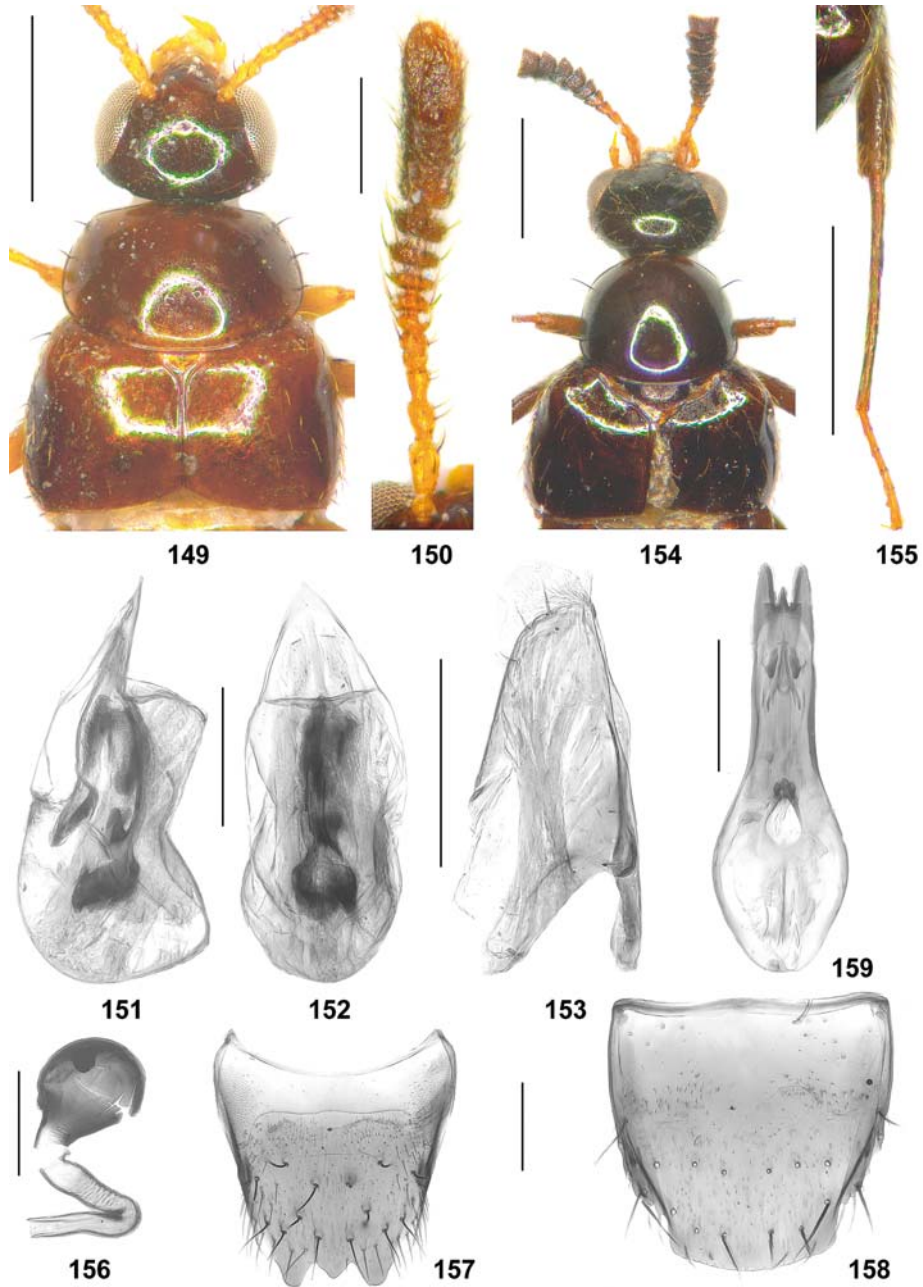
Figs 123–131. *Orphnebius linguis* sp. nov. 123 – habitus; 124 – forebody; 125 – male antenna; 126 – female antenna; 127–128 – median lobe of aedeagus in lateral and in ventral view; 129 – paramere; 130–131 – spermatheca. Scale bars: 123: 1.0 mm; 124–126: 0.5 mm; 127–129: 0.2 mm; 130–131: 0.1 mm.



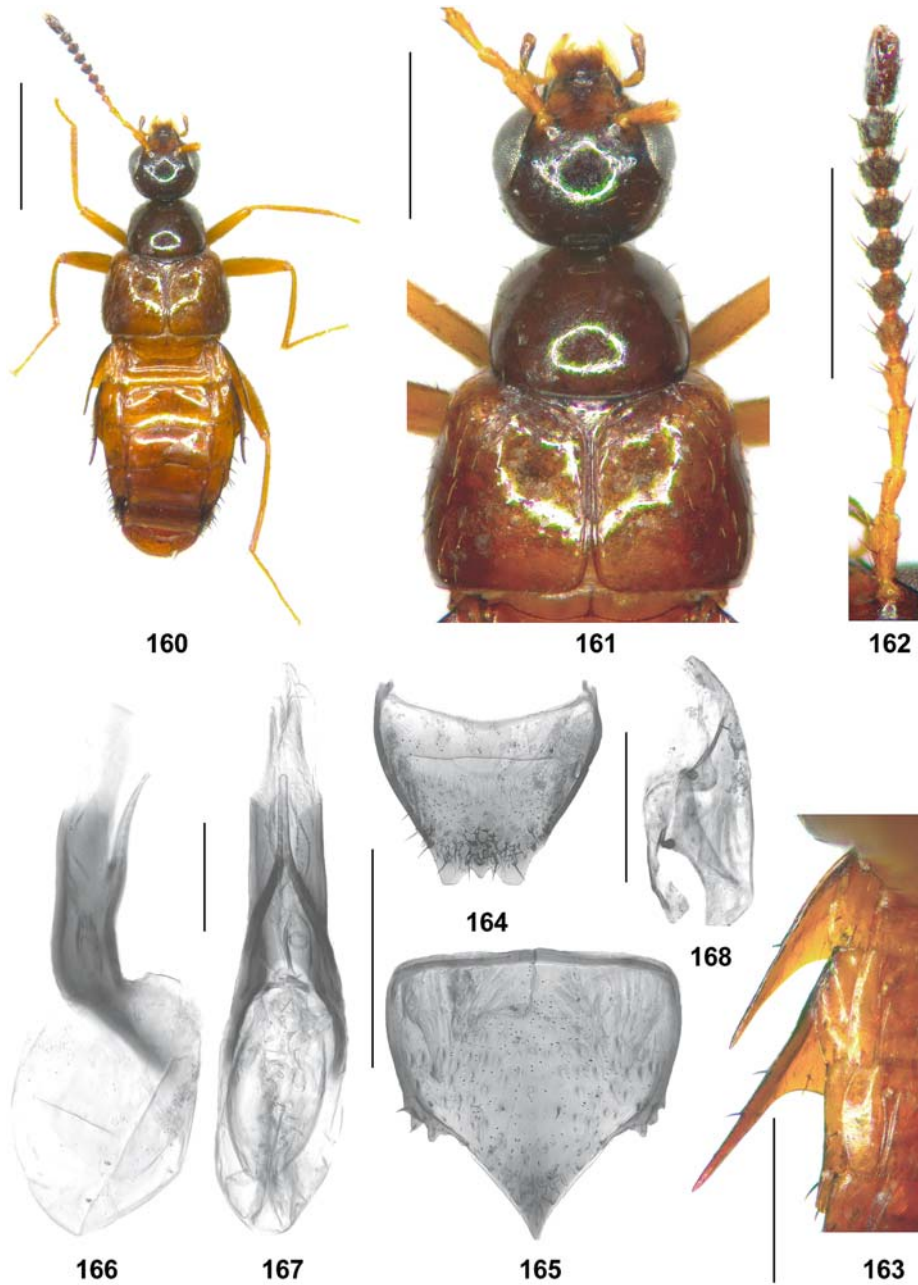
Figs 132–141. *Orphnebius sinulinguis* sp. nov. (132–136) and *O. cusplinguis* sp. nov. (137–141). 132, 137 – male habitus; 133–134, 138–139 – median lobe of aedeagus in lateral and in ventral view; 135, 140 – paramere; 136, 141 – spermatheca. Scale bars: 132, 137: 1.0 mm; 133–135, 138–140: 0.2 mm; 136, 141: 0.1 mm.



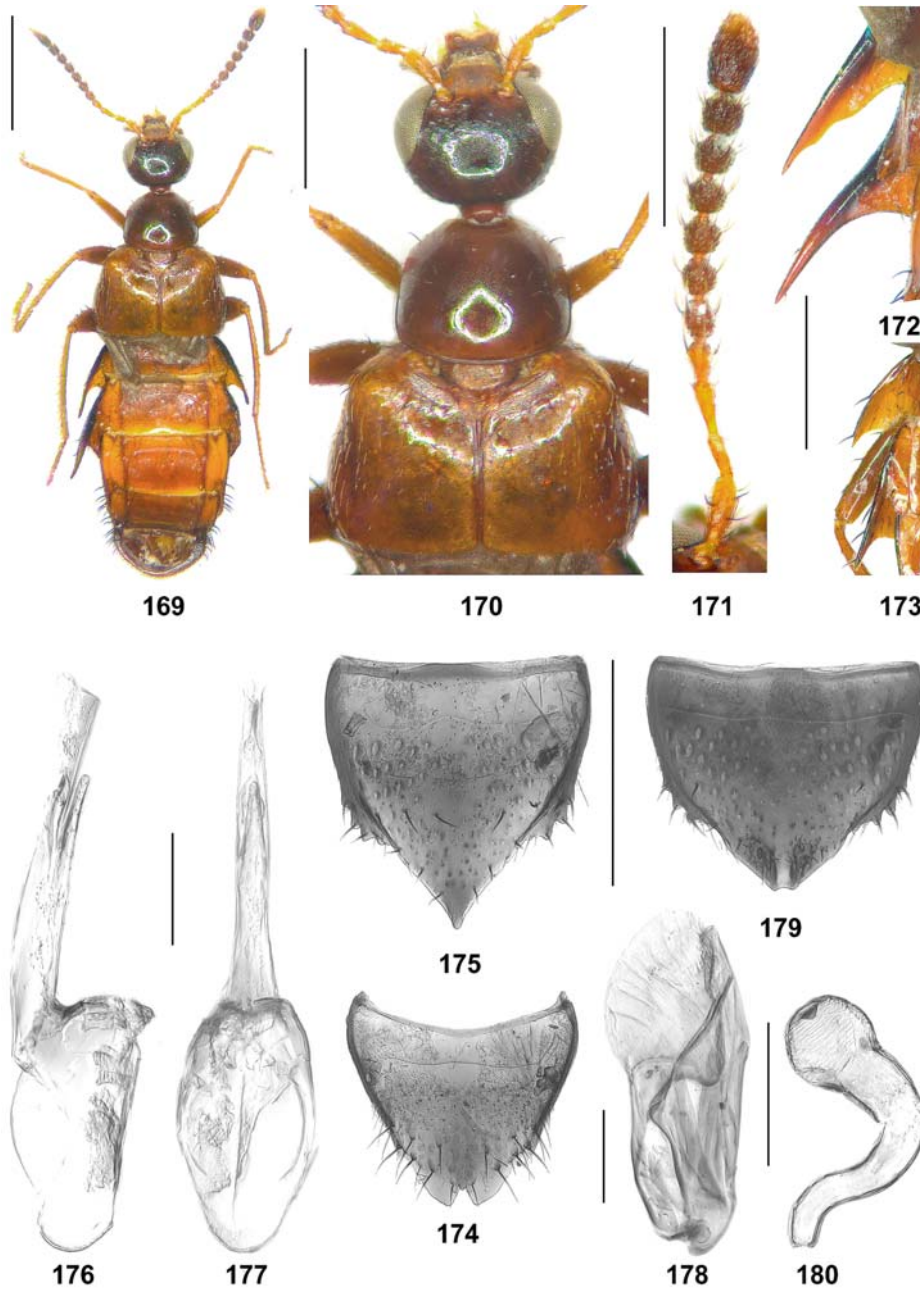
Figs 142–148. *Orphnebius colitus* sp. nov. (142–147) and *O. tensus* sp. nov. (148). 142, 148 – male habitus; 143 – male forebody; 144 – male antenna; 145–146 – median lobe of aedeagus in lateral and in ventral view; 147 – paramere. Scale bars: 142, 148: 1.0 mm; 143: 0.5 mm; 144–147: 0.2 mm.



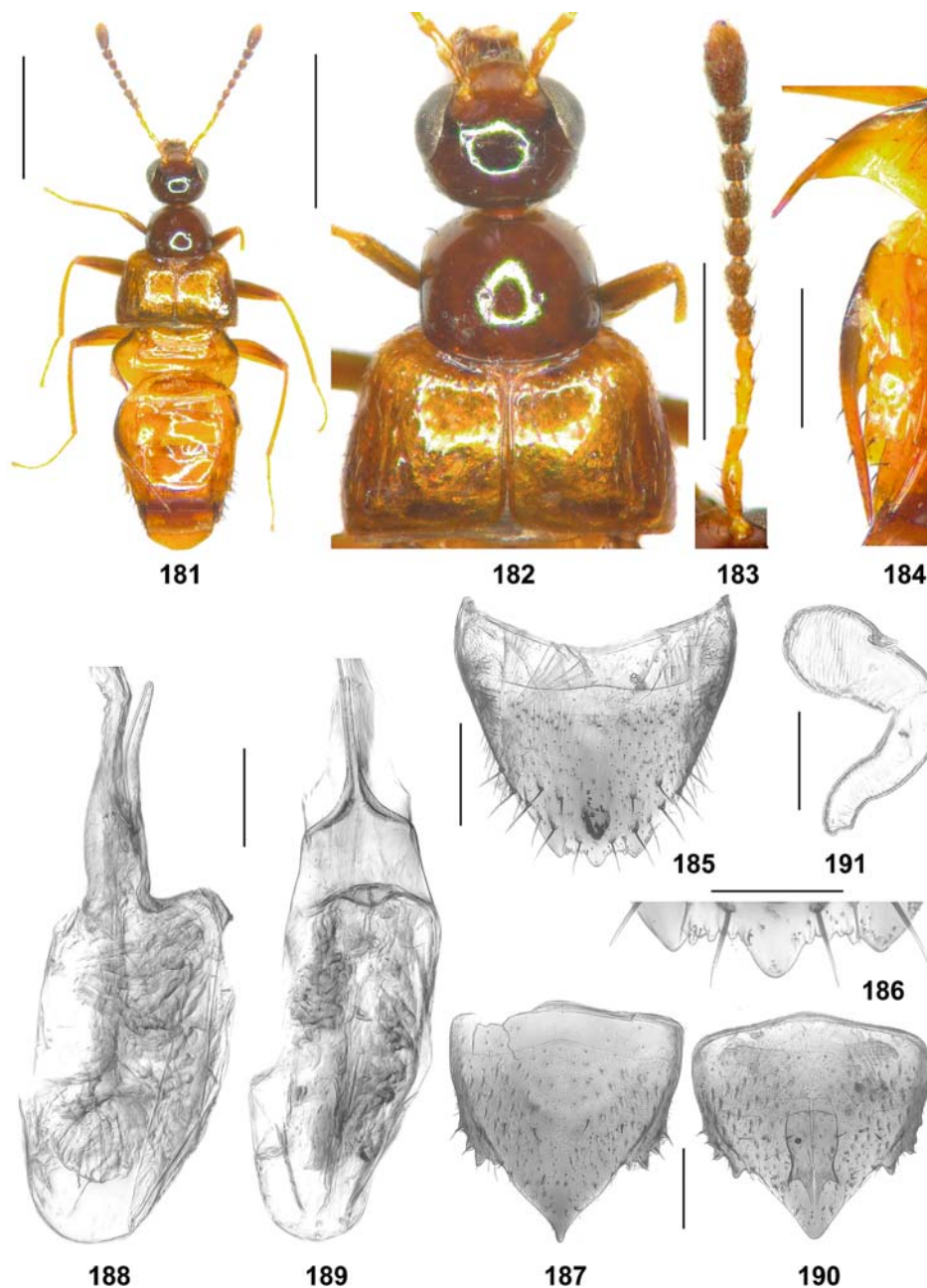
Figs 149–159. *Orphnebius tensus* sp. nov. (149–153), *O. pressatus* sp. nov. (154–156), and *O. bakerianus* Bernhauer (157–159). 149, 154 – forebody; 150 – male antenna; 151–152, 159 – median lobe of aedeagus in lateral and in ventral view; 153 – paramere; 155 – middle leg; 156 – spermatheca; 157 – tergite VIII; 158 – sternite VIII. Scale bars: 149, 154–155: 0.5 mm; 150–153, 157–159: 0.2 mm; 156: 0.1 mm.



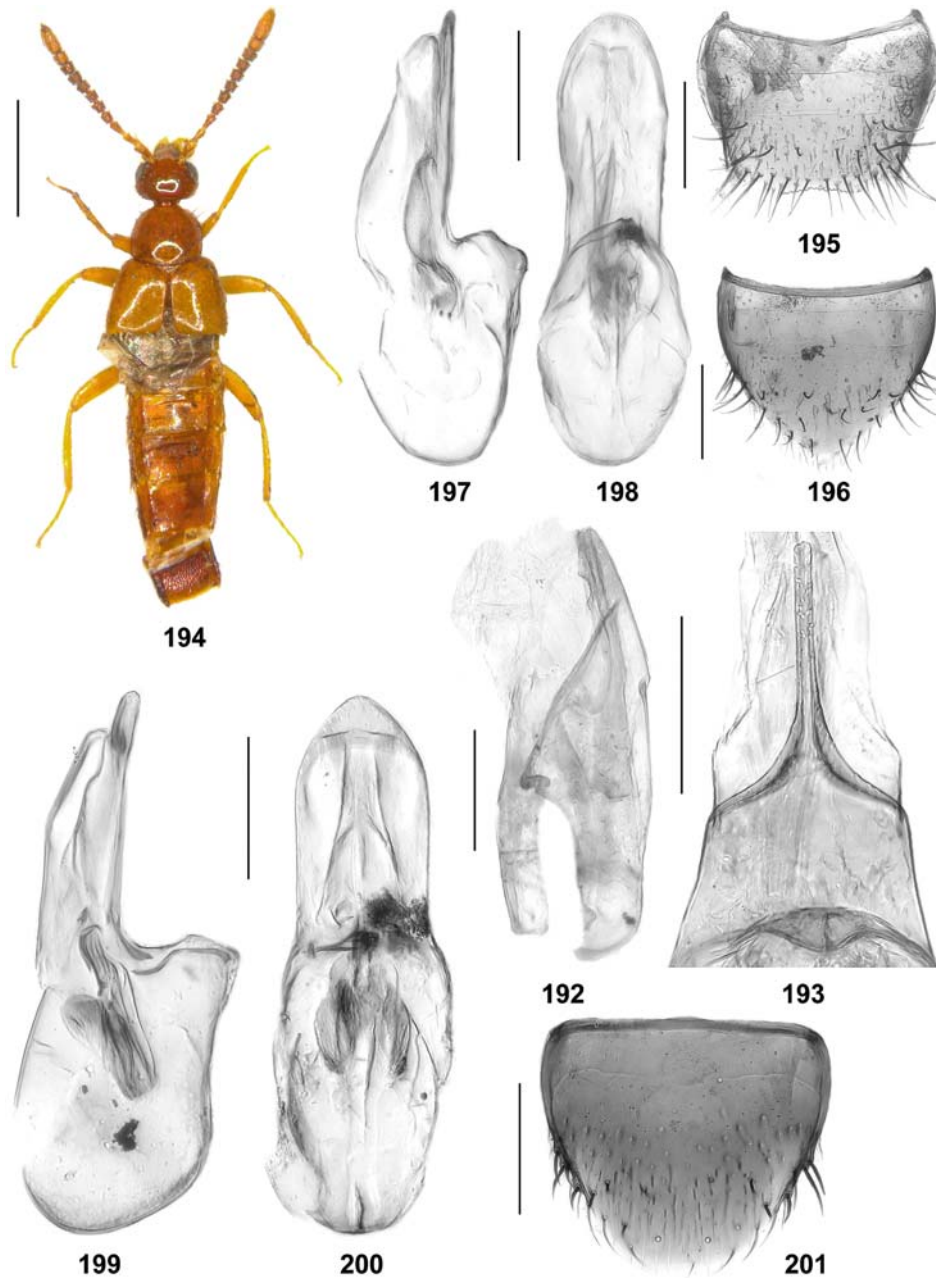
Figs 160–168. *Orphnebius transfigens* sp. nov. 160 – habitus; 161 – forebody; 162 – antenna; 163 – anterior portion of abdomen in dorso–lateral view; 164 – male tergite VIII; 165 – male sternite VIII; 166–167 – median lobe of aedeagus in lateral and in ventral view; 168 – paramere. Scale bars: 160: 1.0 mm; 161–165: 0.5 mm; 168: 0.2 mm; 166–167: 0.1 mm.



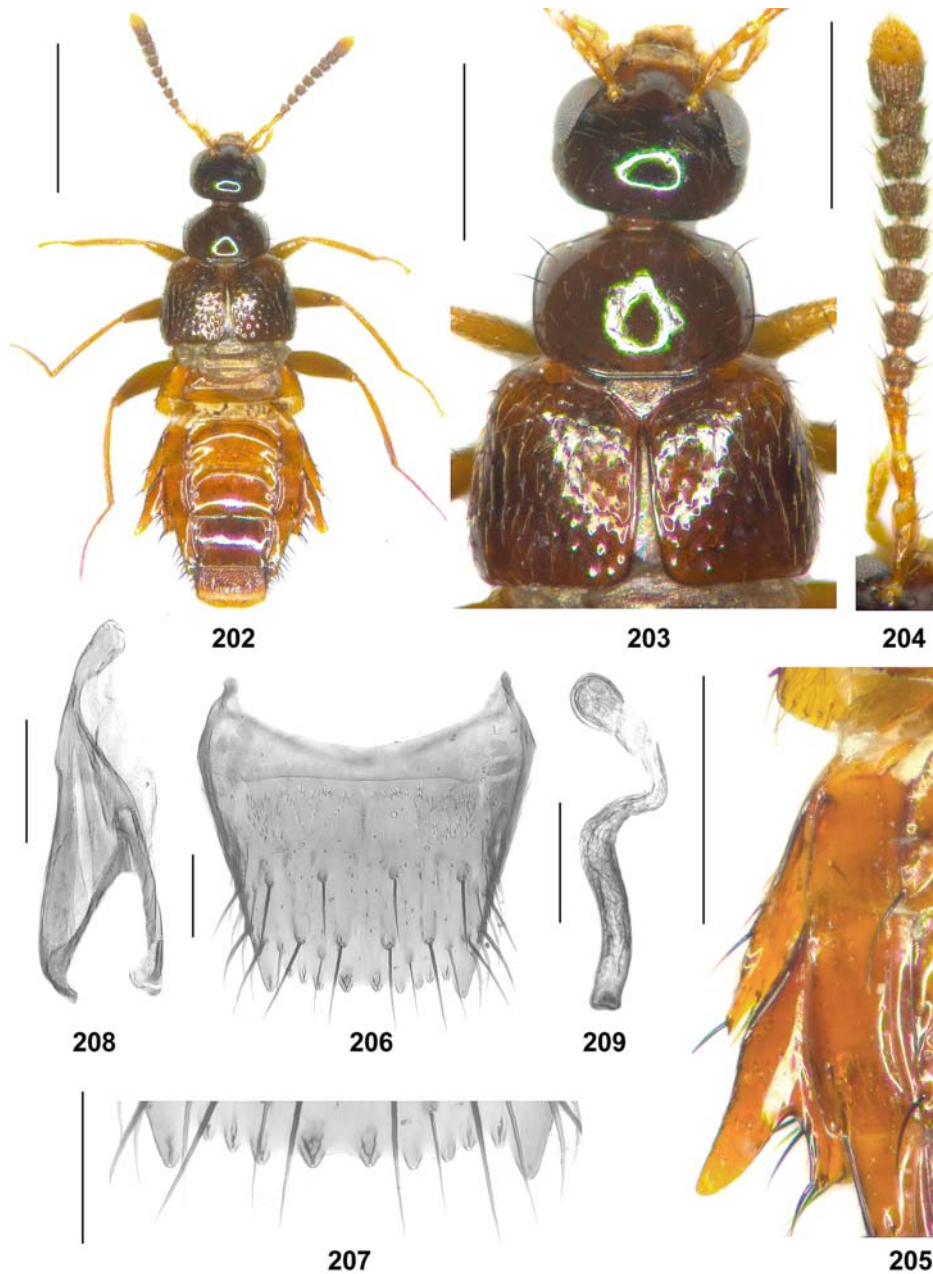
Figs 169–180. *Orphnebius aciformis* sp. nov. 169 – habitus; 170 – forebody; 171 – antenna; 172–173 – anterior portion of abdomen in dorso-lateral view; 174 – male tergite VIII; 175 – male sternite VIII; 176–177 – median lobe of aedeagus in lateral and in ventral view; 178 – paramere; 179 – female sternite VIII; 180 – spermatheca. Scale bars: 169: 1.0 mm; 170–175, 179: 0.5 mm; 176–178, 180: 0.1 mm.



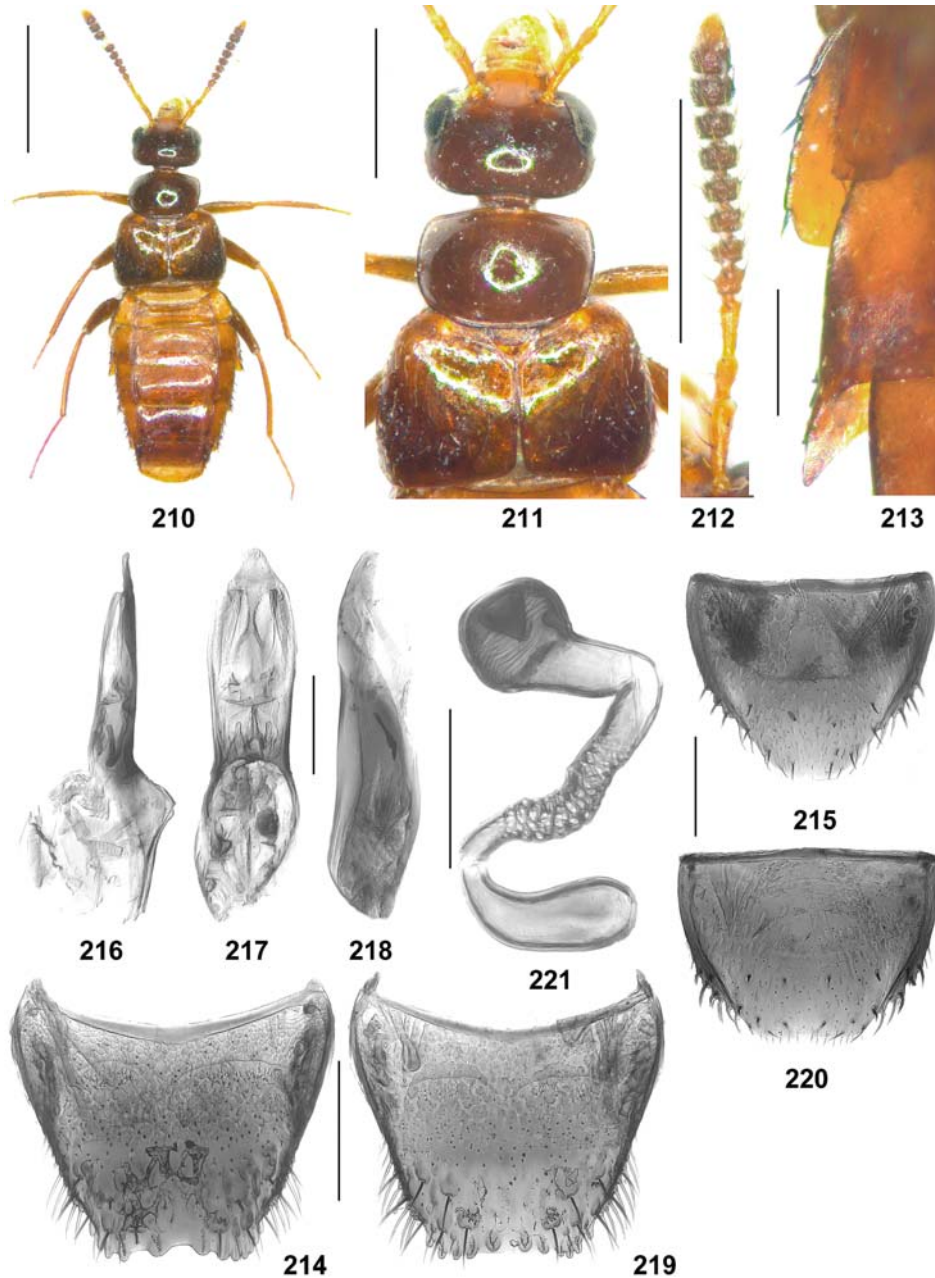
Figs 181–191. *Orphnebius acifer* sp. nov. 181 – habitus; 182 – forebody; 183 – antenna; 184 – anterior portion of abdomen in dorso-lateral view; 185 – male tergite VIII; 186 – posterior margin of male tergite VIII; 187 – male sternite VIII; 188–189 – median lobe of aedeagus in lateral and in ventral view; 190 – female sternite VIII; 191 – spermatheca. Scale bars: 181: 1.0 mm; 182–184: 0.5 mm; 185, 187, 190: 0.2 mm; 186, 188–189, 191: 0.1 mm.



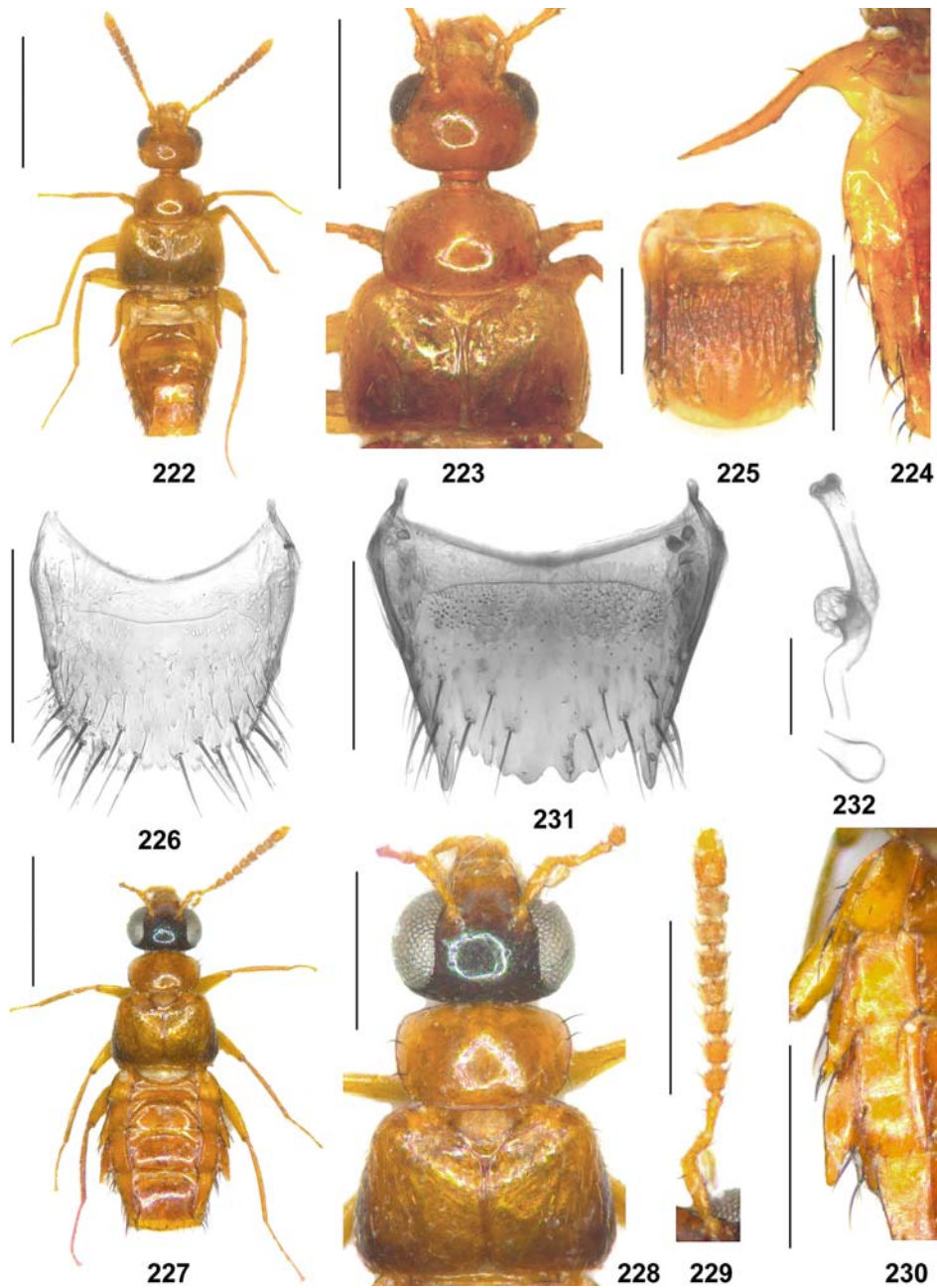
Figs 192–201. *Orphnebius acifer* sp. nov. (192–193), *O. ferrugineus* Cameron (194–198), and *O. quadricultratus* sp. nov. (199–201). 192 – paramere; 193 – ventral process of aedeagus in ventral view; 194 – habitus; 195 – male tergite VIII; 196, 201 – male sternite VIII; 197–200 – median lobe of aedeagus in lateral and in ventral view. Scale bars: 194: 1.0 mm; 195–196, 201: 0.2 mm; 192–193, 197–200: 0.1 mm.



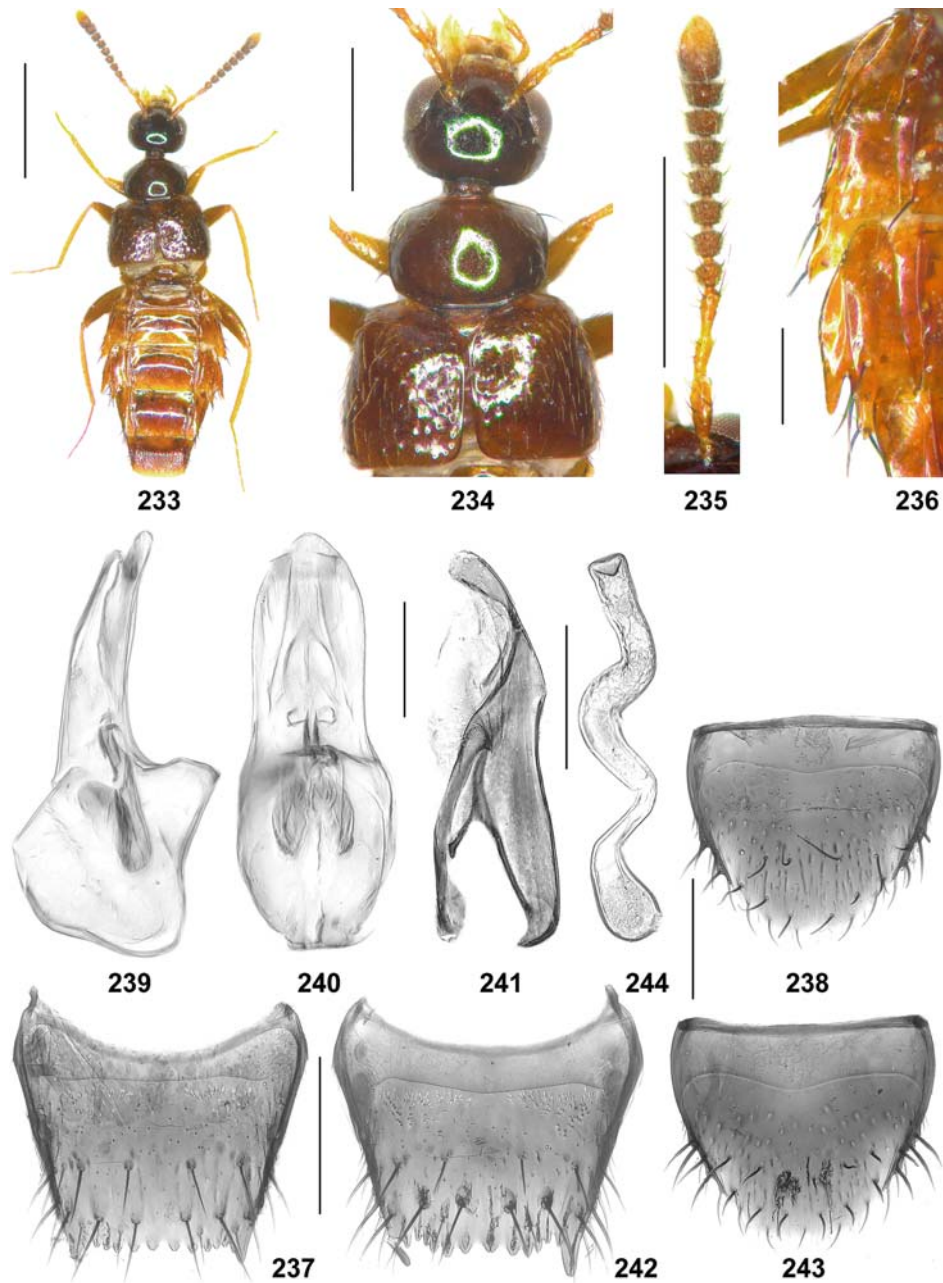
Figs 202–209. *Orphnebius quadricultratus* sp. nov. 202 – habitus; 203 – forebody; 204 – antenna; 205 – left anterior portion of abdomen in dorso-ventral view; 206 – male tergite VIII; 207 – posterior margin of male tergite VIII; 208 – paramere; 209 – spermatheca. Scale bars: 202: 1.0 mm; 203–205: 0.5 mm; 206–209: 0.1 mm.



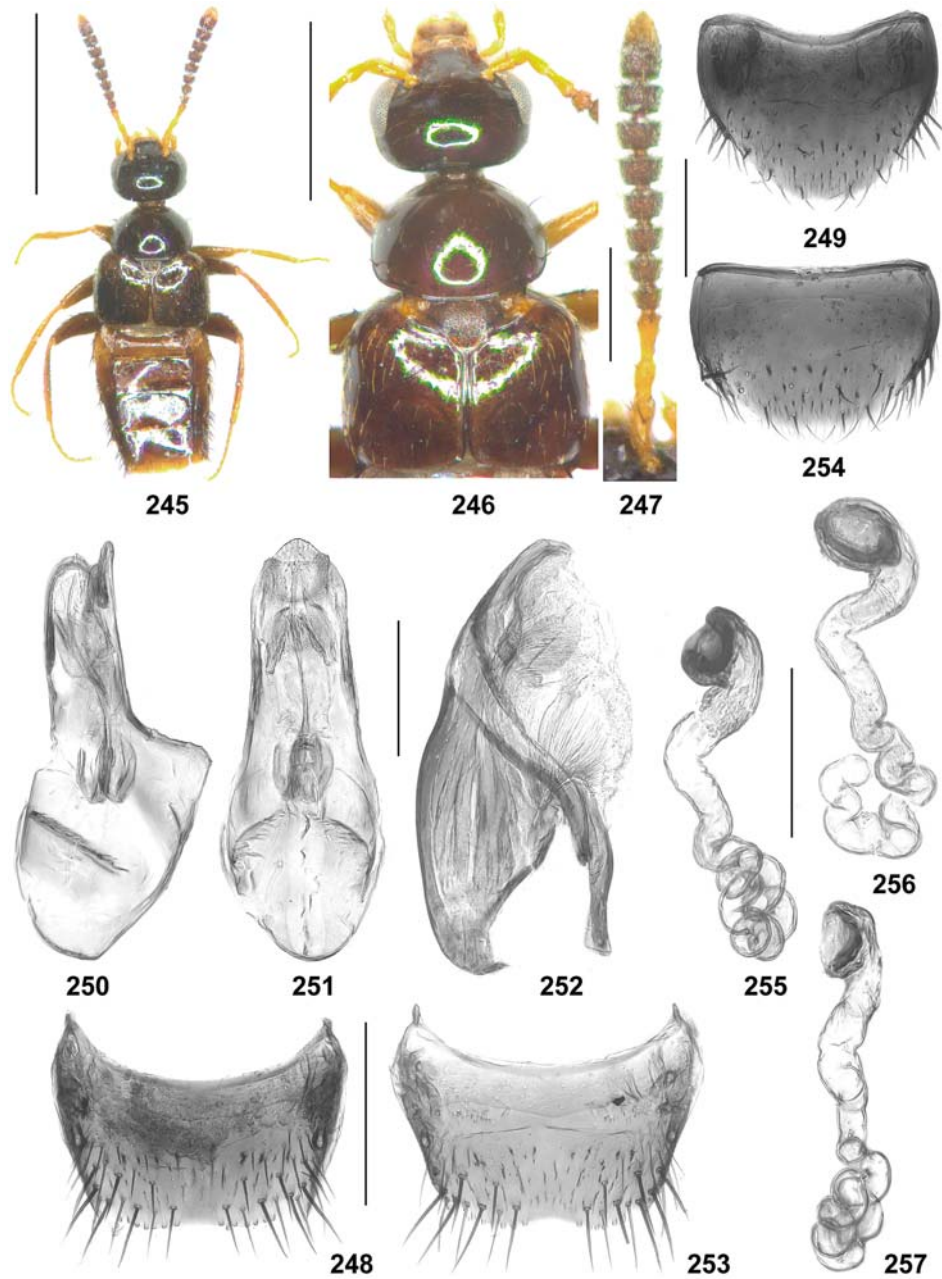
Figs 210–221. *Orphnebius floreni* sp. nov. 210 – habitus; 211 – forebody; 212 – antenna; 213 – left anterior portion of abdomen in dorso-ventral view; 214 – male tergite VIII; 215 – male sternite VIII; 216–217 – median lobe of aedeagus in lateral and in ventral view; 218 – paramere; 219 – female tergite VIII; 220 – female sternite VIII; 221 – spermatheca. Scale bars: 210: 1.0 mm; 211–212: 0.5 mm; 213–215, 219–220: 0.2 mm; 216–218, 221: 0.1 mm.



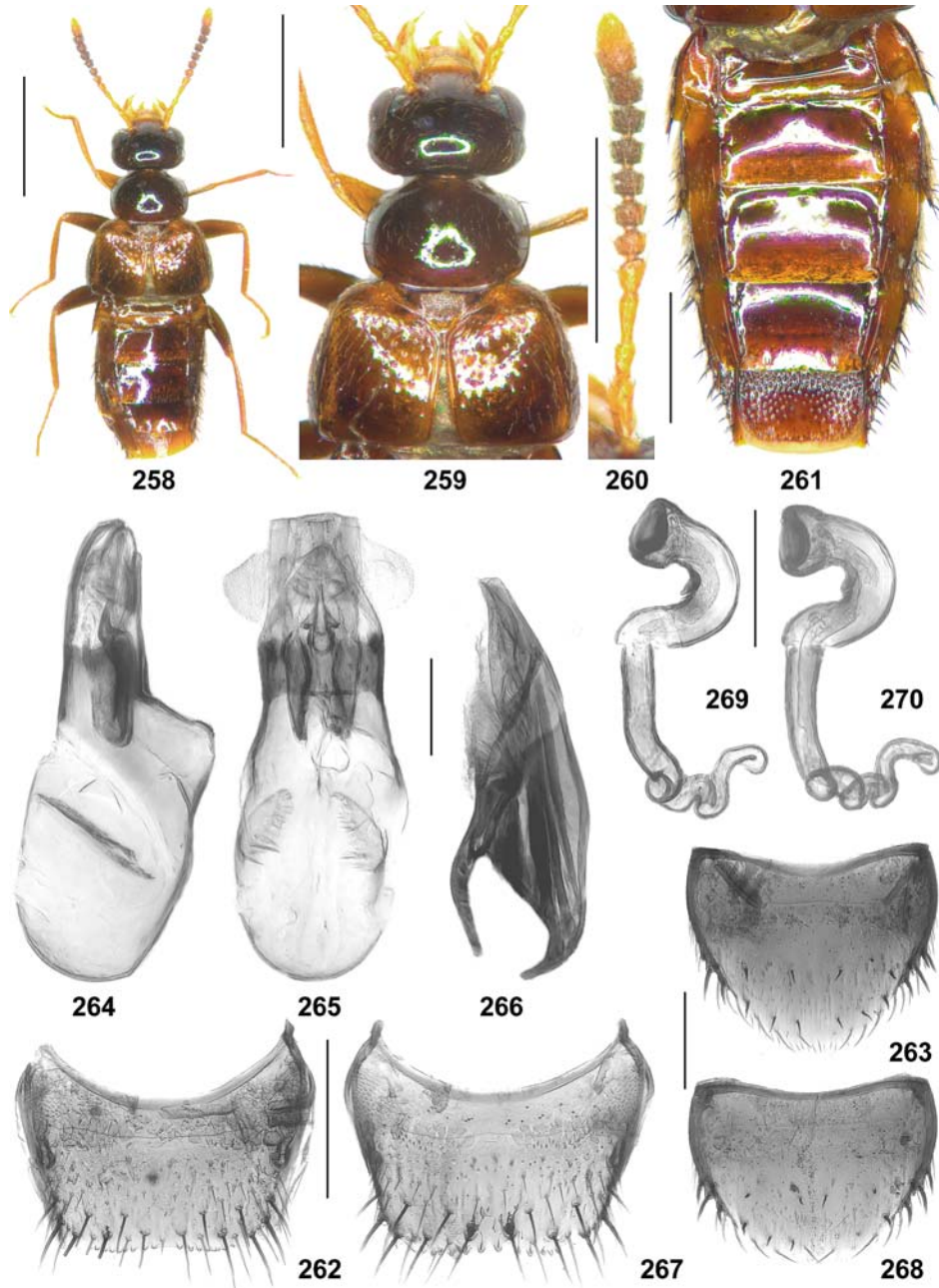
Figs 222–232. *Orphnebius obelifer* sp. nov. (222–226) and *O. nodatus* sp. nov. (227–232). 222, 227 – habitus; 223, 228 – forebody; 224, 230 – left margin of abdomen in dorso-ventral view; 225 – tergite VII; 226, 231 – tergite VIII; 229 – antenna; 232 – spermatheca. Scale bars: 222, 227: 1.0 mm; 223–224, 228–230: 0.5 mm; 225–226, 231: 0.2 mm; 232: 0.1 mm.



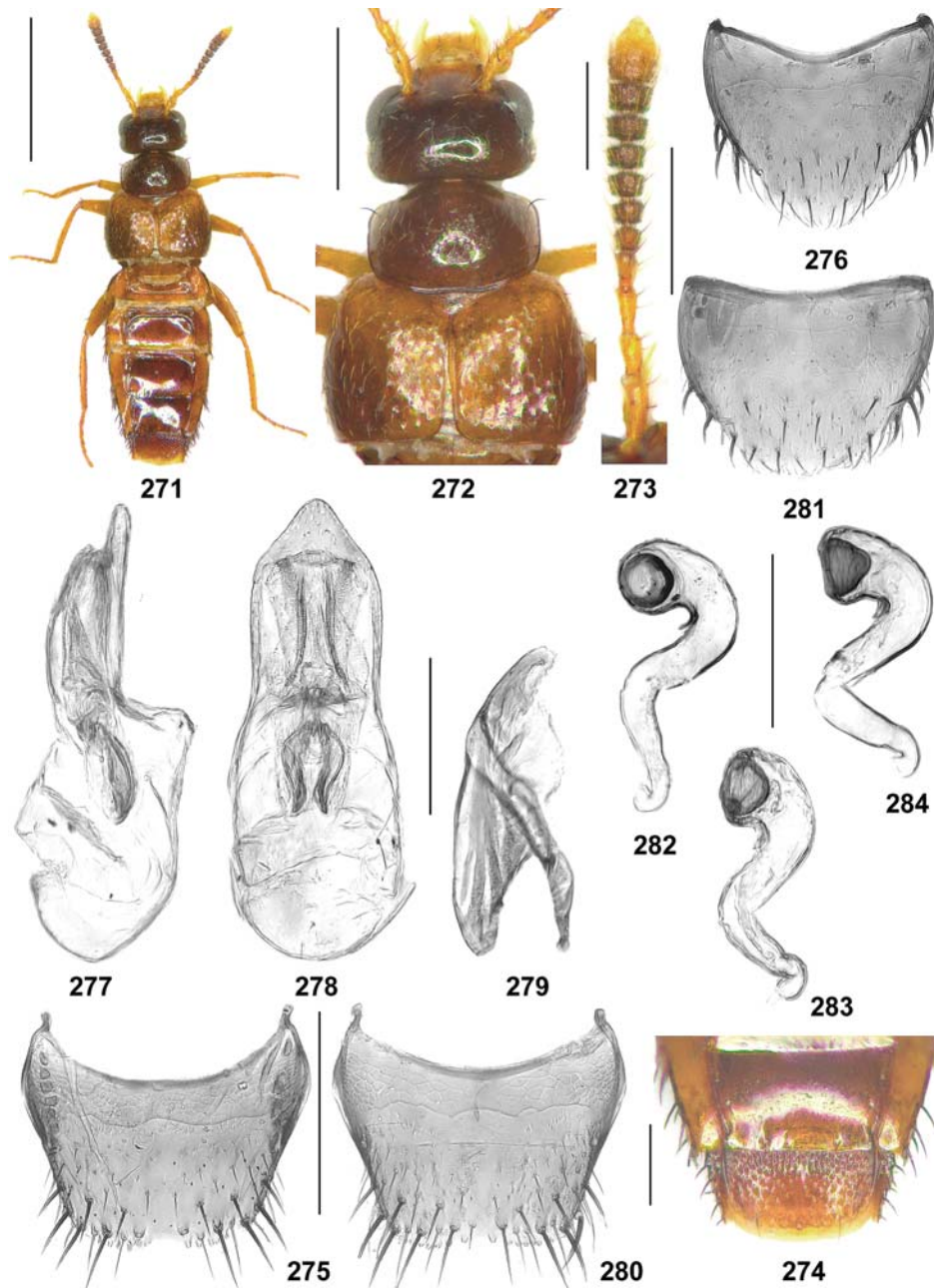
Figs 233–244. *Orphnebius filiformis* sp. nov. 233 – habitus; 234 – forebody; 235 – antenna; 236 – left anterior portion of abdomen in dorso-ventral view; 237 – male tergite VIII; 238 – male sternite VIII; 239–240 – median lobe of aedeagus in lateral and in ventral view; 241 – paramere; 242 – female tergite VIII; 243 – female sternite VIII; 244 – spermatheca. Scale bars: 233: 1.0 mm; 234–235: 0.5 mm; 236–238, 242–243: 0.2 mm; 239–241, 244: 0.1 mm.



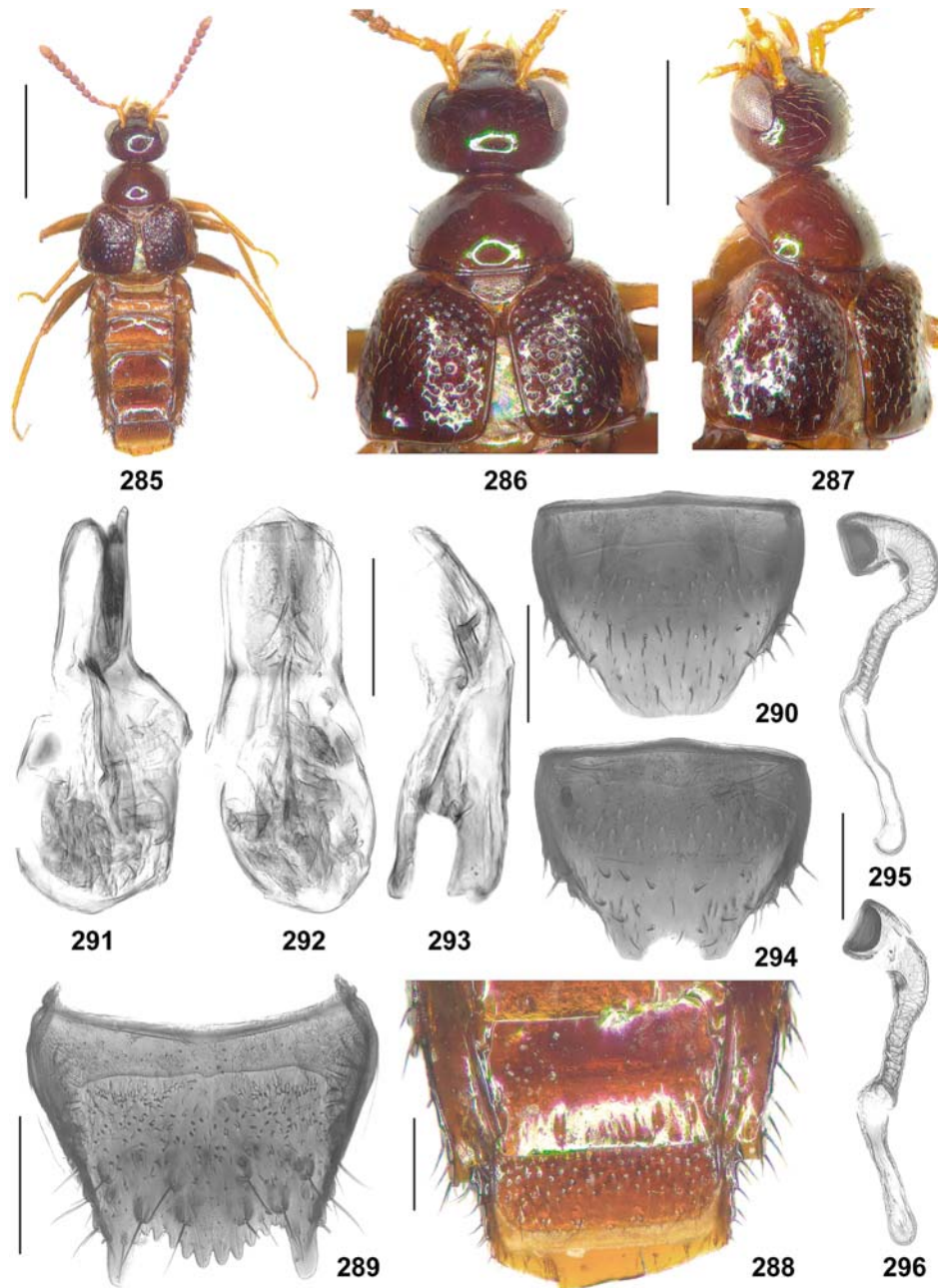
Figs 245–257. *Orphnebius plexus* sp. nov. 245 – habitus; 246 – forebody; 247 – antenna; 248 – male tergite VIII; 249 – male sternite VIII; 250–251 – median lobe of aedeagus in lateral and in ventral view; 252 – paramere; 253 – female tergite VIII; 254 – female sternite VIII; 255–257 – spermatheca. Scale bars: 245: 1.0 mm; 246: 0.5 mm; 247–249, 253–254: 0.2 mm; 250–252, 255–257: 0.1 mm.



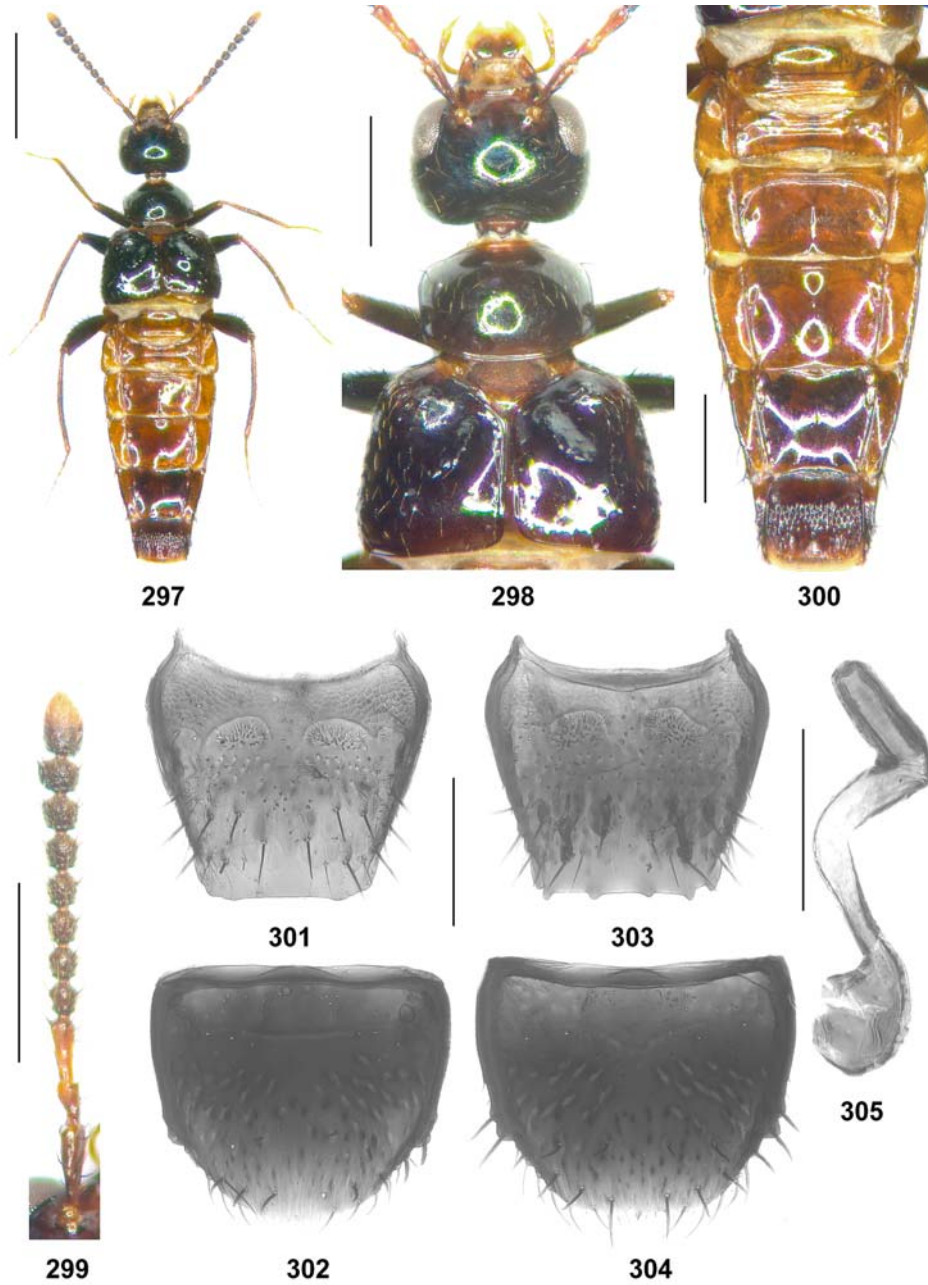
Figs 258–270. *Orphnebius tuberculifer* sp. nov. 258 – habitus; 259 – forebody; 260 – antenna; 261 – abdomen; 262 – male tergite VIII; 263 – male sternite VIII; 264–265 – median lobe of aedeagus in lateral and in ventral view; 266 – paramere; 267 – female tergite VIII; 268 – female sternite VIII; 269–270 – spermatheca. Scale bars: 258: 1.0 mm; 259–261: 0.5 mm; 262–263, 267–268: 0.2 mm; 264–266, 269–270: 0.1 mm.



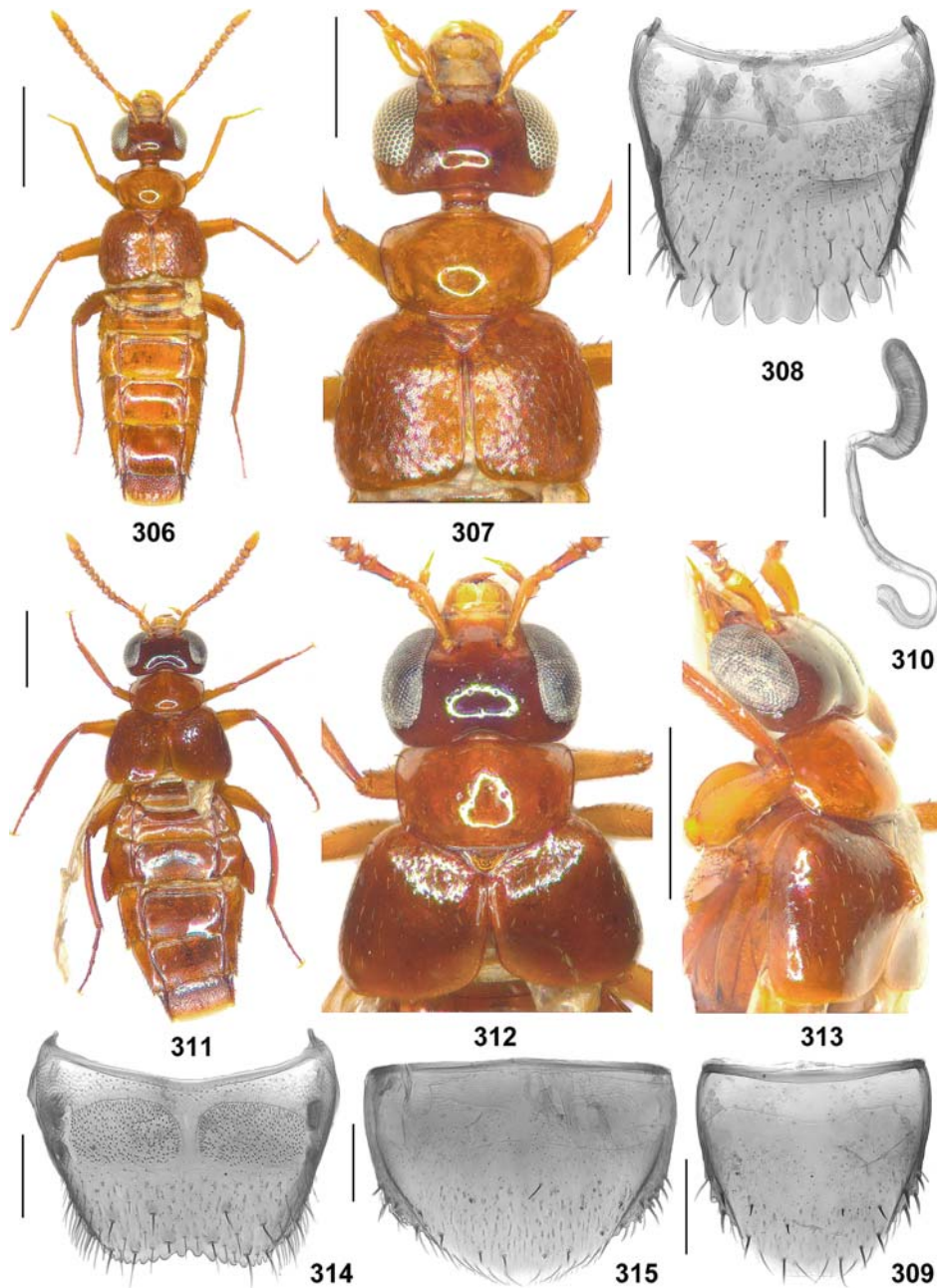
Figs 271–284. *Orphnebius tuberosus* sp. nov. 271 – habitus; 272 – forebody; 273 – antenna; 274 – tergites VI–VII; 275 – male tergite VIII; 276 – male sternite VIII; 277–278 – median lobe of aedeagus in lateral and in ventral view; 279 – paramere; 280 – female tergite VIII; 281 – female sternite VIII; 282–284 – spermatheca. Scale bars: 271: 1.0 mm; 272: 0.5 mm; 273–276, 280–281: 0.2 mm; 277–279, 282–284: 0.1 mm.



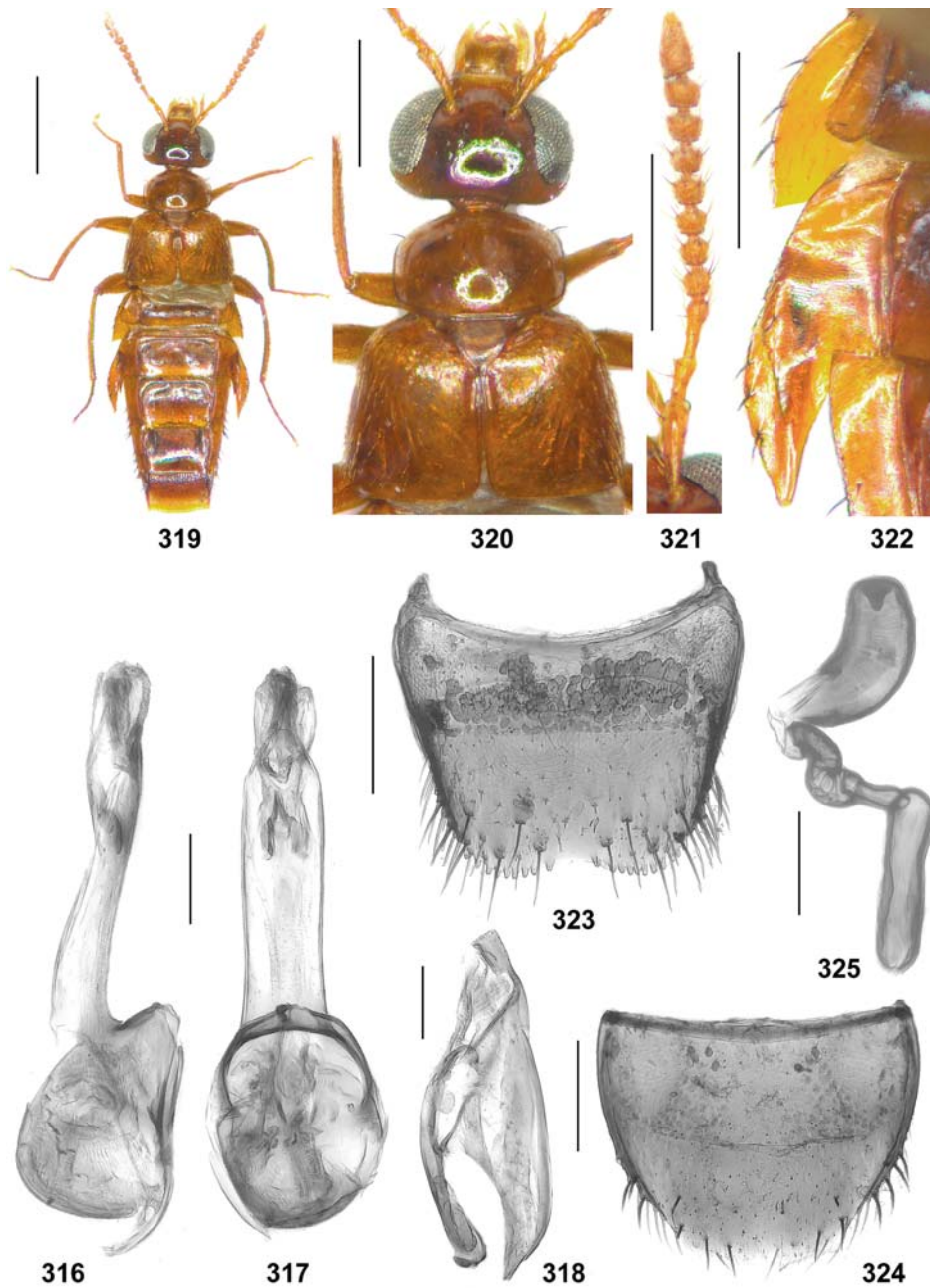
Figs 285–296. *Orphnebius granulatus* sp. nov. 285 – habitus; 286 – forebody; 287 – forebody in dorso-lateral view; 288 – tergites VI–VII; 289 – tergite VIII; 290 – male sternite VIII; 291–292 – median lobe of aedeagus in lateral and in ventral view; 293 – paramere; 294 – female sternite VIII; 295–296 – spermatheca. Scale bars: 285: 1.0 mm; 286–287: 0.5 mm; 288–290, 294: 0.2 mm; 291–293, 295–296: 0.1 mm.



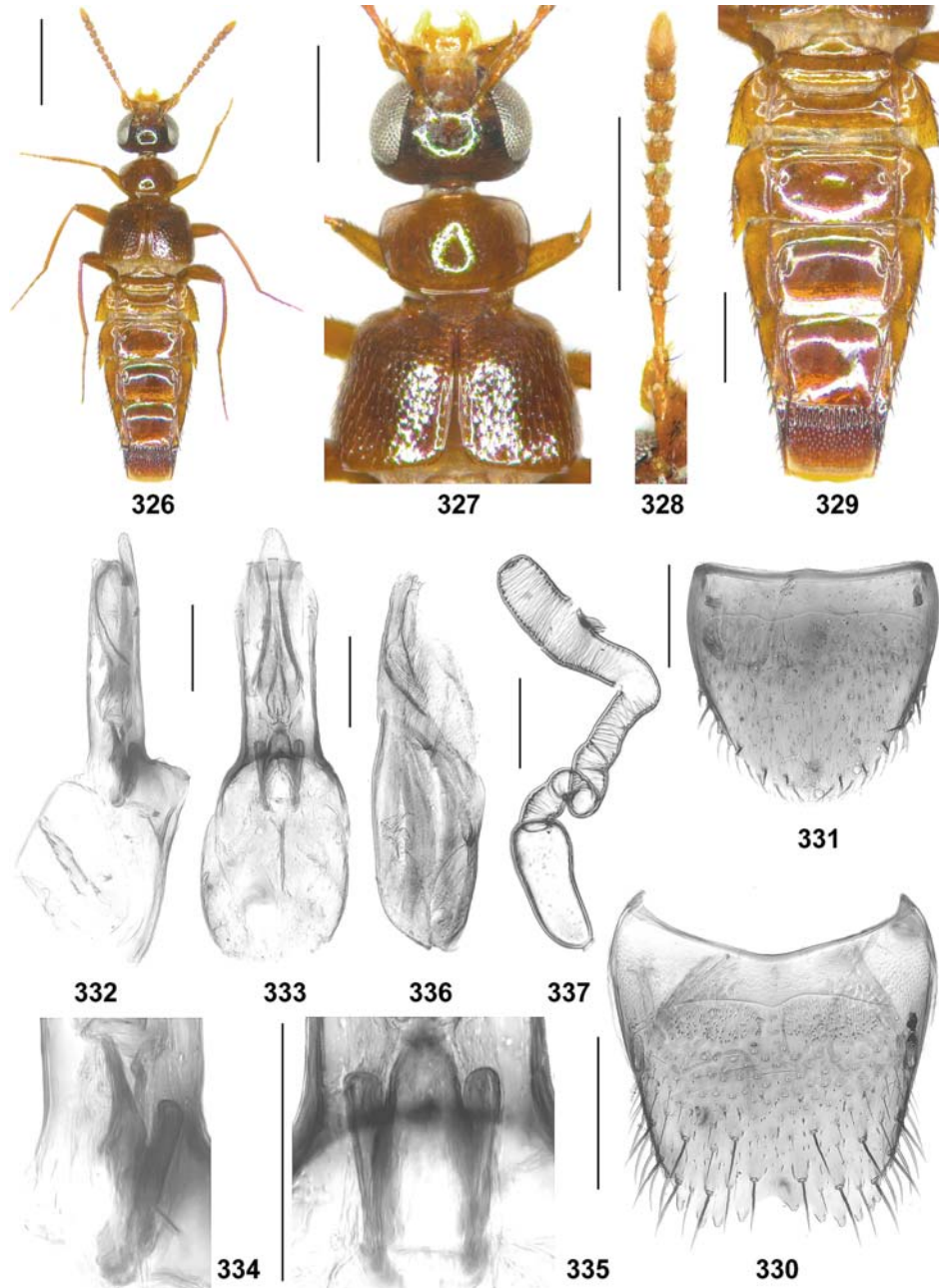
Figs 297–305. *Orphnebius verrucosus* sp. nov. 297 – habitus; 298 – forebody; 299 – antenna; 300 – abdomen; 301 – male tergite VIII; 302 – male sternite VIII; 303 – female tergite VIII; 304 – female sternite VIII; 305 – spermatheca. Scale bars: 297: 1.0 mm; 298–300: 0.5 mm; 301–304: 0.2 mm; 305: 0.1 mm.



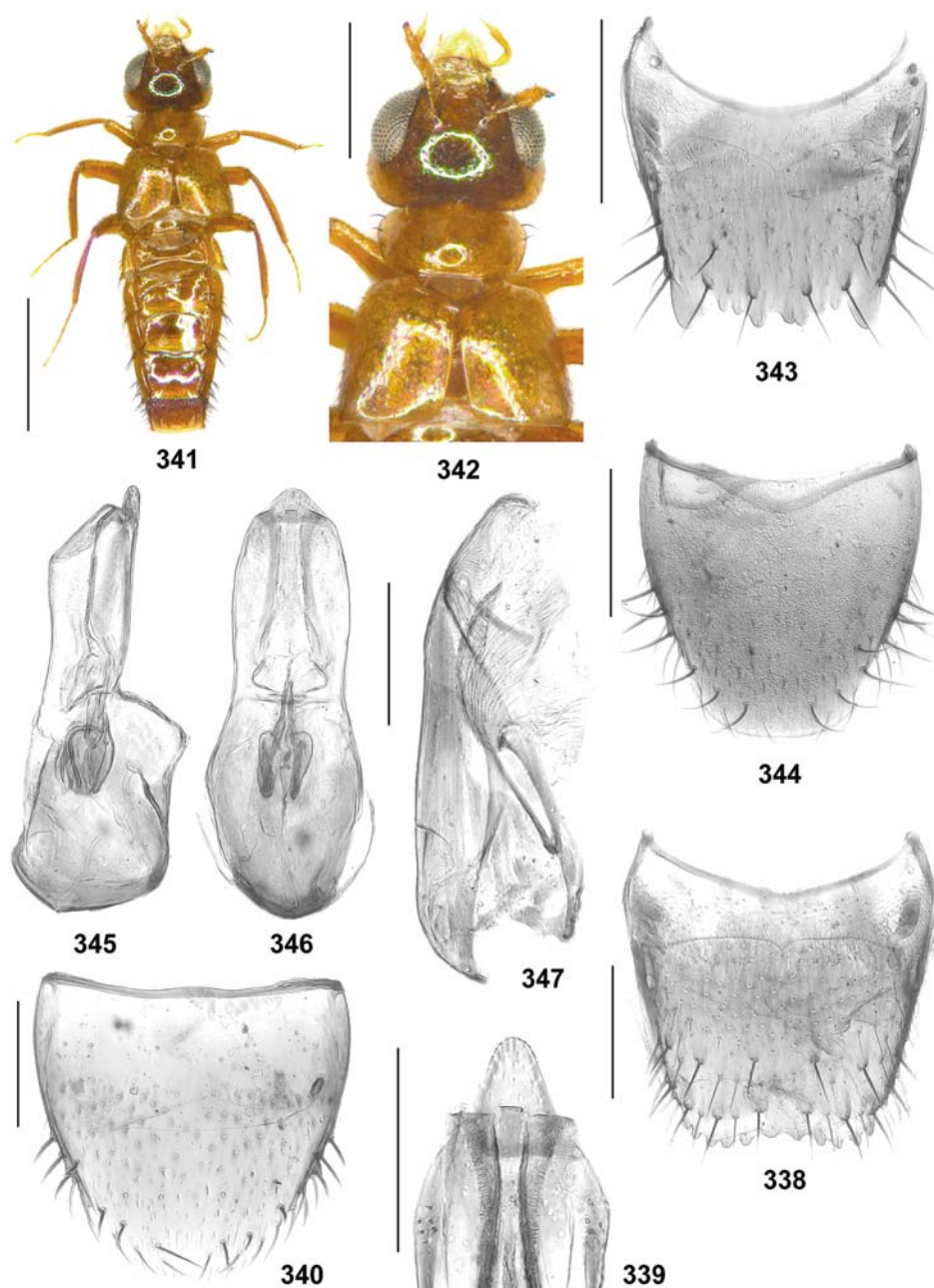
Figs 306–315. *Orphnebius botulus* sp. nov. (306–310) and *O. pinnatus* sp. nov. (311–315). 306, 311 – habitus; 307, 312 – forebody; 308, 314 – tergite VIII; 309 – female sternite VIII; 310 – spermatheca; 313 – forebody in dorso-lateral view; 315 – male sternite VIII. Scale bars: 306, 311–313: 1.0 mm; 307: 0.5 mm; 308–309, 314–315: 0.2 mm; 310: 0.1 mm.



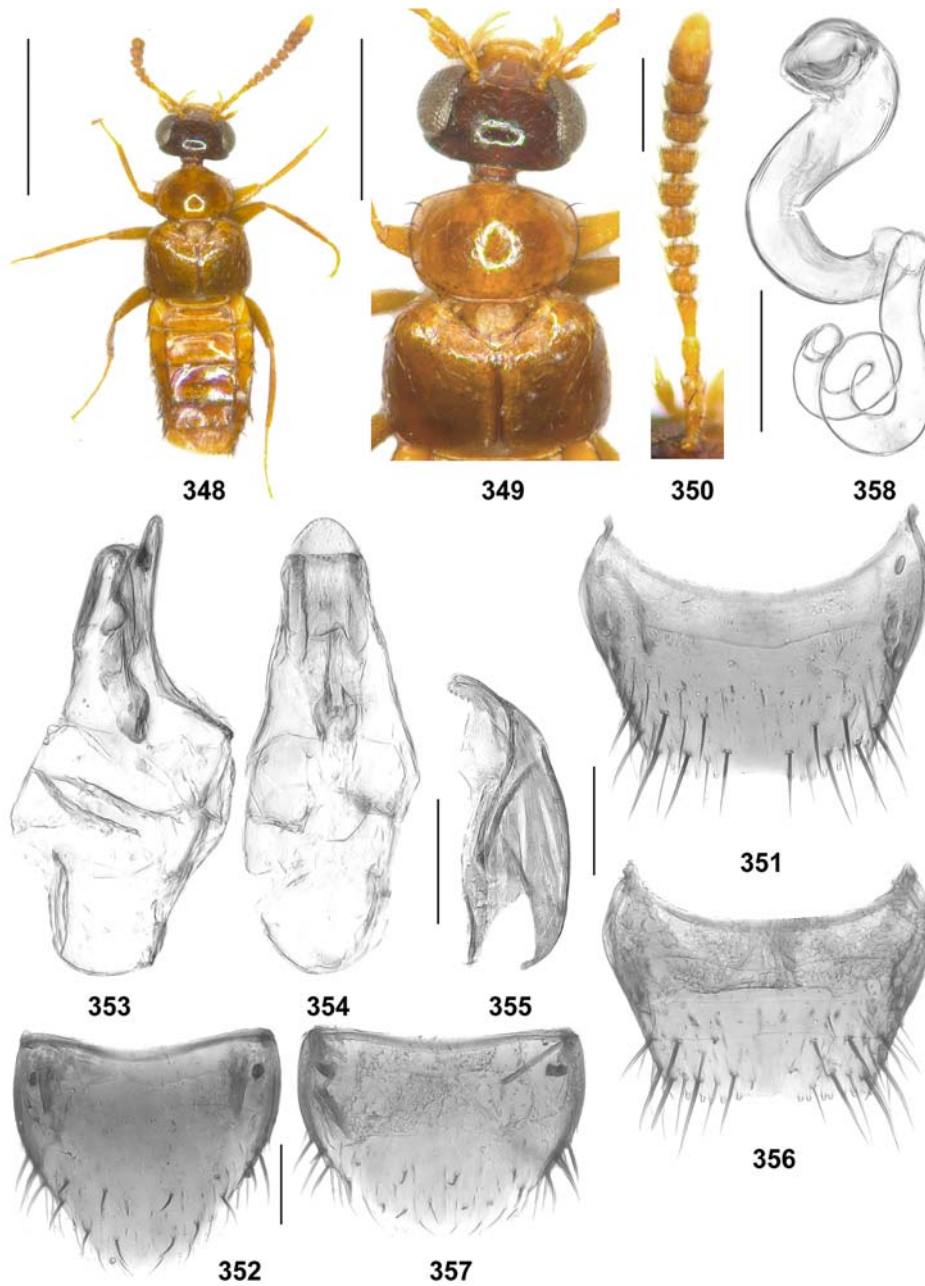
Figs 316–325. *Orphnebius pinnatus* sp. nov. (316–318) and *O. bicarinatus* sp. nov. (319–325). 316–317 – median lobe of aedeagus in lateral and in ventral view; 318 – paramere; 319 – habitus; 320 – forebody; 321 – antenna; 322 – left antero-lateral portion of abdomen; 323 – tergite VIII; 324 – female sternite VIII; 325 – spermatheca. Scale bars: 319: 1.0 mm; 320–322: 0.5 mm; 323–324: 0.2 mm; 316–318, 325: 0.1 mm.



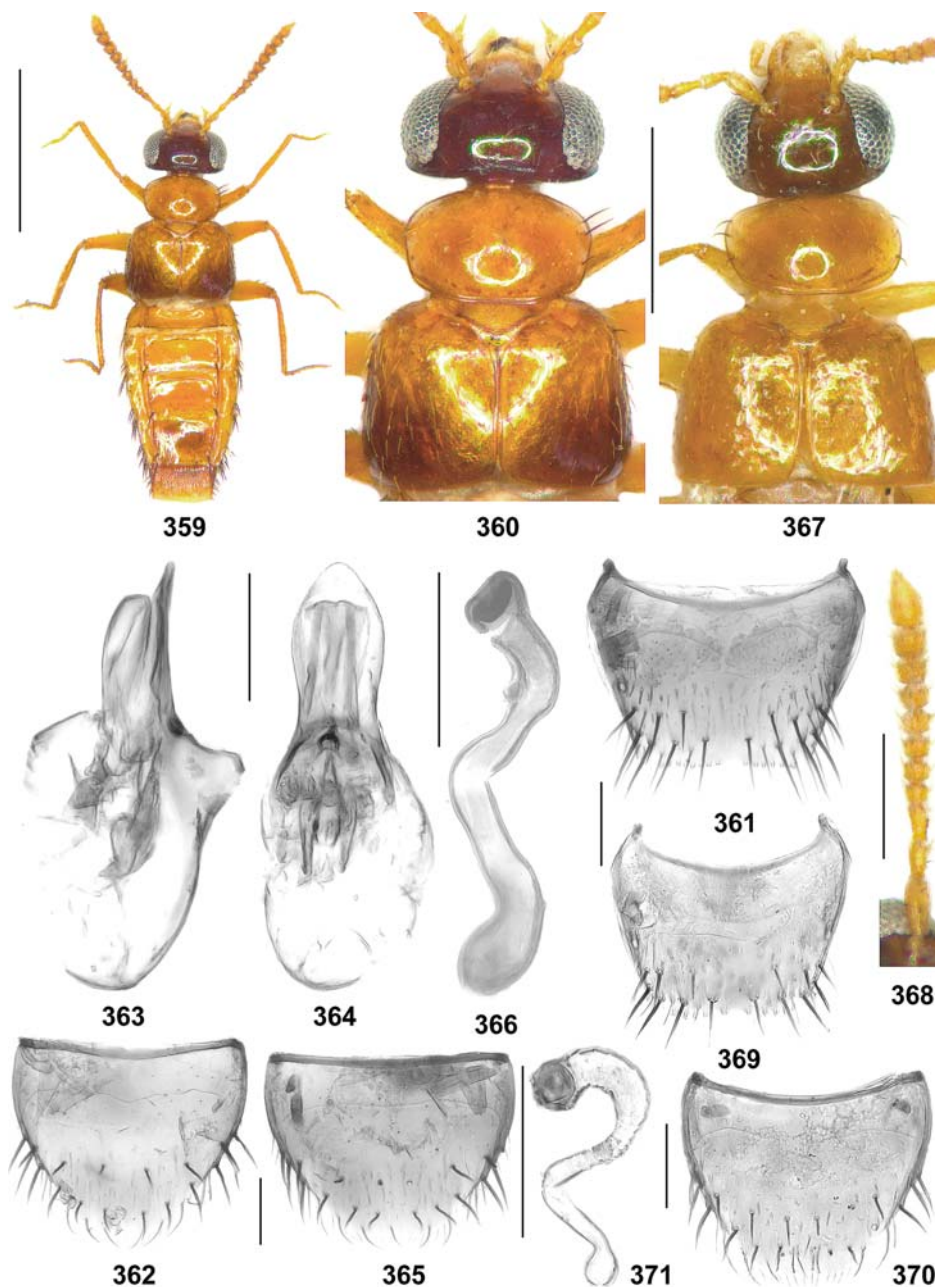
Figs 326–337. *Orphnebius immutatus* sp. nov. 326 – habitus; 327 – forebody; 328 – antenna; 329 – abdomen; 330 – female tergite VIII; 331 – male sternite VIII; 332–333 – median lobe of aedeagus in lateral and in ventral view; 334–335 – internal structures of aedeagus in lateral and in ventral view; 336 – paramere; 337 – spermatheca. Scale bars: 326: 1.0 mm; 327–329: 0.5 mm; 330–331: 0.2 mm; 332–337: 0.1 mm.



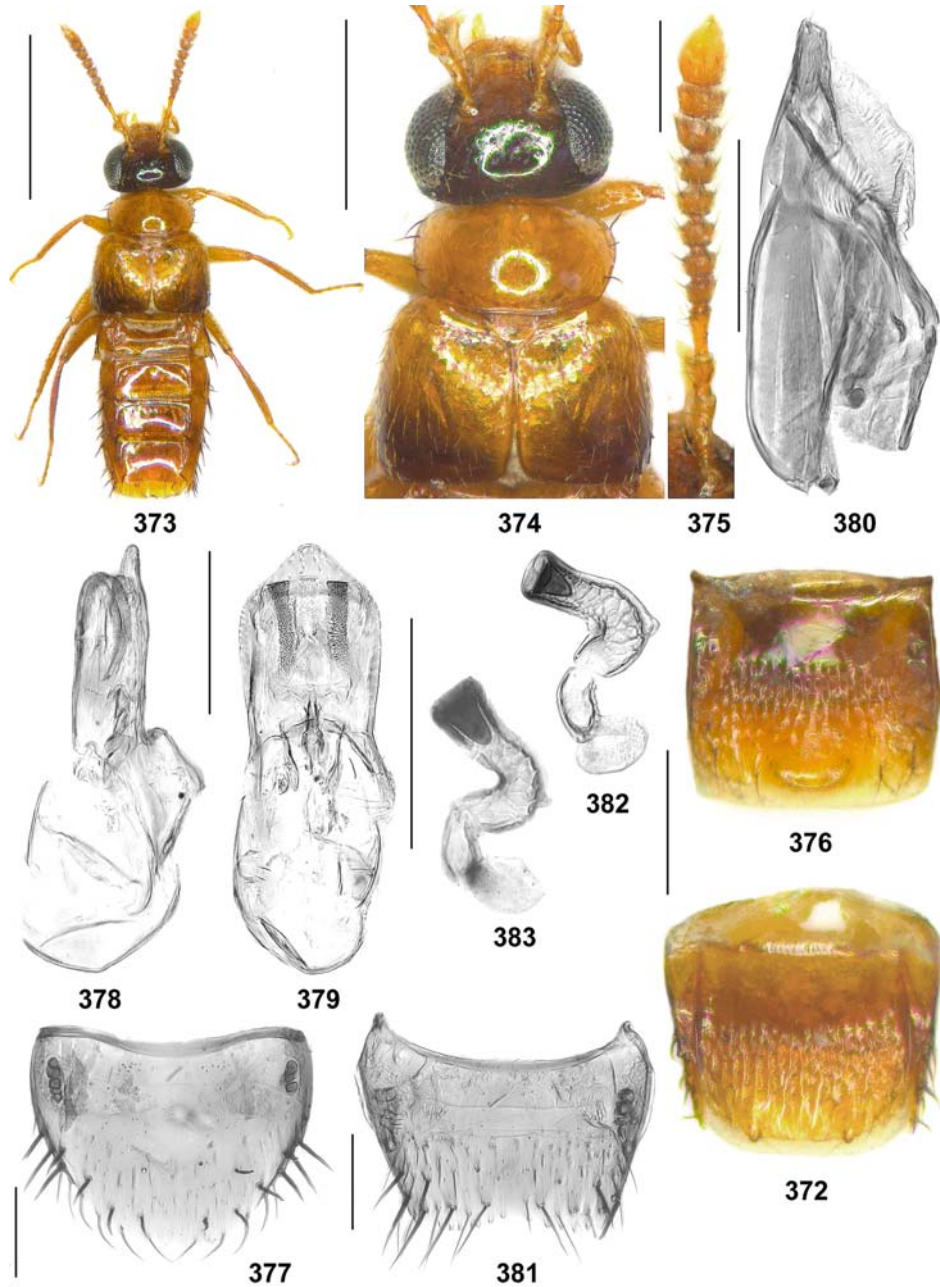
Figs 338–347. *Orphnebius immutatus* sp. nov. (338–340) and *O. buccatus* sp. nov. (341–347). 338, 343 – male tergite VIII; 339 – apex of median lobe of aedeagus in ventral view; 340 – female sternite VIII; 341 – habitus; 342 – forebody; 344 – male sternite VIII; 345–346 – median lobe of aedeagus in lateral and in ventral view; 347 – paramere. Scale bars: 341: 1.0 mm; 342: 0.5 mm; 338, 340, 343–344: 0.2 mm; 339, 345–347: 0.1 mm.



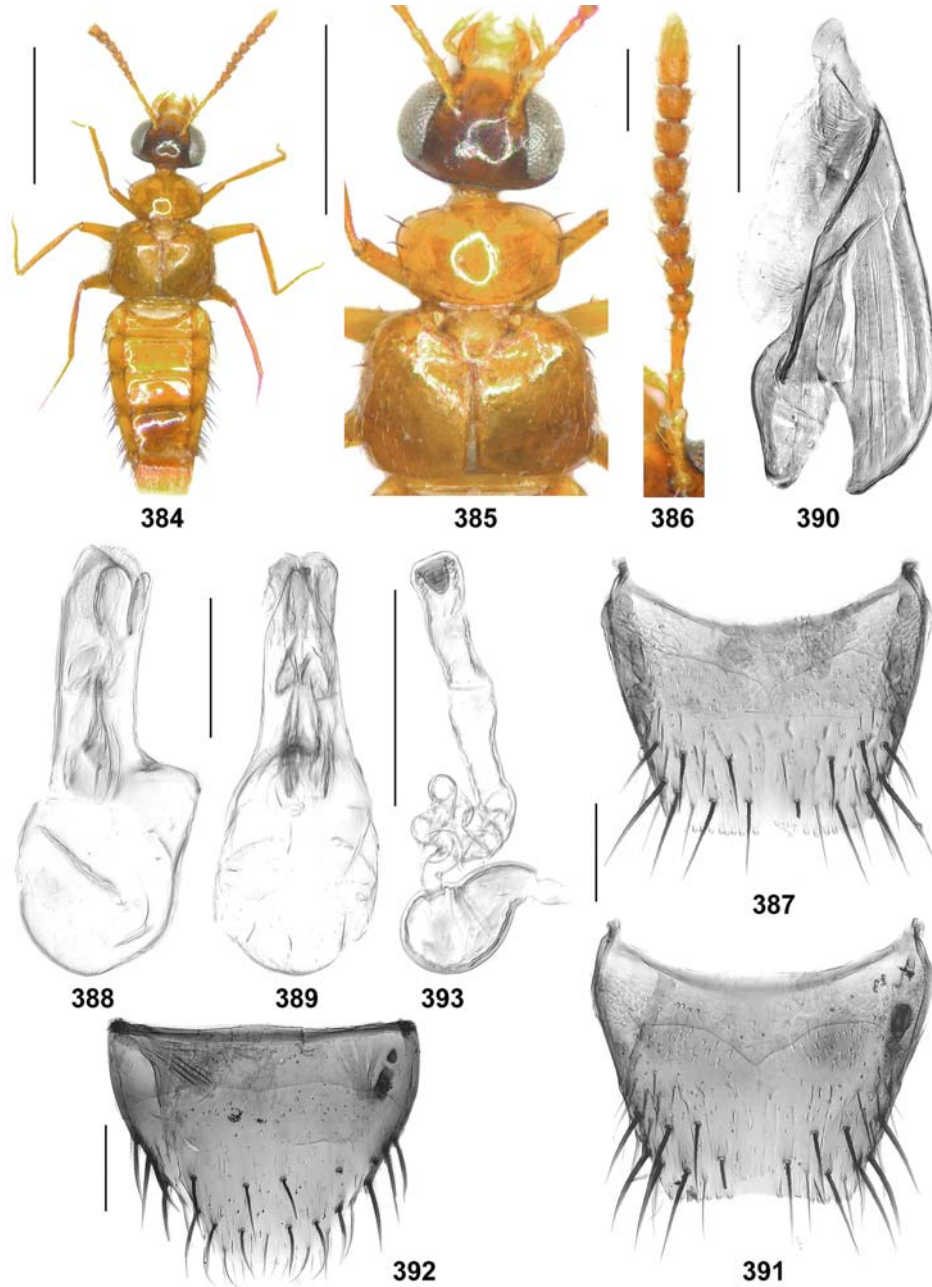
Figs 348–358. *Orphnebius innexus* sp. nov. 348 – habitus; 349 – forebody; 350 – antenna; 351 – male tergite VIII; 352 – male sternite VIII; 353–354 – median lobe of aedeagus in lateral and in ventral view; 355 – paramere; 356 – female tergite VIII; 357 – female sternite VIII; 358 – spermatheca. Scale bars: 348: 1.0 mm; 349: 0.5 mm; 350: 0.2 mm; 351–358: 0.1 mm.



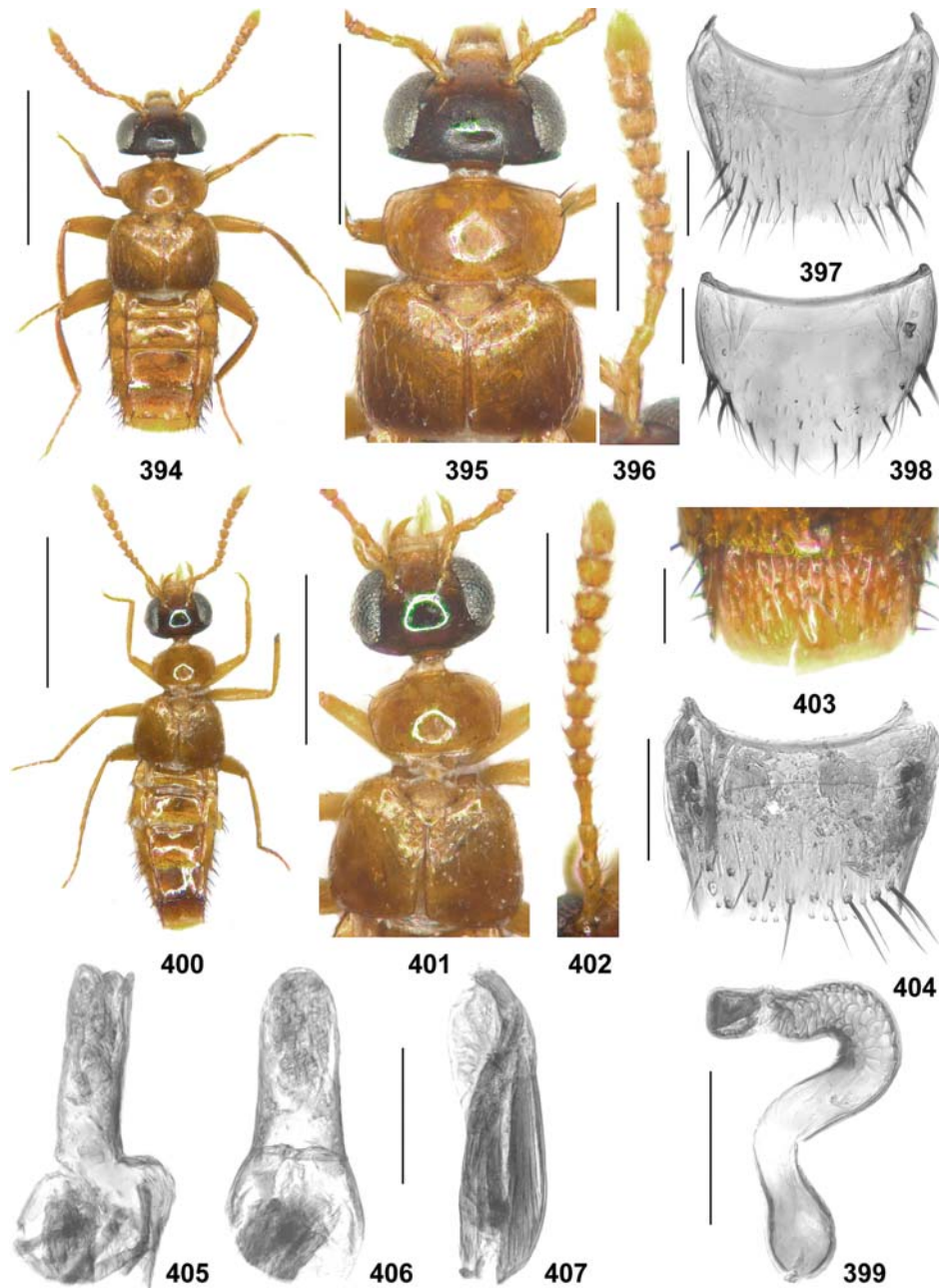
Figs 359–371. *Orphnebius furviceps* sp. nov. (359–366) and *O. bituberculatus* sp. nov. (367–371). 359 – habitus; 360, 367 – forebody; 361, 369 – female tergite VIII; 362 – male sternite VIII; 363–364 – median lobe of aedeagus in lateral and in ventral view; 365, 370 – female sternite VIII; 366, 371 – spermatheca; 368 – antenna. Scale bars: 359: 1.0 mm; 360, 367: 0.5 mm; 368: 0.2 mm; 361–366, 369–371: 0.1 mm.



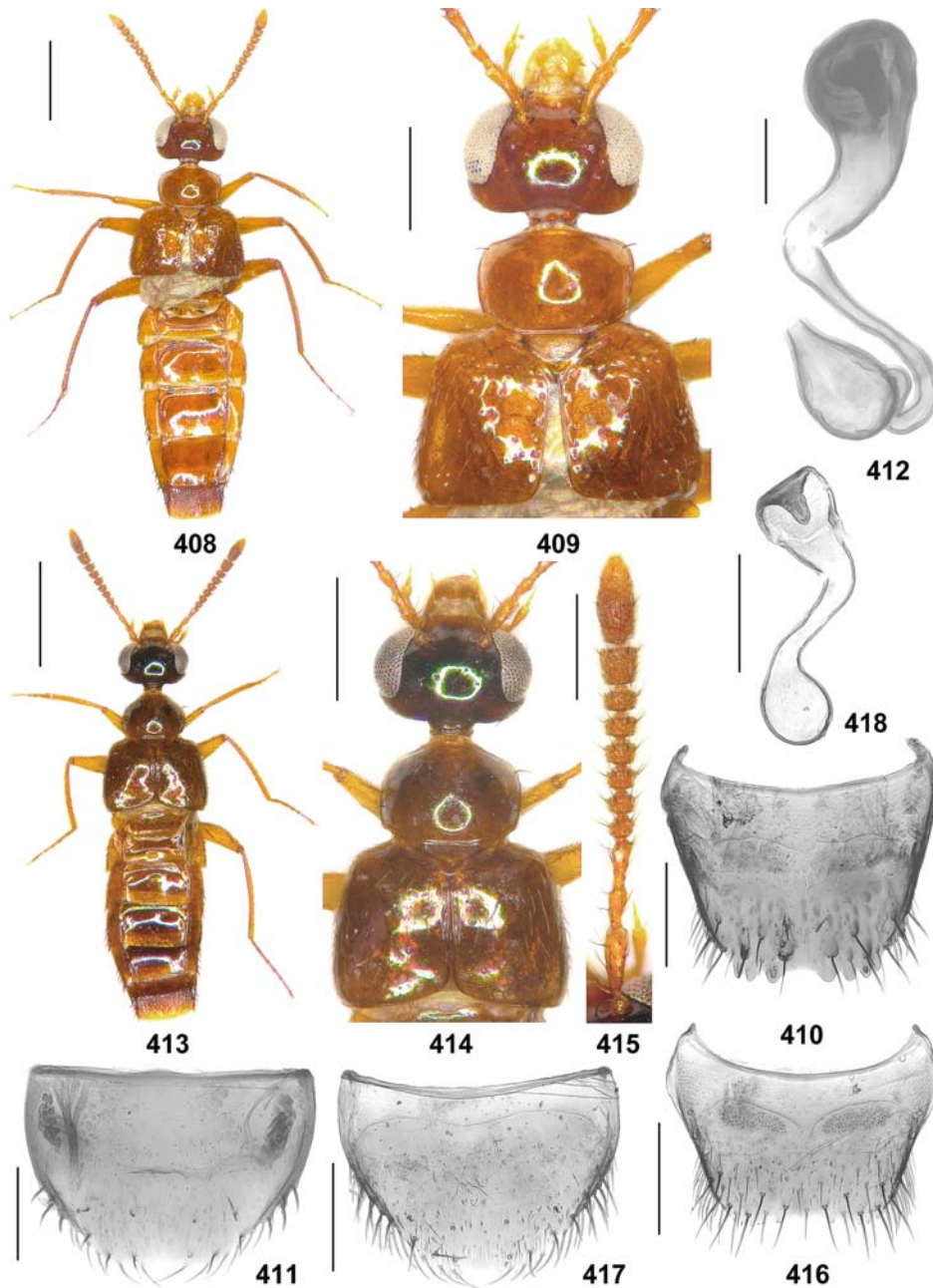
Figs 372–383. *Orphnebius bituberculatus* sp. nov. (372) and *O. compressus* sp. nov. (373–383). 372, 376 – tergite VII; 373 – habitus; 374 – forebody; 375 – antenna; 377 – male sternite VIII; 378–379 – median lobe of aedeagus in lateral and in ventral view; 380 – paramere; 381 – female tergite VIII; 382–383 – spermatheca. Scale bars: 373: 1.0 mm; 374: 0.5 mm; 372, 375–376: 0.2 mm; 377–383: 0.1 mm.



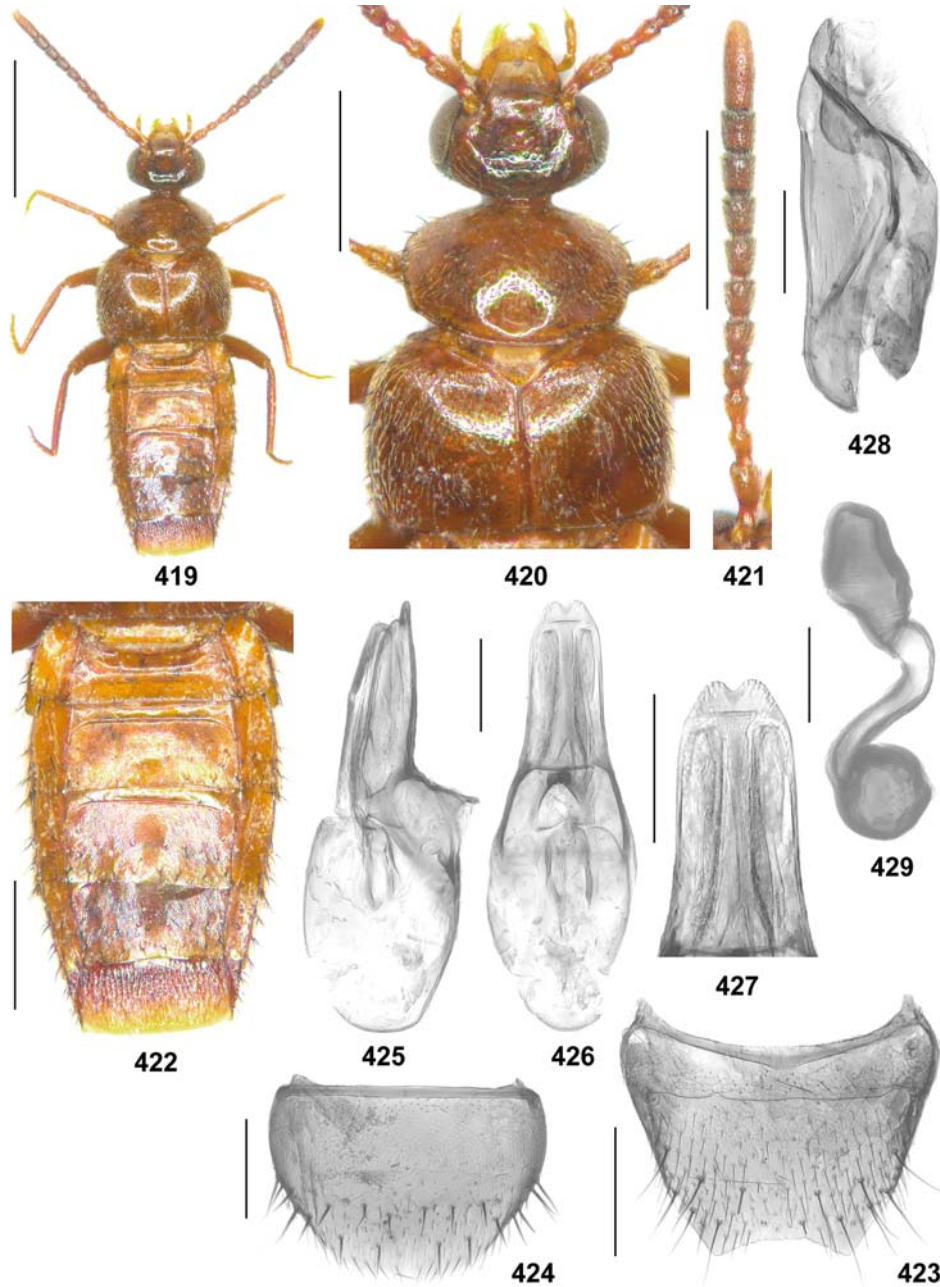
Figs 384–393. *Orphnebius tensicornis* sp. nov. 384 – habitus; 385 – forebody; 386 – antenna; 387 – male tergite VIII; 388–389 – median lobe of aedeagus in lateral and in ventral view; 390 – paramere; 391 – female tergite VIII; 392 – female sternite VIII; 393 – spermatheca. Scale bars: 384: 1.0 mm; 385: 0.5 mm; 386: 0.2 mm; 387–393: 0.1 mm.



Figs 394–407. *Orphnebius rogans* sp. nov. (394–399) and *O. tuberifer* sp. nov. (400–407). 394, 400 – habitus; 395, 401 – forebody; 396, 402 – antenna; 397, 404 – tergite VIII; 398 – female sternite VIII; 399 – spermatheca; 403 – tergite VII; 405–406 – median lobe of aedeagus in lateral and in ventral view; 407 – paramere. Scale bars: 394, 400: 1.0 mm; 395, 401: 0.5 mm; 396, 402: 0.2 mm; 397–399, 403–407: 0.1 mm.



Figs 408–418. *Orphnebius bulbifer* sp. nov. (408–412) and *O. bulbosus* sp. nov. (413–418). 408, 413 – habitus; 409, 414 – forebody; 410, 416 – female tergite VIII; 411, 417 – female sternite VIII; 412, 418 – spermatheca; 415 – antenna. Scale bars: 408, 413: 1.0 mm; 409, 414: 0.5 mm; 410–411, 415–417: 0.2 mm; 412, 418: 0.1 mm.



Figs 419–429. *Orphnebius hirsutus* sp. nov. 419 – habitus; 420 – forebody; 421 – antenna; 422 – abdomen; 423 – tergite VIII; 424 – male sternite VIII; 425–426 – median lobe of aedeagus in lateral and in ventral view; 427 – apical portion of median lobe in ventral view; 428 – paramere; 429 – spermatheca. Scale bars: 419: 1.0 mm; 420–422: 0.5 mm; 423–424: 0.2 mm; 435–439: 0.1 mm.

3.2.3 The *Orphnebius* (sensu lato) fauna of Laos and Borneo

The *Orphnebius* fauna of Laos was previously composed of 22 species, 14 of the *O. hauseri* group and eight of *Deroleptus*, most of which were recorded from there by ASSING (2016b). Additional eleven species, seven of them newly described, are reported in the present study, seven of the *O. hauseri* group and four of *Deroleptus*. Thus, the currently known fauna of Laos is composed of 33 species, 21 of the *O. hauseri* group and twelve of *Deroleptus*. Nearly all these species were recorded on the wing with Malaise or flight interception traps.

PACE (2007) provided an overview of the *Orphnebius* fauna of Borneo known at that time, but did not treat two species. One of them is *O. (Deroleptus) arachnoides*. Based on the structure of tergite VIII, this species belongs to the *O. niger* group. It is additionally characterized as follows: body length 4 mm; sternite III with long spine-shaped postero-lateral processes; elytra with sparse and finely granulose punctation; posterior margin of tergite VIII with median tooth-shaped process much shorter than the lateral ones (BERNHAEUER 1929). The group assignment of the second species, *O. (Deroleptus) dohertyi*, is uncertain, but the details indicated in the original description suggest that the species most likely belongs to the *siwalikensis* group: body length 2.5 mm; coloration: head and pronotum brown; elytra red with the postero-lateral portions infusate; abdomen red; elytra with few fine punctures; sternite III with short, sternite IV with much longer pointed and spine-shaped postero-lateral processes; tergite VIII with pronounced median keel, posterior margin with acute triangular excision.

Including the species described after PACE (2007) the previously known fauna of Borneo was represented by 17 species of the *O. hauseri* group, 18 of *Deroleptus*, four of *Orphnebius* incertae sedis, and one of *Strabocephalum*. Most of these species had been recorded by sifting, flight interception traps, and hand-collecting. An examination of several hundred specimens collected by canopy fogging revealed that the canopy fauna is composed of numerous species and showed only little overlap with species found on the ground. As many as 17 species of the *O. hauseri* group and 24 of *Deroleptus* are newly described, one species is moved from *Keratodegnathus* to the *O. hauseri* group, one *Deroleptus* species described from Sumatra is newly recorded from Borneo, and several additional, probably undescribed species remain unnamed. Thus, the currently known *Orphnebius* fauna of Borneo is composed of 35 described species of the *O. hauseri* group and 43 of *Deroleptus*.

3.2.4 *Orphnebius hauseri* group

For characters constituting this lineage and distinguishing the previously proposed subgroups see ASSING (2016b).

3.2.4.1 *Orphnebius hauseri* subgroup

Orphnebius (Orphnebius) alesi Assing, 2010

Material examined. Laos: 1♂, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The above male represents the first record from Laos and the first record since the original description, which is based on a unique male from the Gaoligong Shan in Yunnan (China) (ASSING 2010).

Orphnebius (Orphnebius) cernens Assing, 2016

Material examined. Laos: 37 exs., Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss); 1♂, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, leg. Kubán (cAss).

Most of the above specimens were collected at the type locality.

Orphnebius (Orphnebius) lunatus Assing, 2016

Material examined. Laos: 1♀, Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss).

The above female was collected at the type locality.

Orphnebius (Orphnebius) abbreviatus sp. nov.

(Figs 1–6)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius abbreviatus* sp. n., det. V. Assing 2020” (NHMB). Paratype ♂ [antennae teratological]: same data as holotype (cAss).

Description. Body length 3.5–3.7 mm; length of forebody 1.5 mm. Habitus as in Fig. 1. Coloration: forebody blackish; abdomen reddish; legs blackish with the protibiae dark-brown and the tarsi reddish; femora, dark-brown mesotibiae, blackish-brown metatibiae, and reddish protibiae and tarsi; antennae blackish brown with the antennomeres I–IV and the base of V pale-reddish; maxillary palpi yellow.

Head (Fig. 2) of transversely oval shape; dorsal surface with scattered and extremely fine punctures in lateral and posterior portions, impunctate in median portion; interstices without microsculpture. Eyes large and strongly bulging, reaching posterior margin of head and forming a smoothly convex outline together with posterior margin. Antenna (Fig. 3) 0.9 mm long, strongly incrassate, and asymmetric; antennomeres IV weakly, V–X strongly transverse and asymmetric, VI–X approximately twice as broad as long, and XI broad, shorter than the combined length of VIII–X.

Pronotum (Fig. 2) transverse, approximately 1.2 times as broad as long and 1.1 times as broad as head; laterally with 2–3 long, stout, and erect black setae on either side; disc with a median pair of punctures behind middle, otherwise impunctate.

Elytra (Fig. 2) at suture shorter than pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII extensively with dense oblong non-setiferous punctation; posterior margin of tergite VIII smoothly convex.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 4–5) approximately 0.55 mm long; ventral process conspicuously short in relation to basal capsule; paramere (Fig. 6) approximately 0.4 mm long, paramerite with very small, condylite without velum.

♀: unknown.

Etymology. The specific epithet (Latin, adjective: shortened) alludes to the conspicuously short ventral process of the aedeagus in relation to the basal capsule.

Comparative notes. Based on the external and male sexual characters, this species belongs to the *O. hauseri* subgroup (see ASSING 2016b). Among the species of this group, *O. abbreviatus* is characterized particularly by strongly incrassate and distinctly asymmetric antennae, by a conspicuously short ventral process of the aedeagus, and by the shape of the paramere, above all a condylite without a velum.

Distribution and natural history. The type locality is situated in Bokeo province, Northwest Laos. The specimens were collected at an altitude of 500–700 m, most likely with a Malaise trap.

***Orphnebius (Orphnebius) crassisetosus* sp. nov.**

(Figs 7–12)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phu Phan Mt., 20°12’N, 104°01’E, ca. 1750 m, 17.V.–3.VI.2007, leg. Vit Kuban / Holotypus ♂ *Orphnebius crassisetosus* sp. n., det. V. Assing 2020” (NHMB). Paratype ♂: same data as holotype (cAss).

Description. Body length 4.2–4.5 mm; length of forebody 1.6–1.8 mm. Habitus as in Fig. 8. Coloration: forebody blackish; abdomen reddish; legs reddish with the femora slightly darker; antennae dark-brown with the basal four antennomeres reddish; maxillary palpi yellowish.

Head (Fig. 9) of transversely oval shape; dorsal surface with scattered and extremely fine punctures in lateral and posterior portions, impunctate in median portion; interstices without microsculpture. Eyes large and strongly bulging, reaching posterior margin of head and forming a smoothly convex outline together with posterior margin. Antenna (Fig. 10) 1.2 mm long, weakly incrassate, and practically symmetric; antennomeres IV–VI somewhat flattened, VII–X oval in cross-section, V–X moderately transverse, X approximately 1.5 times as broad as long, and XI conspicuously elongate, as long as the combined length of VII–X.

Pronotum (Fig. 9) transverse, approximately 1.3 times as broad as long and 1.15 times as broad as head; laterally with 5–6 long, stout, and erect black setae on either side; disc with a median pair of punctures behind middle, otherwise impunctate.

Elytra (Fig. 9) at suture shorter than pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII extensively with dense and not particularly coarse longitudinal sculpture; posterior margin of tergite VIII smoothly convex.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 11–12) approximately 0.7 mm long; ventral process narrow in lateral view; paramere (Fig. 7) very small in relation to median lobe, less than 0.4 mm long (velum included), paramerite with four stout setae.

♀: unknown.

Etymology. The specific epithet is composed of the Latin adjectives *crassus* (stout) and *setosus* (setose). It alludes to the stout setae on the paramere and to the evidently close relationship to *O. fortesetosus* Assing, 2019.

Comparative notes. As can be inferred from similar external (general shape of antennae, large eyes, distinctly transverse pronotum, pronotum laterally with 5–6 long and stout black setae) and the male sexual characters (median lobe of similar shape, paramerite with four stout setae), *O. crassisetosus* is closely allied to *O. fortesetosus* of the *O. hauseri* subgroup, a species currently known only from the type locality in Sichuan (China). It is distinguished from this species by the coloration (*O. fortesetosus*: elytra anteriorly more or less extensively yellow), more slender antennae (*O. fortesetosus*: antennomeres VIII–X somewhat asymmetric and strongly transverse, approximately twice as broad as long), slightly larger eyes, a narrower ventral process (lateral view) of the otherwise practically identical median lobe of the aedeagus, and significantly smaller parameres with a broader paramerite (*O. fortesetosus*: paramere approximately 0.5 mm long, velum included). For illustrations of *O. fortesetosus* see ASSING (2019a).

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The specimens were collected at an altitude of approximately 1750 m, most likely with a Malaise trap.

***Orphnebius (Orphnebius) cf. perpenetrans* Pace, 2007** (Figs 13–15, 29)

Material examined. Malaysia: Sabah: 1♂, Mt. Kinabalu, 5000 ft., under bark, 24–25.IX.1977, leg. Bacchus (BMNH).

Orphnebius perpenetrans is known only from Sabah, Borneo (ASSING 2016b, 2017a).

According to the original description, the forebody is brown and the antennae are uniformly pale-reddish, whereas in the material examined by myself (aedeagus practically identical to that illustrated by PACE (2007) for *O. perpenetrans*) the forebody is black and the antennomeres V–X are reddish-brown. Moreover, PACE (2007) states that, in the holotype, the posterior margin of the abdominal tergite VI is excavate in the middle. Unfortunately, the paramere is not illustrated in the original description. Therefore, the possibility that the above male belongs to a similar unnamed species cannot be ruled out with certainty. Its habitus and the male sexual characters are illustrated in Figs 13–15, 29.

***Orphnebius (Orphnebius) taleatus* sp. nov.**

(Figs 16–22)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO1, 18.10.96, Jens & Kerstin / Holotypus ♂ *Orphnebius taleatus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 3 ♀♀: same data as holotype (cAss); 1 ♂: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A50/F5, 23.2.96, A. Floren” (cAss); 1 ♀: same data, but “A51/F6, 29.2.96” (cAss); 1 ♂, 1 ♀: “Kinabalu NP, My, 6°5′N, 116°33′E, *Aporusa lagenocarpa* 70, A. Floren 10.11.1996” (cAss); 1 ♀: same data, but “*Aporusa lagenocarpa* 71, A. Floren 23.10.1996” (cAss)

Description. Small species; body length 2.4–2.8 mm; length of forebody 1.1–1.2 mm. Habitus as in Fig. 16. Coloration: forebody blackish, with the elytra sometimes and the pronotum rarely dark-brown; abdomen brown to dark-brown; legs yellowish-brown with the femora dark-brown to blackish-brown; antennae blackish-brown to black with the basal 5–6 antennomeres yellow; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 17) of transversely oval shape, approximately 1.3 times as broad as long; dorsal surface with scattered and extremely fine punctures laterally and posteriorly, median dorsal portion extensively impunctate. Eyes strongly convex and large, significantly longer than the distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 18) short, approximately 0.6 mm long; antennomeres IV moderately transverse, V distinctly transverse and significantly broader than IV, VI–X distinctly transverse and weakly asymmetric, of gradually increasing width, and increasingly transverse, X approximately twice as broad as long, and XI short, barely as long as the combined length of IX and X.

Pronotum (Fig. 17) approximately 1.3 times as broad as long and 1.1 times as broad as head; posterior angles moderately marked; disc practically impunctate, without a distinct median pair of macropunctures behind middle.

Elytra (Fig. 17) shorter than pronotum; disc with only few very scattered and extremely fine setiferous punctures. Hind wings fully developed.

Abdomen: tergite VII with a mix of longitudinally striate sculpture and oblong non-setiferous punctation; tergite VIII with smoothly convex posterior margin.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 19–20) approximately 0.4 mm long; ventral process relatively short, in lateral view basally broad, apically acute, and of subtriangular shape; paramere (Fig. 21) slightly shorter than median lobe; paramerite moderately slender, apically with four long setae and with rather long velum; condylite rod-shaped and much shorter than paramerite.

♀: spermatheca with globulous distal portion (Fig. 22).

Etymology. The specific epithet is an adjective derived from the Latin noun *talea* (stick, rod) and alludes to the shape of the condylite of the aedeagus.

Comparative notes. This species is characterized particularly by the shapes of the median lobe of the aedeagus and of the spermatheca, and above all by the morphology of the paramere. It additionally differs from the externally similar and syntopic *O. mollis* by much darker femora.

Distribution and natural history. The specimens were collected by canopy fogging in Kinabalu National Park, West Sabah (Malaysia), North Borneo.

***Orphnebius (Orphnebius) geminus* sp. nov.**

(Figs 23–28)

Type material. Holotype ♂: “Kinabalu Park, Sorinsim, SW I 5 Years / Topou 7, 21.2.97, A. Floren / Holotypus ♂ *Orphnebius geminus* sp. n., det. V. Assing 2020” (cAss). Paratype ♀ [teneral]: same data as holotype (cAss).

Description. Small species; body length 2.8 mm; length of forebody 1.2 mm. Habitus as in Fig. 23. Coloration: head blackish; pronotum blackish-brown; elytra dark-brown; abdomen dark-brown with the anterior segments slightly paler brown; legs reddish with darker femora; antennae blackish-brown with antennomeres I–V dark-yellow; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 24) of transversely oval shape, approximately 1.3 times as broad as long; dorsal surface with sparse and moderately fine punctures laterally and posteriorly, median dorsal portion extensively impunctate. Eyes strongly convex and large, significantly longer than the distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 25) short, approximately 0.7 mm long and strongly incrassate; antennomeres IV weakly transverse, V–VI moderately transverse, VII–X much broader than IV–VI and strongly transverse, nearly three times as broad as long, and XI of oval shape, slightly longer than the combined length of IX and X.

Pronotum (Fig. 24) approximately 1.35 times as broad as long and 1.1 times as broad as head; posterior angles weakly marked; disc practically impunctate, except for a median pair of macropunctures behind middle.

Elytra (Fig. 24) approximately 0.8 times as long as pronotum; disc with fine and sparse punctation. Hind wings fully developed.

Abdomen: tergite VII with longitudinally striate sculpture; tergite VIII with smoothly convex posterior margin.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 26–27) 0.45 mm long; ventral process with sinuate lateral margins and apically convex in ventral view; paramere (Fig. 28) little more than 0.3 mm long (velum included); paramerite broad, apically with four long setae arranged in two pairs; condylite slender, approximately as long as paramerite, and apically with rather long and slender velum.

♀: spermatheca not found in the teneral female paratype.

Etymology. The specific epithet (Latin, adjective: doubled) alludes to the pairwise arrangement of setae on the apex of the paramerite.

Comparative notes. Though otherwise similar to species of the *O. hauseri* subgroup, *O. geminus* is assigned to this group with some hesitation, particularly because of the somewhat unusual and distinctive shape of the median lobe of the aedeagus. In addition, *O. geminus* is characterized by the morphology of the antennae and the shape and chaetotaxy of the paramere.

Distribution and natural history. The type locality is situated in Kinabalu National Park, West Sabah (Malaysia), North Borneo, where the specimens were collected by canopy fogging.

***Orphnebius (Orphnebius) sextuberculatus* sp. nov.**

(Figs 30–35)

Type material. Holotype ♂: “SAWARAK: 4th Division, Gn. Mulu NP / nr. Camp 5 / P.M. Hammond & J.E. Marshall, v–viii.1978, B.M. 1978-49 / Holotypus ♂ *Orphnebius sextuberculatus* sp. n., det. V. Assing 2019” (BMNH).

Description. Body length 3.2 mm; length of forebody 1.25 mm. Habitus as in Fig. 30. Coloration: head black; pronotum blackish-brown; elytra brown with the lateral portions slightly and diffusely darker; abdomen reddish-brown with tergite VII slightly darker and tergite VIII dark-yellow; legs dark-yellow; antennae bicoloured with antennomeres I–V pale-reddish and VI–XI dark-brown; maxillary palpi reddish with the apical palpomere yellow.

Head (Fig. 31) strongly transverse; lateral portions of dorsal surface with scattered and extremely fine setiferous punctures; median dorsal portion impunctate; microsculpture absent. Eyes large and bulging, much longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna rather short, distinctly incrassate, and asymmetric; antennomeres IV–V small and transverse, VI–X asymmetric, of increasing width and increasingly transverse, much broader than IV–V, VII–X more than twice as broad as long, and XI nearly as long as combined length of VIII–X.

Pronotum (Fig. 31) 1.27 times as broad as long and of transversely subquadrangular shape, approximately as broad as head; disc with a pair of coarse punctures slightly behind middle, otherwise impunctate; microsculpture absent.

Elytra (Fig. 31) at suture approximately 0.85 times as long as pronotum; disc with sparse and conspicuously tuberclose punctation; microsculpture absent. Hind wings fully developed.

Abdomen broad; tergite VII (Fig. 32) extensively with dense and coarse striate sculpture, near posterior margin with four tubercles; tergite VIII (Fig. 32) with a pair of pronounced setiferous tubercles in postero-median portion, posterior margin convex and with minute setiferous tubercles.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus approximately 0.6 mm long and shaped as in Figs 33–34; paramere very small, approximately 0.25 mm long, and slender (Fig. 35).

♀: unknown.

Etymology. The specific epithet (Latin, adjective: with six tubercles) alludes to the conspicuous tubercles on the abdominal tergites VII and VIII.

Comparative notes. Based on the shapes of tergite and sternite VIII, on the modifications of segments IX–X, and on the morphology of the aedeagus, *O. sextuberculatus* belongs to the *O. hauseri* subgroup. Among the species of this group, it is characterized particularly by the conspicuous punctation of the elytra, the tubercles on the abdominal tergites VII and VIII, as well as by the shapes of the median lobe of the aedeagus and the paramere.

Distribution and natural history. The type locality is situated in Gunung Mulu National Park, Sarawak, Borneo. Additional data are not available.

Orphnebius (Orphnebius) retornatus sp. nov.

(Figs 36–40)

Type material. Holotype ♂: “SAWARAK: 4th Division, Gn. Mulu NP / nr. Base Camp, 50–100 m / alluvial forest / Malaise trap / P.M. Hammond & J.E. Marshall, v–viii.1978, B.M. 1978-49 / Holotypus ♂ *Orphnebius retornatus* sp. n., det. V. Assing 2019” (BMNH). Paratype ♂: same data as holotype, except “nr. Camp 5” (cAss).

Description. Body length 3.6–3.8 mm; length of forebody 1.4–1.5 mm. Habitus as in Fig. 38. Coloration: head and pronotum brown; elytra yellow with the postero-lateral portions diffusely brown; abdomen yellowish-red with tergite VII somewhat darker; legs dark-yellow; antennae pale-red; maxillary palpi reddish-yellow with the apical palpomere pale-yellow.

Head (Fig. 39) transverse; lateral portions of dorsal surface with scattered and extremely fine setiferous punctures; median dorsal portion extensively impunctate; microsculpture absent. Eyes large and bulging, occupying practically all of lateral margins of head in dorsal view. Antenna slender and weakly asymmetric, 1.35 mm long; antennomeres IV approximately as long as broad, V–X of gradually increasing width and increasingly transverse, X approximately 1.5 times as broad as long, and XI nearly as long as the combined length of VIII–X.

Pronotum (Fig. 39) 1.3 times as broad as long and approximately 1.15 times as broad as head; disc impunctate; microsculpture absent.

Elytra (Fig. 39) at suture shorter than pronotum, in postero-lateral portion with an impression; disc with sparse and extremely fine setiferous punctation; microsculpture absent. Hind wings fully developed.

Abdomen: tergite VII extensively with a mix of confluent non-setiferous punctation and longitudinal striae; tergite VIII and sternite VIII of the usual shape and chaetotaxy of the *O. hauseri* group.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus 0.55 mm long and shaped as in Figs 36–37; ventral process apically very acute and bent dorsad; paramere (Fig. 40) small, approximately 0.3 mm long, and with very slender paramerite and condylite.

♀: unknown.

Etymology. The specific epithet is the past participle of the Latin verb *retornare* (to turn back) and alludes to the shape of the apex of the ventral process of the aedeagus in lateral view.

Comparative notes. Based on the shapes of tergite and sternite VIII, the modifications of segments IX–X, and on the morphology of the aedeagus, *O. retornatus* belongs to the *O. hauseri* group. Among the species of this group, it is characterized particularly by postero-laterally impressed elytra and the conspicuous shape of the ventral process of the aedeagus. It is additionally distinguished from *O. perpenetrans*, which too has the ventral process of the aedeagus directed dorsad, by a paler abdomen, the coloration of the elytra (brown in *O. perpenetrans*), a more transverse pronotum, an unmodified male abdominal tergite VI, and a less slender base of the ventral process of the aedeagus in ventral view.

Distribution and natural history. The type locality is situated in Gunung Mulu National Park, Sarawak, Borneo. The holotype was collected with a Malaise trap at an altitude of 50–100 m.

***Orphnebius (Orphnebius) derectus* sp. nov.**

(Figs 41–46)

Type material. Holotype ♂: “SARAWAK: Gungong Nat. Park, R.G.S Exped. 1977–8, J.D. Holloway et al., B.M.1978-206 / Site 9. February, Camp 1, Mulu, 140 m. 384470, Mixed dipt. for., Acl-understorey. / at light / Holotypus ♂ *Orphnebius derectus* sp. n., det. V. Assing 2019” (BMNH).

Description. Body length 4.4 mm; length of forebody 1.9 mm. Habitus as in Fig. 41. Coloration: head and pronotum brown; elytra pale-brown with the postero-lateral portions diffusely and slightly darker; abdomen yellowish-red with tergite VII red and posterior two-thirds of paratergites VII blackish; legs dark-yellow; antennae pale-red; maxillary palpi yellow with the base of the preapical palpomere slightly darker.

Head (Fig. 42) transverse; lateral portions of dorsal surface with scattered and extremely fine setiferous punctures; median dorsal portion extensively impunctate; microsculpture absent. Eyes large and bulging, occupying practically all of lateral margins of head in dorsal view. Antenna weakly asymmetric, 1.4 mm long; antennomeres IV distinctly transverse, V–X of gradually increasing width and increasingly transverse, X approximately twice as broad as long, and XI as long as the combined length of VIII–X.

Pronotum (Fig.42) 1.15 times as broad as long and 1.07 times as broad as head, broadest posteriorly; disc impunctate, except for a pair of punctures approximately in the middle; microsculpture absent.

Elytra (Fig. 42) at suture significantly shorter than pronotum, in postero-lateral portion with a small impression; disc with sparse and fine, but distinct setiferous punctation; microsculpture absent. Hind wings fully developed.

Abdomen: tergite VII with a broad band of non-setiferous tubercles across median third and with longitudinal striae across posterior third; tergite VIII and sternite VIII of the usual shape and chaetotaxy of the *O. hauseri* group.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus approximately 0.75 mm long and shaped as in Figs 44–45; ventral process straight and apically very acute; paramere (Fig. 43) approximately 0.5 mm long, with very slender condylite and paramerite.

♀: unknown.

Etymology. The specific epithet (Latin, adjective: straight) alludes to the straight ventral process of the aedeagus (lateral view).

Comparative notes. As can be inferred from the similar external and male sexual characters, particularly also the synapomorphic presence of impressions in the postero-lateral portions of the elytra, *O. derectus* is most closely allied to *O. retornatus*, from which it differs by significantly more transverse antennomeres IV–X, a relatively larger head, a less transverse pronotum with the lateral margins distinctly tapering anteriorly, more distinct elytral punctation, the sculpture of tergite VII, and a significantly larger aedeagus with a straight ventral process (lateral view).

Distribution and natural history. The type locality is situated in Gunung Mulu National Park, Sarawak, Borneo. The holotype was collected at a light source in a mixed dipterocarp forest at an altitude of 140 m.

***Orphnebius* sp.**

Material examined. Malaysia: 1♀: “Poring Hot Springs, My, N6 03.547 E116 42.179, *Palagium sericeum* 5, A Floren, 09.08.2009” (cAss).

The above female most likely represents an undescribed species. A male would be required for an adequate description.

3.2.4.2 *Orphnebius retunsus* subgroup

***Orphnebius (Orphnebius) retunsus* Assing, 2016**

Material examined. Laos: 7♂♂, 3♀♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description of this species is based on a unique male from Louangphrabang province, Laos.

***Orphnebius (Orphnebius) acutus* Pace, 2014**

Material examined. Malaysia: Sarawak: 1♀., Gunung Mulu National Park, near Camp 5, limestone plot, pitfall trap, III.1978, leg. Collins (BMNH).

This species was previously known only from Sabah (ASSING 2017a).

***Orphnebius (Orphnebius) comatus* sp. nov.**

(Figs 47–54)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius comatus* sp. n., det. V. Assing 2020” (NHMB). Paratypes 21♂♂, 3♀♀: same data as holotype (NHMB, cAss).

Description. Body length 3.3–4.0 mm; length of forebody 1.3–1.6 mm. Habitus as in Fig. 47. Coloration: forebody reddish to reddish-brown; legs pale-reddish; antennae reddish; maxillary palpi reddish-yellow.

Head (Fig. 48) of transversely oval shape; dorsal surface with moderately dense and extremely fine punctation bearing long, thin, and pale setae; median dorsal portion impunctate; interstices without microsculpture. Eyes large and strongly bulging, reaching posterior margin of head and forming a smoothly convex outline together with posterior margin. Antenna (Fig. 49) approximately 1.0 mm long, distinctly incrassate, and slightly asymmetric; antennomeres IV–X strongly transverse, approximately twice as broad as long, and XI of distinctly conical shape, slightly shorter than the combined length of VIII–X.

Pronotum (Fig. 48) transverse, approximately 1.3 times as broad as long and 1.15–1.20 times as broad as head; disc with a median pair of coarser punctures behind middle and additionally with moderately dense, extremely fine punctation bearing long and thin pale setae (similar to those of head).

Elytra (Fig. 48) at suture shorter than pronotum; disc with moderately dense and fine punctation bearing long yellowish setae, these setae stouter and more distinct than those of head and pronotum. Hind wings fully developed.

Abdomen broadest at base; tergite VII extensively with dense and oblong non-setiferous punctation; posterior margin of tergite VIII smoothly convex.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 50–52) approximately 0.7 mm long; ventral process long, slender, and apically very acute, spear-shaped; paramere (Fig. 53) approximately 0.5 mm long (velum included), with very slender paramerite and condylite.

♀: spermatheca as in Fig. 54.

Etymology. The specific epithet (Latin, adjective: hairy) alludes to the presence of moderately dense pubescence on the disc of the pronotum.

Comparative notes. This species is distinguished from all other representatives of the *O. hauseri* group by the conspicuous morphology of the aedeagus (shapes of ventral process and of paramere), from other species known from Laos also by the presence of long pubescence on the pronotal disc and by the coloration. Based on the morphology of the aedeagus, *O. comatus* belongs to the *O. retunsus* subgroup (see ASSING 2016b).

Distribution and natural history. The type locality is situated in Bokeo province, Northwest Laos. The specimens were collected at an altitude of 500–700 m, most likely with a Malaise trap.

***Orphnebius (Orphnebius) calvus* sp. nov.**

(Figs 55–60)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28’N, 100°45’E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius comatus* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 3.8 mm; length of forebody 1.5 mm. Habitus as in Fig. 55. Coloration: body reddish with brown head and reddish-yellow elytra; legs pale-reddish; antennae reddish; maxillary palpi reddish-yellow with the apical palpomere pale-yellow.

Head (Fig. 56) of transversely oval shape; dorsal surface in the middle extensively impunctate, only laterally with sparse and extremely fine punctures; interstices without microsculpture. Eyes large and strongly bulging, reaching posterior margin of head and forming a smoothly convex outline together with posterior margin. Antenna (Fig. 57) 1.05 mm long, distinctly incrassate, and nearly symmetric; antennomeres IV moderately transverse, V–X of gradually increasing width and distinctly transverse, V–VII approximately 1.5 times as broad as long, X approximately twice as broad as long, and XI slightly shorter than the combined length of VIII–X.

Pronotum (Fig. 56) transverse, approximately 1.3 times as broad as long and 1.1 times as broad as head; disc with a median pair of coarser punctures behind middle,

otherwise without punctation or pubescence; lateral margins with four long black setae on either side.

Elytra (Fig. 56) at suture shorter than pronotum; disc with sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII extensively with longitudinally striate sculpture; posterior margin of tergite VIII smoothly convex.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 58–59) 0.6 mm long; ventral process long, slender, and curved in lateral view; paramere (Fig. 60) 0.38 mm long (velum included), with rather slender paramerite and condylite.

♀: unknown.

Etymology. The specific epithet (Latin, adjective: bald) alludes to the absence of pubescence on the disc of the pronotum, a character at once distinguishing this species from the similar and syntopic *O. comatus*.

Comparative notes. Though similar in coloration, body size, and proportions to the syntopic *O. comatus*, *O. calvus* is readily distinguished from this species by the morphology of the antennae, the complete absence of long pubescence on the pronotal disc, distinctly striate sculpture on the abdominal tergite VII, and by the shapes of the median lobe of the aedeagus and the paramere.

Distribution and natural history. The type locality and the circumstances of collection are identical to those of *O. comatus*.

Orphnebius (Orphnebius) uniformis Pace, 2007

Material examined. Malaysia: Sarawak: 16 exs., Gunung Mulu National Park, >1700 m, pitfall trap, fish bait, III–V.1978, leg. Hanski (BMNH, cAss); 1 ex., same data, but 800–1700 m (BMNH); 3 exs., same data, but 1860 m, upper montane forest, III.1978 (BMNH, cAss); 2 exs., same data, but 1800 m, upper montane forest, pitfall trap, V.1978 (BMNH); 2 exs., Gunung Mulu National Park, near camp, 1800 m, forest leaf litter, V–VIII.1978, leg. Hammond & Marshall (BMNH).

This species has been recorded only from Borneo (Sabah, Sarawak). For previous records see PACE (2007) and ASSING (2019a).

Orphnebius (Orphnebius) baculifer sp. nov.

(Figs 61–67)

Type material. Holotype ♂: “Kinabalu Park, 6°5′N, 116°33′E, Lowland mixed Dipterocarp Forest / *B. scortechinii*, B4, 29.3.98, A. Floren / Holotypus ♂ *Orphnebius baculifer* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 3.3 mm; length of forebody 1.5 mm. Habitus as in Fig. 61. Coloration: head and pronotum brown; elytra dark-yellow with the postero-lateral portions diffusely darker; abdomen yellowish-red; legs yellow; antennae dark-brown with antennomeres I–III yellow; maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 62) of transversely oval shape, approximately 1.3 times as broad as long; dorsal surface, including median portion, finely and rather densely punctate. Eyes large

and strongly bulging, reaching posterior margin of head, much longer than distance from posterior margin of eye to posterior constriction of head in dorsal view, and forming a smoothly convex outline together with posterior margin. Antenna (Fig. 63) 1.15 mm long and rather slender; antennomeres IV much broader than III and moderately transverse, V–X of gradually but weakly increasing width and increasingly transverse, X approximately twice as broad as long, and XI slightly shorter than the combined length of VIII–X.

Pronotum (Fig. 72) of rather distinctive shape, moderately transverse, approximately 1.3 times as broad as long and 1.05 times as broad as head, broadest at posterior angles; lateral margins straight and gradually diverging posteriad; disc with some coarser punctures behind middle, with moderately sparse fine punctation, and with fine and short pubescence; lateral margins with four long black setae on either side.

Elytra (Fig. 52) at suture approximately as long as pronotum; disc with sparse and fine punctation. Hind wings fully developed.

Abdomen: tergite VII extensively with somewhat irregular and not very coarse longitudinally striate sculpture; posterior margin of tergite VIII smoothly convex.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 64–66) 0.6 mm long; ventral process long and slender, apically truncate and with two small lateral processes in ventral view; paramere (Fig. 67) 0.42 mm long, with rather slender paramerite and condylite.

♀: unknown.

Etymology. The specific epithet is an adjective composed of the Latin noun *baculus* (stick) and *-fer* (carrying). It alludes to the long sclerotized structure in the internal sac of the aedeagus.

Comparative notes. This species is characterized and distinguished from other species of the *O. retunsus* subgroup particularly by the shape of the pronotum, the presence of fine punctation on the head and pronotum, the morphology of the antennae (antennomeres IV–XI much broader than antennomeres I–III), the shape of the ventral process of the aedeagus, and the presence of a long stick-shaped structure in the internal sac of the aedeagus.

Regarding the shape of the median lobe of the aedeagus, *O. baculifer* somewhat resembles *O. biapicalis* PACE, 2007, a species described based on a unique male without head from Kinabalu National Park, but differs from it by darker coloration of the forebody (reddish in *O. biapicalis*), straight lateral margins of the pronotum, longer elytra, and a more slender (ventral view) and nearly straight (lateral view) apical portion of the ventral process of the aedeagus. For illustrations of *O. biapicalis* see PACE (2007).

Distribution and natural history. The type locality is situated in Kinabalu National Park, West Sabah (Malaysia), North Borneo. The apparently slightly teneral holotype was collected by canopy fogging.

***Orphnebius (Orphnebius) unguicus* sp. nov.**

(Figs 68–72)

Type material. Holotype ♂: “SAWARAK: 4th Division, Gn. Mulu NP / Site 1, 1860 m. / upper montane forest / Pitfall trap / iii.78 / N.M. Collins, B.M. 1978-11 / Holotypus ♂ *Orphnebius unguicus* sp. n., det. V. Assing 2019” (BMNH).

Description. Body length 4.4 mm; length of forebody 2.0 mm. Habitus as in Fig. 68. Coloration: body pale-reddish with yellow elytra; legs dark-yellow; antennae pale-red; maxillary palpi yellow.

Head (Fig. 69) transverse; lateral portions of dorsal surface with scattered and extremely fine setiferous punctures; median dorsal portion extensively impunctate; microsculpture absent. Eyes large and bulging, occupying practically all of lateral margins of head in dorsal view. Antenna moderately asymmetric, 1.25 mm long; antennomeres IV distinctly transverse, V–X of gradually increasing width and strongly transverse, approximately twice as broad as long, and XI as long as the combined length of VIII–X.

Pronotum (Fig. 69) approximately 1.3 times as broad as long and 1.15 times as broad as head, broadest posteriorly; disc impunctate, except for a pair of punctures approximately in the middle; microsculpture absent.

Elytra (Fig. 69) at suture approximately as long as pronotum; disc with moderately sparse and very fine setiferous punctation; microsculpture absent. Hind wings fully developed.

Abdomen: tergite VII extensively with sculpture composed of oblong tubercles, these tubercles very long anteriorly and gradually decreasing in length posteriorly; tergite VIII and sternite VIII of the usual shape and chaetotaxy of the *O. hauseri* group.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus approximately 0.6 mm long and shaped as in Figs 70–72; ventral process apically acute and somewhat shape like a claw in lateral view; paramere small, approximately 0.3 mm long, with slender condylite and paramerite.

♀: unknown.

Etymology. The specific epithet is an adjective derived from the Latin noun *unguis* (claw) and alludes to the claw-shaped apex of the ventral process of the aedeagus (lateral view).

Comparative notes. This species is distinguished from the similarly coloured *O. uniformis* by much shorter antennae with strongly transverse antennomeres IV–X (*O. uniformis*: antennomeres IV–X oblong or as long as broad), a broader pronotum, longer elytra, the sculpture of the abdominal tergite VII, and by a differently shaped aedeagus. For illustrations of the aedeagus of *O. uniformis* see PACE (2007).

Distribution and natural history. The type locality is situated in Gunung Mulu National Park, Sarawak, Borneo. The holotype was collected with a pitfall trap at an altitude of 1860 m.

3.2.4.3 *Orphnebius conicornis* subgroup

Orphnebius (Orphnebius) fusicollis Assing, 2016

Material examined. Laos: 14♂♂, 11♀♀, Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubáň (cAss).

The above material was collected at the type locality.

3.2.4.4 *Orphnebius dilatatus* subgroup

Orphnebius (Orphnebius) dilatatus Assing, 2016

Material examined. Laos: 147 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss, MNB).

The original description of this species is based on three specimens from Phongsaly and Louangphrabang provinces, Laos. The above specimens represent the first record from Bokeo province.

Orphnebius (Orphnebius) extensus Assing, 2016

Material examined. Laos: 110 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss, MNB).

The original description of this species is based on 25 specimens from Louangphrabang and Oudomxai provinces, Laos. The above specimens represent the first record from Bokeo province.

Orphnebius (Orphnebius) taurus Assing, 2019

(Figs 73–75)

Material examined. Laos: 1♂, 1♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The above specimens represent the first record from Laos and the first record since the original description, which is based on a unique male from Cambodia (ASSING 2019a).

Interestingly, the male from Laos is distinguished from the holotype by the presence of only one horn-shaped process on the frons, while the female has a pair of horn-shaped processes on the frons, just like the holotype. The primary sexual characters of the specimens from Laos are illustrated in Figs 73–75.

Orphnebius (Orphnebius) anguliceps Cameron, 1943

(Figs 76–79)

Material examined. Malaysia: Sabah (Borneo): 1♂, 1♀, Kinabalu Park [Sorinsim, SW I, 5 yrs., Topau 5], canopy fogging, 21.II.1997, leg. Floren (cAss); 1 ex., same data, but Topau 9, 22.II.1997 (cAss); 1 ex., same data, but Bergil 7, 2.III.1997 (cAss); 1 ex., Kinabalu Park, 6°05'N, 116°33'E [Sorinsim III, 40 yrs., Bergil 5], canopy fogging, 7.III.1997, leg. Floren (cAss); 1 ex., same data, but Sorinsim II, 15 yrs., Bergil 8, 10.III.1997 (cAss); 1 ex., same data, but *A. maingayi*, 28.III.1998 (cAss); 1♂, 2 exs., Kinabalu Park [PHS, Meliaceae sp.], lower montane mixed dipterocarp forest, canopy fogging, 7.XI.1996, leg. Floren (cAss); 1♀, same data, but 9.II.1997 (cAss); 1♀, same data, but MF1, 18.III.1996 (cAss); 1♀, 1 ex., same data, but MF2, 19.III.1996 (cAss); 3 exs., Kinabalu Park [PHS, *Aporusa lagenocarpa*, Dopan], lower montane mixed dipterocarp forest, canopy fogging, 26.II.1996, leg. Floren (cAss); 2 exs., same data, but [A52/F3], 27.II.1996 (cAss); 1 ex., Kinabalu Park [PHS, *A. lagenocarpa* 77F, MyPW], 6°02.903'N, 116°41.953'E, canopy fogging, 24.X.1996, leg. Floren (cAss); 1♂, Kinabalu Park [PHS, *Aporusa* sp. A11/F1], lower montane mixed dipterocarp forest, canopy fogging, 14.III.1996, leg. Floren (cAss); 1 ex., Kinabalu Park [PHS, *Aporusa* sp. APO2], lower montane mixed dipterocarp forest, canopy fogging, 18.X.1996, leg. Jens & Kersin [sic] (cAss); 1♀, Poring Spring, >650 m, lower montane mixed dipterocarp forest, canopy fogging [*Aporusa* sp., A73/F6, 6], 27.X.1993, leg. Floren

(cAss); 1 ex. [teneral], same data, but [A8/F1], 20.V.1992 (cAss); 1♀, 1 ex., same data, but [A73/F5, 5], 24.III.1993 (cAss); 1 ex., same data, but [A51/F5, 5], 9.II.1993 (cAss); 1 ex., same data, but [A52/1], 8.IV.1992 (cAss); 1 ex., same data, but [A62/F2, 2], 28.I.1993 (cAss); 1♂, 1 ex., same data, but [A15/F1], 16.II.1993 (cAss); 3 exs., same data, but [A73/F1], 19.III.1993 (cAss); 1 ex., same data, but [A73/F3], 22.III.1993 (cAss); 1 exs., Tawau Hills, 4°24.145'N, 117°53.538'E, canopy fogging [*Szygium* sp. 53], 5.V.2009, leg. Floren (cAss).

This species was originally described based on a unique female from Brunei and subsequently reported from Sabah (PACE 2014). The holotype was revised and illustrated by PACE (2007). Aside from the genitalia, this species is distinguished from other species of the *O. dilatatus* group by conspicuous modifications of the head (genae below eyes angularly produced; with another angular projection anterior to eye; clypeus composed of two widely separated lobes), which may be more or less reduced in smaller specimens. The spermatheca and the previously unknown male sexual characters are illustrated in Figs 76–79.

***Orphnebius (Orphnebius) curvatus* sp. nov.**

(Figs 80–86)

Type material. Holotype ♂: “Kinabalu Park, Sorinsim, SW II 15 Years / Bergil 4, 26.2.97, A. Floren / Holotypus ♂ *Orphnebius curvatus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂, 1♀: same data as holotype, but “Bergil 7, 2.3.97” (cAss); 1♀: same data, but “Bergil 8, 2.3.97” (cAss); 2♂♂ [1 teneral], 1 ex. [teneral]: “Kinabalu Park, 6°5'N, 116°33'E, Sorinsim II, 15 yr. / Bergil 11, 10.3.97, A. Floren” (cAss); 1♂: “Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A73/F6, 27.10.1993, A. Floren” (cAss); 1♂: same data, but “Fog A73/F1, 19.III.1993” (cAss); 1♂ [teneral]: “Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 7.11.96, A. Floren” (cAss); 1 ex.: same data, but “MF3, 21.3.96” (cAss); 1 ex. [teneral]: same data, but “*Aporusa subcaudata* ... A8/F3, 13.3.96” (cAss); 1 ex.: same data, but “APO2, 18.10.96, Jens & Kerstin” (cAss); 1♀: “Tawau Hill, My, N4 24.400 E117 53.540, *Polyalthia* sp. 63, A. Floren 08.09.2009” (cAss); 3♀♀: “Poring Hot Springs, My, N6 03.547 E116 42.181, *Xanthophyllum tenue* 4, A. Floren 09.08.2009” (cAss); 1♀: “Kinabalu Park, 5°5'N, 116°33'E, Lowland Mixed Dipterocarp Forest / *Dacroides laxa*, 29.3.98, A. Floren” (cAss); 1♂: “Tawau Hills, My, N4 24.445 E117 53.592, *Aporusa* spec. 64, A Floren 08.09.2009” (cAss).

Description. Small species; body length 2.8–3.5 mm; length of forebody 1.1–1.5 mm. Habitus as in Fig. 85. Coloration: head blackish-brown to black; pronotum dark-brown to blackish-brown; elytra yellowish-brown to brown; abdomen yellowish-red to red; legs reddish-yellow; antennae brown to dark-brown with the basal five antennomeres yellowish; maxillary palpi yellow with the preapial palpomere more or less distinctly darker.

Head (Fig. 86) transversely wedge-shaped; clypeus separated in two widely separated and in larger specimens obliquely elevated lobes; large specimens with two pronounced projections anterior to and below eyes on either side; punctation extremely fine and sparse. Eyes large and strongly bulging, reaching posterior margin of head. Antenna (Fig. 84) 1.0–1.1 mm long, antennomeres IV and V very small and distinctly transverse, VI–X much broader than V, strongly transverse, and strongly asymmetric, and XI approximately as long as the combined length of VIII–X.

Pronotum (Fig. 86) small in relation to head and strongly transverse, 1.58–1.65 times as broad as long and 0.90–0.98 times as broad as head; lateral margin smoothly

curving towards posterior margin, posterior angles obsolete; lateral margins with three long and erect dark setae on either side; disc with a median pair of punctures behind middle, otherwise impunctate or nearly so.

Elytra (Fig. 86) at suture shorter than pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII with extensive longitudinally striate sculpture; posterior margin of tergite VIII smoothly convex.

♂: median lobe of aedeagus (Figs 80–81) 0.65 mm long and very slender; ventral process strongly curved in lateral view and apically very slender both in lateral and in ventral view; paramere (Fig. 82) approximately as long as median lobe and extremely slender.

♀: spermatheca (Fig. 83) with a very long proximal portion forming numerous thin coils.

Etymology. The specific epithet (Latin, adjective) alludes to the strongly bent ventral process of the aedeagus in lateral view.

Comparative notes. Based on the similar shape of the head and the similar modifications of the head (only large specimens), evidently a synapomorphy, and many other similarities, *O. curvatus* is closely allied to the sympatric and syntopic *O. anguliceps*, from which it is reliably distinguished by the primary sexual characters, additionally also by smaller average size and paler average coloration.

Distribution and natural history. The specimens were collected by canopy fogging in several localities in Sabah (Malaysia), North Borneo, partly together with the closely related *O. anguliceps*. Several specimens found in March and November are teneral.

***Orphnebius (Orphnebius) mirabilis* (Pace, 2014), comb. nov.**

Keratodegnathus mirabilis Pace, 2014: 747 f.

The original description is based on an incomplete specimen (abdominal apex missing) of unknown sex from Sabah (Borneo) (PACE 2014). As can be inferred from the illustrations of the habitus, head, and mandibles, this species is undoubtedly closely allied to *O. taurus* of the *O. dilatatus* subgroup, not to the type species of *Keratodegnathus*, *K. rougemonti* Pace, 2014. In consequence, *K. mirabilis* is moved to *Orphnebius*.

3.2.4.5 *Orphnebius serratus* subgroup

***Orphnebius (Orphnebius) serratus* Assing, 2016**

Material examined. Laos: 9♂♂, 15♀♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description of this species is based on material from five localities in three provinces of North Laos. The above specimens represent the first record from Bokeo province.

***Orphnebius (Orphnebius) latitibialis* Assing, 2016**

Material examined. Laos: 1♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description is based on a unique female from Louangphrabang province, Laos.

***Orphnebius (Orphnebius) bicuspis* Assing, 2016**

Material examined. Laos: 4 exs., Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2′N, 103°20.2′E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); 1♀, Houa Phan prov., Phu Phan Mt., 20°12′N, 104°01′E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss); 1♂, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The known distribution includes Northeast India and Laos (ASSING 2016b).

***Orphnebius (Orphnebius) varicornutus* sp. nov.** (Figs 87–93, 110–111)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius varicornutus* sp. n., det. V. Assing 2020” (NHMB). Paratypes: 8♂♂, 6♀♀, 2 sex? [1 teneral]; same data as holotype (NHMB, cAss).

Description. Body length 4.3–6.0 mm; length of forebody 1.8–2.2 mm. Habitus as in Fig. 87. Coloration: forebody black; abdomen reddish; legs with blackish femora, brown to blackish-brown tibiae, and reddish tarsi; antennae black with the basal antennomeres often more or less distinctly, partly or completely paler; maxillary palpi reddish to dark-brown with the apical palpomere yellow.

Head (Figs 88–89) of conspicuously variable size, of transversely quadrangular shape, and more or less strongly transverse; posterior margin more or less distinctly concave in the middle; bases of mandibles with plate-shaped dilatation of variable size and shape; base of right mandible without, with very small, or with very long horn-shaped process directed diagonally to the left and backwards; clypeus entirely membranous; dorsal surface with very sparse and extremely fine punctation laterally, impunctate in median portion, without microsculpture. Eyes large, moderately and regularly convex, longer than postocular region in dorsal view. Antenna (Fig. 90) 1.4–1.8 mm long, distinctly incrassate; antennomeres VI–X increasingly asymmetric; antennomeres IV weakly oblong and not flattened, V weakly transverse, VI–X of gradually increasing width and increasingly transverse, X barely twice as broad as long, and XI shorter than the combined length of VIII–X.

Pronotum strongly transverse, slightly broader to slightly narrower than head; laterally with three long, stout, and erect black setae on either side; disc with a median pair of punctures behind middle, otherwise impunctate.

Elytra at suture shorter than pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII extensively with non-setiferous punctation and with dense striate sculpture near posterior margin; posterior margin of tergite VIII serrate.

♂: median lobe of aedeagus (Figs 91, 110–111) approximately 1.0 mm long (or nearly so), strongly sclerotized, and robust shape; ventral process basally broad, gradually narrowed towards apex, and apically trifid; paramere (Fig. 92) approximately 0.75 mm long, strongly sclerotized, and with long and slender paramerite and condylite; paramerite with narrow, condylite without velum; paramerite apically with four long setae.

♀: spermatheca as in Fig. 93.

Intraspecific variation. Body size, head size, and head shape are subject to pronounced variability. Remarkably, in four males the horn-shaped process of the base of the right mandible is completely or nearly completely reduced (Fig. 89), while all other specimens have very long processes (Fig. 88); intermediate conditions were not observed. The head of the males without a long process is on average smaller and less transverse.

Etymology. The specific epithet is composed of the Latin adjectives *varius* (variable) and *cornutus* (with horns). It alludes to the presence or absence of a conspicuous horn-shaped process on the right mandible.

Comparative notes. Based on the external (head shape, clypeus entirely membranous, antennomeres VI–X asymmetric, posteriorly serrate tergite VIII) and sexual characters (aedeagus strongly sclerotized with apically bifid ventral process and slender parameres), this species undoubtedly belongs to the *O. serratus* subgroup of the *O. hauseri* group (see ASSING 2016b). It is distinguished from all other species of this subgroup by the conspicuous modifications of the mandibles and by the morphology of the aedeagus.

Distribution and natural history. The type locality is situated in Bokeo province, Northwest Laos. The specimens were collected at an altitude of 500–700 m, most likely with a Malaise trap.

***Orphnebius (Orphnebius) biacer* sp. nov.**

(Figs 94–102)

Type material. Holotype ♂: “SABAH: Poring Spring., *Aporusa* sp., Lower Montane Mixed dipterocarp Fst. >650 m / Fog A73/F6, 27.X.1993, A. Floren / Holotypus ♂ *Orphnebius biacer* sp. n., det. V. Assing 2020” (cAss). Paratypes: 8 exs.: same data as holotype (cAss); 7 exs.: “SABAH: Poring Spring., *Aporusa* sp., Lower Montane Mixed dipterocarp Fst. >650 m / Fog A73/F1, 19.III.1993, A. Floren” (cAss); 1 ex.: same data, but “A73/F2, 2[?].III.1993” (cAss); 2 exs.: ...[1 teneral]: same data, but “A73/F3, 22.II.1993” (cAss); 3 exs.: same data, but “A73/F4, 23.III.1993” (cAss); 2 exs.: same data, but “A73/F5, 24.III.1993” (cAss); 1 ex.: “Kinabalupark PHW, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO3, 18.10.96, Jens & Kerstin” (cAss); 1 ex.: same data, but “APO7, 24.10.96” (cAss); 1 ex.: “Kinabalu NP, My, 6°5’N, 116°33’E, *Aporusa lagenocarpa* 74, A. Floren. 1.11.1996” (cAss); 1 ex.: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / B1, B2 Mix, 27.3.98, A. Floren” (cAss); 1 ex.: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim II, 15 yr. / Bergil 1, 27.2.97, A. Floren” (cAss); 2 exs.: same data, but “Sorinsim II, 15 yrs. / Bergil 2, 26.2.97” (cAss); 5 exs.: same data, but “SW II, 15 yrs.” (cAss); 1 ex.: same data, but “Sorinsim II, 15 yrs. / Bergil 4, 28.2.97” (cAss); 1 ex.: same data, but “SW II, 15 yrs.” (cAss); 2 exs.: same data, but “Sorinsim III, 40 yr. / Bergil 5, 7.3.97” (cAss); 3 exs.: same data, but “Sorinsim II, 15 Years / Bergil 7, 2.3.97” (cAss); 2 exs.: same data, but “Sorinsim, SW II, 15 Years / Bergil 8, 2.3.97” (cAss); 1 ex.: same data, but “Sorinsim III, 40 yr. / Bergil 8, 2.3.97” (cAss); 1 ex. [teneral]: same data, but “Sorinsim III, 40 yr. / Bergil 8, 8.3.97” (cAss); 4 exs.: same data, but “Sorinsim II, 15 yr. / Bergil 11, 10.3.97” (cAss); 1 ex.: same data, but “Sorinsim I, 5 Years / Bergil 11, 11.3.97” (cAss); 1 ex.: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim, SW I, 5 Years / Topou 9, 22.2.97, A. Floren” (cAss); 1 ex.: same data, but “Topou 10, 24.2.97” (cAss); 1 ♂: “Martapura, S.E. Borneo, Doherty 1891 / M. Cameron. Bequest. B.M. 1955-147.” (BMNH).

Comment. The male from Martapura (Southeast Borneo: Kalimantan Selatan) was originally the sole specimen at hand and labeled as the holotype (“Holotypus ♂ *Orphnebius biacer* sp. n., det. V. Assing 2019”). It had already been returned when numerous additional specimens from Sabah were made available, one of which was eventually designated as the holotype. Consequently, the specimen from Martapura represents a paratype, irrespective of the holotype label attached to it.

Description. Species of robust habitus and variable size; body length 3.6–5.3 mm; length of forebody 1.6–2.2 mm. Habitus as in Fig. 94. Coloration: forebody blackish; abdomen pale-reddish; legs dark-reddish with the femora dark-brown to blackish; antennae with antennomeres I–V reddish and the apical six antennomeres dark-brown to black; maxillary palpi reddish with the apical palpomere yellow.

Head (Fig. 95) of transversely quadrangular shape, larger and more transverse in larger than in smaller specimens; dorsal surface with scattered and extremely fine punctures; interstices without microsculpture. Eyes large, much longer than postocular region in dorsal view. Antenna (Fig. 96) 1.0–1.3 mm long, distinctly incrassate, and asymmetric; antennomeres IV–X somewhat flattened or oval in cross-section; antennomeres IV small and approximately as long as broad, V transverse and not distinctly asymmetric, VI–X asymmetric, of distinctly increasing width, and increasingly transverse, and XI longer than the combined length of IX and X.

Pronotum (Fig. 95) strongly transverse and approximately as broad as head; lateral margins smooth rounded, forming a semicircle together with posterior margin; disc with few scattered minute punctures, nearly impunctate.

Elytra (Fig. 95) at suture much shorter than pronotum; disc with very sparse and extremely fine punctation. Hind wings fully developed.

Abdomen broad; tergite VII extensively with dense and partly confluent non-setiferous punctures; tergite VIII (Fig. 97) at posterior margin with fine setiferous tubercles, laterally with a cluster of longer pubescence on either side, antero-median portion with very short and sparse pubescence.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 98–99) large, 1.05–1.15 mm long; ventral process apically distinctly bifid in ventral view; paramere (Fig. 100) approximately 0.7 mm long, paramerite and condylite slender; paramerite laterally with distinct incision.

♀: spermatheca as in Figs 101–102.

Etymology. The specific epithet is an adjective composed of the Latin prefix *bi-* (two) and the Latin adjective *acer* (pointed). It alludes to the apically bifid ventral process of the aedeagus.

Comparative notes. As can be inferred from the similarly modified aedeagus (ventral process apically strongly bifid), *O. biacer* is closely allied to *O. incisus* PACE, 2000 (described from Thailand and subsequently doubtfully recorded from the Chinese province Yunnan) and *O. bicuspis* ASSING, 2006 (Laos). It is distinguished from the latter by (on average) slightly larger body size, less dark coloration of the maxillary palpomere III and of the basal antennomeres (*O. bicuspis*: maxillary palpomere III infuscate; antennomeres I–V brown), a larger pronotum (in relation to the head), and a much larger

aedeagus with significantly longer apices of the ventral process (*O. bicuspis*: median lobe of aedeagus approximately 0.75 mm long). It differs from *O. incisus* by extremely fine punctuation of the elytra and by a much larger aedeagus. If the scale for the figures in PACE (2000) is correct, the aedeagus of *O. incisus* is only little more than 0.4 mm long. For illustrations of *O. incisus* and *O. bicuspis* see PACE (2000) and ASSING (2016b), respectively.

Distribution and natural history. The type specimens were found in several localities in North Borneo (Malaysia: Sabah) and one (3°24'S, 114°50'E) in Southeast Borneo (Indonesia: Kalimantan Selatan). The material from Sabah was collected by canopy fogging. Two specimens collected in February and March are teneral.

***Orphnebius (Orphnebius) conifer* sp. nov.**

(Figs 103–109)

Type material. Holotype ♂: “Kinabalu Park, Sorinsim, SW II 15 Years / Bergil 9, 2.3.97, A. Floren / Holotypus ♂ *Orphnebius conifer* sp. n., det. V. Assing 2020” (cAss). Paratypes: 8 exs.: same data as holotype, but “Bergil 7, 2.3.97” (cAss); 1♀: same data, but “6°5'N, 116°33'E, Sorinsim II, 15 yr. / Bergil 1, 27.2.97” (cAss); 1♀: same data, but “6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 6, 7.3.97” (cAss); 1♀: “Kinabalu Park, 6°5'N, 116°33'E, Lowland mixed Dipterocarp Forest / B1, B2 Mix, 27.3.98, A. Floren” (cAss); 1♂: same data, but “*B. scortechinii* B3, 29.3.98” (cAss); 1♀: “Kinabalu Park, Sorinsim, SW I 5 Years / Topou 10, 24.2.97, A. Floren” (cAss); 1♀: “Topou, My SW I, N6 17.278 E116 42.417, *M. umbellata* B10 F2, A. Floren 11.3.97” (cAss); 1♀: “Tawau Hills, My, N4 24.222 E117 53.545, *Nephelium daedaleum* 57, A. Floren 06.09.2009” (cAss).

Description. Small species; body length 2.7–3.5 mm; length of forebody 1.2–1.4 mm. Habitus as in Fig. 103. Coloration: forebody blackish; abdomen dark-reddish to blackish-brown; legs reddish with the meso- and metafemora usually somewhat darker; antennae blackish-brown with the basal 4–5 antennomeres reddish; maxillary palpi reddish-yellow. Whole body without microsculpture.

Head (Fig. 104) transverse, approximately 1.4 times as broad as long; dorsal surface with scattered and extremely fine punctures. Eyes large, much longer than postocular region and longer than distance from posterior margin of eye to posterior constriction of head in dorsal view and . Antenna (Fig. 105) 0.8–0.9 mm long, distinctly incrassate, and moderately asymmetric; antennomeres IV approximately small and approximately as long as broad, V small and weakly transverse, VI larger than V and moderately transverse, VII–X of gradually increasing with and size, increasingly transverse and asymmetric, X approximately twice as broad as long, and XI approximately as long as the combined length of VIII–X.

Pronotum (Fig. 104) 1.3–1.4 times as broad as long and approximately 1.1 times as broad as head, broadest approximately in the middle; posterior angles weakly marked; disc with a median pair of punctures behind middle, otherwise practically impunctate.

Elytra (Fig. 104) at suture much shorter than pronotum; disc with very sparse and extremely fine punctuation. Hind wings fully developed.

Abdomen: tergite VII extensively with a mix of longitudinally striate sculpture and non-setiferous punctuation; tergite VIII at posterior margin with fine setiferous tubercles.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 106–107) approximately 0.7 mm long; ventral process apically not bifid

in ventral view; paramere (Fig. 108) approximately 0.5 mm long, paramerite and condylite slender; paramerite and condylite of subequal length.

♀: spermatheca (Fig. 109) proximally shaped like a cone.

Etymology. The specific epithet (adjective) alludes to the coniform proximal portion of the spermatheca.

Comparative notes. Based on the male primary sexual characters and on the serrate posterior margin of tergite VIII, *O. conifer* belongs to the *O. serratus* subgroup. Regarding the morphology of the aedeagus (shapes of median lobe and paramere), *O. conifer* is most similar to *O. integer* (Laos; female unknown), but differs from this species by significantly smaller body size (*O. integer*: length of forebody 1.7–1.9 mm), relatively larger eyes, shorter and less massive antennae, a less distinctly bicoloured body (*O. integer*: abdomen bright reddish, strongly contrasting with the blackish forebody), and a smaller, apically differently shaped median lobe of the aedeagus. For illustrations of *O. integer* see ASSING (2016b).

Distribution and natural history. The type specimens were collected by canopy fogging in several localities in West and Southeast Sabah (Malaysia), North Borneo.

3.2.4.6 *Orphnebius mollis* new subgroup

This monotypical subgroup is established to include *O. mollis*, a species distinguished from all other previously revised species primarily by the morphology of the aedeagus: a remarkably weakly sclerotized median lobe of the aedeagus with a weakly defined ventral process and a small paramere with a broad paramerite and an apically slender condylite. In addition, this subgroup is characterized by small body size, a relatively small pronotum, clavate antennae with strongly transverse and distinctly asymmetric antennomeres VI–X, a weak sexual dimorphism of antennomere XI, and a minute spermatheca.

Orphnebius (Orphnebius) mollis sp. nov.

(Figs 112–118)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A50/F5, 23.2.96, A. Floren / Holotypus ♂ *Orphnebius mollis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO3, 18.10.96, A. Floren” (cAss); 1 ♀ [teneral]: same data, but “APO2, 18.10.96, Jens & Kerstin” (cAss); 1 ♀: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52NF, 27.2.96, A. Floren” (cAss); 1 ♂: “SABAH: Poring Spring., *Xanthophyllum affine*, Lower montane Mixed dipterocarp Fst., >650 m / Fog Xa4/F2, 20.Vi[sic].1992, A. Floren” (cAss); “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa* 73 F1, A. Floren, ‘97 [sic]” (cAss)

Description. Small species; body length 2.0–2.6 mm; length of forebody 1.0–1.2 mm. Habitus as in Fig. 112. Coloration: head black; pronotum blackish-brown; elytra dark-yellow with the postero-lateral portion extensively infusate; abdomen reddish to brown; legs yellow; antennae blackish with the basal 3–4 antennomeres yellow; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 113) transverse, approximately 1.3 times as broad as long; dorsal surface with scattered and extremely fine punctures, nearly impunctate. Eyes strongly convex and large, occupying all of the lateral contours of head, and approximately twice as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Figs 114–115) approximately 0.7 mm long and distinctly clavate; antennomeres IV–V small and moderately transverse, VI–X strongly transverse, of gradually and distinctly increasing width, increasingly transverse, and increasingly asymmetric, and XI more strongly elongate in male than in female.

Pronotum (Fig. 113) small in relation to head, approximately 1.4 times as broad as long and 1.00–1.07 times as broad as head; posterior angles smoothly rounded, weakly marked; disc with a median pair of macropunctures behind middle, otherwise impunctate.

Elytra (Fig. 113) approximately as long as pronotum; punctuation very fine and sparse. Hind wings fully developed.

Abdomen: tergite VII with a mix of longitudinally striate sculpture and non-setiferous punctuation.

♂: antennomere XI approximately as long as the combined length of antennomeres VII–X (Fig. 114); hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Fig. 115) of compact shape, but very weakly sclerotized, approximately 0.45 mm long; ventral process short and weakly defined; paramere (Fig. 117) small, barely 0.3 mm long; paramerite broad and apically with few thin setae; condylite apically very narrow.

♀: antennomere XI approximately as long as the combined length of antennomeres VIII–X (Fig. 115); spermatheca minute and shaped as in Fig. 118.

Etymology. The specific epithet (Latin, adjective: soft) alludes to the conspicuously weakly sclerotized median lobe of the aedeagus.

Comparative notes. *Orphnebius mollis* is distinguished from all other species of the *O. hauseri* group by the shapes of the median lobe of the aedeagus, the paramere, and the spermatheca and additionally characterized by small body size, a relatively small pronotum, very large eyes, distinctly clavate antennae with strongly transverse and distinctly asymmetric antennomeres VI–X, and a weak sexual dimorphism of antennomere XI.

Distribution and natural history. The specimens were collected by canopy fogging in two localities in West Sabah (Malaysia), North Borneo.

3.2.4.7 *Orphnebius bakeri* subgroup

Orphnebius (Orphnebius) bakeri Bernhauer, 1929

Material examined. Malaysia: Sabah: 2♂♂, 1♀, Poring Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging [*Aporosa* sp., Fog A73/F6], 27.X.1993, leg. Floren (cAss); 1♂, Bergil, 6°17.204'N, 116°42.305'E, canopy fogging [My, SW3, *V. pinnata* B8 F2], 10.III.1997, leg. Floren (cAss); 1♂, Kinabalu National Park, canopy fogging [Sorinsim, SW II, 15 years, Bergil 7], 2.III.1997, leg. Floren (cAss).

Orphnebius bakeri has been recorded from Borneo (Sabah, Brunei) and Singapore (ASSING 2017a). The genitalia are figured in PACE (2007) and ASSING (2016b).

3.2.4.8 *Orphnebius reductus* subgroup

The *O. reductus* subgroup previously included four species, *O. reductus* ASSING, 2016 (Laos), *O. krypticola* PACE, 2007 (Borneo: Brunei), *O. ideogramma* PACE, 2007 (Borneo: Sabah), and *O. biformis* ASSING, 2016 (Indonesia: Sumatra). *Orphnebius antennarius* BERNHAUER, 1929 was tentatively attributed to the *O. retusus* group based on two non-type specimens from Danum Valley (Borneo: Sabah) (ASSING 2016b), but an examination of more material now available revealed that it in fact belongs to the *O. reductus* group. The species of this group are characterized particularly by a conspicuous sexual dimorphism of the distinctly asymmetric antennae (male antennomere XI strongly elongated), usually pale coloration, a mostly rather large median lobe of the aedeagus, a very slender paramerite and condylite, and a spermatheca of uniform shape (ASSING 2016b).

Species of this subgroup are reliably separated only by the distinctive shape of the median lobe of the aedeagus. The females of the species from Borneo were matched with males based on slight external differences and on samples including both males and females. In consequence, their assignment must be considered somewhat tentative.

Orphnebius (Orphnebius) reductus Assing, 2016

Material examined. Laos: 1♂, 1♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description is based on material from two localities in Phongsaly and Louangphrabang provinces, North Laos (ASSING 2016b).

Orphnebius (Orphnebius) antennarius Bernhauer, 1929 (Figs 119–122)

Material examined. Malaysia: Sabah: 1♂, 2♀♀, Kinabalu National Park (PHS), lower montane mixed dipterocarp forest, canopy fogging [*Aporusa lagenocarpa*, DOPAN], 26.II.1996, leg. Floren (cAss); 1♀, same data, but {A52/F3}, 27.II.1996 (cAss); 1♀, same data, but [*Aporusa subcaudata*, A51/F6], 19.II.1996 (cAss); 1♀, same data, but [*Aporusa* sp., APO17], 6.XI.1996, leg. Jens & Kerstin [sic] (cAss); 1♂, Kinabalu National Park, 6°05'N, 116°33'E, lowland mixed dipterocarp forest, canopy fogging [A. lag. B7], 29.III.1998, leg. Floren (cAss); 1♂, Poring Hot Springs, 6°03.556'N, 116°42.177'E, canopy fogging [*Trigonopheura* cf. *malayana* 6], 9.VIII.2009, leg. Floren (cAss).

This species was originally described based on a unique holotype from Sandakan (Sabah) and subsequently reported also from Danum valley (ASSING 2016b). The holotype was revised and illustrated by PACE (2007). The aedeagi of the material listed above and reported by ASSING (2016b) are similar, though not completely identical, to that illustrated by PACE (2007). The genitalia of one of the above males and one female are illustrated in Figs 119–122.

***Orphnebius (Orphnebius) linguis* sp. nov.**

(Figs 123–131)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / DOPAN, 26.2.96, A. Floren / Holotypus ♂ *Orphnebius linguis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂, 3♀♀: same data as holotype (cAss); 3♂♂, 1♀: same data as holotype, but “A52/F3, 27.2.96” (cAss); 1♂: same data, but “*Aporusa* sp. ... APO9, 29.10.96, Jens & Kerstin” (cAss); 1♀: same data, but “*Aporusa* sp. ... AF1/F1, 3.3.96, A. Floren” (cAss); 1♂: “CR Ulu Senagang, My, N5 21.875 E116 01.582, *Dendrocide* sp. 1, A Floren 17.08.2009” (cAss).

Description. Body length 4.0–5.0 mm; length of forebody 1.6–1.9 mm. Habitus as in Fig. 123. Coloration: head dark-brown posteriorly and yellowish anteriorly; pronotum dark-brown with the margins narrowly paler; elytra yellow with the postero-lateral portions infusate; abdomen and legs yellow; antennae usually dark-brown with the basal 3–4 antennomeres yellow to reddish-yellow, rarely uniformly dark-yellow; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 124) of transversely oval shape, 1.25–1.30 times as broad as long; posterior margin convex; dorsal surface practically impunctate. Eyes strongly convex and large, occupying all of lateral margin of head. Antenna (Figs 125–126) sexually dimorphic, 1.4–1.6 mm (male) or 1.1–1.3 mm long (female); antennomeres IV weakly transverse and small, V distinctly transverse and much larger than IV, VI–X of gradually increasing width, increasingly transverse, and increasingly asymmetric, and XI flattened, strongly elongate and nearly as long as the combined length of VII–X (male) or less elongate and barely as long as the combined length of VIII–X (female).

Pronotum (Fig. 124) transverse, approximately 1.3 times as broad as long and 1.05–1.15 times as broad as head; lateral and posterior margins smoothly rounded, posterior angles practically obsolete; disc with a median pair of punctures behind middle, otherwise impunctate.

Elytra (Fig. 124) shorter than pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII with striate sculpture and/or non-setiferous punctation; posterior margin of tergite VIII nearly truncate in the middle, without tubercles and not serrate.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 127–128) approximately 0.7 mm long; ventral process somewhat tongue-shaped in ventral view; paramere (Fig. 129) slightly shorter than median lobe and very slender.

♀: spermatheca as in Figs 130–131, of somewhat variable size.

Etymology. The specific epithet (Latin, adjective) alludes to the tongue-shaped ventral process of the aedeagus (ventral view).

Comparative notes. This species is reliably distinguished from other species of the *O. reductus* subgroup only by the shape of the median lobe of the aedeagus. It additionally differs from the similar *O. antennarius* by a more distinctly convex posterior margin of the head. The median lobe of the aedeagus is most similar to that of *O. krypticola* (Brunei), but differs by a broader base and a more convex apex (ventral view), and in lateral view by the apex smoothly bent dorsad (*O. krypticola*: apex apically bent ventrad and more strongly pointed).

Distribution and natural history. The specimens were collected by canopy fogging in West Sabah (Malaysia), North Borneo.

***Orphnebius (Orphnebius) sinulinguis* sp. nov.**

(Figs 132–136)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO17, 6.11.96, Jens & Kerstin / Holotypus ♂ *Orphnebius sinulinguis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂: same data as holotype, but “APO7, 24.10.96” (cAss); 1♂: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A50/F4, 11.II.1993, A. Floren” (cAss); 1♀: same data, but “Fog A52/1, 9.iv.1992” (cAss).

Description. Body length 4.7–6.0 mm; length of forebody 1.8–2.2 mm. Habitus as in Fig. 132). External characters nearly identical to those of *O. linguis*, distinguished only by slightly larger average size, a posteriorly very weakly convex (nearly truncate) posterior margin of the head, and slightly more transverse antennomeres VI–X.

♂: median lobe of aedeagus 0.75–0.80 mm long and shaped as in Figs 133–134; paramere (Fig. 135) shorter than median lobe and very slender.

♀: spermatheca as in Fig. 136.

Etymology. The specific epithet is an adjective composed of the Latin noun *sinus* (curve, bend) and the Latin adjective *linguis* (with/of a tongue). It alludes to the strongly sinuate median lobe of the aedeagus (lateral view) and the close relationship of this species to *O. linguis*.

Comparative notes. Among the species of the *O. reductus* subgroup, *O. sinulinguis* is reliably identified only by the shape of the median lobe of the aedeagus.

Distribution and natural history. The specimens were collected by canopy fogging in the Mount Kinabalu region, West Sabah (Malaysia), North Borneo.

***Orphnebius (Orphnebius) cusplinguis* sp. nov.**

(Figs 137–141)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / DOPAN, 26.2.96, A. Floren / Holotypus ♂ *Orphnebius cusplinguis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂: “Tawau Hills, My, N4 24.173 E117 53.551, *Polyalthia* sp. 55, A. Floren 06.09.2009” (cAss); 1♀: “CR Mahua, My, N5 47.902 E116 24.424, *Syzygium sandakanensis* 46, A. Floren, 03.09.2009” (cAss).

Description. Body length 4.0–5.0 mm; length of forebody 1.8–2.0 mm. Habitus as in Fig. 137. External characters practically identical to those of *O. linguis*, except for the slightly less pronounced sexual dimorphism of the antennae.

♂: median lobe of aedeagus (Figs 138–139) approximately 0.75 mm long; ventral process subapically constricted in ventral view; paramere (Fig. 140) approximately 0.65 mm long and very slender.

♀: spermatheca as in Fig. 141.

Etymology. The specific epithet is an adjective composed of the Latin noun *cuspis* (tip, apex) and the Latin adjective *linguis* (with/of a tongue). It alludes to the apically constricted median lobe of the aedeagus (ventral view) and the close relationship of this species to *O. linguis*.

Comparative notes. Among the species of the *O. reductus* subgroup, *O. sinulinguis* is reliably identified only by the shape of the median lobe of the aedeagus. The latter is most similar to that of *O. reductus* (Laos), but differs by greater length and a broader apex. The new species additionally differs from *O. reductus* by shorter antennae and paler coloration (*O. reductus*: forebody completely black; legs darker with dark-brown femora). For illustrations of *O. reductus* see ASSING (2016b).

Distribution and natural history. Male-based records are known only from two localities, one of them in West and one in Southeast Sabah (Malaysia), North Borneo. The specimens were collected by canopy fogging.

Orphnebius sp.

Material examined. Malaysia: Sabah: 1♀, Kinabalu Park PHS, lower montane mixed dipterocarp forest, canopy fogging [*Aporusa lagenocarpa*, DOPAN], 26.II.1992, leg. Floren (cAss).

Based on the external and female sexual characters, the above female most likely represents an undescribed species of the *O. reductus* subgroup distinguished from other species by larger body size and especially by pronounced setiferous tubercles at the posterior margin of tergite VII and on tergite VIII.

Orphnebius spp.

Material examined. Malaysia: Sabah: 1♀, Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging [*Aporusa* sp., Fog A8/F1], 20.V.1992, leg. Floren (cAss); 1♀, Kinabalu Park PHS, lower montane mixed dipterocarp forest, canopy fogging [*Aporusa lagenocarpa*, DOPAN], 26.II.1992, leg. Floren (cAss).

It was not possible to confidently assign the above females to any of the representatives of the *O. reductus* subgroup known from Borneo.

3.2.4.9 *Orphnebius colitus* new subgroup

The following species is characterized by a unique combination of apomorphies. The most conspicuous of them is an enormously long terminal antennomere, the result of a complete fusion of antennomeres X and XI. Whether or not this character is confined to males cannot be assessed, since females are presently unknown. Additional characteristics of the *O. colitus* subgroup are a head with conspicuously long and rather dense pubescence of the head, a broad pronotum, and very small parameres.

Orphnebius (Orphnebius) colitus sp. nov.

(Figs 142–147)

Type material. Holotype ♂: “Malaysia Borneo, bei Keningau 50 yrs, *Melanolepis* sp. B4, A. Floren 20.2.01 / Holotypus ♂ *Orphnebius colitus* sp. n., det. V. Assing 2020” (cAss). Paratype ♂: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa* 73 F1, A. Floren, ‘97 [sic]” (cAss)

Description. Species of broad habitus; body length 3.9–4.2 mm; length of forebody 1.7 mm. Habitus as in Fig. 142. Coloration: head blackish-brown; pronotum and elytra dark-brown; abdomen and legs yellowish-red; antennae brown with the basal three antennomeres reddish; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 143) strongly transverse, nearly 1.3 times as broad as long; dorsal surface with dense and fine punctation and with conspicuously dense, long, and suberect to erect pubescence. Eyes strongly convex and large, nearly reaching posterior margin of head. Antenna (Fig. 144) 1.2–1.3 mm long and of highly distinctive morphology; antennomeres IV weakly transverse, V–IX of gradually increasing width and increasingly transverse, VIII approximately twice as broad as long, IX more than twice as broad as long, V–VII moderately asymmetric, VIII and especially IX strongly asymmetric, X and XI completely fused and forming an extremely long apical “antennomere” of approximately the combined length of antennomeres II–VIII.

Pronotum (Fig. 143) strongly transverse, approximately 1.5 times as broad as long and nearly 1.3 times as broad as head; lateral margins smoothly rounded, nearly forming a semicircle together with posterior margin; disc with moderately sparse fine punctation and with moderately sparse, inconspicuous pubescence.

Elytra (Fig. 143) approximately as long as pronotum; disc with moderately dense and fine, but distinct punctation. Hind wings fully developed.

Abdomen broadest at base; tergite VII with a transverse band of striate sculpture across middle.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 145–146) long and slender, approximately 0.8 mm long; ventral process very slender and apically acute, strongly sinuate in lateral view; paramere (Fig. 147) small, approximately half as long as long as median lobe; paramerite much shorter than condylite.

♀: unknown.

Etymology. The specific epithet is the past participle of the Latin verb *colescere* (to merge) and alludes to the fused antennomeres X and XI.

Comparative notes. This species is so distinctive that it is easily distinguished from other species of the *O. hauseri* group based on external characters alone, especially the dense and long pubescence of the head (unique) and the extremely long and fused antennomeres X and XI (unique).

Distribution and natural history. The specimens were collected by canopy fogging in two localities in West Sabah (Malaysia), North Borneo.

3.2.4.10 *Orphnebius tensus* new subgroup

This currently monotypical subgroup is established for *O. tensus*. This species cannot be assigned to any of the previously defined subgroups and is characterized particularly by an enormously long antennomere XI, a large and broad pronotum, a robust median lobe of the aedeagus with a short ventral process, and a relatively small paramere with a broad

paramerite and a slender condylite. *Orphnebius miricornis*, a species described based on a unique holotype from the Philippines and the type species of the genus-group name *Microcephalobius* BERNHAUER, 1929, may belong to this subgroup, too, as is suggested by the similarly elongate antennomere XI. The *O. tensus* subgroup is distinguished from other subgroups with conspicuously long apical antennomeres as follows:

- from the species of the *O. reductus* subgroup by a large pronotum, a much longer antennomere XI, disc-shaped antennomeres VII–X, a more robust median lobe of the aedeagus with a short and broad ventral process, and a much less slender paramere;
- from the monotypical *O. colitus* subgroup by unfused antennomeres X and XI, disc-shaped antennomeres VII–X, the absence of dense and long pubescence on the head, a much more robust median lobe of the aedeagus with a short and broad ventral process, and a paramere of different morphology.

***Orphnebius (Orphnebius) tensus* sp. nov.**

(Figs 148–153)

Type material. Holotype ♂: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim II, 15 yr. / Bergil 11, 10.3.97, A. Floren / Holotypus ♂ *Orphnebius tensus* sp. n., det. V. Assing 2020” (cAss). Paratype ♂: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa* 73 F1, A. Floren, ‘97 [sic]” (cAss).

Description. Species of broad habitus (Fig. 158); body length 3.1 mm; length of forebody 1.3 mm. Coloration: head blackish-brown; pronotum and elytra dark-brown, with the vicinity of the scutellum slightly paler brown; abdomen and legs reddish-yellow; antennae with antennomeres I–VIII yellowish to reddish-yellow and IX–XI blackish-brown; maxillary palpi yellowish. Whole body without microsculpture.

Head (Fig. 149) approximately 1.2 times as broad as long; dorsal surface with very sparse and fine punctation, median portion extensively impunctate. Eyes strongly convex and large, occupying all of lateral contours of head, and approximately twice as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 150) 0.9 mm long and of highly distinctive morphology: antennomeres IV and V very small and transverse, VI–X strongly transverse, disc-shaped, increasingly transverse and increasingly asymmetric, and of distinctly increasing width, and XI enormously long and massive, approximately as long as the combined length of III–X.

Pronotum (Fig. 149) strongly transverse, more than 1.5 times as broad as long and 1.3 times as broad as head, broadest in posterior half; lateral margins smoothly rounded, nearly forming a semicircle together with posterior margin; disc with a median pair of punctures behind middle, otherwise practically impunctate.

Elytra (Fig. 149) approximately 0.8 times as long as pronotum; disc with very sparse and fine punctation. Hind wings fully developed.

Abdomen: tergite VII with a mix of rather shallow longitudinally striate sculpture and non-setiferous punctation.

♂: hemi-tergites IX and tergite X with dense and long pubescence; median lobe of aedeagus (Figs 151–152) of robust shape, 0.57 mm long; ventral process rather short and in ventral view of broadly triangular shape; paramere (Fig. 153) small, approximately

0.35 mm long; paramerite rather broad and apically with four thin setae; condylite approximately as long as paramerite and slender.

♀: unknown.

Etymology. The specific epithet is the past participle of the Latin verb *tendere* (to stretch) and alludes to enormously long antennomere XI.

Comparative notes. This species is so distinctive that it is easily distinguished from other species of the *O. hauseri* group based on the morphology of the antennae (extremely long antennomere XI; asymmetric and disc-shaped antennomeres VII–X) and on the shape of the median lobe of the aedeagus. It is distinguished from *O. miricornis* (Philippines), with which it shares a similar antennal morphology, by a much darker forebody (*O. miricornis*: body reddish with paler elytra and abdomen) and larger body size (*O. miricornis*: 1.5 mm)

Distribution and natural history. The specimens were collected by canopy fogging in Kinabalu National Park, West Sabah (Malaysia), North Borneo.

3.2.4.11 Species without subgroup assignment

Orphnebius (Orphnebius) pressatus sp. nov.

(Figs 154–156)

Type material. Holotype ♀ [antennomeres XI of both antennae missing]: “Poring Hot Springs, My, N6 03.458 E116 42.208, *Xanthophyllum tenue* 3, A Floren 09.08.2009 / Holotypus ♀ *Orphnebius pressatus* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 3.6 mm; length of forebody 1.7 mm. Coloration: forebody black; abdomen blackish-brown; legs blackish-brown with dark-reddish tarsi; antennae black with dark-reddish antennomeres I–IV; maxillary palpi pale-reddish. Whole body without microsculpture.

Head (Fig. 154) of transversely oval shape, approximately 1.3 times as broad as long; dorsal surface with sparse and moderately fine punctation. Eyes strongly convex and large, occupying all of lateral contours of head, and much longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna of highly distinctive morphology, conspicuously massive: antennomeres II approximately as long as broad and somewhat flattened, III weakly oblong and weakly flattened, IV moderately transverse and somewhat asymmetric, distinctly broader than III, V somewhat asymmetric, more strongly transverse and distinctly broader than IV, VI–X conspicuously large and of gradually increasing width, and X approximately twice as broad as long.

Pronotum (Fig. 154) strongly convex in cross-section and moderately transverse, 1.15 times as broad as long and 1.12 times as broad as head; disc with a median pair of rather fine punctures behind middle, otherwise impunctate.

Elytra (Fig. 154) approximately 0.8 times as long as pronotum; disc with very sparse and fine punctation. Hind wings fully developed. All tibiae distinctly flattened (Fig. 155).

Abdomen: tergite VII with a mix of longitudinally striate sculpture and non-setiferous punctation; tergite VIII with smooth posterior margin.

♂: unknown.

♀: hemi-tergites IX and tergite X with dense and long pubescence; spermatheca (Fig. 156) with conspicuously large and bulbous distal portion.

Etymology. The specific epithet is the past participle of the Latin verb *pressare* (to squeeze) and alludes to the conspicuously compressed tibiae.

Comparative notes. This species is so distinctive regarding its external characters (antennal morphology; shape of pronotum; distinctly compressed tibiae) and the shape of the spermatheca that a description based on a single female seems justified. In addition, it is distinguished from nearly all the representatives of the *O. hauseri* group by its dark coloration. Since males are unavailable, a subgroup assignment is currently not possible.

Distribution and natural history. The holotype was collected by canopy fogging in Kinabalu National Park, West Sabah (Malaysia), North Borneo.

Orphnebius sp.

Material examined: Malaysia: Sabah: 1 ex. [forebody missing], Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging [Aporusa sp., Fog A52/F1], 9.IV.1992, leg. Floren (cAss).

The above fragment belongs to the *O. hauseri* group.

3.2.5 Subgenera *Strabocephalium* Bernhauer, 1911 and *Deroleptus* Bernhauer, 1915

BERNHAEUER (1911) described *Strabocephalium* to include only *S. mirabile* Bernhauer, 1911 from “Borneo, Quop”. Four years later, he described *Deroleptus* as a subgenus of *Astilbus* Dillwyn, 1829 (now a junior synonym of *Drusilla* Leach, 1819), with *Astilbus bigladius* Bernhauer, 1915 from “Sarawak: Mt. Matang” as the sole representative. The primary character emphasized by BERNHAEUER (1911) as distinguishing *Strabocephalium* from *Orphnebius* is the conspicuous shape of the head (conspicuously large in relation to the small pronotum and with concave posterior margin) and the small eyes. For illustrations of the habitus and the sexual characters of *Strabocephalium mirabile* see PACE (1987, 2014). LÖBL (1997) described two additional *Strabocephalium* species, *S. mroczkowskii* and *S. kistneri*, from the Philippines, and PACE (2014) described *S. borneorum* from Sabah (Borneo).

PACE (2007) synonymized *Deroleptus* with *Orphnebius* and tentatively attributed *Strabocephalium* to *Orphnebius* as a subgenus. HLAVÁČ *et al.* (2011), however, rejected these changes and retained both *Strabocephalium* and *Deroleptus* as distinct genera. ASSING (2016b, 2017a) provided an argumentation to retain *Deroleptus* as a subgenus of *Orphnebius*.

In the past five years, numerous species of *Deroleptus* (among them the type species; see the present paper) and of the *O. hauseri* group, and two that have been

attributed to *Strabocephalium* (among them the type species; see ASSING 2016b) have been examined. These studies revealed that a) *Deroleptus* clearly forms a clade distinct from the *O. hauseri* group, that b) *Deroleptus* species are subject to enormous interspecific morphological variation involving various body parts, that c) *Strabocephalium* species are characterized by external and primary and secondary sexual characters highly similar to those of *Deroleptus*, that d) at least *Strabocephalium borneorum* is consubgeneric with *Deroleptus* species, and that e) *Strabocephalium* is closely allied to, possibly even nested within *Deroleptus*. It does not appear unlikely that the extremely modified head and eyes represent apomorphic adaptations to an association with ants or termites and that *Deroleptus* will eventually have to be synonymized with *Strabocephalium*. For the time being, however, both *Deroleptus* and *Strabocephalium* are treated as subgenera of *Orphnebius*.

For characters constituting this lineage and distinguishing the previously proposed species groups see ASSING (2016b).

Unlike the species of the *O. hauseri* group, *Deroleptus* species are often most reliably identified based on the shape of the spermatheca, often also based on conspicuous external characters, so that descriptions based exclusively on females are justified.

3.2.5.1 *Orphnebius draco* group

Orphnebius (Deroleptus) multimpessus Assing, 2015

Material examined. Vietnam: 1 ex. Pia Ouac Nat. Park, ca. 500 m E main road, 22.594°N, 105.889°E, 1350 m, mature secondary forest, flight interception trap, 9–18.V.2019, leg. Brunke & Schillhammer (CNC).

This species was previously known only from Yunnan (China) and Taiwan. The above specimen represents the first record from Vietnam.

3.2.5.2 *Orphnebius niger* group

Orphnebius (Deroleptus) spoliatus Assing, 2016

Material examined. Laos: 48 exs., Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubáň (MNB, cAss). **Vietnam:** 1♀, pass 8 km NW Sa Pa, 22°21'10"N, 103°46'01"E, 2010 m, secondary forest, sifted, 13.VIII.2013, leg. Assing (cAss).

This species had been recorded from Laos and the Chinese province Sichuan (ASSING 2016b, 2019a). The above female from Sa Pa represents the first record from Vietnam.

Orphnebius (Deroleptus) cultellatus Assing, 2016

Material examined. Laos: 6 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss). **Malaysia: Sarawak:** 1 ex. [identification doubtful], Gunung National Park, 400–600 m, limestone forest, pitfall trap with fish bait, III–V.1978, leg. Hanski (BMNH).

This widespread species has been recorded from the Chinese province Yunnan, Thailand, Laos, and Borneo (ASSING 2017a, 2019a). The previous record from Malaysia (ASSING 2017a) and the above specimen from Sarawak require confirmation. Both specimens had been returned before more abundant, similar material from Sabah became available, which proved to belong to different species (see descriptions of *O. transfigens*, *O. aciformis*, and *O. acifer* below).

***Orphnebius (Deroleptus) discrepans* Assing, 2016**

Material examined. Laos: 3 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

Previously, three specimens were known, one from the type locality in the Chinese province Yunnan and two from a locality in West Thailand (ASSING 2016b, 2017a). The above specimens represent the first record from Laos.

***Orphnebius (Deroleptus) septemcuspis* Assing, 2016**

Material examined. Laos: 10 exs., Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); 1 ex., same data, but leg. Brancucci (cAss).

The original description is based on a unique male holotype from Oudomxai province, Laos (ASSING 2016b).

***Orphnebius (Deroleptus) triapicalis* Assing, 2016**

Material examined. Laos: 5♂♂, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, leg. Kubán (cAss).

The original description is based on a unique male from Emei Shan (China: Sichuan). The above males, which are somewhat darker than the holotype, but otherwise practically identical, represent the first record from Laos.

***Orphnebius (Deroleptus) bakerianus* Bernhauer, 1929** (Figs 157–159)

Material examined. Malaysia: Sabah: 1♂, Kinabalu National Park, lower montane dipterocarp forest, canopy fogging [PHS, Aporusa subcaudata, A51/F6], 19.II.1996, leg. Floren (cAss). **Sarawak:** 1♂, Gunung National Park, 100 m, alluvial forest, pitfall trap with fish, III–V.1978, leg. Hanski (BMNH).

Three type specimens from “Sandakan, Borneo” (Borneo: Malaysia: Sabah) were examined and a lectotype was designated by PACE (2007). Tergite VIII, sternite VIII, and the median lobe of the aedeagus of the male from Sabah are illustrated in Figs 157–159. The specimen from Sabah was collected by canopy fogging, that from Sarawak with a pitfall trap baited with fish.

Orphnebius (Deroleptus) transfigens sp. nov.

(Figs 160–168)

Type material. Holotype ♂: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / DOPAN, 26.2.96, A. Floren / Holotypus ♂ *Orphnebius transfigens* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 3.7 mm; length of forebody 1.7 mm. Habitus as in Fig. 160. Coloration: head blackish-brown; pronotum dark-brown; elytra dark-yellowish with the postero-lateral portions infuscate; abdomen and legs reddish; antennae blackish with the basal four antennomeres reddish; maxillary palpi reddish with palpomere III infuscate and the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 161) approximately 1.1 times as broad as long; dorsal surface with very sparse and extremely fine punctation, median portion impunctate. Eyes distinctly convex and large, approximately as long as distance between posterior margin of eye and posterior constriction of head in dorsal view. Antenna (Fig. 163) slender, 1.4 mm long; antennomeres IV distinctly oblong, V approximately as long as broad, VI–X moderately transverse, and XI longer than the combined length of IX and X.

Pronotum (Fig. 161) of transversely quadrangular shape, 1.2 times as broad as long and 1.1 times as broad as head, strongly convex in cross-section; disc with a pair of macropunctures behind middle, otherwise impunctate.

Elytra (Fig. 161) approximately as long as pronotum, laterally with a weak median impression; disc with sparse and fine punctation. Hind wings fully developed. Legs long and slender; metatibia 0.95 mm long.

Abdomen broadest at segment IV; sternites III and IV with pronounced, very long, broad-based, and apically spine-shaped postero-lateral extensions (Fig. 163); tergite VII extensively with longitudinally striate sculpture, near posterior margin with a transverse row of six oblong setiferous tubercles; tergite VIII (Fig. 164) with randomly distributed gland openings and with a postero-median tubercle, posteriorly trifid, the lateral projections blunt and the median process of triangular shape.

♂: sternite VIII (Fig. 165) with strongly and acutely produced posterior margin, postero-laterally with a cluster of setiferous projections on either side; median lobe of aedeagus (Figs 166–167) 0.44 mm long; ventral process very narrow in lateral view, needle-shaped in apical half in ventral view; paramere 0.38 mm long and shaped as in Fig. 168.

♀: unknown.

Etymology. The specific epithet is the present participle of the Latin verb *transfigere* (to drill, to pierce) and alludes to the conspicuously acute ventral process of the aedeagus.

Comparative notes. *Orphnebius transfigens* is reliably distinguished from other representatives of the *O. niger* group with long postero-lateral processes of sternites III and IV only by the shape of the ventral process of the aedeagus (especially in ventral view). The latter is most similar to that of the sympatric *O. quadricuspидatus*, but distinguished by a basally narrower (ventral view) and apically curved (lateral view) ventral process. For illustrations of the aedeagus of *O. quadricuspидatus* see PACE (1987: figures 248–249) (as *O. quadrigladius*).

Distribution and natural history. The type locality is situated in the Mount Kinabalu region in Sabah (Malaysia), North Borneo. The holotype was collected by canopy fogging.

***Orphnebius (Deroleptus) aciformis* sp. nov.**

(Figs 169–180)

Type material. Holotype ♂: “Kinabalulu [sic] NP, My PW / N6 02.903 E116 41.953, A. lagneocarpa [sic] 10 F1, A. Floren 29.3.97 / Holotypus ♂ *Orphnebius aciformis* sp. n., det. V. Assing 2020” (cAss). Paratype: 2♀♀: same data as holotype (cAss); 1♂, 1♀: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A15/F1, 16.II.1993, A. Floren” (cAss).

Description. Body length 3.6–4.4 mm; length of forebody 1.5–1.9 mm. Habitus as in Fig. 169. Coloration: head blackish; pronotum blackish-brown; elytra dark-yellowish with the postero-lateral portions more or less distinctly and more or less extensively infuscate; abdomen dark-reddish with segments VI and VII infuscate; legs reddish with the femora dark-brown; antennae blackish-brown with the basal four antennomeres pale-reddish and antennomeres V–VI dark-brown; maxillary palpi reddish with palpomere III infuscate and the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 170) approximately 1.15 times as broad as long; dorsal surface with very sparse and extremely fine punctation, median portion impunctate. Eyes distinctly convex and large, slightly longer than distance between posterior margin of eye and posterior constriction of head in dorsal view. Antenna (Fig. 171) slender, 1.2–1.4 mm long; antennomeres IV distinctly oblong, V approximately as long as broad, VI–X moderately transverse, and XI longer than the combined length of IX and X.

Pronotum (Fig. 170) of transversely quadrangular shape, 1.20–1.24 times as broad as long and 1.1 times as broad as head, strongly convex in cross-section; anterior margin strongly concave in the middle; disc with a pair of macropunctures behind middle, otherwise impunctate.

Elytra (Fig. 170) approximately as long as pronotum, laterally with a weak impression; disc with sparse and distinct, moderately fine punctation. Hind wings fully developed. Legs long and slender; metatibia 0.80–0.95 mm long.

Abdomen broadest at segment IV; sternites III and IV (Figs 172–173) with moderately to very long, broad-based, and apically spine-shaped postero-lateral extensions; tergite VII anteriorly with coarse and dense non-setiferous punctation and posteriorly with more or less pronounced longitudinally striate sculpture, near posterior margin with a transverse row of six oblong setiferous tubercles; tergite VIII (Fig. 174) with randomly distributed gland openings, posterior margin indistinctly trifid, the lateral projections pronounced and the median process very small.

♂: sternite VIII (Fig. 175) with strongly and acutely produced posterior margin, postero-laterally with a cluster of setiferous projections on either side; median lobe of aedeagus (Figs 176–177) 0.45 mm long; ventral process very slender, not broad-based in ventral view; paramere (Fig. 178) 0.36 mm long, paramerite with a conspicuously large velum.

♀: sternite VIII (Fig. 179) similar to that of male, but posterior margin narrowly concave, not acute in the middle; spermatheca (Fig. 180) with short proximal portion.

Intraspecific variation. The postero-lateral extensions of the abdominal sternites III and IV are of highly variable length. They are extremely long in the (slightly larger) holotype (Fig. 172), whereas they are more or less reduced in the paratypes (Fig. 173).

Etymology. The specific epithet is an adjective composed of the Latin noun *acus* (needle) and *-formis* (shaped). It alludes to the needle-shaped ventral process of the aedeagus.

Comparative notes. *Orphnebius aciformis* is distinguished from the similar *O. transfigens* particularly by darker femora, infuscate abdominal segments VI–VII, the shapes of tergite VIII and sternite VIII, and by the basally much more slender ventral process of the aedeagus in ventral view. Regarding the habitus, coloration, the modifications of the abdominal sternites III and IV, and the shape of tergite VIII, *O. aciformis* is most similar to *O. cultellatus*. It is distinguished from this species by the shape of the ventral process of the larger aedeagus (*O. cultellatus*: length of median lobe approximately 0.55 mm; length of paramere 0.45 mm), the shape of the female sternite VIII (*O. cultellatus*: posterior margin pointed in the middle, not concave), and a longer proximal portion of the spermatheca. For illustrations of *O. cultellatus* see ASSING (2016b).

Distribution and natural history. The specimens were found in two localities in the Mount Kinabalu region in Sabah (Malaysia), North Borneo. They were collected by canopy fogging.

***Orphnebius (Deroleptus) acifer* sp. nov.**

(Figs 181–193)

Type material. Holotype ♂: “Malaysia Borneo, bei Keningau 50 yrs., *Melanolepis* sp. B2, A. Floren 20.2.01 / Holotypus ♂ *Orphnebius acifer* sp. n., det. V. Assing 2020” (cAss). Paratype ♀: “Poring Hot Spring., *Xanthophyllum affine*, Lower Montane Mixed dipterocarp Fst., >650 m / Fog Xa11/F2, 3[?]0.I.1993, A. Floren” (cAss).

Description. Body length 4.0–4.7 mm; length of forebody 1.7–2.0 mm. Habitus as in Fig. 181. Coloration: head and pronotum blackish-brown; elytra yellowish with the postero-lateral portions infuscate; abdomen and legs yellowish-red; antennae blackish-brown with the basal four antennomeres pale-reddish; maxillary palpi reddish with palpomere III infuscate and the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 182) approximately 1.15 times as broad as long; dorsal surface with very sparse and extremely fine punctation, median portion impunctate. Eyes distinctly convex and large, approximately as long as distance between posterior margin of eye and posterior constriction of head in dorsal view. Antenna (Fig. 183) slender, 1.5 mm long; antennomeres IV distinctly oblong, V weakly oblong, VI approximately as long as broad, VII–X weakly transverse, and XI nearly as long as the combined length of VIII–X.

Pronotum (Fig. 182) of transversely quadrangular shape, approximately 1.15 times as broad as long and as broad as head, strongly convex in cross-section; anterior margin strongly concave in the middle; disc with a pair of macropunctures behind middle, otherwise impunctate.

Elytra (Fig. 182) approximately as long as pronotum, laterally with a weak impression; disc with sparse and distinct, moderately fine punctation. Hind wings fully developed. Legs long and slender; metatibia 1.0 mm long.

Abdomen broadest at segment IV; sternites III and IV (Fig. 184) with pronounced, moderately long to very long, broad-based, and apically spine-shaped postero-lateral extensions; tergite VII posteriorly with extensive longitudinally striate sculpture, near posterior margin with a transverse row of six oblong setiferous tubercles; tergite VIII (Figs 185–186) with randomly distributed gland openings and with a distinct postero-median tubercle, posterior margin trifid, with the lateral projections shorter and much less pronounced than the median process, margin between these projections finely serrate.

♂: sternite VIII (Fig. 187) with strongly and acutely produced posterior margin, postero-laterally with a cluster of setiferous projections on either side; median lobe of aedeagus (Figs 188–189) 0.60 mm long; ventral process very slender in lateral view, basally broad and apically needle-shaped in ventral view (Fig. 193); paramere 0.36 mm long and shaped as in Fig. 192.

♀: sternite VIII (Fig. 190) similar to that of male, but posteriorly less strongly produced and pointed; spermatheca (Fig. 191) comma-shaped.

Etymology. The specific epithet (adjective: carrying a needle) alludes to the apically needle-shape ventral process of the aedeagus.

Comparative notes. *Orphnebius aciformis* is characterized among the representatives of the *O. niger* group with long postero-lateral process of sternite III and IV particularly by the shape of tergite VIII and by the conspicuous shape of the ventral process of the aedeagus in ventral view.

Distribution and natural history. The species was found in two localities in West Sabah (Malaysia), North Borneo, one near Keningau and one in the Mount Kinabalu region. The specimens were collected by canopy fogging.

Orphnebius (Deroleptus) sp. 1

Material examined. Malaysia: Sabah: 1♀ [teneral]; Kinabalu National Park, 6°02'903"N, 116°41.953'E, canopy fogging [My, PW, A. lagenocarpa 10 F1], 29.III.1997, leg. Floren (cAss).

Based on external characters, particularly the shapes of tergite and sternite VIII, the above teneral female belongs to the *O. niger* group. It is evidently not conspecific with the other representatives of this group recorded from Borneo.

3.2.5.3 *Orphnebius siwalikensis* group

Orphnebius (Deroleptus) bigladiosus (Bernhauer, 1915)

Material examined. Malaysia: Sarawak: 5 exs., Gunung National Park, V–VIII.1978, leg. Hammond & Marshall (BMNH, cAss).

This species has been recorded only from Borneo (PACE 2007).

***Orphnebius (Deroleptus) laticeps* Cameron, 1925**

Material examined. Malaysia: Sarawak: 1♂, 4♀♀, Gunung National Park, Kerangas, pitfall trap with fish bait, III–V.1978, leg. Hanski (BMNH, cAss); 1♂, Gunung National Park, near Camp 5, limestone plot, pitfall trap, III.1978, leg. Collins (BMNH).

This species was previously known only from Sumatra (ASSING 2016b).

***Orphnebius (Deroleptus) carinatus* Assing, 2016**

Material examined. Laos: 1♂, 6 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description is based on a unique female holotype from Louangphrabang province, North Laos (ASSING 2016b).

***Orphnebius (Deroleptus) tuberipennis* Assing, 2008**

Material examined. Myanmar: 1♂, Chin State, NW Falam, 400–500 m, V–VI.2016, leg. local collector (MNB).

The above male represents the first record since the original description, which is based on a male from Goa, Southwest India (ASSING 2008), and the first record from Myanmar.

***Orphnebius (Deroleptus) ferrugineus* Cameron, 1939**

(Figs 194–198)

Orphnebius ferrugineus Cameron, 1939: 487.

Type material examined. Holotype ♂: “Ceylon. / Ceylon. / *Orphnebius ferrugineus* Cam Type / Sharp Coll, 1905-313 / Type / Holotypus ♂ *Orphnebius ferrugineus* Cameron, rev. V. Assing 2019” (BMNH).

Comment. The original description is based on a unique holotype from “Ceylon” (CAMERON 1939). This species was omitted in the list of *Orphnebius* species of the Palaearctic and Oriental regions provided by ASSING (2017a).

Redescription. Body length 4.0 mm; length of forebody 1.65 mm. Habitus as in Fig. 194. Coloration: body uniformly pale-reddish, with the head and pronotum slightly darker; legs yellow; antennae brown with antennomeres I–III and X–XI pale-reddish; maxillary palpi pale-reddish.

Head 1.2 times as broad as long; dorsal surface with scattered and very fine punctation; interstices without microsculpture. Eyes large. Antenna rather massive, approximately 1.6 mm long; antennomere XI elongate, nearly as long as the combined length of VIII–X.

Pronotum 1.08 times as broad as long and 1.1 times as broad as head; strongly convex in cross-section; lateral margins straight and very weakly tapering posteriad in dorsal view; punctation extremely fine and sparse; on either side with five long black setae, three at lateral margins and two in or near anterior angles.

Elytra 0.9 times as long as pronotum; punctation sparse and very fine; interstices without microsculpture. Hind wings present. Legs moderately long and slender; metatibia approximately 0.7 mm long.

Abdomen: tergite VIII (Fig. 195) transverse, with numerous long dark setae near posterior margin, the latter weakly concave and finely serrate in the middle.

♂: sternite VIII (Fig. 196) angularly produced posteriorly and with a lateral cluster of sparse long and dark setae on either side; median lobe of aedeagus (Figs 197–198) slender, 0.36 mm long; parameres 0.3 mm long, not distinctly modified.

♀: unknown.

Comparative notes. Based on the external and sexual characters, *O. ferrugineus* belongs to the *O. siwalikensis* group (see ASSING 2016b, 2017a). Among the species of this group, it is characterized particularly by the nearly uniformly reddish coloration, long and rather massive antennae with an elongate antennomere XI, and by the shape and chaetotaxy of tergite VIII.

Distribution. *Orphnebius ferrugineus* has reliably been recorded only from Sri Lanka.

Orphnebius (Deroleptus) borneanus Pace, 2007

Material examined. Malaysia: Sarawak: 2 exs., Gunung National Park, V–VIII.1978, leg. Hammond & Marshall (BMNH); 1 ex., Gunung National Park, near Camp, 1800 m, upper montane forest, pitfall trap, V.1978, leg. Collins (BMNH); 1 ex., same data, but III.1978 (cAss); 1 ex., Gunung National Park, 1790 m, lower montane forest, I.1978, leg. Holloway et al. (cAss).

This species was previously known only from Sabah, Borneo (PACE 2007, ASSING 2017a).

Orphnebius (Deroleptus) quadricultratus sp. nov.

(Figs 199–209)

Type material. Holotype ♂: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Est., >650 m / Fog A73/F6, 27.10.1993, A. Floren / Holotypus ♂ *Orphnebius quadricultratus* sp. n., det. V. Assing 2019” (cAss). Paratypes: 1♂, 1♀: same data as holotype (cAss); 1♂: same data as holotype, but “A73/F2, 31.III.1993” (cAss); 1♂: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *B. scortechinii*, 29.3.98, B4, A. Floren” (cAss).

Description. Body length 3.4–4.5 mm; length of forebody 1.4–1.7 mm. Habitus as in Fig. 202. Coloration: head blackish-brown to black; pronotum brown to blackish-brown; elytra yellowish to dark-reddish with the postero-lateral portions infusate; abdomen pale-reddish with tergites VI and VII slightly darker; legs dark-yellowish to yellowish-brown; antennae brown to dark-brown with antennomeres I–III and the apical half of antennomere XI yellowish-red; maxillary palpi dark-yellowish with the apical palpomere pale-yellowish. Whole body without microsculpture.

Head (Fig. 203) transverse, approximately 1.2 times as broad as long; posterior margin indistinctly concave at most; punctation fine and sparse. Eyes in obliquely dorso-lateral position, large and bulging, longer than distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 204) 1.1–1.2 mm long; antennomeres IV as

long as broad or weakly transverse, V–X weakly to moderately transverse, and XI slightly longer than the combined length of IX and X.

Pronotum (Fig. 203) of transversely quadrangular shape, approximately 1.4 times as broad as long and 1.1 times as broad as head; disc moderately convex in cross-section, very finely and sparsely punctate, impunctate along midline.

Elytra (Fig. 203) slightly longer than pronotum; punctation moderately dense and distinct, predominantly granulose in posterior half. Hind wings fully developed. Legs moderately long and slender; metatibia 0.7–0.8 mm long.

Abdomen: sternite IV (Fig. 205) with a broad-based and apically acute postero-lateral extension on either side; sternite V (Fig. 205) with a longer and apically less acute postero-lateral extension on either side; sternite VII with dense non-setiferous punctation in posterior two-thirds; tergite VIII (Fig. 206) anteriorly with a transverse band of minute gland openings, posterior margin (Fig. 207) truncate, with 8–10 small tooth-shaped tubercles, and laterally with a pronounced tooth on either side.

♂: sternite VIII (Fig. 201) transverse, laterally with a cluster of stout setae on either side; median lobe of aedeagus (Figs 199–200) approximately 0.4 mm long and with rather broad ventral process in ventral view; paramere (Fig. 208) approximately 0.3 mm long and with relatively long, apically dilated apical lobe.

♀: sternite VIII similar to that of male, but somewhat more transverse; spermatheca as in Fig. 209.

Etymology. The specific epithet is an adjective composed of *quadri-* (four) and an adjective derived from the Latin noun *culter* (knife). It alludes to the two pairs of postero-lateral processes of the abdominal sternites IV and V.

Comparative notes. In habitus, punctation of the elytra, and the modifications of the abdominal sternites IV and V, *O. quadricultratus* is most similar to *O. baccillatus* ASSING, 2016 (male unknown) from Laos and Taiwan. It is distinguished from this species by significantly smaller body size (*O. baccillatus*: length of forebody 2.5 mm), a less transverse head (*O. baccillatus*: head approximately 1.5 times as broad as long), the shapes of the postero-lateral extensions of sternite V, a differently shaped tergite VII, a differently shaped spermatheca, and other characters. For illustrations of *O. baccillatus* see ASSING (2016b).

Distribution and natural history. The specimens were collected by canopy fogging in two localities in the Mount Kinabalu region, Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) floreni* sp. nov.**

(Figs 210–221)

Type material. Holotype ♀: “Tawau Hills, My, N4 24.208, E117 53.549, *Aporusa lagenocarpa*, 56, A Floren 06.09.2009 / Holotypus ♀ *Orphnebius floreni* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♀: same data as holotype (cAss); 1 ♂: “Tawau Hills, My, N4 24.379, E117 53.533, *Aporusa acutissima*, 61, A Floren 06.09.2009” (cAss); 1 ♀: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52/F3, 27.2.96, A. Floren” (cAss).

Comment. Although a male is available, a female is dedicated as the holotype. The most distinctive character of this species is the shape of the spermatheca.

Description. Body length 3.0–3.5 mm; length of forebody 1.4–1.6 mm. Habitus as in Fig. 210. Coloration: head dark-brown with the frons and the clypeus reddish; pronotum dark-brown; elytra dark-yellow with the postero-lateral portions extensively infuscate; legs yellowish-brown to reddish; antennae dark-brown to blackish-brown with antennomeres I–III pale reddish and IV red to dark-red; maxillary palpi pale-reddish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 211) transverse, approximately 1.3 times as broad as long, of transversely quadrangular shape; posterior margin indistinctly concave in the middle; punctation fine and sparse. Eyes in obliquely dorso-lateral position, large and bulging, approximately as long as distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 212) 1.0–1.1 mm long; antennomeres IV weakly transverse, V–X of gradually increasing width and increasingly transverse, and XI rather short, approximately as long as the combined length of IX and X.

Pronotum (Fig. 211) of transversely quadrangular shape, approximately 1.5 times as broad as long and as broad as, or slightly broader than head; disc moderately convex in cross-section, very finely and sparsely punctate, impunctate along midline.

Elytra (Fig. 211) approximately as long as pronotum, with or without indistinct oblong elevation on either side of the posterior half of suture; punctation rather sparse and fine, non-granulose. Hind wings fully developed. Legs moderately long and slender; metatibia 0.7–0.8 mm long.

Abdomen: sternite III with weakly pronounced, broad postero-lateral extensions; sternite IV with variable, short to moderately long and apically acute postero-lateral extensions (Fig. 213); paratergites IV with or without very short posterior extensions; tergite VII with dense non-setiferous punctation in posterior two-thirds; tergite VIII (Figs 214, 219) with randomly distributed gland openings, posterior margin weakly concave, with variable number of blunt tubercles or tooth-shaped projections.

♂: sternite VIII shaped as in Fig. 215, laterally with a cluster of few stout setae on either side; median lobe of aedeagus 0.4 mm long and shaped as in Figs 216–217; paramere approximately as long as median lobe and shaped as in Fig. 218.

♀: sternite VIII (Fig. 220) similar to that of male, but somewhat more transverse; spermatheca (Fig. 221) of distinctive shape.

Etymology. This species is dedicated to Andreas Floren (University of Würzburg), collector of the type series, also in gratitude for the generous gift of numerous *Lomechusini* collected by canopy fogging in North Borneo.

Comparative notes. This species is reliably identified only by the distinctive shape of the spermatheca.

Distribution and natural history. The specimens were collected by canopy fogging in two close localities near Tawau, Southeast Sabah, and one in the Mount Kinabalu region, West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) obelifer* sp. nov.**

(Figs 222–226)

Type material. Holotype ♂ [slightly teneral]: “CR Ulu Senagang, My, N5 21.875 E116 01.582, *Dendrocnide* sp. 1, 15, A Floren 17.08.2009 / Holotypus ♂ *Orphnebius obelifer* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 2.8 mm; length of forebody 1.4 mm. Habitus as in Fig. 222. Coloration (note that the holotype is somewhat teneral): head and pronotum yellowish-brown; elytra yellow; abdomen yellowish-brown; antennae brown with the basal four antennomeres yellow and the apical 2–3 antennomeres yellowish-brown; maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 223) transverse, approximately 1.25 times as broad as long, of transversely quadrangular shape; posterior margin indistinctly concave in the middle; punctuation fine and sparse. Eyes in obliquely dorso-lateral position, large and bulging, approximately as long as distance from posterior margin of eye to posterior constriction of head. Antenna approximately 1.0 mm long and slender; antennomeres IV approximately as long as broad, V weakly transverse, VI–X of weakly increasing width, X less than 1.5 times as broad as long, and XI rather short, shorter than the combined length of IX and X.

Pronotum (Fig. 223) of transversely quadrangular shape, approximately 1.4 times as broad as long and 1.05 times as broad as head; disc moderately convex in cross-section, with a median pair of macropunctures, and with moderately sparse micropunctuation, impunctate along midline.

Elytra (Fig. 223) approximately as long as pronotum, with somewhat elevated humeral portions; punctuation fine and moderately sparse, non-granulose. Hind wings fully developed. Legs moderately long and slender; metatibia 0.7 mm long.

Abdomen: sternite III with conspicuously long, slender, erect, and apically acute postero-lateral extensions (Fig. 224); lateral margins of sternite IV and paratergites IV contiguous, rather long, and curved, but without posterior extension (Fig. 224); segments V–VI unmodified; tergite VII (Fig. 225) distinctly oblong, with coarse and dense non-setiferous punctuation, posteriorly with a smooth and posteriorly extended median elevation; tergite VIII (Fig. 226) anteriorly with a pair of indistinct clusters of rather sparse gland openings, with rather long setae in postero-lateral portions, posterior margin truncate and with fine tubercles.

♂: sternite VIII laterally with a cluster of few stout setae on either side; shape of aedeagus not assessable (holotype teneral).

♀: unknown.

Etymology. The specific epithet is an adjective composed of the noun *obelus* (skewer, spear) and *-fer* (carrying). It alludes to the conspicuously long and acute postero-lateral processes of the abdominal sternite III.

Comparative notes. This species is distinguished from other representatives of the *O. siwalikensis* group particularly by the long and erect processes of sternite III, as well as by the modifications of tergite VII. *Orphebius arachnoides* (BERNHAEUER, 1929) from Borneo, which too is characterized by long processes of sternite III, belongs to the *O. niger* group.

Distribution and natural history. The type locality is situated in Crocker Range National Park, West Sabah (Malaysia), North Borneo. The holotype was collected by canopy fogging.

***Orphnebius (Deroleptus) nodatus* sp. nov.**

(Figs 227–232)

Type material. Holotype ♀: “Poring Hot Springs, My, N6 03.547 E116 42.181, *Xanthophyllum tenue* 4, A Floren 09.08.2009 / Holotypus ♀ *Orphnebius nodatus* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 3.1 mm; length of forebody 1.4 mm. Habitus as in Fig. 227. Coloration: head blackish-brown with the anterior portion paler; pronotum pale-reddish; elytra yellow with the postero-lateral portions narrowly infuscate; abdomen yellowish-red; legs yellow; antennae and maxillary palpi yellowish-red with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 228) of transversely oval shape, 1.4 times as broad as long; posterior margin weakly convex; punctation fine and sparse. Eyes very large and bulging, reaching posterior margin of head, and approximately three times as long as distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 229) 1.2 mm long; antennomeres IV weakly transverse, V–X of weakly increasing width and moderately transverse, X approximately 1.5 times as broad as long, and XI rather short, approximately as long as the combined length of IX and X.

Pronotum (Fig. 228) strongly transverse, approximately 1.6 times as broad as long and 0.95 times as broad as head, broadest near anterior angles; disc moderately convex in cross-section, very finely and sparsely punctate.

Elytra (Fig. 228) approximately as long as pronotum; punctation very fine, weakly granulose only in posterior portion. Hind wings fully developed. Legs moderately long and slender; metatibia 0.7 mm long.

Abdomen: sternite IV with weakly pronounced postero-lateral extensions (Fig. 230); sternite V with more pronounced, relatively short, and apically moderately acute postero-lateral extensions (Fig. 230); tergite VII with dense non-setiferous punctation and with a transverse row of approximately six fine setiferous tubercles at posterior margin; tergite VIII (Fig. 231) with a pair of indistinct clusters of gland openings anteriorly, posterior margin truncate, with a pronounced tooth-shaped process on either side and with approximately ten denticles between them.

♂: unknown.

♀: spermatheca (Fig. 232) of distinctive shape, medially coiled.

Etymology. The specific epithet is the past participle of the Latin verb *nodare* (to knot) and alludes to the medially coiled spermatheca.

Comparative notes. This species is reliably identified only by the distinctive shape of the spermatheca and additionally characterized by the modifications of sternites IV and V and the shape of the tergite VIII.

Distribution and natural history. The holotype was collected by canopy fogging in West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) filiformis* sp. nov.**

(Figs 233–244)

Type material. Holotype ♀: “SABAH: Poring Hot Spring., *Aporosa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A73/F6, 27.10.1993, A. Floren / Holotypus ♀ *Orphnebius filiformis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 3♂♂: same data as holotype (cAss); 1♀: same data, but “A51/F2, 1.iii.1992, A.

Floren" (cAss); 1♀: "Poring Hot Springs, My, N6 03.547 E116 42.181, *Xanthophyllum tenue* 4, A Floren 09.08.3009" (cAss); 1♀: "Kinabalu Park, 6°5'N, 116°33'E, Lowland mixed Dipterocarp Forest / *A. lag.* B9, 29.3.98, A. Floren" (cAss); 1♂: same data, but "B1, B2 Mix, 27.3.98" (cAss).

Description. Body length 3.1–3.6 mm; length of forebody 1.3–1.6 mm. Habitus as in Fig. 233. Coloration: head and pronotum dark-brown to blackish-brown; elytra dark-brown or paler brown with the postero-lateral portions diffusely and extensively darker; abdomen reddish with segments VI and VII darker to brown with the posterior margins of tergites III–V reddish; legs pale-reddish with the femora darker; antennae dark-brown with the apex of antennomere XI paler and with antennomeres I–III reddish; maxillary palpi pale-reddish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 234) transverse, nearly 1.3 times as broad as long; posterior margin weakly convex; punctation fine and sparse. Eyes large and bulging, longer than distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 235) 1.1–1.2 mm long; antennomeres IV moderately transverse, V–X of weakly increasing width and moderately transverse, X approximately 1.5 times as broad as long, and XI rather short, approximately as long as the combined length of IX and X.

Pronotum (Fig. 234) of transversely quadrangular shape, approximately 1.4 times as broad as long and slightly broader than head; disc moderately convex in cross-section, very finely and sparsely punctate.

Elytra (Fig. 234) approximately as long as pronotum; punctation distinct and somewhat granulose, especially in posterior portion. Hind wings fully developed. Legs moderately long and slender; metatibia approximately 0.7 mm long.

Abdomen: sternite IV with weakly pronounced postero-lateral extensions (Fig. 235); sternite V with or without more pronounced, relatively short, and apically acute postero-lateral extensions (Fig. 236); tergite VII with dense non-setiferous punctation and with a transverse row of approximately six fine setiferous tubercles at posterior margin; tergite VIII (Figs 237, 242) with a pair of rather extensive clusters of gland openings anteriorly, posterior margin truncate to weakly convex, with a pronounced tooth-shaped process on either side and with 10–12 denticles between them, the median ones larger than the lateral ones.

♂: sternite VIII (Fig. 238) transverse, postero-laterally with stout setae on either side; median lobe of aedeagus (Figs 239–240) approximately 0.35 mm long; ventral process rather broad in ventral view; paramere slightly shorter than median lobe (0.32–0.33 mm) and shaped as in Fig. 241.

♀: sternite VIII (Fig. 243) of similar shape and chaetotaxy as in male, but more transverse; spermatheca (Fig. 244) very long and slender.

Intraspecific variation. The postero-lateral extensions of sternite V are subject to remarkable intraspecific variation. They vary from completely absent to fully pronounced.

Etymology. The specific epithet (Latin, adjective) alludes to the filiform shape of the spermatheca.

Comparative notes. Regarding the modifications of sternites IV and V, size, and general habitus, this species is similar to *O. floreni*, but readily distinguished by much larger eyes,

the shapes of tergite and sternite VIII, the morphology of the median lobe of the aedeagus (ventral process shorter and broader, especially in ventral view; shape of crista apicalis), and the shape of the spermatheca.

Distribution and natural history. The type specimens were collected by canopy fogging in the Mount Kinabalu region, West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) plexus* sp. nov.**

(Figs 245–257)

Type material. Holotype ♀: “Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 9.2.97, A. Floren / Holotypus ♀ *Orphnebius plexus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♀: same data as holotype, but “7.11.96” (cAss); 1♀: same data as holotype, but “MF1, 18.3.96” (cAss); 1♂: same data, but “MF2, 19.3.96” (cAss); 1♂, 1♀ [teneral]: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *A. lag.* B8, 29.3.98, A. Floren” (cAss); 1♀: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim III 40 yr. / Bergil 1, 5.3.97, A. Floren” (cAss); 1♂: same data, but “Bergil 7” (cAss); 1♂: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim, SW II 15 Years / Bergil 9, 2.3.97, A. Floren” (cAss); 1♀ [teneral]: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagneocarpa* [sic] 10 F1, A. Floren 29.3.97” (cAss); 1♂: “Tawau Hills, My, N4 24.203 E117 53.549, *Aporusa lagenocarpa* 56, A. Floren 06.09.2009” (cAss); 1♀: “Tawau Hills, My, N4 24.379 E117 53.533, *Aporusa acuminatissima* 61, A. Floren 06.09.2009” (cAss).

Description. Body length 2.1–2.8 mm; length of forebody 1.1–1.3 mm. Habitus as in Fig. 245. Coloration (mature specimens): body blackish-brown to blackish with abdominal segments III–IV slightly paler; legs reddish with darker femora; antennae blackish-brown to blackish with the apex of antennomere XI paler and with antennomeres I–III reddish-yellow to reddish; maxillary palpi yellow to yellowish-red. Whole body without microsculpture.

Head (Fig. 246) of transversely oval shape, 1.3–1.4 times as broad as long; posterior margin weakly convex; punctation fine and sparse. Eyes large and bulging, approximately as long as distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 247) approximately 0.9 mm long and rather massive; antennomeres IV–X strongly transverse, IV approximately 1.5 times and X approximately twice as broad as long; XI longer than the combined length of IX and X.

Pronotum (Fig. 246) strongly transverse, of transversely quadrangular shape, approximately 1.35 times as broad as long and 1.1 times as broad as head; posterior angles moderately marked; disc strongly convex in cross-section, very finely and sparsely punctate.

Elytra (Fig. 246) nearly as long as pronotum; punctation very fine and very sparse. Hind wings fully developed. Legs moderately long and slender; metatibia 0.5 mm long.

Abdomen: segments III–VII without distinctive modifications; tergite VIII (Figs 248, 253) strongly transverse, without clusters of gland openings anteriorly, posterior margin weakly concave in the middle and with 5–7 minute tubercles on either side.

♂: sternite VIII shaped as in Fig. 249, postero-laterally with several stout setae on either side; median lobe of aedeagus 0.30–0.35 mm long and shaped as in Figs 250–251; paramere (Fig. 252) large and broad, approximately as long as median lobe.

♀: sternite VIII (Fig. 254) similar to that of male, but somewhat more transverse; spermatheca (Figs 255–257) distally with very large and somewhat asymmetric cuticular invagination and proximally with numerous coils.

Etymology. The specific epithet (Latin, adjective: complex, coiled) alludes to the structure of the spermatheca.

Comparative notes. This species is reliably identified only by distinctive shape of the spermatheca and additionally characterized by rather massive antennae, a strongly convex pronotum, the shape of the median lobe of the aedeagus, and rather large parameres.

Distribution and natural history. The specimens were collected by canopy fogging in the Mount Kinabalu region (West Sabah) and one locality in Southeast Sabah, North Borneo. Three specimens collected in March are teneral.

***Orphnebius (Deroleptus) tuberculifer* sp. nov.**

(Figs 258–270)

Type material. Holotype ♀: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa* 79 F1, A. Floren 29.10.95 / Holotypus ♀ *Orphnebius tuberculifer* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♀: same data as holotype (cAss); 1 ♂: same data, but “90 F1, 1.11.96” (cAss); 1 ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO 10, 1.11.96, Jens & Kerstin” (cAss); 1 ♀: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52NF, 27.2.96, A. Floren” (cAss); 1 ♂: same data, but “Fog A57/F4, 19.2.96” (cAss); 1 ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / AF1/F1, [?].3.96, A. Floren” (cAss); 1 ♀: “Kinabalu Park, 6°5'N, 116°33'E, Lowland Mixed Dipterocarp Forest / *B. scortechinii*, 29.3.98 B4, A. Floren” (cAss); 1 ♀: same data, but “A. lag. B10” (cAss); 1 ♀: same data, but “A. lag. B” (cAss); 1 ♀: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A 51/F5, 9.II.1993, A. Floren” (cAss); 1 ♀: same data, but “Fog A51/F2, 1.iii.1992” (cAss); 1 ♂, 1 ♀: same data, but “Fog A74/F1, 30.10.1993” (cAss); 1 ♂, 1 ♀: same data, but “Fog A73/F5, 24.III.1993” (cAss); 2 ♀♀ [teneral]: same data, but “A9/F1, 12.II.1993” (cAss); 1 ♀: “CR Mahua, My, N5 47.916 E116 24.422, *Alangium* spec. 44, A Floren 03.09.2009” (cAss).

Comment. Although males are available, a female is dedicated as the holotype, since the spermatheca is more distinctive than the aedeagus.

Description. Body length 3.0–4.2 mm; length of forebody 1.4–1.8 mm. Habitus as in Fig. 258. Coloration: head and pronotum dark-brown to black; elytra dark-yellow with the postero-lateral portions more or less distinctly and more or less extensively infuscate; abdomen reddish to brown; legs reddish to dark-brown with the femora often darker; antennae brown to blackish-brown with the basal four antennomeres reddish and at least the apex of antennomere XI dark-yellowish to reddish-brown; maxillary palpi pale-reddish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 259) of transversely quadrangular shape, approximately 1.4 times as broad as long; posterior margin truncate; punctation fine and moderately dense. Eyes in obliquely dorso-lateral position, large and bulging, approximately three times as long as postocular region in dorsal view. Antenna (Fig. 260) approximately 1.1 mm long; antennomeres IV weakly transverse and slightly asymmetric, V–X of gradually increasing width and increasingly transverse, X less than twice as broad as long, and XI rather short, approximately as long as the combined length of IX and X.

Pronotum (Fig. 259) of transversely quadrangular shape, approximately 1.4 times as broad as long and as broad as head; disc moderately convex in cross-section, very finely and moderately densely punctate, and with moderately dense, inconspicuous, and depressed pubescence.

Elytra (Fig. 259) approximately as long as pronotum; punctation rather dense and coarse, usually distinctly granulose. Hind wings fully developed. Legs moderately long and slender; metatibia approximately 0.7 mm long.

Abdomen (Fig. 261): sternite III with weakly pronounced, sternite IV with barely noticeable, broad and apically acute postero-lateral extensions; sternite IV with variable, short to moderately long and apically acute postero-lateral extension; tergite VI with pair of setiferous granula at posterior margin; tergite VII with coarse and dense non-setiferous punctation, at posterior margin with small median tubercle; tergite VIII (Figs 262, 267) strongly transverse, anteriorly with a transverse band (not clusters) of gland openings, posterior margin weakly concave and with 10–20 small tubercles.

♂: sternite VIII shaped as in Fig. 263, postero-laterally with few stout setae on either side; median lobe of aedeagus (Figs 264–265) approximately 0.4 mm long, with short, broad, and apically triangular (ventral view) ventral process; paramere nearly as long as median lobe and shaped as in Fig. 266.

♀: sternite VIII (Fig. 268) similar to that of male, but somewhat more transverse; spermatheca (Figs 269–270) of distinctive shape.

Etymology. The specific epithet is an adjective composed of the Latin noun *tuberculum* and *-fer* (carrying). It alludes to the postero-median tubercle on the abdominal tergite VII.

Comparative notes. Among the species of the *O. siwalikensis* group, *O. tuberculifer* is characterized particularly by the shape of the spermatheca, a short and broad ventral process of the aedeagus, the presence of a median tubercle at the posterior margin of the abdominal tergite VII, and usually distinctly granulose punctation of the elytra. The spermatheca is most similar to that of *O. laetus*, a species described from Sabah based on two females and, according to the original description (PACE 1987), distinguished from *O. tuberculifer* by dark-reddish coloration of the body, smaller eyes, and a smaller spermatheca with a smaller distal invagination.

Distribution and natural history. The specimens were collected by canopy fogging in several localities in the Mount Kinabalu region and one in the north of Crocker Range in West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) tuberosus* sp. nov.**

(Figs 271–284)

Type material. Holotype ♀: “CR Ulu Senagang, My, N5 21.875 E116 01.582, *Dendrocide* sp. 1 15, A. Floren 17.08.2009 / Holotypus ♀ *Orphnebius tuberosus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 2♀♀: same data as holotype (cAss); 1 ex.: “Poring Hot Springs, My, N6 03.458 E116 42.208, *Xanthophyllum tenue* 3, A. Floren 09.08.2009” (cAss); 1♂: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A8/F1, 20.v.1992, A. Floren” (cAss); 1♂: same data, but “Fog A51/F3, 12.iii.1992” (cAss); 1♀: same data, but “Fog A51/F1, 22.ii.1992” (cAss); 1♀: same data, but “Fog A51/F5, 9.II.1993” (cAss); 1♀: same data, but “Fog A72/F1, 23.III.1993” (cAss); 2♂♂: same data, but “Fog A9/F1, 12.II.1993” (cAss); 1♂: “SABAH: Poring Spring., *Xanthophyllum affine*, Lower montane Mixed dipterocarp Fst., >650 m / Fog Xa4/F1, 20.VI.1992, A. Floren” (cAss); 1♂: same data, but “Xa11/F1, 12.V.1992” (cAss); 1♂, 1♀: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A9/F3, 21.2.96, A. Floren” (cAss); 1♀: same data, but “A51/F6, 19.2.96” (cAss); 1♂: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52/F3, 27.2.96, A. Floren” (cAss); 1♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed

diptero carp / AF1/F1, 3.3.96, A. Floren" (cAss); 2♂♂, 2♀♀: "Tawau Hills, My, N4 24.145 E117 53.583, *Szygium* sp. 53, A. Floren 05.09.2009" (cAss).

Description. Small species; body length 2.0–3.0 mm; length of forebody 1.0–1.2 mm. Habitus as in Fig. 271. Coloration: head and pronotum brown to dark-brown; elytra yellow to dark-yellow with the postero-lateral portions more or less distinctly and more or less extensively infuscate; abdomen reddish to brown; legs yellowish-red to reddish; antennae dark-brown with the basal four antennomeres reddish and at least the apex of antennomere XI dark-yellowish; maxillary palpi pale-reddish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 272) of transversely quadrangular shape, 1.3–1.5 times as broad as long, usually somewhat widened behind eyes; posterior margin truncate in the middle; punctuation fine and moderately dense. Eyes in obliquely dorso-lateral position, large and bulging, approximately three times as long as postocular region in dorsal view. Antenna (Fig. 273) approximately 0.8 mm long; antennomeres IV weakly transverse and asymmetric, V–X of gradually increasing width and increasingly transverse, X approximately twice as broad as long, and XI rather short, approximately as long as the combined length of IX and X.

Pronotum (Fig. 272) of transversely quadrangular shape, approximately 1.5 times as broad as long and as broad as head; disc moderately convex in cross-section, very finely and moderately densely punctate, and with moderately dense, inconspicuous, and depressed pubescence.

Elytra (Fig. 272) longer than pronotum; punctuation rather dense and coarse, distinctly granulose. Hind wings fully developed. Legs moderately long and slender; metatibia 0.5–0.6 mm long.

Abdomen: sternite III with weakly pronounced postero-lateral extensions; tergite VII with coarse and dense non-setiferous punctuation, at posterior margin with median tubercle (Fig. 274); tergite VIII (Figs 275, 280) strongly transverse, anteriorly with an indistinct transverse band of sparse gland openings, posterior margin weakly concave in the middle and with 5–8 small tubercles on either side of middle.

♂: sternite VIII shaped as in Fig. 276, postero-laterally with few very stout setae on either side; median lobe of aedeagus approximately 0.3 mm long and shaped as in Figs 277–278; paramere small, approximately 0.2 mm long, and with relatively large apical lobe (Fig. 279).

♀: sternite VIII (Fig. 281) similar to that of male, but somewhat more transverse; spermatheca (Figs 282–284) of distinctive shape.

Etymology. The specific epithet (Latin, adjective) alludes to the postero-median tubercle on the abdominal tergite VII.

Comparative notes. Based on the similar external (head shape, antennal morphology, punctuation of the elytra, postero-median tubercle on tergite VII, shape and chaetotaxy of tergite VIII) and sexual characters, *O. tuberosus* is closely allied to *O. tuberculifer*. It differs from this species by particularly by smaller body size, shorter antennae with more transverse antennomeres V–X, paler femora, and by the primary sexual characters, above all by the completely different shape of the spermatheca.

Distribution and natural history. The specimens were collected by canopy fogging in several localities in West and Southeast Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) granulatus* sp. nov.**

(Figs 285–296)

Type material. Holotype ♀: “SABAH: Poring Hot Spring., *Xanthophyllum affine*, Lower Montane Mixed dipterocarp Fst., >650 m / Fog Xa11/F1, 12.V.1992, A. Floren / Holotypus ♀ *Orphnebius granulatus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♀ [teneral]: same data as holotype, but “Fog Xa11/F2, 20.I.1993” (cAss); 1 ♀: same data as holotype, but “*Aporusa* Sp. ... / Fog A15F1, 13[?].II.1993” (cAss); 1 ♀: same data, but “A73/F1, 19.III.1993” (MNB); 1 ♂: same data, but “A73/F4, 23[?].III.1993” (MNB); 1 ♂ [teneral]: same data, but “A51/F4, 26.I.1993” (MNB); 1 ♂ [teneral]: same data, but “A8/F1, 10.v.1992” (MNB); 3 ♂♂, 1 ♀ [1 ♂, 1 ♀ teneral]: “Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 7.11.96, A. Floren” (cAss, MNB); 1 ♀: same data, but “9.2.97” (cAss); 2 ♂♂: same data, but “MF2, 19.3.96” (cAss); 1 ♀: same data, but “MF1, 18.3.96” (cAss); 1 ♂ [teneral]: same data, but “MF3, 21.3.96” (cAss); 1 ♂: same data, but “MF5, 22.3.96” (cAss); 2 ♂♂: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52NF, 27.2.96, A. Floren” (cAss); 2 ♂♂: same data, but “A52/F3, 27.2.96” (cAss, MNB); 2 ♂♂: same data, but “DOPAN, 26.2.96” (cAss); 1 ♀, 1 ex.: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO8, 29.10.96, Jens & Kerstin” (cAss); 1 ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / AF1/F1, 3.3.96, A. Floren” (cAss); 1 ♂: “Kinabalupark PHS, Gutti. sp., Lower Montane Mixed dipterocarp / GF1, 26.2.96, A. Floren” (cAss); 1 ♂ [teneral]: “Kinabalu NP, My, 6°5’N, 116°33’E, *Aporusa lagenocarpa* 72, A. Floren, 24.10.1996” (MNB); 1 ♂: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa*, 73 F1, A. Floren ’97” (cAss); 1 ex. [teneral]: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa*, 79 F1, A. Floren 29.10.96” (cAss); 1 ♂: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa*, 90 F1, A. Floren 1.11.96” (MNB); 2 ♀♀: “Kinabalu Park, 6°5’N, 116°33’E, Sorinsim II 15 yr. / Bergil 1, 27.2.97, A. Floren” (MNB); 1 ex.: same data, but “Sorinsim III, 40 yr. / Bergil 10, 8.3.97” (MNB); 1 ♂: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *A. lag.* B9, 29.3.98, A. Floren” (MNB); 1 ♂: “SAWARAK: 4th Division, Gn. Mulu NP / Base-bark / P.M. Hammond & J.E. Marshall, v–viii.1978, B.M. 1978-49” (BMNH).

Comment. The male from Sarawak in BMNH was originally the sole specimen at hand and labeled as the holotype (“Holotypus ♂ *Orphnebius granulatus* sp. n., det. V. Assing 2019”). It had already been returned when numerous additional specimens from Sabah were made available. Since the female sexual characters are significantly more distinctive than those of male, a female from Sabah is designated as the holotype. Consequently, the specimen from Sarawak represents a paratype, irrespective of the holotype label attached to it.

Description. Moderately small species; body length 2.6–3.6 mm; length of forebody 1.2–1.5 mm. Habitus as in Fig. 285. Coloration: forebody blackish; abdomen reddish-brown to blackish; legs yellowish-brown to reddish with dark-brown to blackish-brown femora; elytra dark-brown with antennomeres I–III pale-reddish and often also the apex of maxillary palpomere XI paler; maxillary palpi pale-reddish to brown with the apical palpomere yellow. Whole body without microsculpture.

Head (Figs 286–287) strongly transverse and with weakly convex posterior margin; punctuation very sparse and extremely fine, barely noticeable. Eyes large and strongly bulging, slightly longer than distance from posterior margin of head to posterior constriction of head. Antenna 1.0–1.2 mm long; antennomeres IV approximately as long as broad, V–X weakly transverse, X barely 1.5 times as broad as long, and XI slightly shorter than the combined length of IX and X.

Pronotum (Figs 286–287) of transversely quadrangular shape, approximately 1.4 times as broad as long and as broad as head; disc with sparse and fine setiferous punctation; midline broadly impunctate

Elytra (Figs 286–287) at suture as long as, or slightly longer than pronotum; punctation conspicuously coarsely granulose; surface of disc uneven, in lateral portion extensively impressed. Hind wings fully developed. Legs moderately long and slender; metatibia 0.7–0.8 mm long.

Abdomen: sternite III postero-laterally with indistinct, broad and short extension; tergite VII with extensive non-setiferous punctation, near posterior margin with usually six setiferous tubercles (Fig. 288); tergite VIII (Fig. 289) in anterior half with numerous minute gland openings, in posterior half with coarse setiferous tubercles, posterior margin of conspicuous shape, laterally with a pronounced tooth-shaped process on either side and in the middle convex and strongly serrate; sternite VIII with pronounced sexual dimorphism.

♂: sternite VIII (Fig. 290) laterally with a cluster of coarse setiferous tubercles on either side, posterior margin distinctly produced and spatuliform; median lobe of aedeagus approximately (Figs 291–292) 0.3 mm long; ventral process broad and with parallel lateral margins in ventral view; paramere (Fig. 293) nearly as long as median lobe.

♀: sternite VIII (Fig. 294) more transverse than that of male, posteriorly with a pair of pronounced processes, between these processes broadly excised; spermatheca (Figs 295–296) of distinctive shape.

Etymology. The specific epithet (Latin, adjective) alludes to the conspicuously granulose punctation of the elytra.

Comparative notes. Among the species of the *O. siwalikensis* group, *O. granulosus* is characterized by the coarsely granulose punctation of the elytra, the shape of the posterior margin of tergite VIII, the shape of the posterior margin of the male sternite VIII, and particularly by the highly distinctive shapes of the female sternite VIII (unique) and the spermatheca.

Distribution and natural history. The species was found in several localities in the Kinabalu region (Malaysia: Sabah) and one in Sawarak (Malaysia) in West Borneo. The specimens from Sabah were collected by canopy fogging. Several specimens taken in January, March, May, October, and November are teneral.

***Orphnebius (Deroleptus) verrucosus* sp. nov.**

(Figs 297–305)

Type material. Holotype ♀: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♀ *Orphnebius verrucosus* sp. n., det. V. Assing 2020” (NHMB). Paratypes: 1♂ [without aedeagus], 1♀: same data as holotype (cAss).

Description. Body length 4.2–4.8 mm; length of forebody 1.7–2.0 mm. Habitus as in Fig. 297. Coloration: forebody blackish with the scutellum reddish; abdomen red with segments VI more or less distinctly infuscate and segments VII–VIII blackish; legs with black femora, reddish to blackish-brown tibiae, and yellowish tarsi; antennae blackish

with the apex of antennomere II and the base of antennomere III dark-reddish and with the apex of antennomere XI dark-yellow; maxillary palpi brown with the apical palpomere yellow.

Head (Fig. 298) of transversely quadrangular shape, 1.23–1.27 times as broad as long; posterior margin concave in the middle; punctation sparse and extremely fine; interstices without microsculpture. Eyes large and distinctly convex, somewhat longer than postocular region in dorsal view. Clypeus completely membranous. Antenna (Fig. 299) 1.4–1.5 mm long and slender; antennomeres IV–X weakly transverse and XI slightly shorter than the combined length of IX and X.

Pronotum (Fig. 298) small in relation to head, approximately 1.4 times as broad as long and 0.91–0.95 times as broad as head, broadest near anterior angles; disc with scattered and extremely fine punctation; microsculpture absent.

Elytra (Fig. 298) approximately as long as pronotum, or slightly longer; each elytron with a pronounced oblique elevation on disc and with a less distinct humeral elevation; punctation moderately sparse in lateral and humeral portions, very sparse in postero-sutural portions; interstices without microsculpture. Hind wings fully developed. Legs very long and slender; metatibia approximately 0.8–1.0 mm long and curved; metatarsus nearly as long as metatibia.

Abdomen (Fig. 300): sternites without modifications; tergite IV with a distinct median keel; tergite VII extensively with coarse and dense non-setiferous punctation, near middle of posterior margin with a pair of coarse tubercles.

♂: tergite VIII (Fig. 301) weakly transverse, with a pair of clusters of gland openings in anterior half, and with smooth, weakly concave posterior margin; sternite VIII (Fig. 302) distinctly transverse, with some stout setae postero-laterally, and with distinctly convex posterior margin.

♀: tergite VIII (Fig. 303) of similar shape and chaetotaxy as in male, but posterior margin with 2 or four small teeth; posterior margin of sternite VIII weakly convex in the middle (Fig. 304); spermatheca (Fig. 305) of distinctive shape.

Etymology. The specific epithet (Latin, adjective: with warts) alludes to the conspicuous elevations on the elytra.

Comparative notes. Based on the external and sexual characters, *O. verrucosus* belongs to the *O. siwalikensis* group. Among the species of this group, it is characterized particularly by the conspicuous modifications of the elytra, the presence of a median keel on the abdominal tergite IV, the shape of posterior margin of tergite VIII, and by the shape of the spermatheca. In external characters, it is most similar to *O. ulcerosus* from Borneo (female unknown), from which it additionally differs by smaller eyes (*O. ulcerosus*: eyes nearly reaching posterior margin of head), a reddish scutellum, and the presence of a pair of coarse tubercles near the posterior margin of tergite VII. For illustrations of *O. ulcerosus* see ASSING (2016b).

Distribution and natural history. The type locality is situated in Bokeo province, Northwest Laos, at an altitude of 500–600 m. The specimens were most likely collected with Malaise traps.

Orphnebius (Deroleptus) botulus sp. nov.

(Figs 306–310)

Type material. Holotype ♀: “SARAWAK: 5th Division, Gn. Mulu NP. / nr. Camp 5, Kerangas / Pitfall trap / iii.78 / N.M. Collins. B.M. 1978.11 / Holotypus ♀ *Orphnebius botulus* sp. n., det. V. Assing 2019” (BMNH). Paratype ♀ [slightly teneral]: “SARAWAK: 4th Division, Gn. Mulu NP. / mixed dipterocarp forest / Pitfall trap / iii.78 / N.M. Collins. B.M. 1978.11” (cAss).

Description. Body length 4.4–4.8 mm; length of forebody 1.8–1.9 mm. Habitus as in Fig. 306. Coloration: head brown; pronotum reddish-yellow; elytra pale-reddish; abdomen yellowish-red with segment VII slightly darker; legs dark-yellow; antennae with the basal antennomeres yellowish-red and the apical antennomeres dark-yellow; maxillary palpi yellowish.

Head (Fig. 307) strongly transverse; posterior margin weakly concave; punctuation extremely fine and sparse; microsculpture absent. Eyes very large and moved towards dorsal surface of head. Antenna 1.5–1.7 mm long; antennomeres IV–X moderately transverse and XI narrowly wedge-shaped, approximately as long as the combined length of VIII–X.

Pronotum (Fig. 307) small in relation to head and pronotum, strongly transverse, broadest at anterior angles; lateral margins distinctly tapering posteriad; punctuation very sparse and even finer than that of head.

Elytra (Fig. 307) approximately 1.2 times as long as, and distinctly broader than pronotum; punctuation moderately dense and weakly granulose; interstices with distinct microreticulation. Hind wings fully developed. Legs moderately long and slender; metatibia 0.9–1.0 mm long; metatarsus nearly as long as metatibia.

Abdomen gradually tapering from base to apex; anterior sternites without distinct postero-lateral extensions or processes; tergite VII with dense non-setiferous punctures, except near anterior margin, at posterior margin with six small tubercles, posterior margin with palisade fringe; tergite VIII (Fig. 308) posteriorly with six pronounced convex processes, the two median ones fused.

♂: unknown.

♀: sternite VIII (Fig. 309) weakly transverse, postero-laterally with clusters of stout setae; posterior margin truncate; spermatheca (Fig. 310) of distinctive shape.

Etymology. The specific epithet (Latin: sausage) is a noun in apposition and alludes to the shape of the distal portion of the spermatheca.

Comparative notes. Among the *Deroleptus* species with a similarly shaped head (see ASSING 2017a), *O. botulus* is characterized particularly by the presence of distinct microreticulation on the elytra, the shapes of the abdominal tergite and sternite VIII, and by the shape of the spermatheca.

Distribution and natural history. The specimens were collected with pitfall traps in Gunung Mulu National Park, Sarawak, Borneo. The paratype is somewhat teneral.

Orphnebius (Deroleptus) pinnatus sp. nov.

(Figs 311–318)

Type material. Holotype ♂: “SAWARAK: 4th Division, Gn. Mulu NP / Camp 5, limestone plot / mixed dipterocarp forest / P.M. Hammond & J.E. Marshall, v–viii.1978, B.M. 1978-49 / Holotypus ♂ *Orphnebius pinnatus* sp. n., det. V. Assing 2019” (BMNH).

Description. Body length 5.8 mm; length of forebody 2.3 mm. Habitus as in Fig. 311. Coloration: head blackish-brown; pronotum and elytra reddish with the humeral portions, the suture, and the posterior margins of the elytra reddish-yellow; abdomen reddish; legs dark-reddish with the femora reddish-yellow; antennae and maxillary palpi pale-reddish.

Head (Figs 312–313) strongly transverse, somewhat flattened, and with concave posterior margin; clypeus not membranous; dorsal surface with sparse, irregularly distributed, and fine but distinct punctation; interstices without microsculpture. Eyes in obliquely dorso-lateral position, large, and bulging, nearly reaching posterior margin of head. Antenna approximately 2.0 mm long; antennomeres IV–X distinctly transverse, gradually but weakly increasing in width, XI nearly as long as the combined length of VIII–X.

Pronotum (Figs 312–313) of transversely trapezoid shape, broadest anteriorly, 1.6 times as broad as long and 0.9 times as broad as head; disc moderately convex in cross-section; lateral margins straight in dorsal view, converging posteriad; disc with a pair of punctures slightly behind middle and with scattered additional finer punctures.

Elytra (Figs 312–313) approximately 1.5 times as long as, and distinctly broader than pronotum; near apex of scutellum on either side of suture with an oblong and strongly elevated tubercle; punctation fine and moderately sparse; interstices without microsculpture and very glossy. Hind wings fully developed. Legs moderately long and slender; metatibia approximately 1.3 mm long.

Abdomen broadest at segment IV; sternite IV and paratergites IV each with a pronounced, stout and apically acute postero-lateral extension, the sternal and the paratergal extension contiguous; tergite VII with dense and extensive non-setiferous punctation, posterior margin with palisade fringe; tergite VIII (Fig. 314) transverse, anteriorly with a pair of extensive clusters of fine gland openings, posterior margin concave and distinctly serrate.

♂: sternite VIII (Fig. 315) transverse, laterally with a cluster of stout setae on either side, posterior margin convex; median lobe of aedeagus (Figs 316–317) 0.68 mm long and slender; paramere (Fig. 318) of intricate structure, approximately 0.5 mm long.

♀: unknown.

Etymology. The specific epithet is an adjective derived from the Latin noun *pinna* (fin) and alludes to the shapes of the elevations on the elytra.

Comparative notes. Based on the shapes and chaetotaxy of the tergite VIII and sternite VIII, as well as on the morphology of the aedeagus, this species belongs to the *O. siwalikensis* group. Regarding the conspicuous modifications of the elytra and of the abdomen, *O. pinnatus* is most similar to *O. elevatus* ASSING, 2019 from Laos (see description and illustrations in ASSING (2019a)). It differs from this species by larger body size, a posteriorly distinctly concave head, distinctly transverse antennomeres IV–X, a more transverse pronotum, the shape of the sutural elevations on the elytra (*O. elevatus*: much longer, most pronounced posteriorly, extending nearly to posterior margin of the elytra), shorter and broader postero-lateral processes of sternite and paratergites IV, and the sculpture of tergite VII (more extensive and much coarser in *O. elevatus*). In habitus, coloration, and other characters, *O. pinnatus* resembles *O. borneofuscipes*, a

species described based on a unique female from Sabah and, according to the original description, distinguished from *O. pinnatus* by the presence of microsculpture on the elytra and abdomen, fine elytral punctation, the presence of twelve keels at the posterior margin of tergite VII, the shape of the elevations near the anterior portion of the elytra, and by the shape of the posterior margin of tergite VIII. For illustrations of *O. borneofuscipes* see PACE (2015).

Distribution and natural history. The holotype was collected in a mixed dipterocarp forest in Gunung Mulu National Park, Sarawak, Borneo.

***Orphnebius (Deroleptus) bicarinatus* sp. nov.**

(Figs 319–325)

Type material. Holotype ♀: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *A. lag.* B8, 29.3.98, A. Floren / Holotypus ♀ *Orphnebius bicarinatus* sp. n., det. V. Assing 2019” (cAss).

Description. Body length 4.6 mm; length of forebody 1.9 mm. Habitus as in Fig. 319. Coloration: head dark-brown with the anterior portion reddish; pronotum reddish; elytra reddish-yellow with the postero-lateral portions weakly infuscate; abdomen brown with the broad posterior margins of tergites III–VII and all of segments VIII–X reddish-yellow; legs pale-reddish; antennae reddish; maxillary palpi reddish with the apical palpomere yellow.

Head (Fig. 320) strongly transverse, approximately 1.6 times as broad as long; posterior margin indistinctly concave, nearly truncate; punctation fine and sparse. Eyes in obliquely dorso-lateral position, very large and bulging, nearly reaching posterior margin of head. Antenna (Fig. 321) 1.4 mm long; antennomeres IV weakly transverse, V–X weakly to moderately transverse, X less than 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X.

Pronotum (Fig. 320) of transversely quadrangular shape, nearly 1.5 times as broad as long and 0.92 times as broad as head; anterior margin not concave in the middle; disc moderately convex in cross-section, finely and moderately sparsely punctate, impunctate along midline; interstices without microsculpture.

Elytra (Fig. 320) 1.2 times as long as pronotum, with conspicuous carina on either side of the anterior half of the suture; punctation moderately dense and rather fine; interstices with distinct microreticulation. Hind wings fully developed. Legs long and slender; metatibia 0.95 mm long.

Abdomen: sternite III with a broad and not very long dorso-lateral extension on either side (Fig. 322); sternite IV and paratergites IV with a basally broad, medially curved (anterior margin), and apically pointed postero-lateral extension on either side, these extensions only basally contiguous (Fig. 322); tergites III–VI with distinct microsculpture composed of a mix of isodiametric and transverse meshes of variable length; tergite VII in posterior two-thirds with dense non-setiferous punctation, posteriorly with an irregular transverse row of eight setiferous tubercles; tergite VIII (Fig. 323) transverse, anteriorly with transverse band of dense fine gland openings, posterior margin concave in the middle, on either side of this concavity with approximately 10 fine tubercles.

♂: unknown.

♀: sternite VIII (Fig. 324) transverse; spermatheca of distinctive shape (Fig. 326).

Etymology. The specific epithet (adjective) alludes to the pair of carinae on the elytra.

Comparative notes. Based on the similar external characters (shape and size of eyes; morphology of antennae; modifications of elytra; shape of tergite VIII), *O. bicarinatus* is closely allied to *O. pinnatus* (female unknown), from which it differs by the presence of distinct microreticulation on the elytra and the abdomen, smaller body size, the shape of the carinae on the elytra, the shapes of the postero-lateral extensions of sternites III–IV and paratergites IV, and the absence of tubercles in the middle of the posterior margin of tergite VIII.

Distribution and natural history. The type locality is situated in the Mount Kinabalu region, Sabah (Malaysia), North Borneo. The holotype was collected by canopy fogging.

***Orphnebius (Deroleptus) immutatus* sp. nov.**

(Figs 326–340)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28’N, 100°45’E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius immutatus* sp. n., det. V. Assing 2020” (NHMB). Paratype ♀ [teneral]: same data as holotype (cAss).

Description. Body length 4.7–4.8 mm; length of forebody 1.8–2.0 mm. Habitus as in Fig. 326. Coloration: head blackish-brown with paler frons; pronotum and elytra brown; abdomen reddish-brown with segment VII infuscate; legs, antennae, and maxillary palpi reddish.

Head (Fig. 327) strongly transverse, 1.4–1.5 times as broad as long; posterior margin concave in the middle; punctation moderately fine and moderately sparse; interstices without microsculpture. Clypeus sclerotized. Eyes large and distinctly convex, nearly reaching posterior margin of head in dorsal view. Antenna (Fig. 328) 1.4–1.5 mm long and slender; antennomeres IV weakly oblong, V–VI approximately as broad as long, VII–X weakly transverse, and XI shorter than the combined length of IX and X.

Pronotum (Fig. 327) small in relation to head, nearly 1.5 times as broad as long and approximately 0.9 times as broad as head, broadest near anterior angles; disc with moderately dense and extremely fine punctation; microsculpture absent.

Elytra (Fig. 327) approximately 1.2 times as long as pronotum, with an indistinct oblong elevation on either side of posterior portion of suture; punctation moderately fine, distinct, and rather dense; interstices without microsculpture. Hind wings fully developed. Legs very long and slender; metatibia approximately 0.8–1.0 mm long and curved; metatarsus nearly as long as metatibia.

Abdomen (Fig. 329): sternites III and IV weakly extended postero-laterally; tergite VII extensively with dense and coarse non-setiferous punctures, these punctures separated by longitudinal rugae in anterior portion of tergite; tergite VIII (Figs 330, 338) with regularly distributed gland openings in anterior half, with granulose setiferous punctation posteriorly, and with distinctly serrate and weakly concave posterior margin.

♂: sternite VIII (Fig. 331) approximately as long as broad, postero-laterally with numerous stout setae, and with posterior margin truncate in the middle; median lobe of

aedeagus little more than 0.5 mm long and shaped as in Figs 332–333, 339; internal structures distinctive (Figs 334–335); paramere slightly shorter than median lobe and shaped as in Fig. 336.

♀: sternite VIII (Fig. 340) of similar structure as in male, but more transverse; spermatheca of distinctive shape (Fig. 337).

Etymology. The specific epithet (Latin, adjective: unmodified) alludes to the absence of conspicuous modifications on the elytra and abdomen.

Comparative notes. *Orphnebius immutatus* is distinguished from other representatives of the *O. siwalikensis* group of similar size, habitus, and coloration (e.g., *O. baccillatus*, *O. biimpressus*, *O. elevatus*) by the absence of pronounced modifications of the elytra and the abdomen, a posteriorly concave head, by the structure of the abdominal tergite VIII, and by the shapes of the aedeagus and particularly the spermatheca. For illustrations of other similar species see ASSING (2016b, 2019a).

Distribution and natural history. The type locality and the circumstances of collection are identical to those of *O. verrucosus*. The paratype is teneral.

***Orphnebius (Deroleptus) buccatus* sp. nov.**

(Figs 341–347)

Type material. Holotype ♂ [antennae except for basal antennomeres missing]: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Orphnebius buccatus* sp. n., det. V. Assing 2020” (NHMB). Paratype ♂ [teneral; apical antennomeres missing]: same data as holotype (cAss).

Description. Small species of variable size; body length 2.7–3.2 mm; length of forebody 1.2–1.3 mm. Habitus as in Fig. 341. Coloration: head brown; elytra pale-yellow; pronotum and abdomen dark-yellow with abdominal segment VII somewhat infuscate; legs and maxillary palpi dark-yellow.

Head (Fig. 342) large in relation to pronotum and strongly transverse, approximately 1.5 times as broad as long; posterior margin distinctly concave; punctuation fine and moderately sparse; interstices without microsculpture. Clypeus narrowly sclerotized. Eyes large and distinctly convex, but far from reaching posterior margin of head in dorsal view.

Pronotum (Fig. 342) strongly transverse and noticeably narrower than head, broadest near anterior angles; disc with sparse and extremely fine punctuation; microsculpture absent.

Elytra (Fig. 342) longer than pronotum; punctuation moderately fine and moderately dense; interstices without microsculpture. Hind wings fully developed. Legs moderately long and slender; metatibia approximately 0.6 mm long.

Abdomen: sternites unmodified; tergite VII extensively with dense and coarse non-setiferous punctuation, near posterior margin with four small setiferous tubercle bearing black setae.

♂: tergite VIII (Fig. 343) without distinct clusters of gland openings, posterior margin with a pronounced lateral tooth on either side, convex and irregularly serrate between these teeth; sternite VIII (Fig. 344) weakly oblong, with long and moderately

stout setae postero-laterally, and weakly convex in the middle; median lobe of aedeagus of variable size, 0.24–0.31 mm long and shaped as in Figs 345–346; paramere slightly longer than median lobe and shaped as in Fig. 347.

♀: unknown.

Etymology. The specific epithet is an adjective derived from the Latin noun *bucca* (cheek, gena). It alludes to the presence of a distinct postocular portion (i.e., the eyes not reaching posterior margin of head), one of the characters distinguishing this species from other species of similarly small size and pale coloration.

Comparative notes. Regarding size, habitus, and variability of body size, this species is most similar to *O. migrus* from Northeast India. It is distinguished from this species by a relatively larger and posteriorly concave head, by the presence of distinct postgenae (*O. migrus*: eyes nearly reaching posterior margin of head), and by the shape of the aedeagus. For illustrations of *O. migrus* see ASSING (2017a).

Distribution and natural history. The type locality and the circumstances of collection are identical to those of *O. verrucosus* and *O. immutatus*. The paratype is general.

***Orphnebius (Deroleptus) innexus* sp. nov.**

(Figs 348–358)

Type material. Holotype ♀: “Kinabalu Park, 6°5′N, 116°33′E, Lowland mixed Dipterocarp Forest / *A. maingayi*, 28.3.98, A. Floren / Holotypus ♀ *Orphnebius innexus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 2♂♂, 1♀: same data as holotype (cAss).

Description. Body length 2.1–2.5 mm; length of forebody 1.1–1.2 mm. Habitus as in Fig. 348. Coloration: head dark-brown to blackish-brown; pronotum uniformly reddish or with the disc extensively brown; elytra dark-yellowish with the postero-lateral portions extensively infusate; legs yellow; antennae reddish to brown with antennomeres I–III and the apex of XI reddish-yellow; maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 349) of transversely oval shape, approximately 1.4 times as broad as long, and with truncate posterior margin; punctation very sparse and extremely fine, barely noticeable. Eyes very large and strongly bulging, occupying practically all of lateral margins of head, approximately twice as long as distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 350) approximately 1.0 mm long; antennomeres IV weakly transverse, V–X moderately transverse, X approximately 1.5 times as broad as long, and XI approximately as long as the combined length of IX and X.

Pronotum (Fig. 349) approximately 1.4 times as broad as long and as broad as head, broadest near anterior angles; disc with moderately sparse and fine punctation.

Elytra (Fig. 349) nearly as long as pronotum; punctation sparse and fine, but more distinct than that of head and pronotum. Hind wings present. Legs moderately long and slender; metatibia approximately 0.5 mm long.

Abdominal segments III–VII not distinctive; tergite VIII (Figs 351, 356) strongly transverse, with indistinct pair of small clusters of gland openings anteriorly, posterior

margin weakly concave in the middle, laterally with approximately 5 small tubercles on either side.

♂: sternite VIII (Fig. 352) with stout dark setae postero-laterally, posterior margin truncately produced in the middle; median lobe of aedeagus (Figs 353–354) approximately 0.35 mm long; ventral process convex in ventral view; parameres shorter than median lobe, approximately 0.25 mm long, and shaped as in Fig. 355.

♀: sternite VIII (Fig. 357) more transverse than in male; spermatheca (Fig. 358) of distinctive shape.

Etymology. The specific epithet is the past participle of the Latin verb *innectere* (to ravel) and alludes to the coiled proximal portion of the spermatheca.

Comparative notes. Among the species of the *O. siwalikensis* group, *O. innexus* is reliably identified only by the distinctive shape of the spermatheca.

Distribution and natural history. Kinabalu National Park is situated in West Sabah (Malaysia), North Borneo. The specimens were collected by canopy fogging.

***Orphnebius (Deroleptus) furviceps* sp. nov.**

(Figs 359–366)

Type material. Holotype ♂: “SARAWAK: Gungong Nat. Park, R.G.S Exped. 1977–8, J.D. Holloway et al., B.M.1978-206 / Site 24. April, W. Melinau Gorge, 270 m. 430558, FEG 4. Limestone forest, Acl understorey / at light / Holotypus ♂ *Orphnebius furviceps* sp. n., det. V. Assing 2019” (BMNH). Paratypes: 1♂, 1♀: same data as holotype (BMNH, cAss); 1 ex.: “SARAWAK: Gungong Nat. Park, R.G.S Exped. 1977–8, J.D. Holloway et al., B.M.1978-206 / Site 3. January, Camp 4, Mulu, 1780 m. 453463, L. lower montane f., MV – canopy & understorey” (BMNH).

Description. Body length 2.7–3.0 mm; length of forebody 1.2–1.3 mm. Habitus as in Fig. 359. Coloration: head blackish-brown to black with the frons and the labrum paler; pronotum reddish-yellow; elytra yellow with the postero-lateral portions diffusely infusate; abdomen yellow with tergite VII slightly darker; legs dark-yellow; antennae pale-reddish; maxillary palpi yellow.

Head (Fig. 360) strongly transverse and with truncate posterior margin; punctuation very sparse and extremely fine, barely noticeable; interstices without microsculpture. Eyes very large and strongly bulging, occupying practically all of lateral margins of head. Antenna approximately 1.0 mm long; antennomeres IV–X weakly transverse and XI barely as long as the combined length of IX and X.

Pronotum (Fig. 360) small in relation to head, approximately 1.5 times as broad as long and slightly narrower than head, broadest near anterior angles; disc with scattered and extremely fine punctuation; microsculpture absent.

Elytra (Fig. 360) approximately 1.15 times as long as pronotum; punctuation sparse and very fine, but more distinct than that of head and pronotum; interstices without microsculpture. Hind wings present. Legs moderately long and slender; metatibia approximately 0.55 mm long.

Abdominal segments III–VII without evident modifications; tergite VIII (Fig. 361) transverse, with numerous long dark setae in posterior portion, posterior margin weakly concave and with minute tubercles.

♂: sternite VIII (Fig. 362) convex posteriorly, with stout dark setae in posterior portion; median lobe of aedeagus 0.36 mm long and shaped as in Figs 363–364; paramere slightly longer than median lobe, not distinctly modified.

♀: posterior margin of sternite VIII truncate in the middle (Fig. 365); spermatheca (Fig. 366) of distinctive shape.

Etymology. The specific epithet is an adjective composed of the Latin adjective *furvus* (dark) and the suffix *-ceps* (of the head). It alludes to the dark head strongly contrasting with the reddish-yellow pronotum.

Comparative notes. Based on the external and sexual characters, *O. furviceps* belongs to the *O. siwalikensis* group. Among the species of this group, it is characterized particularly by its small size, the coloration, a posteriorly truncate head with conspicuously large eyes, and by the sexual characters.

Distribution and natural history. The type specimens were collected in two geographically close localities in Gunung Mulu National Park, Borneo (Malaysia: Sarawak), at altitudes of 270 and 1780 m. Three of the specimens were taken at a light source.

***Orphnebius (Deroleptus) compressus* sp. nov.**

(Figs 373–383)

Type material. Holotype ♀: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A5/F1, 14.III.1993, A. Floren / Holotypus ♀ *Orphnebius compressus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♀: same data as holotype, but “Fog A73/F1, 19.III.1993” (cAss); 1♂: same data as holotype, but “Fog A 51/F4, 26.I.1993” (cAss); 1♂: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A51/F6, 12.2.96, A. Floren” (cAss); 1 ex. [teneral]: “Kinabalupark PHS, *Aporusa lagenocarpa*, Lower Montane Mixed dipterocarp / A52NF, 27.2.96, A. Floren” (cAss); 1♀: “Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 9.2.97, A. Floren” (cAss); 1♂, 1 ex. [teneral]: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *A. maingayi*, 28.3.98, A. Floren” (cAss).

Description. Body length 2.2–2.5 mm; length of forebody 1.1–1.2 mm. Habitus as in Fig. 373. Coloration: head blackish; pronotum reddish-yellow; elytra yellow with the posterolateral portions more or less extensively and more or less distinctly darker; abdomen reddish-yellow; legs yellow; antennae pale-reddish; maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 374) of transversely oval shape, approximately 1.6 times as broad as long; posterior margin weakly concave in the middle; punctation very sparse and fine. Eyes very large and strongly bulging, occupying nearly all of lateral margins of head. Antenna (Fig. 375) approximately 0.9 mm long; antennomeres IV weakly transverse, V–X moderately transverse, X approximately 1.5 times as broad as long, and XI approximately as long as the combined length of IX and X.

Pronotum (Fig. 374) approximately 1.6 times as broad as long and as broad as head, broadest near anterior angles; disc with moderately sparse and extremely fine punctation.

Elytra (Fig. 374) slightly longer than pronotum; punctation rather sparse, fine, and partly indistinctly granulate, more distinct than that of head and pronotum. Hind wings present. Legs moderately long and slender; metatibia approximately 0.5 mm long.

Abdominal segments III–VI unmodified; tergite VII (Fig. 376) with coarse and dense non-setiferous punctation in posterior two-thirds and with a transverse and weakly curved elevation near middle of posterior margin; tergite VIII (Fig. 381) strongly transverse, without distinct clusters of gland openings anteriorly, posterior margin more or less distinctly concave and with usually seven minute tubercles on either side.

♂: sternite VIII (Fig. 377) with several stout dark setae postero-laterally, posterior margin truncately produced in the middle; median lobe of aedeagus (Figs 378–379) approximately 0.25 mm long; ventral process broad and apically of triangular shape in ventral view; parameres (Fig. 380) approximately as long as median lobe, apical lobe rather short and apically obliquely truncate.

♀: sternite VIII of similar shape and chaetotaxy as in male, but more transverse; spermatheca (Figs 382–383) very small, proximally compressed and fin-shaped.

Etymology. The specific epithet (Latin, adjective) alludes to the compressed proximal portion of the spermatheca.

Comparative notes. *Orphnebius compressus* is reliably distinguished from *O. furviceps* and other species of similar size and coloration (see the following sections) only by the shape of the spermatheca and by the transverse postero-median elevation on the abdominal tergite VII.

Distribution and natural history. The type specimens were collected by canopy fogging in the Mount Kinabalu region in West Sabah (Malaysia), North Borneo. Two paratypes found in February and March are teneral.

***Orphnebius (Deroleptus) bituberculatus* sp. nov.**

(Figs 367–372)

Type material. Holotype ♀: “Kinabalu Park, Sorinsim, SW III, 40 Years / Bergil 3, 6.3.97, A. Floren / Holotypus ♀ *Orphnebius bituberculatus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♀ [slightly teneral]: “Bergil, My SW3, N6 17.204 E116 42.305, *V. pinnata* B2 F4, A. Floren 9.3.97” (cAss).

Description. Body length 2.1–2.4 mm; length of forebody 1.0–1.1 mm. Coloration: pronotum and antennae yellow; abdominal segments VI–VII slightly darker than segments III–V. Antennae (Fig. 368) very short, 0.65 mm long. Elytra (Fig. 367) with moderately dense punctation. Tergite VII (Fig. 372) with a pair of distinct tubercles at posterior margin; tergite VIII (Fig. 369) strongly transverse, without distinct clusters of gland openings anteriorly, posterior margin weakly concave and with 5–6 small and oblong tubercles on either side. Other external characters (Fig. 367) as in *O. compressus*.

♂: unknown.

♀: sternite VIII (Fig. 370) with several long and stout dark setae in postero-lateral portion on either side, posterior margin truncate; spermatheca (Fig. 371) shaped like a question mark.

Etymology. The specific epithet (Latin, adjective) alludes to the pair of tubercles at the posterior margin of tergite VII.

Comparative notes. *Orphnebius bituberculatus* is reliably distinguished from *O. compressus* and other species of similar size, habitus, and coloration only by the shape of

the spermatheca, by the pair of distinct, but small tubercles at the posterior margin of the abdominal tergite VII, and by shorter antennae, from *O. compressus* additionally by a yellowish pronotum, yellow antennae, and slightly smaller body size.

Distribution and natural history. The type specimens were collected by canopy fogging in Kinabalu National Park in West Sabah (Malaysia), North Borneo. The paratype is slightly teneral.

***Orphnebius (Deroleptus) tensicornis* sp. nov.**

(Figs 384–393)

Type material. Holotype ♀: “Tawau Hills, My, N4 24.335 E117 53.515, *Aporusa grandistipulata* 59, A Floren 06.09.2009 / Holotypus ♀ *Orphnebius tensicornis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂: “Tawau Hills, My, N4 24.145 E117 53.538, *Syzygium* sp. 53, A Floren 05.09.2009” (cAss); 2♂♂: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / B 11, 30.3.98, A. Floren” (cAss).

Description. Body length 2.5–2.9 mm; length of forebody 1.2–1.4 mm. Habitus as in Fig. 384. Coloration: head blackish-brown to black; pronotum yellow to reddish-yellow; elytra yellow with the postero-lateral portions more or less extensively and more or less distinctly darker; abdomen dark-yellow to reddish with segments VI–VII sometimes slightly darker; legs yellow to yellowish-red; antennae pale-reddish to reddish; maxillary palpi yellow to pale-reddish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 385) of transversely oval shape, 1.5–1.6 times as broad as long; posterior margin distinctly carinate and weakly convex; punctation sparse and fine. Eyes very large and strongly bulging, occupying practically all of lateral margins of head. Antenna (Fig. 386) approximately 1.2 mm long; antennomeres IV–X as long as broad or weakly transverse and XI approximately as long as the combined length of IX and X.

Pronotum (Fig. 385) approximately 1.5 times as broad as long and slightly narrower than head, broadest near anterior angles; disc with moderately sparse and extremely fine punctation.

Elytra (Fig. 385) slightly longer than pronotum; punctation moderately sparse and fine. Hind wings present. Legs moderately long and slender; metatibia approximately 0.6 mm long.

Abdominal segments III–VI unmodified; tergite VII with moderately coarse and dense non-setiferous punctation in posterior two-thirds; tergite VIII (Figs 387, 391) moderately transverse, with a pair of weakly defined clusters of sparse gland openings anteriorly, posterior margin truncate and with 5–8 minute tubercles on either side of middle.

♂: sternite VIII with several stout dark setae postero-laterally, posterior margin truncately produced in the middle; median lobe of aedeagus (Figs 388–389) approximately 0.3 mm long; ventral process narrow and apically of triangular shape in ventral view; parameres (Fig. 390) slightly longer than median lobe, apical lobe rather short and broad, with long velum.

♀: sternite VIII (Fig. 392) of similar shape and chaetotaxy as in male, but more transverse and posterior margin weakly concave in the middle; spermatheca (Fig. 393) of distinctive shape.

Etymology. The specific epithet is an adjective composed of the Latin adjective *tensus* (stretched) and *-cornis* (of the antenna). It alludes to the relatively long and slender antennae.

Comparative notes. Aside from the distinctive spermatheca, *O. tensicornis* is distinguished from *O. furviceps* and other species of similar size and coloration by the posteriorly distinctly carinate head, the shape of the median lobe of the aedeagus, the shape of the paramere, and especially longer and more slender antennae with less transverse antennomeres IV–X, and a postero-medially concave female sternite VIII. It additionally differs from *O. furviceps*, whose aedeagus is practically identical to that of *O. tensicornis*, by longer antennae with less transverse antennomeres IV–X.

Distribution and natural history. The type specimens were collected by canopy fogging in the Mount Kinabalu region and near Tawau in Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) rogans* sp. nov.**

(Figs 394–399)

Type material. Holotype ♀: “Kinabalu Park, 6°5′N, 116°33′E, Lowland mixed Dipterocarp Forest / *A. maingayi*, 28.3.98, A. Floren / Holotypus ♀ *Orphnebius rogans* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♀, 1 ex. [teneral]: “St. El. 193, Ap AII [Poring Hot Springs, *Aporusa lagenocarpa*, trunk eclector.], A. Floren” (cAss).

Description. Body length 2.0–2.3 mm; length of forebody 1.0–1.2 mm. Habitus as in Fig. 394. Coloration: head blackish; remainder of body yellowish, with or without the postero-lateral portions of the elytra slightly darker; legs dark-yellow; antennae pale-reddish; maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 395) strongly transverse, 1.5 times as broad as long; posterior margin carinate laterally and nearly truncate; punctuation sparse and fine. Eyes very large and strongly bulging, occupying practically all of lateral margins of head. Antenna (Fig. 396) rather short, 0.7–0.9 mm long; antennomeres IV weakly transverse, V–X more distinctly transverse, X approximately 1.5 times as broad as long, and XI approximately as long as the combined length of IX and X.

Pronotum (Fig. 395) approximately 1.6 times as broad as long and approximately as broad as head, broadest near anterior angles; lateral margins distinctly tapering posteriad and smoothly curving towards posterior margin, i.e., posterior angles obsolete; disc with moderately sparse and extremely fine punctuation.

Elytra (Fig. 395) approximately as long as pronotum; punctuation moderately dense and fine. Hind wings present. Legs moderately long and slender; metatibia 0.45–0.55 mm long.

Abdomen: segments III–VII not distinctive; tergite VIII (Fig. 397) moderately transverse, without distinct clusters of gland openings anteriorly, posterior margin weakly concave and with 5–6 minute tubercles on either side of middle.

♂: unknown.

♀: sternite VIII (Fig. 398) distinctly transverse, laterally with several stout setae on either side, posterior margin convex, in the middle truncate; spermatheca (Fig. 399) somewhat shaped like a question mark.

Etymology. The specific epithet is the present participle of the Latin verb *rogare* (to ask). It alludes to the shape of the spermatheca, which somewhat resembles a question mark.

Comparative notes. *Orphnebius rogans* is reliably distinguished from the species allied to *O. furviceps* only by the shape of the spermatheca. It additionally differs from the externally similar *O. tensicornis* by the absence of a distinct carina in the middle of the posterior margin of the head, by shorter and less slender antennae with more transverse antennomeres IV–X, and by the shape of the pronotum.

Distribution and natural history. The specimens were collected by canopy fogging and with trunk collectors in two localities in the Mount Kinabalu region, West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) tuberifer* sp. nov.**

(Figs 400–407)

Type material. Holotype ♂: “Kinabalu Park PHS, *Aporosa lagenocarpa*, Lower Montane Mixed dipterocarp / A52/F3, 27.2.96, A. Floren / Holotypus ♂ *Orphnebius tuberifer* sp. n., det. V. Assing 2020” (cAss).

Description. Small species; body length 2.3 mm; length of forebody 1.1 mm. Habitus as in Fig. 400. Coloration: head dark-brown with the anterior portion reddish-yellow; remainder of body dark-yellowish with abdominal tergite VII slightly darker; legs, antennae, and maxillary palpi yellow. Whole body without microsculpture.

Head (Fig. 401) of transversely oval shape, 1.4 times as broad as long; posterior margin not carinate weakly convex; punctuation sparse and fine. Eyes very large and strongly bulging, occupying practically all of lateral margins of head. Antenna (Fig. 402) slender and approximately 0.9 mm long; antennomeres IV–X weakly transverse, X much less than 1.5 times as broad as long, and XI slightly shorter than the combined length of IX and X.

Pronotum (Fig. 401) small in relation to head, 1.5 times as broad as long and little more than 0.9 times as broad as head, broadest near anterior angles; posterior angles obtusely marked; disc with sparse and extremely fine punctuation.

Elytra (Fig. 401) 1.1 times as long as pronotum; punctuation sparse, fine, and weakly granulose. Hind wings present. Legs moderately long and rather slender; metatibia 0.5 mm long.

Abdomen: segments III–VI not distinctive; tergite VII (Fig. 403) with coarse non-setiferous punctuation, posteriorly with a distinct oblong tubercle; tergite VIII (Fig. 404) moderately transverse, without distinct clusters of gland openings anteriorly, posterior margin weakly concave and with 4–5 minute tubercles on either side of middle.

♂: sternite VIII distinctly transverse, postero-laterally with several stout dark setae on either side, posterior margin rather weakly produced in the middle; median lobe of aedeagus (Figs 405–406) 0.25 mm long; ventral process straight in lateral view and apically smoothly convex in ventral view; paramere slightly shorter than median lobe and shaped as in Fig. 407.

♀: unknown.

Etymology. The specific epithet is an adjective composed of the Latin noun *tuber* (bump, protuberance) and *-fer* (carrying). It alludes to the distinct tubercle on tergite VII.

Comparative notes. *Orphnebius tuberifer* is distinguished from other species of similarly small size and similar coloration by the pronounced tubercle on the abdominal tergite VII and by the shape of the ventral process of the aedeagus.

Distribution and natural history. The holotype was collected by canopy fogging in Mount Kinabalu National Park in West Sabah (Malaysia), North Borneo.

***Orphnebius (Deroleptus) bulbifer* sp. nov.**

(Figs 408–412)

Type material. Holotype ♀: “SULAWESI TENGAH: Mt. Tambusisi, 4000', 1°39'S – 121°21'E. 3–13.iv.1980 / At light / M.J.D. Brendell, B.M. 1980-280 / Holotypus ♀ *Orphnebius bulbifer* sp. n., det. V. Assing 2019” (BMNH). Paratype ♀: same data as holotype (cAss).

Description. Body length 5.5–6.0 mm; length of forebody 2.2–2.4 mm. Habitus as in Fig. 408. Coloration: head brown; pronotum yellowish-red; elytra reddish-yellow with or without the postero-lateral portion slightly darker; abdomen yellowish-red with tergite VII slightly darker; legs dark-yellow; antennae yellowish-red; maxillary palpi yellow.

Head (Fig. 409) strongly transverse, somewhat flattened, and with weakly concave posterior margin; dorsal surface with scattered fine punctures and with shallow microreticulation. Eyes in dorso-lateral position, large and bulging, nearly reaching posterior margin of head. Antenna moderately slender, 1.6–1.7 mm long; antennomeres IV–X moderately transverse, X approximately 1.5 times as broad as long, and XI nearly as long as the combined length of VIII–X.

Pronotum (Fig. 409) small in relation to head, strongly transverse, 1.5 times as broad as long, broadest near anterior angles, and 0.95 times as broad as head; disc moderately convex in cross-section; lateral margins straight and tapering posteriad in dorsal view; punctuation composed of a median pair of punctures slightly behind middle and with sparse setiferous punctures elsewhere; microsculpture absent.

Elytra (Fig. 409) approximately 1.2 times as long as, and distinctly broader than pronotum; disc very uneven, postero-laterally extensively impressed; punctuation relatively coarse, distinctly granulose, sparse, and irregularly spaced; microsculpture absent. Hind wings fully developed. Legs long and very slender; metatibia 1.1–1.2 mm long.

Abdomen broadest at segments III and IV; sternites III–V unmodified; tergite VII with extensive non-setiferous punctuation, near posterior margin with a median pair of pronounced oblong setiferous tubercles and laterally with 3–4 additional small setiferous tubercles on either side; tergite VIII (Fig. 410) moderately transverse, with several setiferous tubercles in posterior third, laterally with a dense cluster of setae in posterior third, posterior margin with 6–8 tooth-shaped projections.

♂: unknown.

♀: sternite VIII (Fig. 411) distinctly transverse, laterally with several stout setae on either side, posterior margin convex, in the middle truncate; spermatheca (Fig. 412) of conspicuous shape.

Etymology. The specific epithet is an adjective composed of the Latin noun *bulbus* (bulb, onion) and the Latin suffix *-fer* (carrying). It alludes to the shape of the proximal portion of the spermathecal capsule.

Comparative notes. As can be inferred from the external and sexual characters, especially the shape of tergite VIII and the chaetotaxy of sternite VIII, *O. bulbifer* belongs to the *O. siwalikensis* group. Two species of this group were previously known from Sulawesi: *O. tautauorum* and *O. toradya*, both described from Sulawesi Selatan, Celebes, with females unknown. The new species is distinguished from both of them by larger body size, the coloration of the elytra (partly brown in the other two species), the concave posterior margin of the head, the absence of sutural tubercles near the scutellum, and an unmodified sternite IV (somewhat produced in the other two species). For illustrations of *O. tautauorum* and *O. toradya* see PACE (1993).

Distribution and natural history. The type locality is situated in Sulawesi Tengah in Northeast Celebes at an altitude of approximately 1200 m. Both specimens were collected at a light source.

***Orphnebius (Deroleptus) bulbosus* sp. nov.**

(Figs 413–418)

Type material. Holotype ♀: “PHILIPPINES – Mindanao, S Cotobato, Lake Holon, 6.0995N, 124.8771E, 5–10.X. 2019, leg. Anichtchenko / Holotypus ♀ *Orphnebius bulbosus* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 4.3 mm; length of forebody 1.8 mm. Habitus as in Fig. 413. Coloration: head blackish; pronotum and elytra brown; abdomen yellowish-brown with the posterior margins of the tergites yellow and the middle of tergites V–VII somewhat infuscate; legs yellow; antennae yellowish-red.

Head (Fig. 414) strongly transverse, 1.45 times as broad as long; posterior margin truncate in the middle; punctation distinct and moderately sparse; interstices without microsculpture. Clypeus sclerotized. Eyes large and distinctly convex, nearly reaching posterior margin of head in dorsal view. Antenna (Fig. 415) 1.4–1.5 mm long; antennomeres IV weakly transverse, V–IX of gradually increasing width and increasingly transverse, IX approximately twice as broad as long, X much longer than IX and approximately as long as broad, and XI slender, approximately as long as the combined length of VIII–X.

Pronotum (Fig. 414) small in relation to head, approximately 1.3 times as broad as long and approximately 0.9 times as broad as head, broadest near anterior angles; disc with few scattered and extremely fine setiferous punctures; microsculpture absent.

Elytra (Fig. 414) approximately as long as pronotum, with a narrow and long elevation on either side of posterior portion of suture; punctation very fine and sparse; interstices without microsculpture. Hind wings fully developed. Legs very long and slender; metatibia approximately 0.9 mm long and weakly curved; metatarsus nearly as long as metatibia.

Abdomen: sternites III–V unmodified; tergite VII extensively with dense and coarse non-setiferous punctures; tergite VIII (Fig. 416) with a distinct pair of clusters of gland openings anteriorly, posterior margin weakly concave and with approximately eight minute tubercles.

♂: unknown.

♀: sternite VIII (Fig. 417) postero-laterally with moderately dense dark and stout setae; spermatheca (Fig. 418) of distinctive shape.

Etymology. The specific epithet (Latin, adjective) alludes to the bulbous proximal portion of the spermatheca.

Comparative notes. *Orphnebius bulbosus* is distinguished from other representatives of the *O. siwalikensis* group of similar size, habitus, and coloration (e.g., *O. baccillatus*, *O. biimpressus*, *O. elevatus*, *O. pinnatus*, *O. immutatus*) by the modifications of the elytra, a conspicuously long antennomere X, and the shape of the spermatheca. Regarding the latter, *O. bulbosus* is similar to *O. falagrioides*, which too was described from the Philippines. It is additionally distinguished from this species by the shape of the head (*O. falagrioides*: head somewhat narrowed posteriad), significantly darker coloration, the absence of distinct modifications of sternite IV and paratergites IV, and by a more slender spermatheca with a much longer apical cuticular invagination. For illustrations of *O. falagrioides* and other similar species see ASSING (2016b, 2019a) and the present paper.

Distribution and natural history. The type locality is situated in the south of Mindanao, Philippines. The circumstances of collection are unknown.

Orphnebius (Deroleptus) sp. 1

Material examined. Malaysia: Sabah: 1♀: “Tawau Hills, My, N4 24.145 E117.53.538, *Syzygium* sp. 53, A Floren 05.09.2009” (cAss).

The above female is of similar habitus, size, and coloration as *O. rogans*, but distinguished by more slender antennae and a spermatheca of different shape. It clearly represents an undescribed species. Since the spermatheca is incomplete, it remains unnamed for the time being.

Orphnebius (Deroleptus) sp. 2

Material examined. Malaysia: Sabah: 1♂: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *B. scortechinii* B3, 29.3.98, A. Floren” (cAss).

The above male is of similar habitus, size, and coloration as *O. furviceps* and allied species, but distinguished by the shape of the ventral process of the aedeagus. Although it represents an undescribed species, it remains unnamed, since no distinctive external characters were found and a female is not available.

Orphnebius (Deroleptus) sp. 3

Material examined. Malaysia: Sabah: 1♂: “Kinabalupark PHS, *Aporosa lagenocarpa*, Lower Montane Mixed dipterocarp / DOPAN, 26.2.96, A. Floren” (cAss).

The above male is of similar habitus, size, and coloration as *O. furviceps* and allied species, but distinguished by a differently shaped tergite VIII (posterior margin distinctly

serrate). There is little doubt that it represents an undescribed species. Nevertheless, a description is refrained from, as the specimen is slightly teneral, since no distinctive external characters were found, and a female is not available.

Orphnebius (Deroleptus) sp. 4

Material examined. Malaysia: Sabah: 1♂: “Tawau Hills, My, N4 24.379 E117.53.533, *Aporusa accuminatissima* 61, A Floren 06.09.2009” (cAss).

The above male probably represents an undescribed species. However, since the external characters are not very distinctive, a female would be required for an adequate description.

Orphnebius (Deroleptus) sp.

Material examined. Malaysia: Sabah: 1 ex. [forebody and abdominal segments III–V missing], Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging [*Aporusa* sp., A73/F6], 27.X.1993, I leg. Floren (cAss).

The above fragment belongs to the *O. siwalikensis* group.

3.2.5.4 *Orphnebius hirsutus* new group

***Orphnebius (Deroleptus) hirsutus* sp. nov.**

(Figs 419–429)

Type material. Holotype ♂: “SABAH: Poring Spring., *Aporusa* Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A9/F1, 12.II.1993, A. Floren / Holotypus ♂ *Orphnebius hirsutus* sp. n., det. V. Assing 2020” (cAss). Paratypes: 26 exs.: same data as holotype; 1 ex.: same data, but “A57/F2, 2, 6[?].ii.1993” (cAss); 1 ex.: same data, but “A57/, 25.VI.1992” (cAss); 29 exs.: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A9/F3, 3, 21.2.96, A. Floren” (cAss); 1 ex.: “Kinabalu Park, 6°5’N, 116°33’E, Lowland mixed Dipterocarp Forest / *A. lag.* B10, 29.3.98, A. Floren” (cAss); 1 ex.: same data, but “B1, B2 Mix, 27.3.98, A. Floren” (cAss).

Description. Body length 3.0–3.9 mm; length of forebody 1.3–1.7 mm. Habitus robust (Fig. 419). Coloration: forebody reddish to reddish-brown, often with head somewhat darker; abdomen red with the preapical segments more or less distinctly darker; legs reddish; antennae dark-brown with the basal antennomeres more or less extensively red; maxillary palpi reddish-yellow with the apical palpomere yellow.

Head (Fig. 420) strongly transverse, approximately 1.5 times as broad as long; median dorsal portion flat or impressed; punctation dense and distinct; interstices without microsculpture. Eyes strongly convex and very large, reaching posterior margin of head. Antenna (Fig. 421) slender, approximately 1.5 mm long; antennomeres IV–V approximately as long as broad, VI weakly oblong, VII–X increasingly oblong, X distinctly oblong, and XI conspicuous long and slender, narrower than X and longer than the combined length of IX and X.

Pronotum (Fig. 420) strongly transverse, approximately 1.5 times as broad as long and 1.25 times as broad as head, broadest in anterior half; posterior angles indistinct, nearly obsolete; disc with dense and fine punctation, dense, fine, short, pale, and depressed to suberect pubescence, without microsculpture.

Elytra (Fig. 420) approximately as long as pronotum; disc with dense and very fine punctation; pubescence similar to that of pronotum; interstices with shallow traces of irregular microsculpture. Hind wings fully developed. Legs short and rather stout; metatibia 0.6–0.7 mm long.

Abdomen (Fig. 422) broadest at segment IV; sternites without postero-lateral processes; all tergites with conspicuously distinct microsculpture composed of isodiametric meshes and with subdued shine; tergite III with setiferous punctures at posterior margin, otherwise impunctate; tergites IV–VI impunctate in anterior halves, with a transverse row of setiferous granules behind middle and on near posterior margin; tergite VII with extensive and not particularly coarse non-setiferous punctation; tergite VIII (Fig. 423) transverse, posterior margin microcrenulate, broadly and profoundly concave, anteriorly with more or less randomly distributed gland openings; sternite VIII (Fig. 424) transverse, with several moderately stout dark setae postero-laterally, and with convex posterior margin.

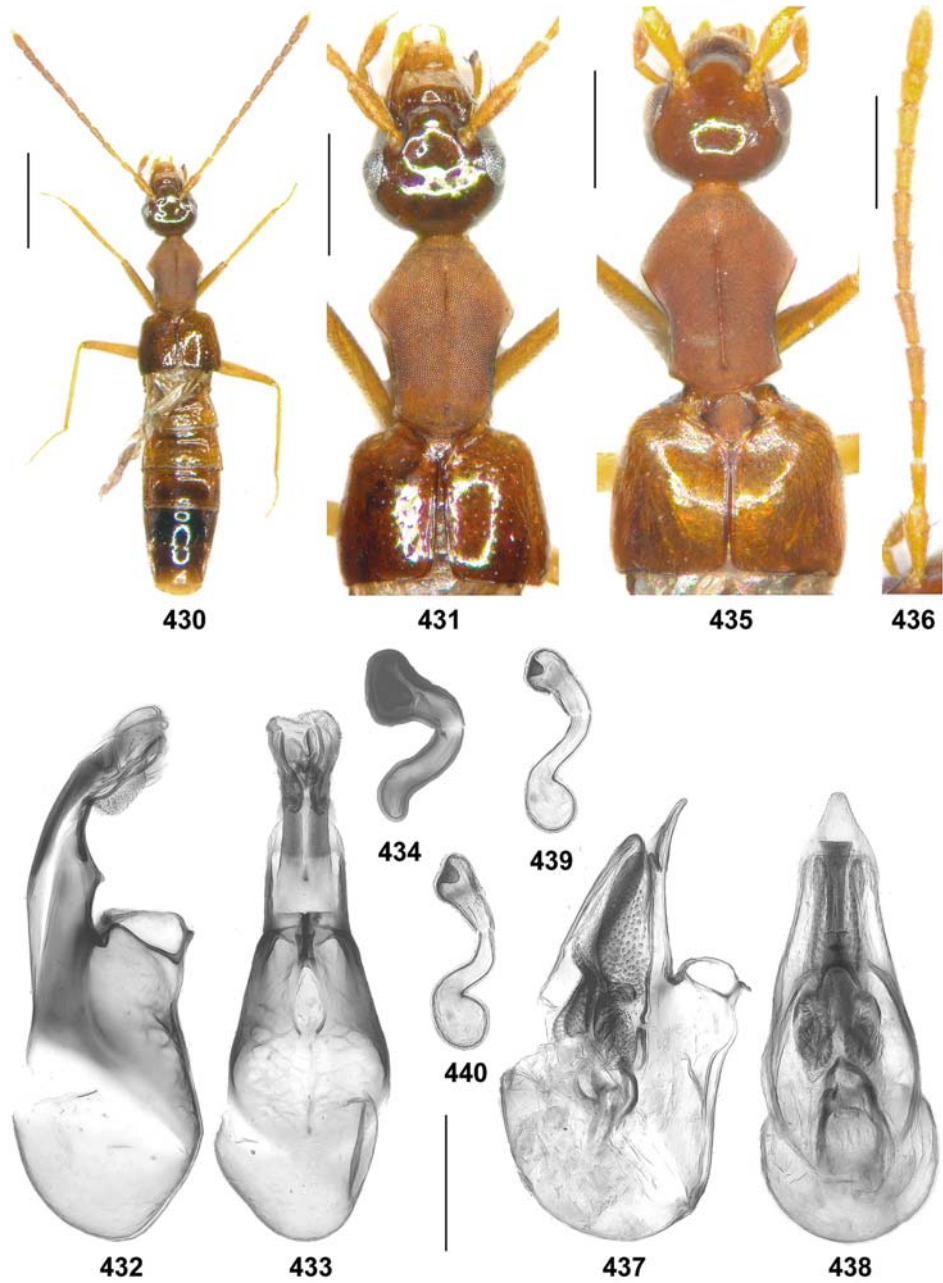
♂: median lobe of aedeagus (Figs 425–427) 0.45–0.49 mm long; ventral process apically shallowly bifid in ventral view; paramere (Fig. 428) shorter than median lobe, nearly 0.40 mm long.

♀: spermatheca (Fig. 429) rather large and of distinctive shape.

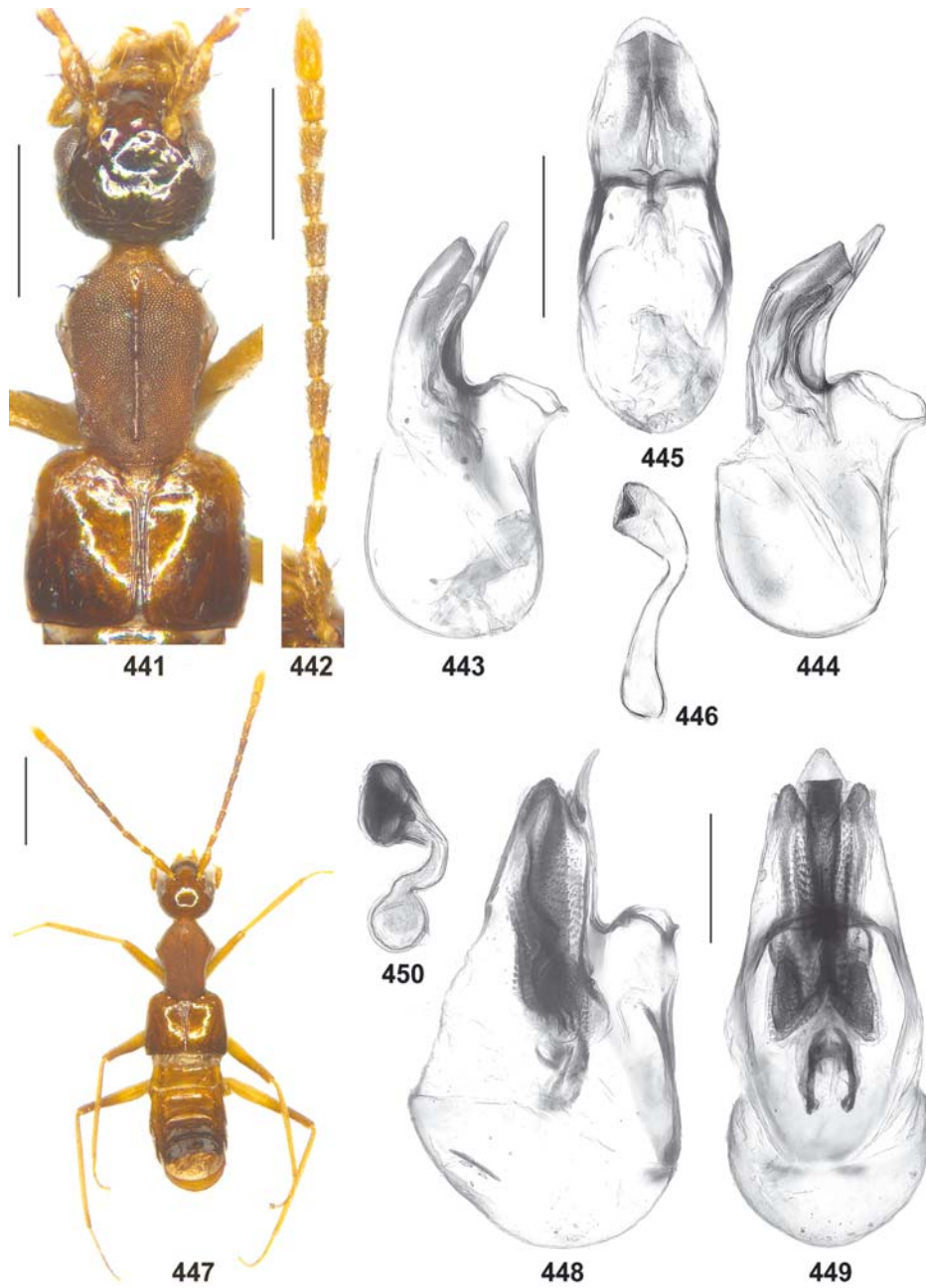
Etymology. The specific epithet (Latin, adjective: hairy) alludes to the dense pubescence on the forebody.

Comparative notes. *Orphnebius hirsutus* is distinguished from other previously revised species of the subgenus *Deroleptus* by numerous evident characters, particularly the dense punctation and pubescence of the forebody, a stout habitus with a strongly transverse head and pronotum, pronounced isodiametric microsculpture of the abdomen, short and stout legs, and a tergite VIII with a microcrenulate and profoundly concave posterior margin. These differences are so significant that it is not possible to assign this species to any of the previously established species groups and that it is consequently attributed to a species group of its own.

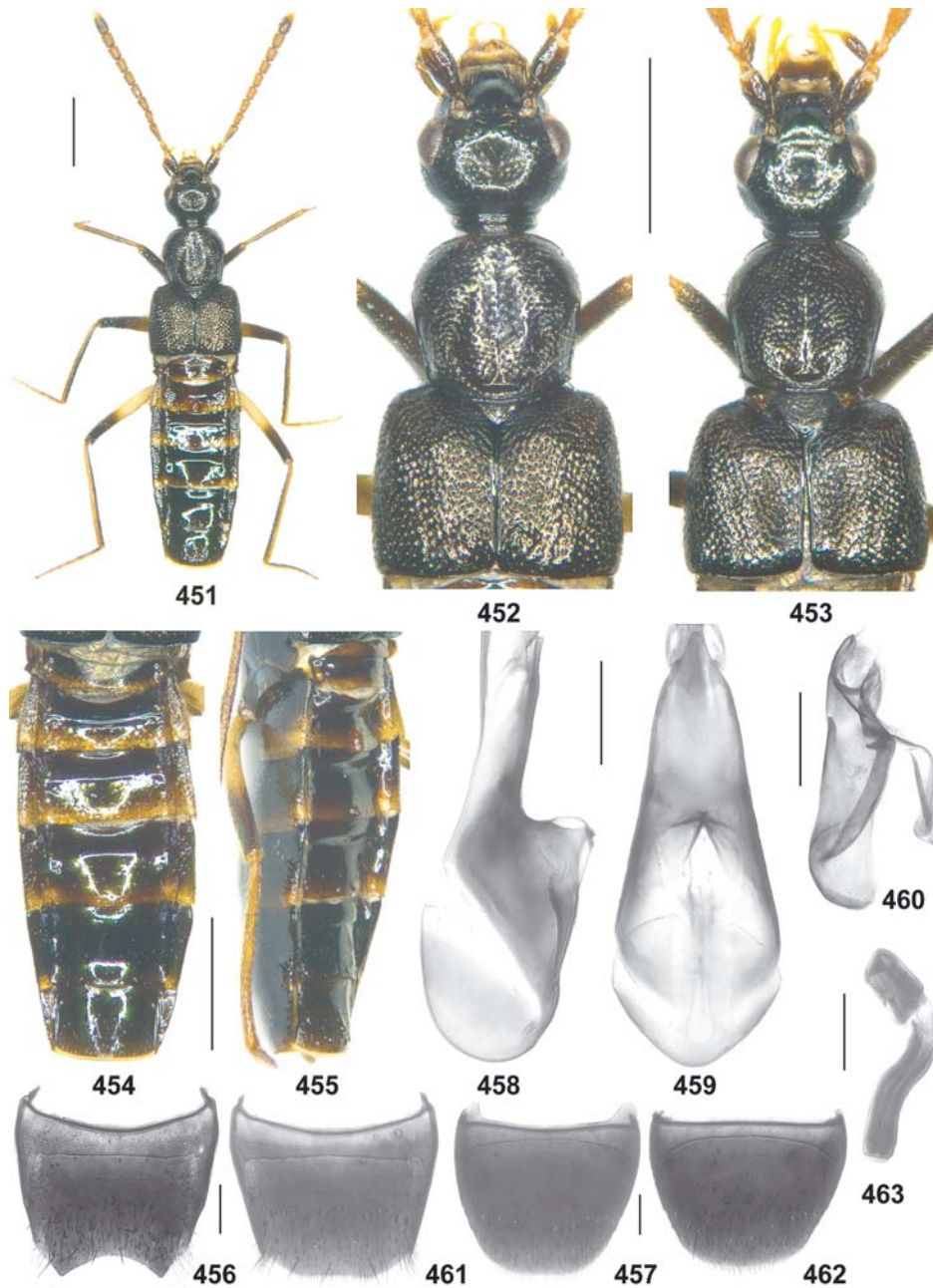
Distribution and natural history. *Orphnebius hirsutus* was collected by canopy fogging in several localities in Sabah, North Borneo.



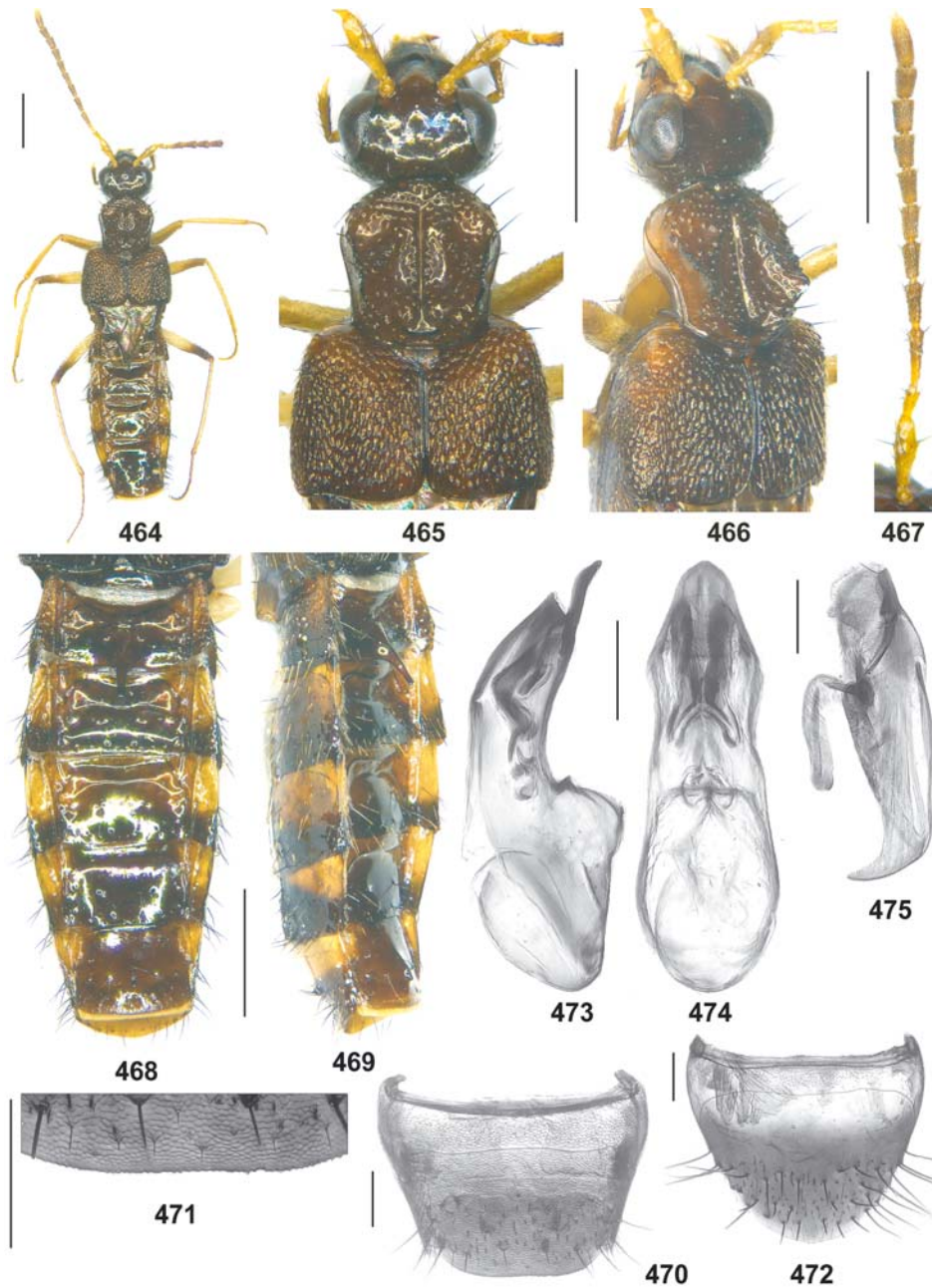
Figs 430–440. *Amaurodera dentissima* sp. nov. (430–434) and *A. bulbosa* Pace (435–440). 430 – habitus; 431, 435 – forebody; 432–433, 437–438 – median lobe of aedeagus in lateral and in ventral view; 434, 439–440 – spermatheca; 436 – antenna. Scale bars: 430: 1.0 mm; 431, 435–436: 0.5 mm; 432–434, 437–440: 0.2 mm.



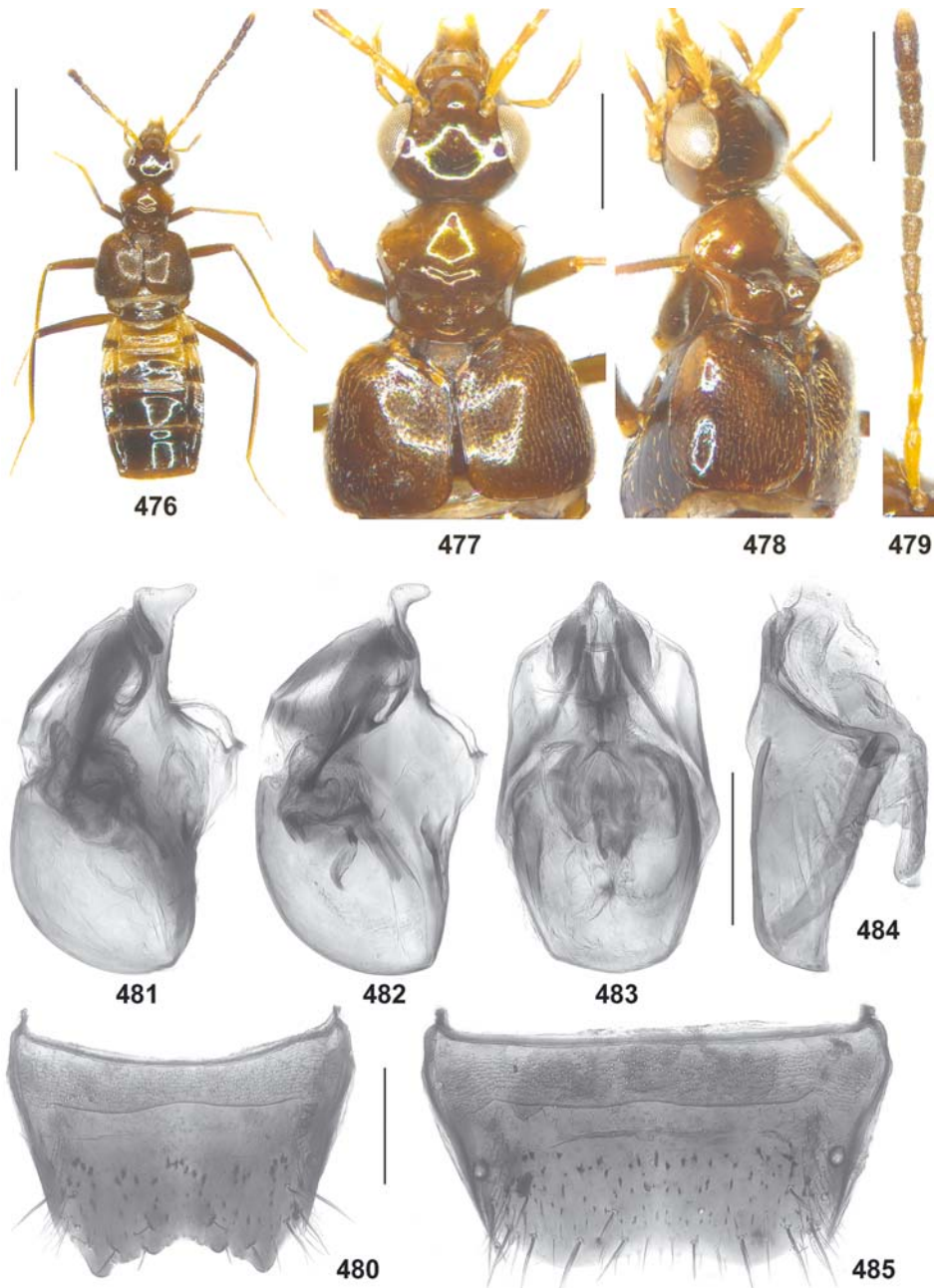
Figs 441–450. *Amaurodera setosicollis* sp. nov. (441–446) and *A. floreni* sp. nov. (447–450). 441 – forebody; 442 – antenna; 443–445, 448–449 – median lobe of aedeagus in lateral and in ventral view; 446, 450 – spermatheca; 447 – habitus. Scale bars: 447: 1.0 mm; 441–442: 0.5 mm; 443–446, 448–450: 0.2 mm.



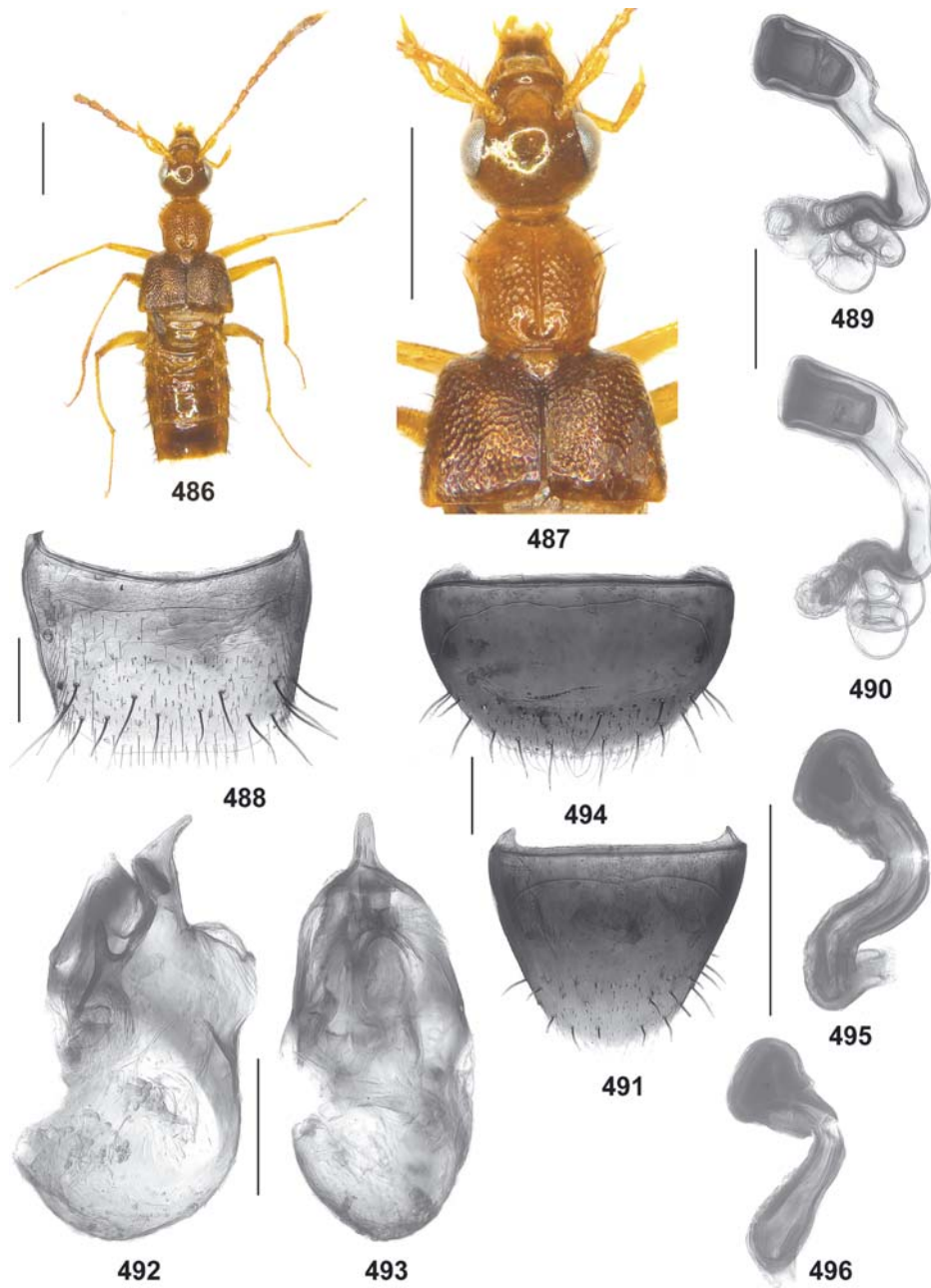
Figs 451–463. *Drusilla trituberculata* sp. nov. 451 – male habitus; 452 – male forebody; 453 – female forebody; 454 – male abdomen; 455 – male abdomen in dorso-lateral view; 456 – male tergite VIII; 457 – male sternite VIII; 458–459 – median lobe of aedeagus in lateral and in ventral view; 460 – paramere; 461 – female tergite VIII; 462 – female sternite VIII; 463 – spermatheca. Scale bars: 451–455: 1.0 mm; 456–462: 0.2 mm; 463: 0.1 mm.



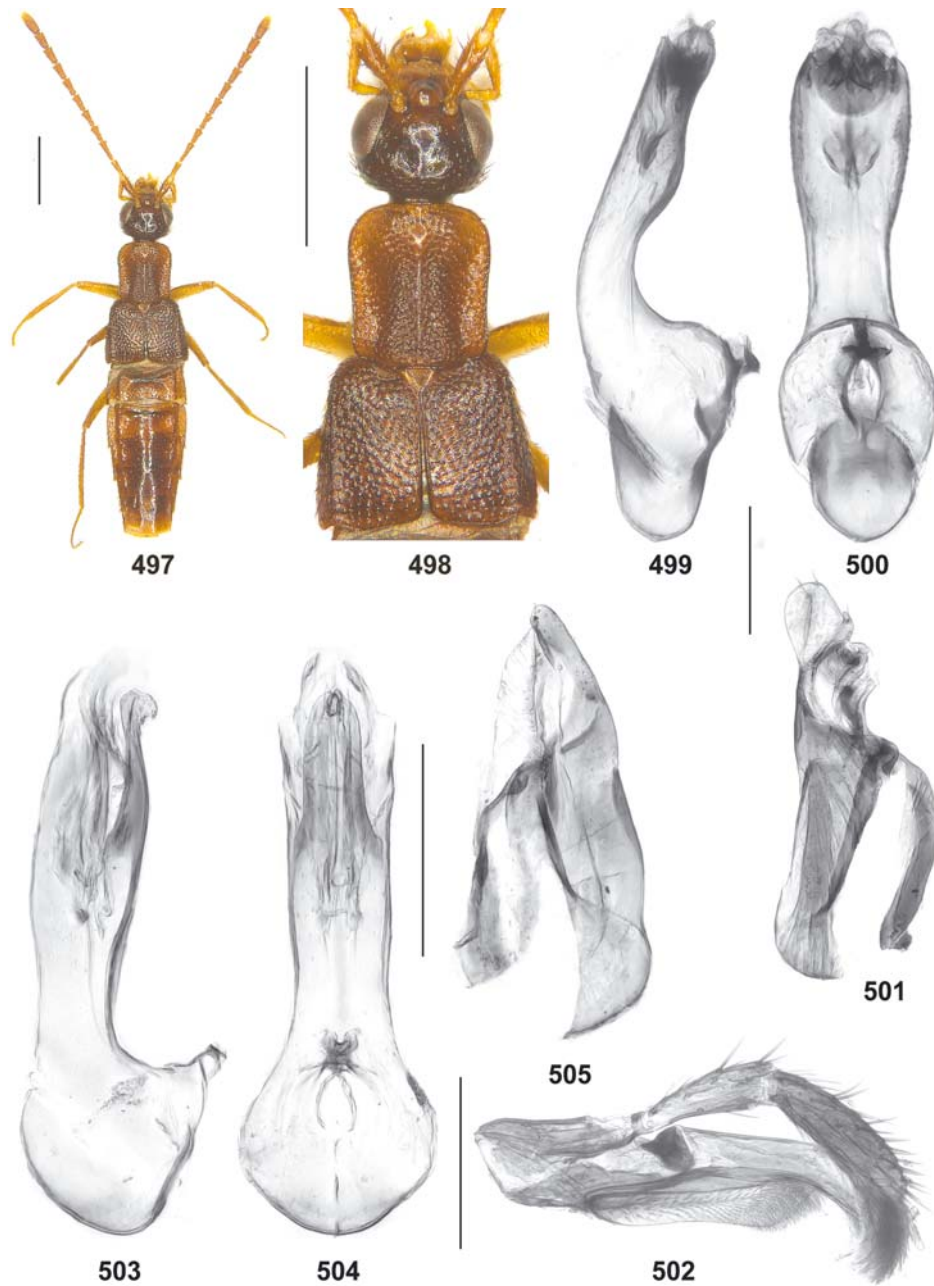
Figs 464–475. *Drusilla longispinosa* sp. nov. 464 – male habitus; 465 – male forebody; 466 – male forebody in dorso-lateral view; 467 – antenna; 468 – male abdomen; 469 – male abdomen in dorso-lateral view; 470 – male tergite VIII; 471 – posterior margin of male tergite VIII; 472 – male sternite VIII; 473–474 – median lobe of aedeagus in lateral and in ventral view; 475 – paramere. Scale bars: 464–469: 1.0 mm; 470–475: 0.2 mm.



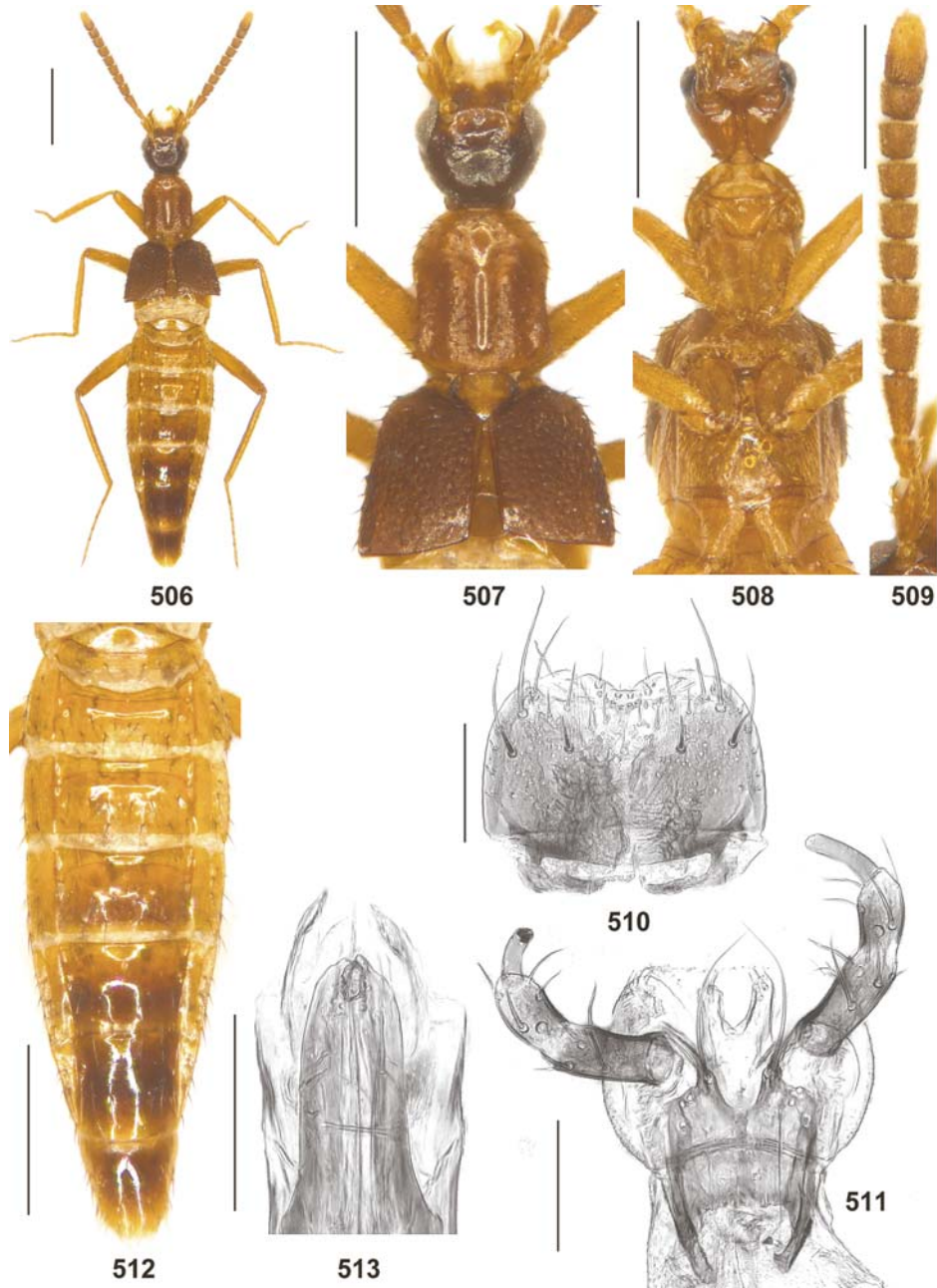
Figs 476–485. *Drusilla iniqua* sp. nov. 476 – habitus; 477 – forebody; 478 – forebody in dorso-lateral view; 479 – antenna; 480 – male tergite VIII; 481–483 – median lobe of aedeagus in lateral and in ventral view (482: holotype); 484 – paramere; 485 – female tergite VIII. Scale bars: 476: 1.0 mm; 477–479: 0.5 mm; 480–485: 0.2 mm.



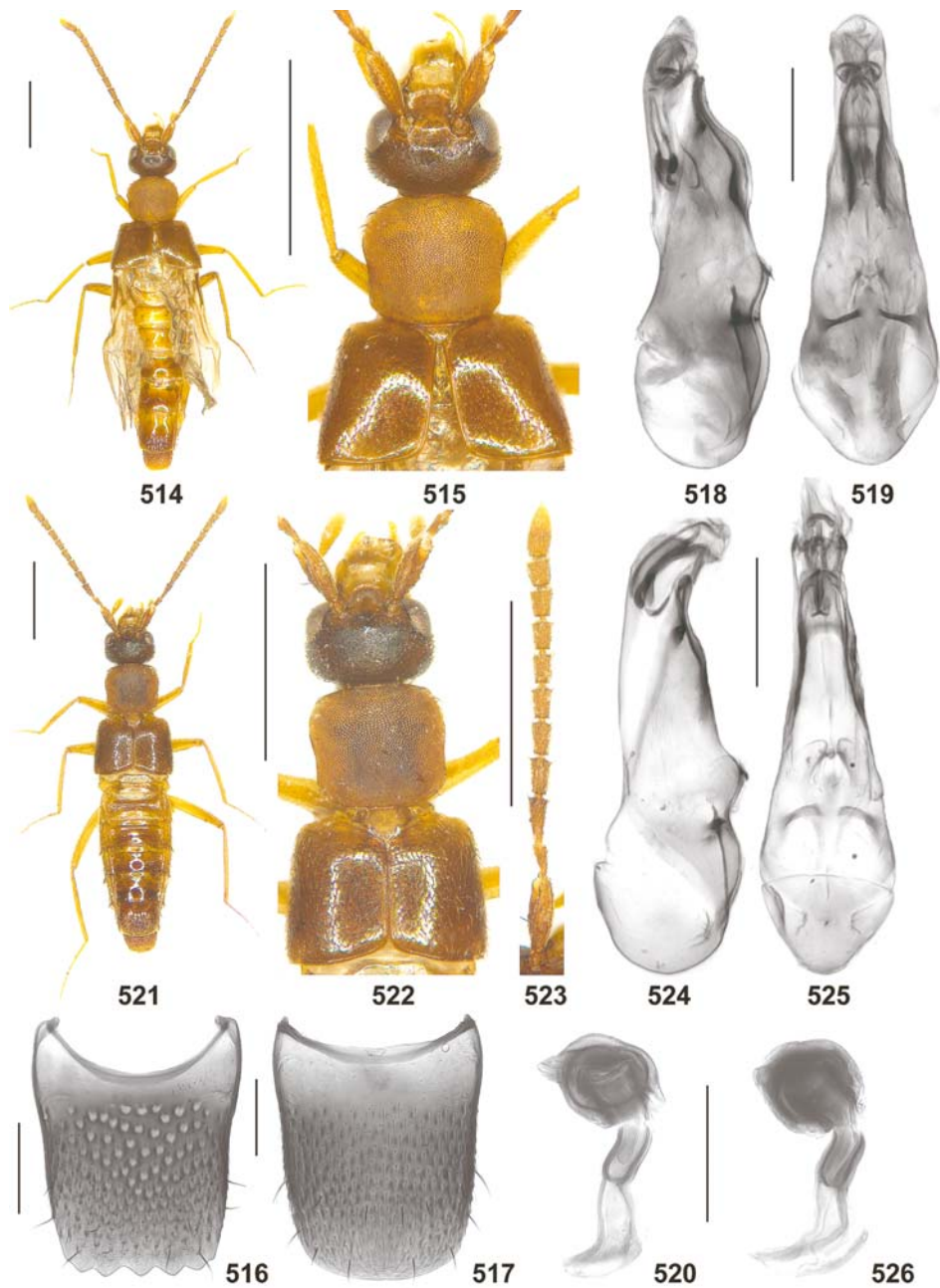
Figs 486–496. *Drusilla samalica* sp. nov. (486–490) and *D. iniqua* sp. nov. (491–496). 486 – habitus; 487 – forebody; 488 – female tergite VIII; 489–490, 495–496 – spermatheca; 491 – male sternite VIII; 492–493 – median lobe of aedeagus in lateral and in ventral view; 494 – female sternite VIII. Scale bars: 486–487: 1.0 mm; 488–496: 0.2 mm.



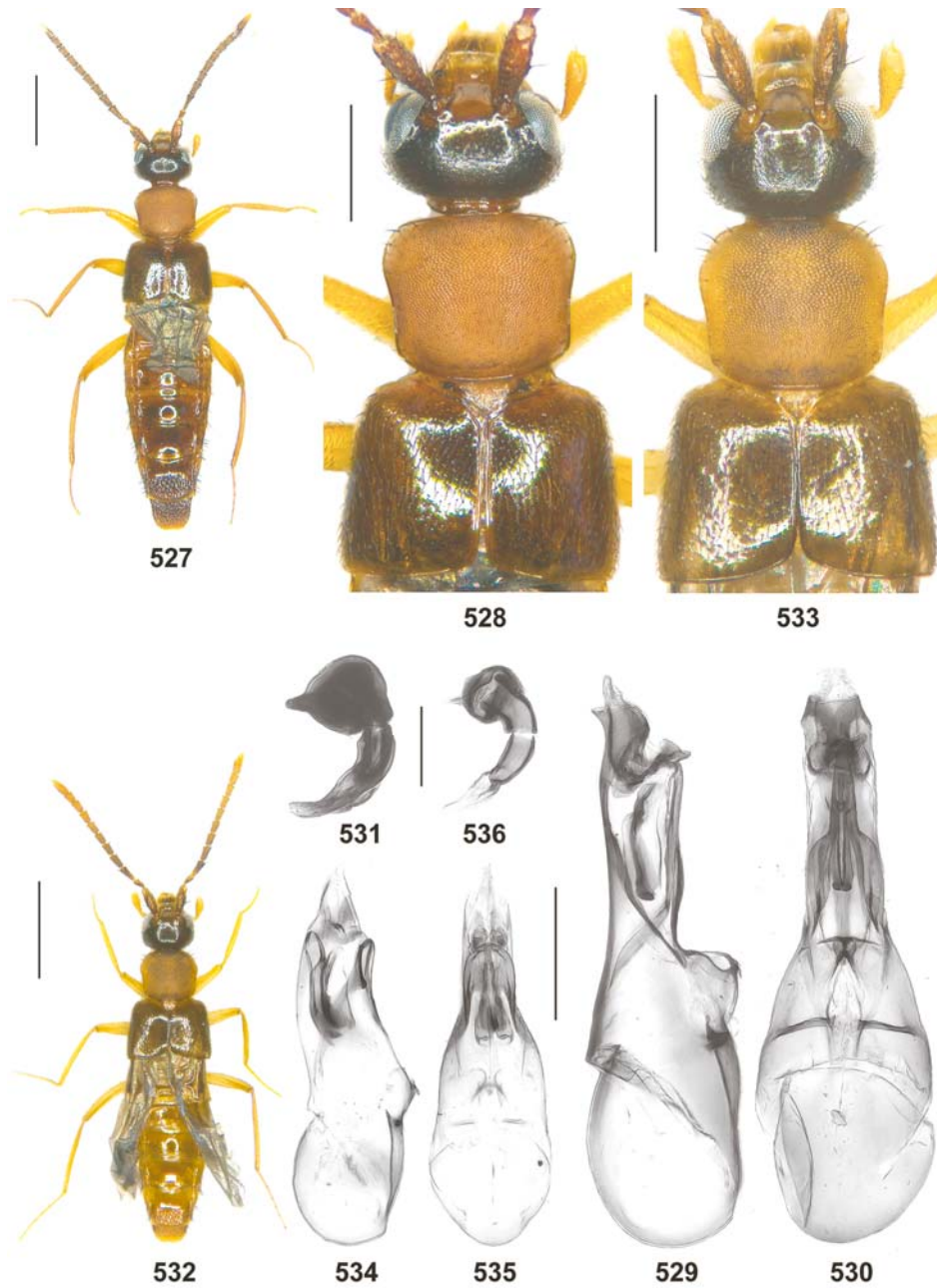
Figs 497–505. *Witteia arboris* sp. nov. (497–501) and *Tensusa procera* sp. nov. (502–505). 497 – habitus; 498 – forebody; 499–500, 503–504 – median lobe of aedeagus in lateral and in ventral view; 501, 505 – paramere; 502 – maxilla. Scale bars: 497–498: 1.0 mm; 499–505: 0.2 mm.



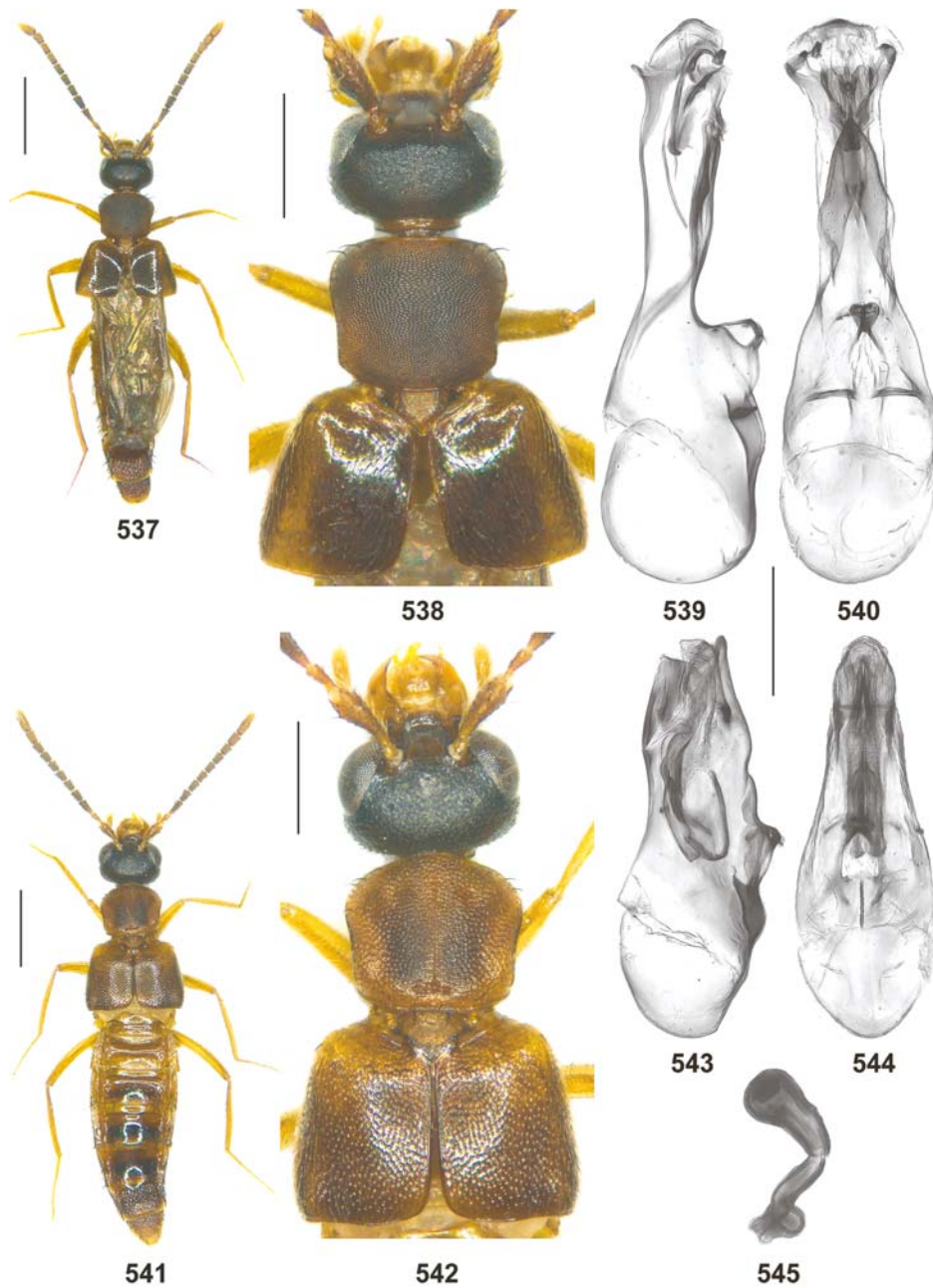
Figs 506–513. *Tensusa procera* sp. nov. 506 – habitus; 507 – forebody; 508 – forebody in ventral view; 509 – antenna; 510 – labrum; 511 – labium; 512 – abdomen; 513 – apical portion of median lobe of aedeagus in ventral view. Scale bars: 506–508, 512: 1.0 mm; 509: 0.5 mm; 510–511, 513: 0.1 mm.



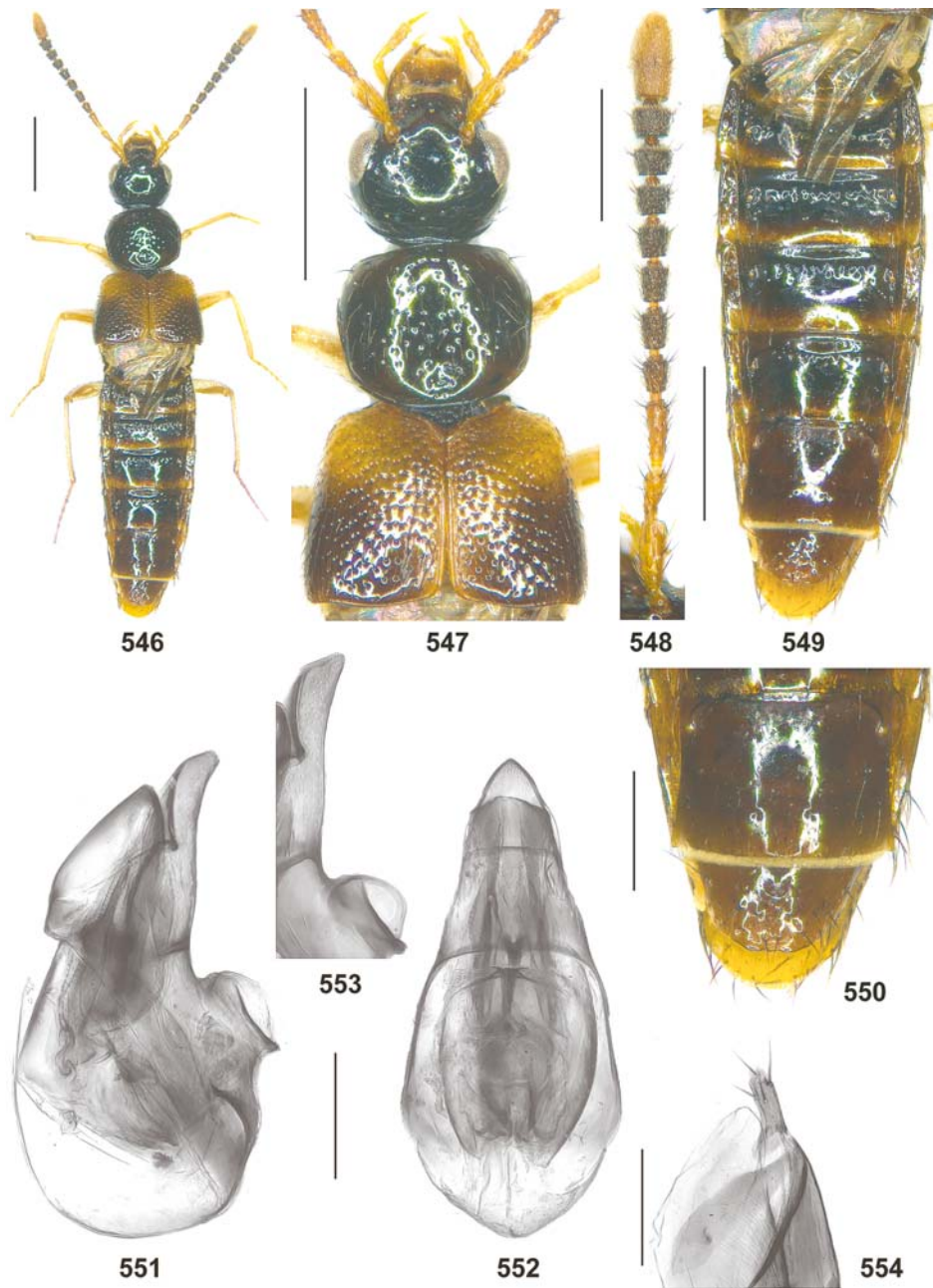
Figs 514–526. *Pheidologitonetes quadriplicatus* sp. nov. (514–520) and *P. artiplicatus* sp. nov. (521–526). 514, 521 – habitus; 515, 522 – forebody; 516 – male tergite VIII; 517 – male sternite VIII; 518–519, 524–525 – median lobe of aedeagus in lateral and in ventral view; 520, 526 – spermatheca; 523 – antenna. Scale bars: 514–515, 521–523: 1.0 mm; 516–519, 524–525: 0.2 mm; 520, 526: 0.1 mm.



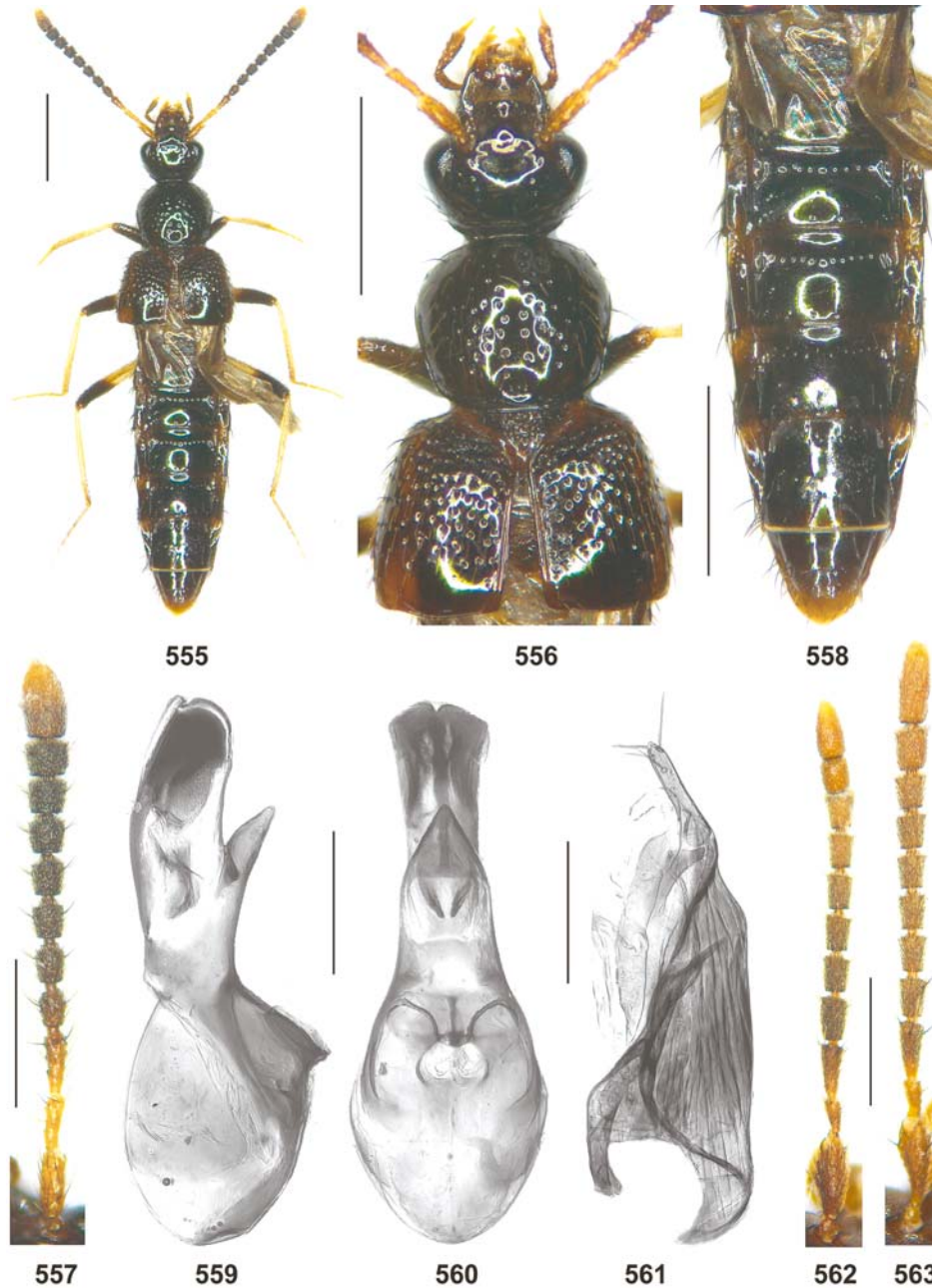
Figs 527–536. *Pheidologitonetes acer* sp. nov. (527–531) and *P. retunsus* sp. nov. (532–536). 527, 532 – habitus; 528, 533 – forebody; 529–530, 534–535 – median lobe of aedeagus in lateral and in ventral view; 531, 536 – spermatheca. Scale bars: 527, 532: 1.0 mm; 528, 533: 0.5 mm; 529–530, 534–535: 0.2 mm; 531, 536: 0.1 mm.



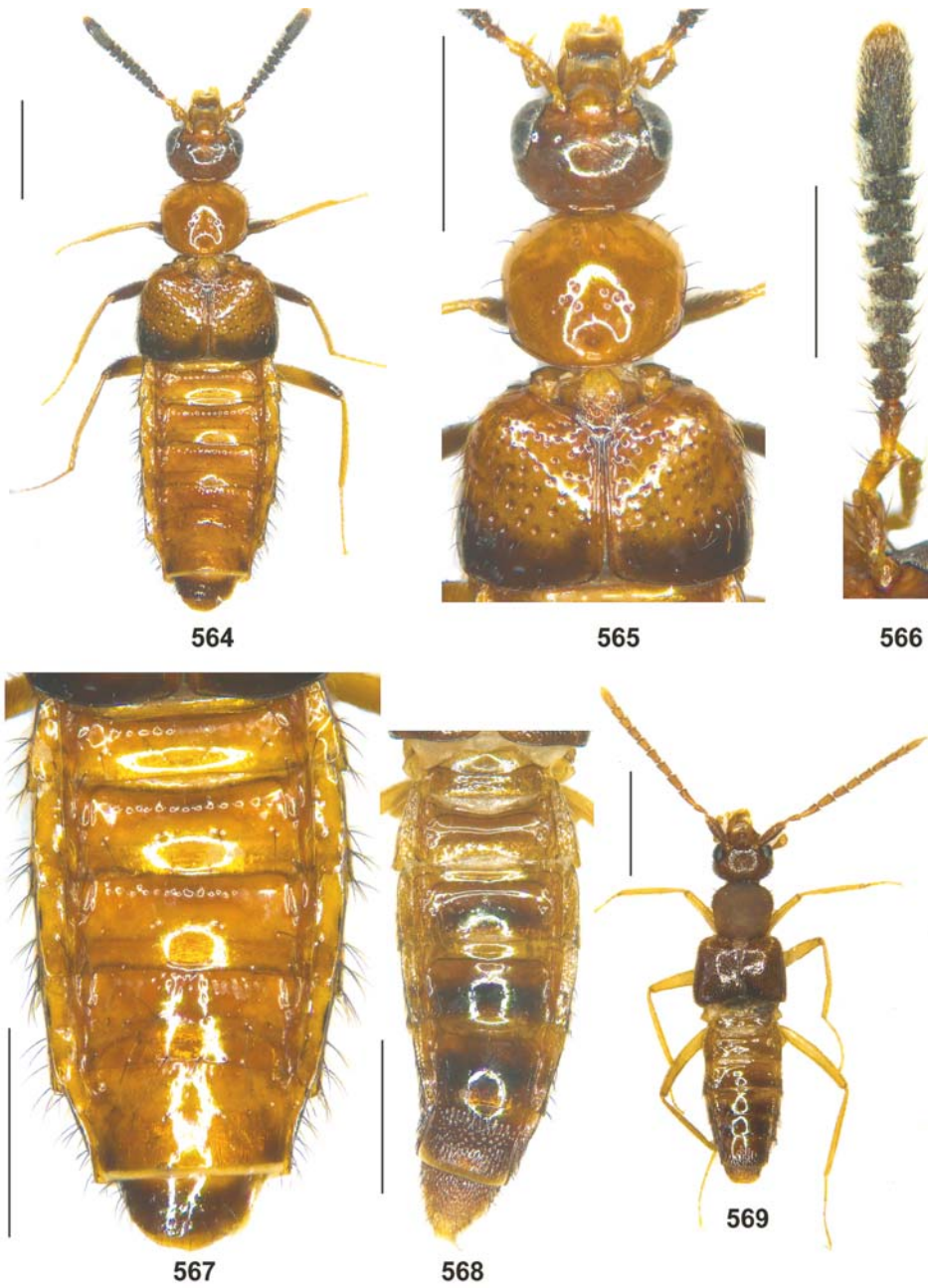
Figs 537–545. *Pheidologitonetes sagittatus* (537–540) sp. nov. and *P. punctatus* sp. nov. (541–545). 537, 541 – habitus; 538, 542 – forebody; 539–540, 543–544 – median lobe of aedeagus in lateral and in ventral view; 545 – spermatheca. Scale bars: 537, 541: 1.0 mm; 538, 542: 0.5 mm; 539–540, 543–545: 0.2 mm.



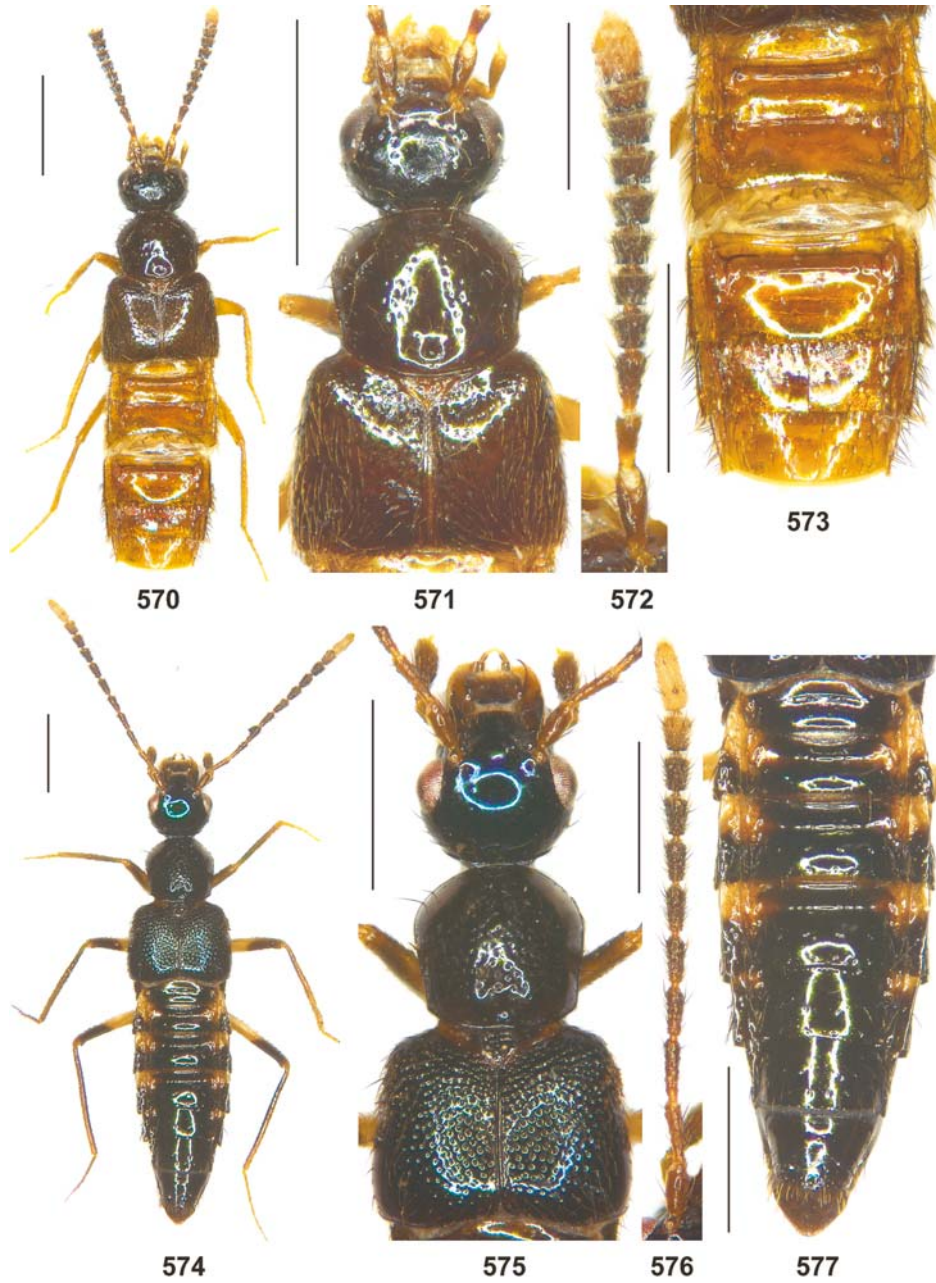
Figs 546–554. *Zyras bituberosus* sp. nov. 546 – habitus; 547 – forebody; 548 – antenna; 549 – male abdomen; 550 – male abdominal segments VII–VIII; 551–552 – median lobe of aedeagus in lateral and in ventral view; 553 – apico-ventral portion of median lobe in lateral view; 554 – apical portion of paramere. Scale bars: 546–547, 549: 1.0 mm; 548, 550: 0.5 mm; 551–554: 0.2 mm.



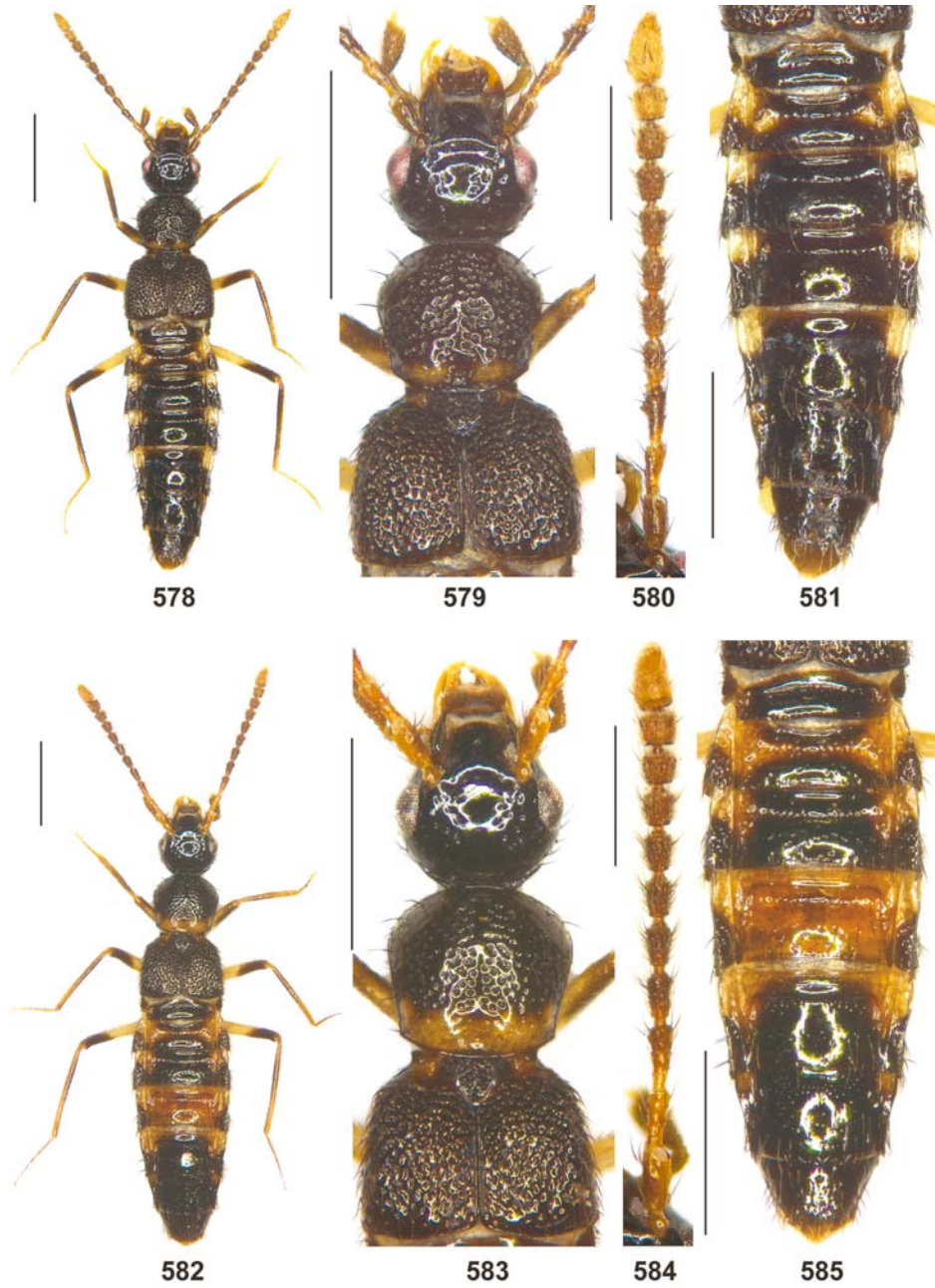
Figs 555–463. *Zyras semicalvus* sp. nov. (555–561), *Pheidologitonetes sagittatus* sp. nov. (562), and *P. punctatus* sp. nov. (563). 555 – habitus; 556 – forebody; 557, 562–563 – antenna; 558 – abdomen; 559–560 – median lobe of aedeagus in lateral and in ventral view; 561 – paramere. Scale bars: 555–556, 558: 1.0 mm; 557, 562–563: 0.5 mm; 559–561: 0.2 mm.



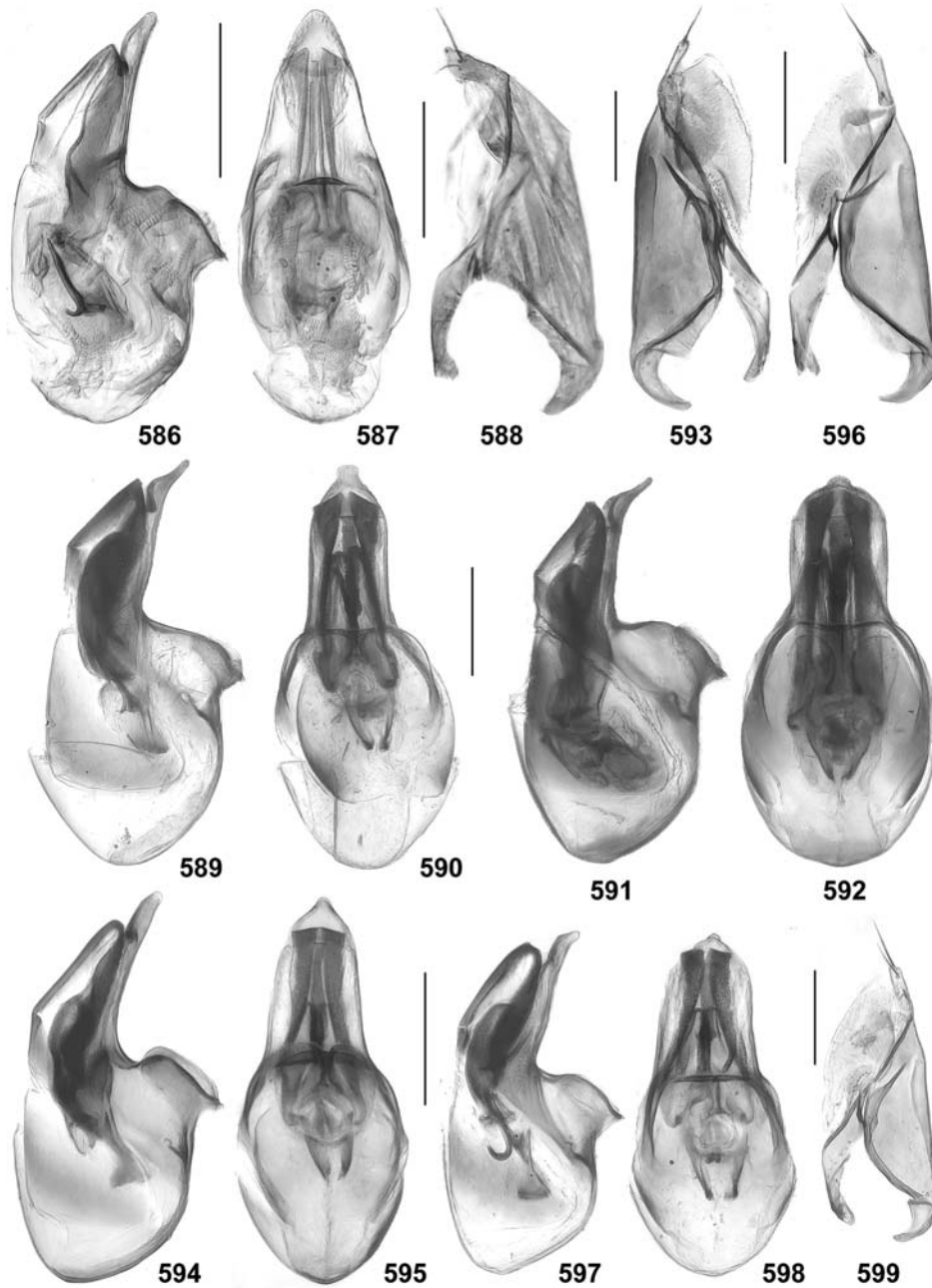
Figs 564–569. *Zyras janetlarae* sp. nov. (564–567), *Pheidologitonetes punctatus* sp. nov. (568), and *P. thaufuscicollis* (Pace), holotype (569). 564, 569 – habitus; 565 – forebody; 566 – antenna; 567–568 – abdomen. Scale bars: 564–565, 567–569: 1.0 mm; 566: 0.5 mm.



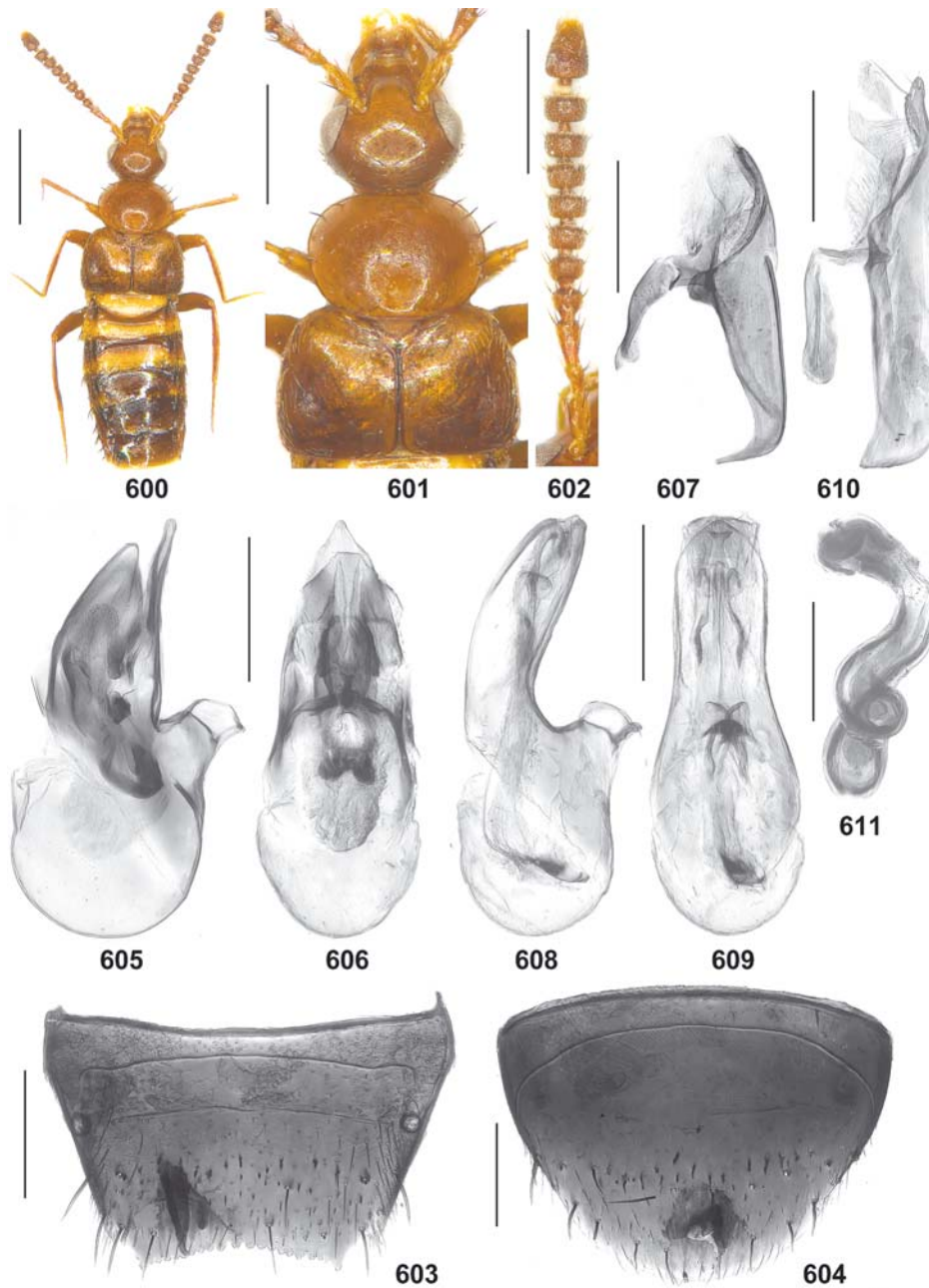
Figs 570–577. *Zyras parvihirtus* sp. nov. (570–573) and *Z. cyaniceps* sp. nov., holotype (574–577). 570, 574 – habitus; 571, 575 – forebody; 572, 576 – antenna; 573, 577 – abdomen. Scale bars: 570–571, 573–577: 1.0 mm; 572: 0.5 mm.



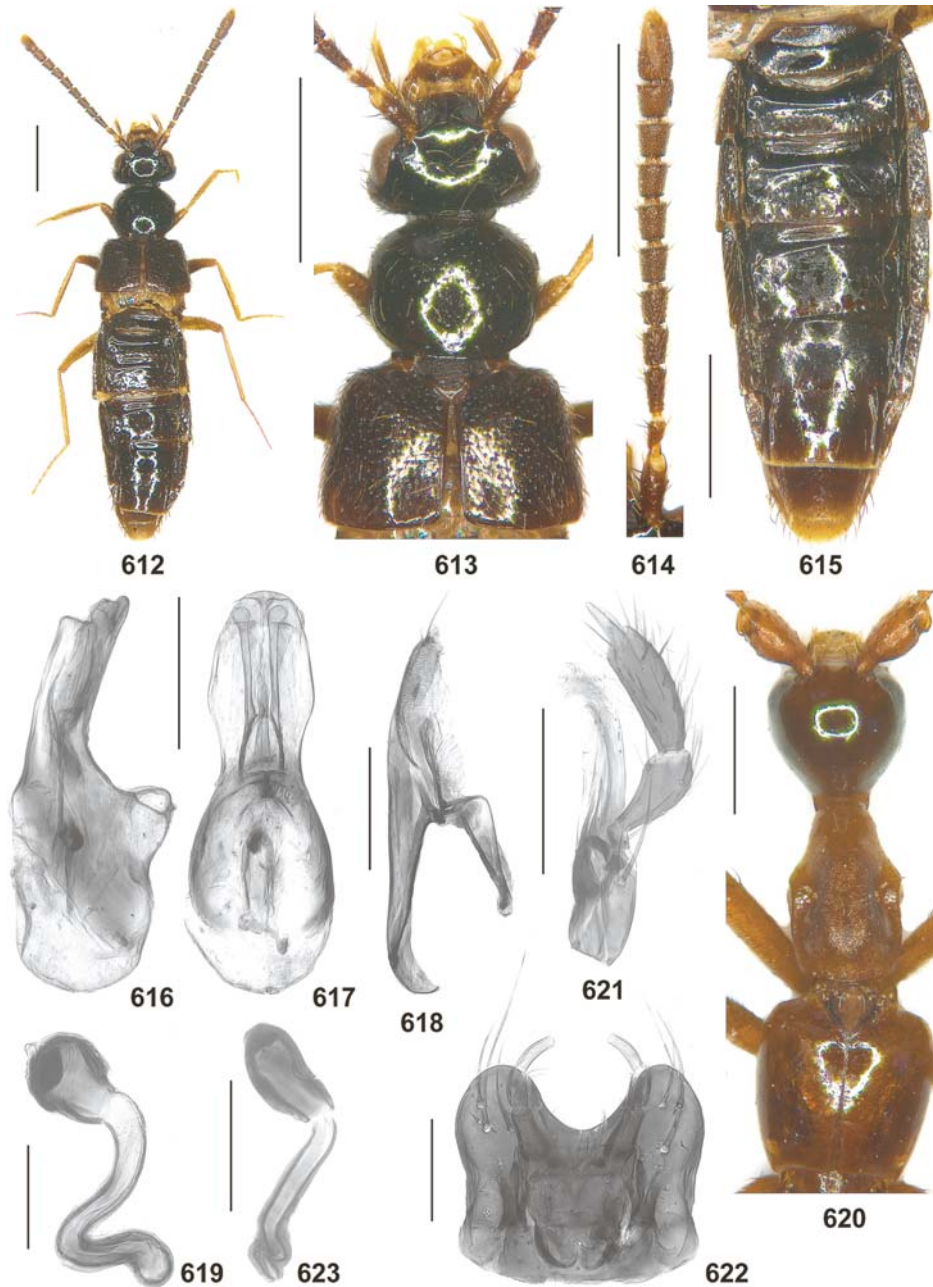
Figs 578–585. *Zyras maindai* sp. nov. (578–581) and *Z. interruptus* sp. nov. (582–585). 578, 582 – habitus; 579, 583 – forebody; 580, 584 – antenna; 581, 585 – abdomen. Scale bars: 578–579, 581–583, 585: 1.0 mm; 580, 584: 0.5 mm.



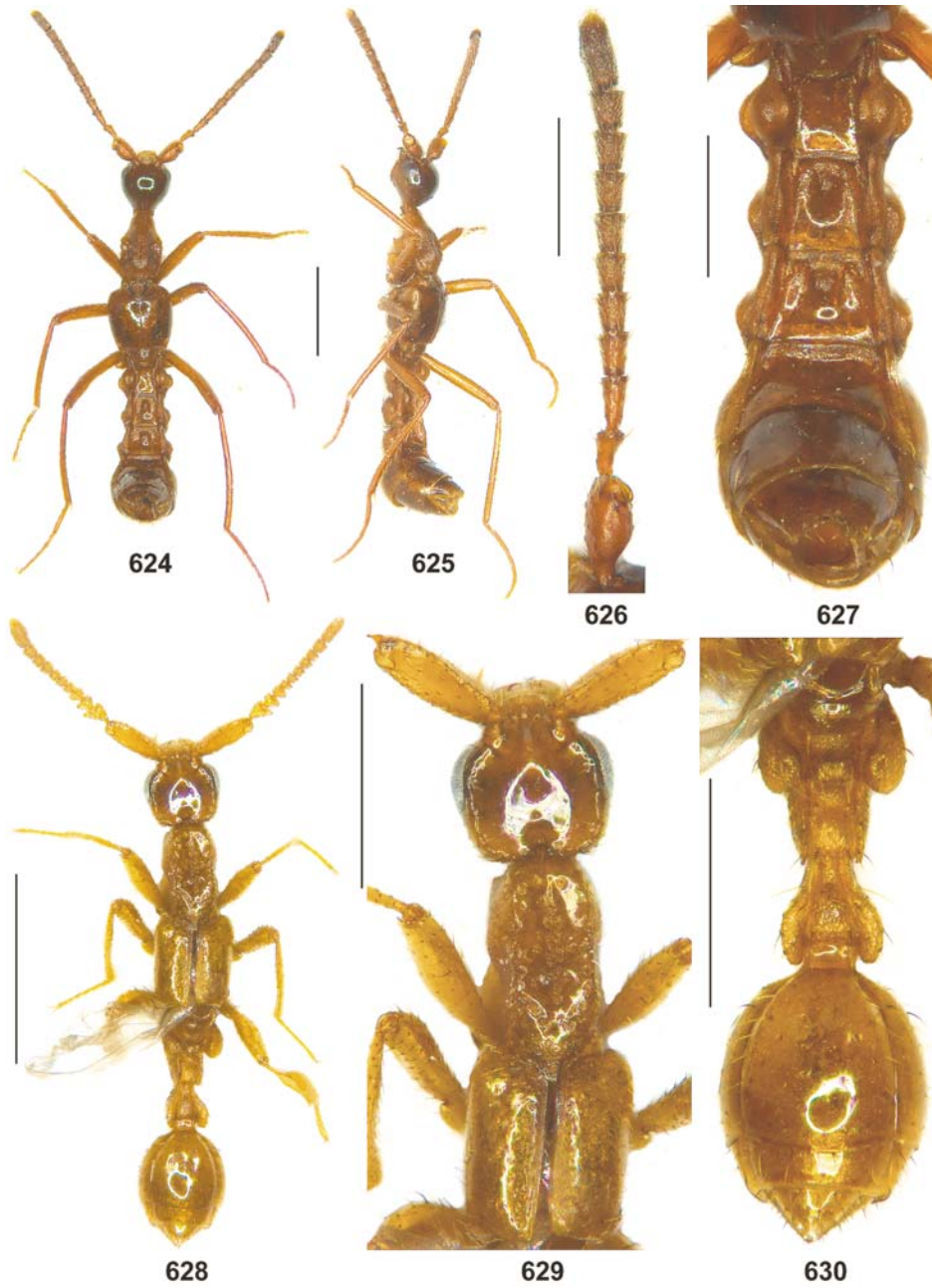
Figs 586–599. *Zyras parvihirtus* sp. nov. (586–588), *Z. cyaniceps* sp. nov. (589–593; 589–590, 593: holotype; 591–592: paratype), *Z. maindai* sp. nov. (594–596), and *Z. interruptus* sp. nov. (597–599). 586–587, 589–592, 594–595, 597–598 – median lobe of aedeagus in lateral and in ventral view; 588, 593, 596, 599 – paramere. Scale bars: 0.2 mm.



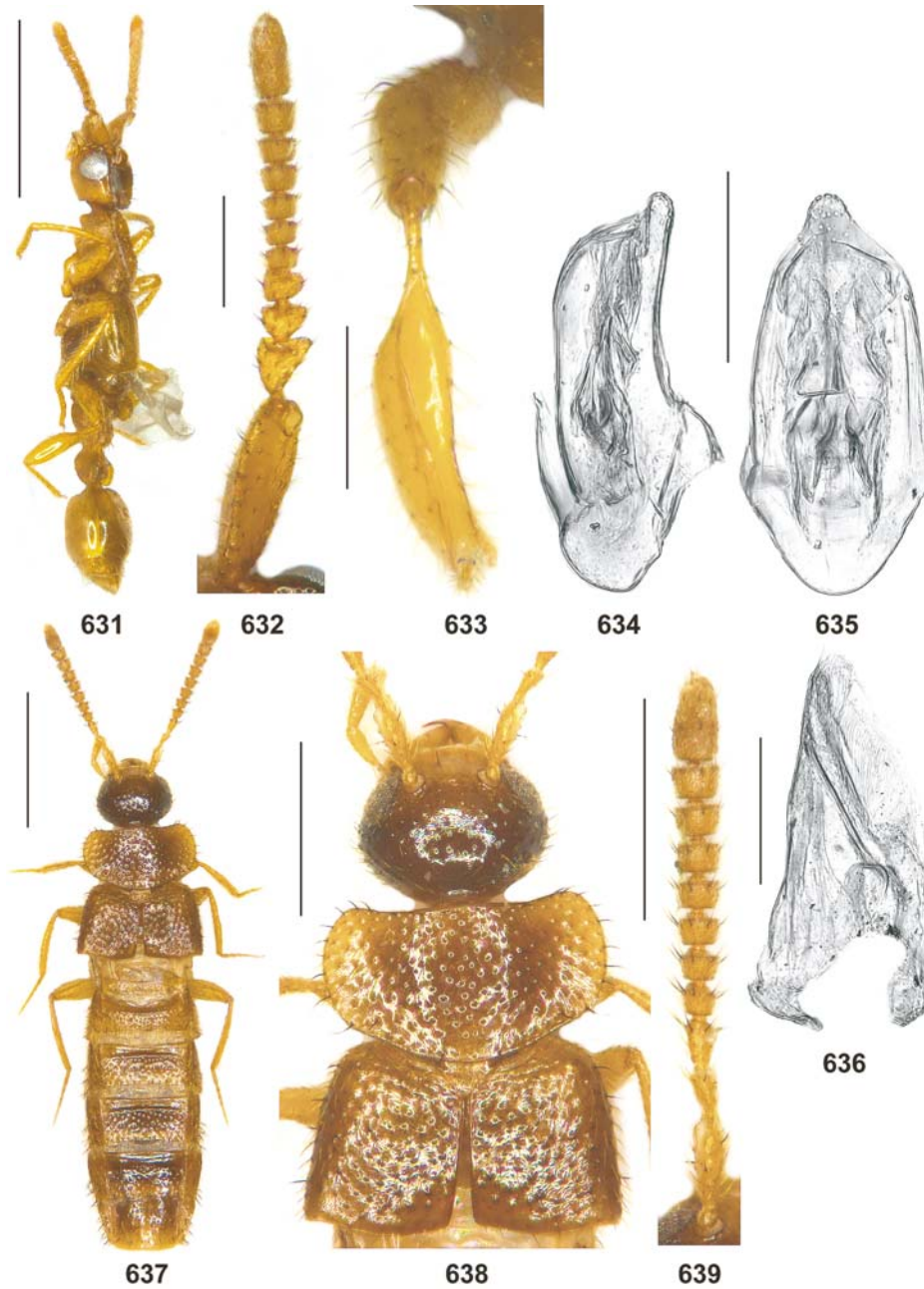
Figs 600–611. *Zyras pressitibialis* sp. nov. (600–607) and *Z. trapeziceps* Dvořák (608–611). 600 – habitus; 601 – forebody; 602 – antenna; 603 – male tergite VIII; 604 – male sternite VIII; 605–606, 608–609 – median lobe of aedeagus in lateral and in ventral view; 607, 610 – paramere; 611 – spermatheca. Scale bars: 600: 1.0 mm; 601–602: 0.5 mm; 603–610: 0.2 mm; 611: 0.1 mm.



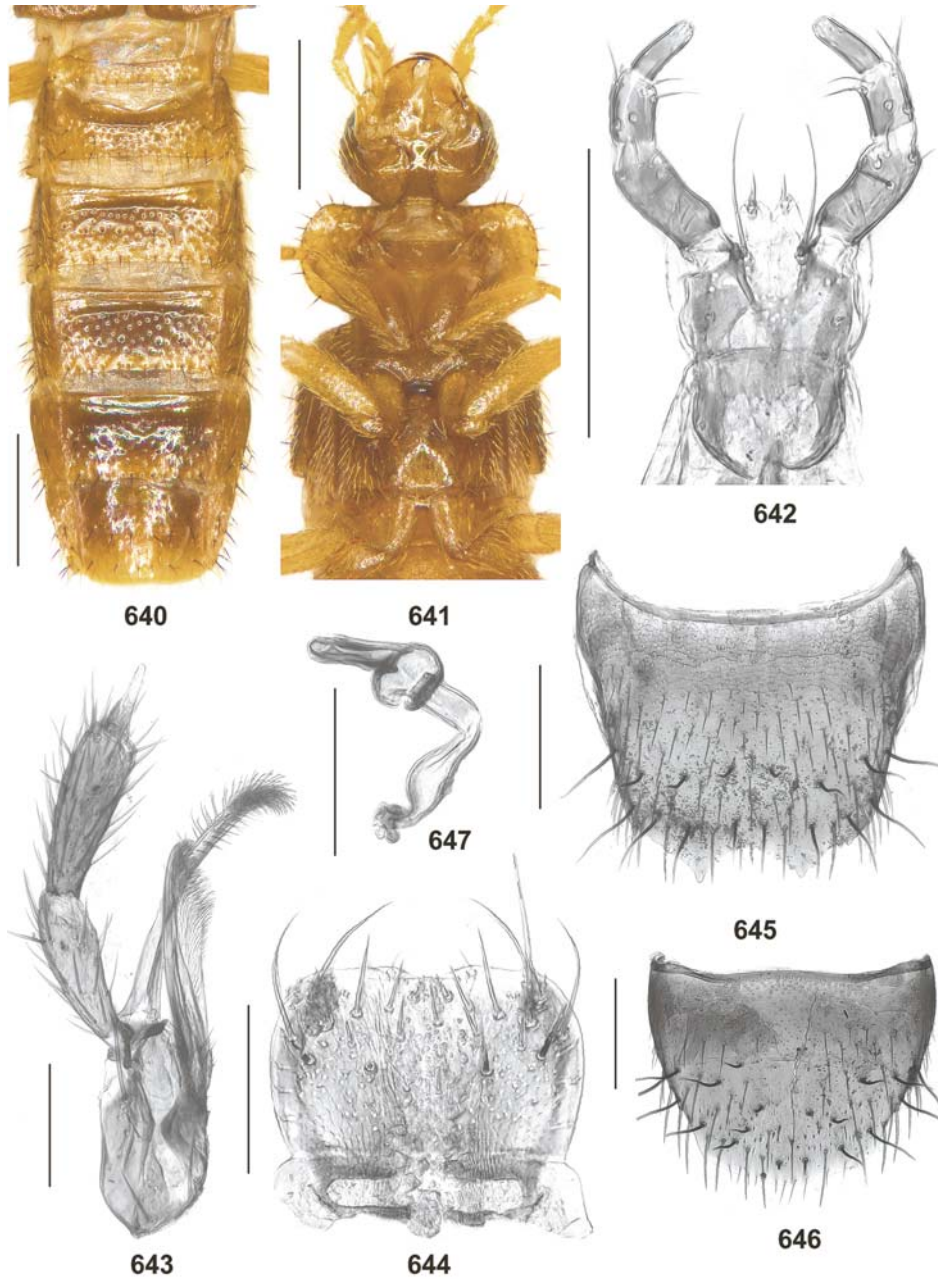
Figs 612–623. *Zyras cuneatus* sp. nov. (612–619) and *Mimaenictus bisetosus* sp. nov. (620–623). 612 – habitus; 613, 620 – forebody; 614 – antenna; 615 – abdomen; 616–617 – median lobe of aedeagus in lateral and in ventral view; 618 – paramere; 619, 623 – spermatheca; 621 – maxilla; 622 – mentum and ligula. Scale bars: 612–615: 1.0 mm; 620: 0.5 mm; 616–618, 621: 0.2 mm; 619, 622–623: 0.1 mm.



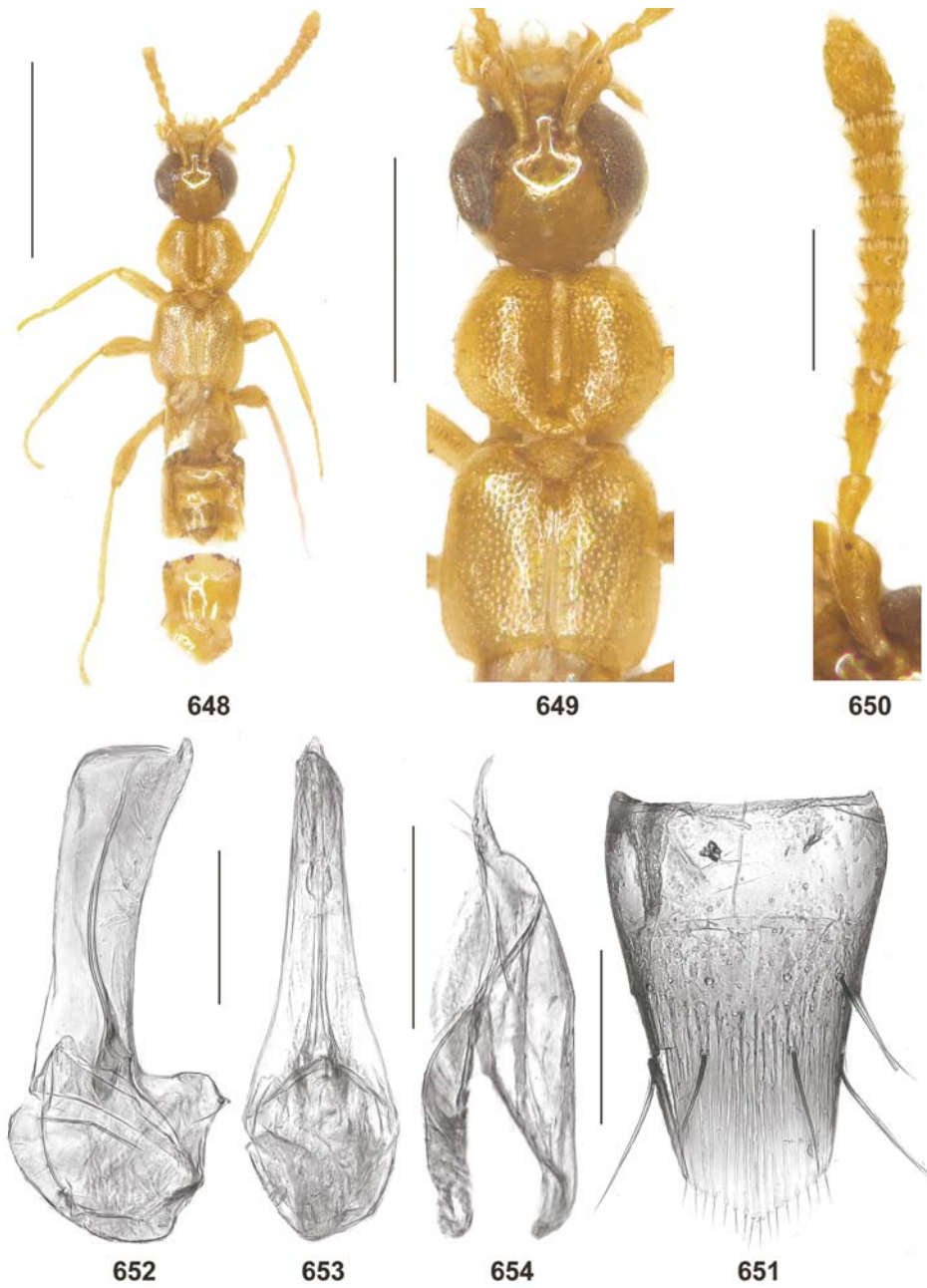
Figs 624–630. *Mimaenictus bisetosus* sp. nov. (624–627) and *Scapaenictus longiscapus* sp. nov. (628–630). 624, 628 – habitus; 625 – habitus in lateral view; 626 – antenna; 627, 630 – abdomen; 629 – forebody. Scale bars: 624–625, 628: 1.0 mm; 626–627, 629–630: 0.5 mm.



Figs 631–639. *Scapaenictus longiscapus* sp. nov. (631–636) and *Planusa granulosa* sp. nov. (637–639). 631 – habitus in lateral view; 632, 639 – antenna; 633 – hind leg; 634–635 – median lobe of aedeagus in lateral and in ventral view; 636 – paramere; 637 – habitus; 638 – forebody. Scale bars: 631, 637: 1.0 mm; 638–639: 0.5 mm; 632–633: 0.2 mm; 634–636: 0.1 mm.



Figs 640–647. *Planusa granulosa* sp. nov. 640 – abdomen; 641 – forebody in ventral view; 642 – labium; 643 – maxilla; 644 – labrum; 645 – female tergite VIII; 646 – female sternite VIII; 647 – spermatheca. Scale bars: 640–641: 0.5 mm; 645–646: 0.2 mm; 642–644, 647: 0.1 mm.



Figs 648–654. *Sulciusa exophthalmica* sp. nov. 648 – habitus; 649 – forebody; 650 – antenna; 651 – male sternite VIII; 652–653 – median lobe of aedeagus in lateral and in ventral view; 654 – paramere. Scale bars: 648: 1.0 mm; 649–650: 0.5 mm; 651–654: 0.1 mm.

3.3 Genus *Amaurodera* Fauvel, 1905

The distribution of *Amaurodera* is confined to the southern East Palaearctic and Oriental regions, where it was previously represented by 56 species (ASSING 2019a). The three species newly described below raise this figure to 59. The latest catalogue was provided by ASSING (2016b).

Amaurodera dentissima sp. nov.

(Figs 430–434)

Type material. Holotype ♂ [left midleg and right hindleg missing]: “MYANMAR: Chin state, Chin hills, NW Falam, 400–500 m, V–VI.2016, local collectors / Holotypus ♂ *Amaurodera dentissima* sp. n., det. V. Assing 2019” (MNB). Paratype ♀: same data as holotype (cAss).

Description. Body length 4.3–5.0 mm; length of forebody 2.2–2.3 mm. Habitus as in Fig. 430. Coloration: forebody reddish-brown with the head and the postero-lateral portions of the elytra slightly darker; abdomen yellowish-red with segment VI and the anterior half of segment VII blackish; legs yellow; antennae yellowish-brown with the basal antennomeres more or less extensively dark-yellow; maxillary palpi dark-yellow with palpomere IV pale-yellowish.

Head (Fig. 431) approximately 1.15 times as long as broad, broadest across eyes, with sexual dimorphism; punctation sparse and extremely fine; interstices without microreticulation. Eyes relatively small, approximately 0.6 times as long as distance from posterior margin of eye to posterior constriction of head. Antenna approximately 2.4 mm long and very slender.

Pronotum (Fig. 431) 0.78–0.87 mm long, approximately 1.4 times as long as broad, and as broad as head; dorsal and lateral surface not meeting at an angle posteriorly; microreticulation reaching lateral carinae only in posterior two-fifths; narrow median furrow long, but reaching neither anterior nor posterior margins.

Elytra (Fig. 431) approximately 0.55 times as long as pronotum; punctation fine and sparse; interstices with nearly obsolete microreticulation barely visible even at high magnification (100 x); pubescence moderately short and depressed. Hind wings present. Metatarsomere I barely as long as the combined length of II and III.

Abdomen narrower than elytra; punctation fine and sparse on anterior, even sparser on posterior tergites; interstices with distinct microsculpture composed of transverse meshes on tergites III–V, with nearly obsolete microsculpture on tergite VI, and without microsculpture on tergite VII; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII distinctly serrate.

♂: head with shallow, but extensive median impression; median lobe of aedeagus (Figs 432–434) 0.65 mm long; ventral process with pronounced tooth-shaped process in the middle best visible in lateral view; crista apicalis pronounced.

♀: head without dorsal impression; spermathecal capsule (Fig. 434) with moderately dilated distal portion and short proximal portion.

Etymology. The specific epithet is the superlative of the Latin adjective *dentata* and alludes to the pronounced tooth-shaped projection at the ventral side of the ventral process of the aedeagus.

Comparative notes. Based on external and especially on the structure of the primary sexual characters, *A. dentissima* is most closely allied to *A. dentata* ASSING, 2016 (West Thailand) and *A. parvoculata* ASSING, 2016 (North Thailand). The new species is distinguished from both of them by the pronounced tooth-shaped projection of the ventral process of the aedeagus and additionally as follows:

- from *A. dentata* by longer antennae, a longer pronotum, a smaller aedeagus, and a smaller spermatheca with a less dilated distal portion;
- from *A. parvoculata* by larger eyes, shorter antennae, and a smaller aedeagus.

For illustrations and measurements of *A. dentata* and *A. parvoculata* see ASSING (2016b).

Distribution and natural history. The type locality is situated in the Chin Hills, Chin State, West Myanmar, at an altitude of 500–600 m. The specimens were probably collected on the wing.

Amaurodera darenae Yan et Li, 2015

Material examined. Vietnam: 1♀, Phia Ouac, SW-slope, trout farm, 22.594°N, 105.858°E, 1050–1100 m, disturbed lower montane forest, 10.V.2019, leg. Brunke & Schillhammer (CNC).

The original description is based on type material from three localities in Guangxi province, China (YAN & LI 2015). The above female represents the first record from Vietnam.

Amaurodera calicitheca Assing, 2017

Material examined. Malaysia: Sabah: 2♂♂, Kinabalu National Park, lower montane mixed dipterocarp, *Aporusa* sp. [A11/F1 – 1], canopy fogging, 14.III.1996, leg. Floren (cAss); 1♀, same data, but *Gutti* sp. [GF1 – 1N], 26.II.1996 (cAss); 1♀, Kinabalu National Park, 6°05'N, 116°33'E, lowland mixed dipterocarp forest, *B. scortechinii* [B4], canopy fogging, 29.III.1998, leg. Floren (cAss); 1♀, Kinabalu National Park, 6°03'N, 116°42'E, *A. lagenocarpa* [Mv PW 10 F1], canopy fogging, 29.III.1997, leg. Floren (cAss); 1♂, Kinabalu National Park, 6°05'N, 116°33'E, *Aporusa lagenocarpa* [My 71], canopy fogging, 23.X.1996, leg. Floren (cAss); 1♀, Kinabalu Park PHS, lower montane mixed dipterocarp forest, canopy fogging, Meliaceae sp. [MF3], 21.III.1996, leg. Floren (cAss); 1♀, same data, but Meliaceae sp., 7.XI.1996 (cAss); 3♂♂, Kinabalu Park PHS, lower montane mixed dipterocarp forest, canopy fogging, *Aporusa lagenocarpa* [A52NF], 27.II.1996, leg. Floren (cAss); 2♂♂, 1♀, Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging, *Xanthophyllum affine* [Fog Xa11/F2], 20.I.1993, leg. Floren (cAss); 1♂, 1♀, Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, canopy fogging, *Aporusa* sp. [Fog A10/F1], 8.III.1993, leg. Floren (cAss); 1♂, same data, but [Fog A51/F5], 3[?].II.1993 (cAss); 1♂, Bergil, 6°17'N, 116°42'E, *V. pinnata* [My SW2 – B4 F4], canopy fogging, 1.III.1997, leg. Floren (cAss).

The original description is based on 22 type specimens from two localities in Sabah (Poring Hot Springs; Danum Valley) (ASSING 2017a). The above material was collected in the Mount Kinabalu region and environs by canopy fogging.

Amaurodera bulbosa Pace, 2008

(Figs 435–440)

Material examined. Malaysia: Sabah: 2♂♂, 1♀, Kinabalu Park PHS, lower montane dipterocarp forest, canopy fogging, *Aporusa lagenocarpa* [A52NF, Nn], 27.II.1996, leg. Floren (cAss); 1♀, same data, but Gutti. sp. [GF1 1N], 26.II.1996 (cAss); 2♂♂, 1♀, same data, but *Aporusa lagenocarpa* [DOPAN], 26.II.1996 (cAss); 3♂♂, same data, but *Aporusa lagenocarpa* [A52NF], 27.II.1996 (cAss, MNB); 1♂: same data, but [A5/F3], 24.III.1996 (cAss); 1♂, same data, but *Aporusa* sp. [AF1/F1], 3.III.1996 (cAss); 1♂, 2♀♀, same data, but Meliaceae sp. [MF3], 21.III.1996 (cAss, MNB); 1♂, same data, but [MF2], 19.III.1996 (cAss); 1♀, same data, but [MF4], 21.III.1996 (cAss); 1♀, same data, but [MF5], 22.III.1996 (cAss); 2♀♀, Kinabalu NP, My, 6°05'N, 116°33'E, *Aporusa lagenocarpa* 74, 1.XI.1996, leg. Floren (cAss); 1♀, Kinabalu Park, 6°05'N, 116°33'E, lowland mixed dipterocarp forest, canopy fogging [B1, B2 Mix], 27.III.1998, leg. Floren (MNB); 1♀, same data, but [*A. lag.* B8], 29.III.1998 (cAss); 1♀, same data, but [*B. scortechinii* B4], 29.III.1998 (cAss); 2♂♂, 3♀♀, Poring Hot Springs, >650 m, lower montane mixed dipterocarp forest, *Aporusa* sp., canopy fogging [Fog A10/F1], 8.III.1993, leg. Floren (cAss); 1♂, same data, but [Fog A52/F2], 2.II.1993 (cAss); 1♀, same data, but [Fog A51/F2], 1.III.1992 (cAss); 1♀, same data, but [Fog A74/F1], 30[?].X.1993 (cAss); 1♂, same data, but [Fog A73/F3], 22.III.1993 (cAss); 1♂, 1♀, same data, but [Fog A72/F1], 23.III.1993 (cAss); 1♂, 2♀♀, same data, but [Fog A73/F2], 21.III.1993 (MNB); 1♀, same data, but [Fog A73/F6], 27.X.1993 (cAss); 1♂, same data, but [Fog A57/], 25.VI.1992 (cAss); 1♂, 1♀, same data, but *Xanthophyllum affine* [Fog Xa4/F2], 20.VI.1992 (cAss); 1♂, 1♀, 1 ex.: same data, but [Xa11/F2], 20.I.1993 (cAss, MNB).

The original description is based on two females from Poring Hot Springs (PACE 2008a). Additional specimens were reported by ASSING (2017a). The external and primary sexual characters are illustrated in Figs 435–440. The above material was collected by canopy fogging.

Amaurodera setosicollis sp. nov.

(Figs 441–446)

Type material. Holotype ♂: “Poring Hot Springs, My, N6 03.556 E116 42.177, *Trigonopheura* cf *malayana* 6, A Floren 09.08.2009 / Holotypus ♂ *Amaurodera setosicollis* sp. n., det. V. Assing 2020” (cAss). Paratypes: 3♂♂, 1♀: “Poring Hot Springs, My, N6 03.556 E116 42.177, *Trigonopheura* cf *malayana* 6, A Floren 09.08.2009” (cAss); 2♂♂: “Poring Hot Springs, My, N6 03.547 E116 42.179, *Palagium sericeum* 5, A Floren 09.08.2009” (cAss); 1♂: “Kinabalu Park, 6°5', 116°33'E, Sorinsim III, 40 yr. / Bergil 6, 7.3.97, A. Floren” (cAss); 1♂: “Malaysia: Sabah, 514 m, MK Poring (Nr. P6), 6°03'33"N 116°42'11"E, A. Floren, 09.08.2009 / Primary Forest, tree fogging, Euphorbiaceae: *Trigonopheura* cf *malayana*” (cAss), 1♀: “Malaysia Borneo, bei Keningau 50 yrs., *Melanolepis* sp. B4, A. Floren 20.2.01” (cAss).

Description. Relatively small species; body length 3.5–4.2 mm; length of forebody 2.0–2.4 mm. Coloration: forebody brown to dark-brown, with the head sometimes darker than the pronotum and elytra; abdomen brown to dark-brown with segments VI–VII blackish-brown to blackish; legs dark-yellow to pale-brown; antennae dark-brown with the basal 2–3 antennomeres sometimes reddish and the apical 1–3 antennomeres yellow; maxillary palpi reddish-yellow to reddish with palpomere IV yellow.

Head (Fig. 441) approximately as long as broad or weakly transverse, broadest across eyes, without sexual dimorphism; punctation sparse and fine; median dorsal portion impunctate; interstices without microreticulation. Eyes approximately 0.6 times as long as distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 442) 2.2–2.4 mm long and moderately slender.

Pronotum (Fig. 441) 0.72–0.85 mm long, 1.26–1.37 times as long as broad, and nearly as broad as head; dorsal and lateral surface not meeting at an angle posteriorly; anterior and antero-lateral margins with 4–5 long and erect setae on either side (often partly broken off); microreticulation reaching lateral carinae only posteriorly; narrow median furrow long, but reaching neither anterior nor posterior margins.

Elytra (Fig. 441) 0.55–0.60 times as long as pronotum; punctation fine and sparse; interstices without microreticulation; humeral angles each with a long and erect black seta; pubescence moderately short and depressed. Hind wings fully developed. Metatarsomere I slightly longer than metatarsomere II, significantly shorter than the combined length of metatarsomeres II and III.

Abdomen narrower than elytra; punctation fine and sparse on anterior, even sparser on posterior tergites; interstices without microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII distinctly serrate.

♂: median lobe of aedeagus (Figs 443–445) approximately 0.55 mm long; ventral process basally with a pair of lateral carinae, broad in ventral view, and strongly curved and very narrow in lateral view.

♀: spermatheca (Fig. 450) weakly dilated in distal and proximal portions; maximal extension 0.3 mm.

Etymology. The specific epithet is an adjective composed of the Latin adjective *setosus* (with setae) and *-collis* (of the pronotum). It alludes to the presence of long setae in the antero-lateral portions of the pronotum.

Comparative notes. The synapomorphically derived chaetotaxy of the pronotum (antero-laterally with long and erect setae) and the similar morphology of the genitalia suggest that *A. setosicollis* is closely allied to *A. longisetosa* Assing, 2017, which too has been recorded from Sabah. The new species is distinguished from *A. longisetosa* by smaller body size (*A. longisetosa*: length of forebody usually >2.4 mm), shorter antennae, much larger and more convex eyes, longer elytra, a smaller aedeagus with a narrower ventral process in lateral view (*A. longisetosa*: median lobe approximately 0.6 mm long), and a spermatheca with a smaller apical cuticular invagination. For illustrations of *A. longisetosa* and many other *Amaurodera* species recorded from Borneo see ASSING (2017a).

Distribution and natural history. The type material was collected by canopy fogging in three geographically close localities in the Mount Kinabalu region, Sabah (Malaysia), North Borneo.

Amaurodera floreni sp. nov.

(Figs 447–450)

Type material. Holotype ♀: “Topou, My SW 1, N6 17.278 E116 42.417, *M. umbellata* B1 F2, A. Floren 18.2.97 / Holotypus ♀ *Amaurodera floreni* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1♂, 1♀: same data as holotype (cAss); 1♀: “Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, *A. lagenocarpa* 73 F1, A. Floren '97” (cAss).

Description. Body length 4.2–5.0 mm; length of forebody 2.2–2.5 mm. Habitus as in Fig. 447. Coloration: forebody reddish-brown; abdomen reddish with segments V–VIII or

VI–VIII more or less distinctly infuscate; legs yellowish with the apical halves of the femora more or less distinctly infuscate; antennae brown to dark-brown with the basal 2–3 and the apical 2–3 antennomeres yellow.

Head approximately as long as broad, broadest across eyes, without sexual dimorphism; punctation sparse and very fine; midline impunctate; interstices without microreticulation. Eyes slightly shorter than distance from posterior margin of eye to posterior constriction of head. Antenna long and slender, approximately 2.5 mm long.

Pronotum 0.88–0.92 mm long, approximately 1.4 as long as broad, and about as broad as head; dorsal and lateral surface not meeting at an angle posteriorly; anterolateral portion with very fine and very short pubescence; microreticulation not reaching lateral carinae; narrow median furrow long, but reaching neither anterior nor posterior margins.

Elytra approximately 0.6 times as long as pronotum; punctation fine and dense; interstices without microreticulation; pubescence moderately short and depressed. Hind wings fully developed. Metatarsomere I slightly longer than metatarsomere II, slightly shorter than the combined length of metatarsomeres II and III.

Abdomen narrower than elytra; punctation fine and rather sparse on anterior, even sparser on posterior tergites; interstices without evident microsculpture; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 448–449) 0.8 mm long; ventral process apically acute and distinctly curved in lateral view; crista apicalis small, narrow, and prominent.

♀: spermatheca (Fig. 450) strongly dilated in distal portion and with apical cuticular invagination of distinctive shape.

Etymology. This species is dedicated to Andreas Floren (University of Würzburg), collector of this and numerous other species treated in the present paper, also in gratitude for the generous gift of the material obtained by canopy fogging in North Borneo.

Comparative notes. *Amaurodera floreni* is reliably distinguished from other Bornean *Amaurodera* species only by the primary sexual characters. Regarding the shape of the spermatheca (distally strongly dilated), it most resembles *A. calicitheca*, from which it differs by a larger aedeagus with an apically more acute and distinctly curved ventral process (lateral view) and a smaller, narrower crista apicalis, and by the shape of the apical cuticular invagination of the spermatheca. For illustrations of *A. calicitheca* see ASSING (2017a).

Distribution and natural history. The specimens were collected by canopy fogging in two localities in the Mount Kinabalu region, Sabah (Malaysia), North Borneo.

Amaurodera sp.

Material examined. Malaysia: Sabah: 1♂, Kinabalu National Park, canopy fogging, Topou 10 [Sorinsim, SW I, 5 Years], 24[?].II.1997, leg. Floren (cAss).

The above male is distinguished from the preceding species by significantly shorter elytra. Since it is in poor condition and female are unavailable, a reliable identification is not possible.

***Amaurodera atra* Assing, 2017**

Material examined. Philippines: 1♂, 1♀, Mindanao, S Cotobato, Lake Holon, 6.0995N, 124.8771E, 5–10.X. 2019, leg. Anichtchenko (cAss).

This species was originally described based on twelve specimens from two localities in Mindanao and subsequently reported from a third locality, again in Mindanao (ASSING 2019a, b). It appears to be highly variable regarding body size, size of the aedeagus, and the shape of the spermatheca.

3.4 Genus *Drusilla* Leach, 1819

This genus currently includes 225 species (ASSING 2019a, b, NEWTON 2019), most of which are distributed in the Oriental region and have never been subject to a modern revision. Therefore, descriptions of new species are confined to taxa identified based on conspicuous external characters alone, to species from China (*Drusilla* fauna revised), or to species from the Philippines, from where only few *Drusilla* species have been recorded. The species known from Borneo at that time were keyed and partly illustrated by PACE (2008a). In addition to the species described below, material of several other probably undescribed taxa mostly from Laos and Borneo was examined.

***Drusilla obliqua* (Bernhauer, 1916)**

Material examined. Myanmar: 1 ex., Chin State, NW Falam, 400–500 m, V–VI.2016, leg. local collector (MNB). **Laos:** >300 exs., Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); >20 exs., Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss). **Vietnam:** 19 exs., Pia Ouac Nat. Park, Phia Den vill., Kolia Organic Farm, 22.56°N, 105.86°E, 1000 m, at light, 7–17.V.2019, leg. Brunke & Schillhammer (CNC); 1 ex., Pia Ouac Nat. Park, ca. 500 m E main road, 22.594°N, 105.889°E, 1350 m, mature secondary forest, flight interception trap, 9–18.V.2019, leg. Brunke & Schillhammer (CNC); 8 exs., Phia Oac, SW-slope, C u Hai stream, 22.585°N, 105.866°E, 970 m, secondary forest, at light, 16.V.2019, leg. Brunke & Schillhammer (CNC).

This is probably the most common and most widespread representative of the genus in the East Palaearctic and Oriental regions, its distribution ranging from the Himalayan region southeastwards to Indonesia. The above specimens from Laos represent new country records.

***Drusilla flagellata* Assing, 2015**

Material examined. Laos: >50 exs., Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); >10 exs., Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubán (cAss).

This species was originally described based on material from the Chinese province Yunnan and subsequently reported also from Laos (ASSING 2015a, 2016b).

***Drusilla strigicollis* (Cameron, 1928)**

Material examined. Malaysia: Sabah: 1♂, 1♀, Bergil, 6°17.204'N, 116°42.305'E, canopy fogging [My SW3, *V. pinnata* B8 F2], 10.III.1997, leg. Floren (cAss); 1♀, same data, but [B2 F5], 14.III.1997 (cAss); 1♂, Poring Spring, lower montane mixed dipterocarp forest, >650 m, canopy fogging [*Aporusa* sp., Fog A51/F1], 22.II.1992, leg. Floren (cAss); 1♀, same data, but [A51/F4], 26.I.1993 (cAss); 1♀, same data, but [A50/F3], 22.I.1993 (cAss); 1♀, same data, but [*Xanthophyllum affine*; Fog Xa11F2], 20.I.1993 (cAss); 1♂, Kinabalu Park, Bergil 8, 6°05'N, 116°33'E, canopy fogging [Sorinsim II, 15yrs], 10.III.1997, leg. Floren (cAss); 2 exs., same data, but Bergil 11 (cAss); 1♂, same data but [SW II] (cAss); 1 ex., same data, but Bergil 5 [SW II 15 yrs.], 27.II.1997 (cAss); 1 ex., same data, but Bergil 1 [Sorinsim III, 40 yrs], 6[?].III.1997 (cAss); 1 ex., same data, but Bergil [Sorinsim III, 40 yrs], 14.III.1997 (cAss).

The original description is based on a unique holotype from “Mt. Dulit” (Borneo: Sarawak) (CAMERON 1928). The record of *Rabdotodrusilla malaysiensis* Pace, 2013 from Sabah (ASSING 2019a) refers to this species, too (misidentification).

***Drusilla trituberculata* sp. nov.**

(Figs 451–463)

Type material. Holotype ♂: “CHINA: SW-Hubei, NW Enshi, env. Longtang vill., ca. 1750 m, 5.–7.6.2018, 30°27'45”N, 109°14'11”E, leg. C. Reuter / Holotypus ♂ *Drusilla trituberculata* sp. n., det. V. Assing 2019” (NHMW). Paratypes: 1♂, 3♀: same data as holotype (NHMW, cAss).

Description. Body length 6.2–7.0 mm; length of forebody 2.9–3.1 mm. Habitus as in Fig. 451. Coloration: body black with the posterior margins of tergites III–V narrowly yellowish; legs blackish with the bases of the mesofemora, and the basal halves of the metafemora yellow, the tibiae brown, and the tarsi reddish; antennae bicoloured with antennomere I blackish and antennomeres II–XI pale-reddish; maxillary palpi blackish with the apical palpomere yellow.

Head (Figs 452–453) approximately 1.05 times as broad as long; punctuation moderately fine and rather dense, sparser in antero-median portion; interstices with fine microreticulation. Eyes large and strongly convex, slightly longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna elongate and moderately massive, approximately 2.8 mm long; preapical antennomeres weakly oblong.

Pronotum (Figs 452–453) approximately as long as broad and approximately 1.1 times as broad as head, broadest in anterior half; sexual dimorphism pronounced; lateral margins weakly sinuate in posterior half in dorsal view; posterior angles marked; interstices with nearly obsolete microreticulation visible only at high magnification (100 x).

Elytra (Figs 452–453) approximately 0.85 times as long as pronotum; punctuation dense and sexually dimorphic; microsculpture practically obsolete, shallow traces visible only at high magnification (100 x). Hind wings fully developed. Legs slender; metatarsomere I nearly as long as the combined length of II–IV.

Abdomen (Figs 454–455) with extremely sparse, scattered fine punctuation and without microsculpture, glossy; posterior margin of tergite VII with palisade fringe.

♂: pronotum (Fig. 452) with extensively and deeply impressed along middle, this impression and especially its margins with granulose punctation; elytra (Fig. 452) with granulose punctation; abdominal tergite III (Figs 454–455) posteriorly with pronounced median tubercle; tergite IV near middle of posterior margin with erect spine-shaped tubercle; tergite V and VI at posterior margin with a pair of granula in the middle (Figs 454–455); tergite VII with a median erect tubercle at posterior third and with four more distinct and additional smaller setiferous granula in postero-median portion (Figs 454–455); tergite VIII (Fig. 456) with broadly and deeply concave posterior margin; sternite VIII as in Fig. 457; median lobe of aedeagus (Figs 458–459) approximately 0.85 mm long and slender; parameres (Fig. 460) small in relation to median lobe, approximately 0.6 mm long.

♀: pronotum (Fig. 453) with shallower and less extensive impression along middle, with non-granulose punctation; elytral punctation simple, non-granulose (Fig. 453); abdominal tergites III–VII unmodified, except for a median pair of minute setiferous granula at posterior margins of tergites IV–VI; posterior margin of tergite VIII weakly concave in the middle (Fig. 461); sternite VIII as in Fig. 462; spermatheca (Fig. 463) small, comma-shaped.

Etymology. The specific epithet (Latin, adjective) alludes to the presence of conspicuous tubercles on the male abdominal tergites III, IV, and VII.

Comparative notes. Based on the modifications of the male abdominal tergites and the general morphology of the aedeagus, *D. trituberculata* is closely allied to *D. imurai* Maruyama et Kishimoto, 2002 (spermatheca not found by the authors), a species also described from Hubei. It is distinguished from this species by the coloration (*D. imurai*: body blackish-brown; antennae brown; tibiae and tarsi yellowish-brown), a more pronounced sexual dimorphism of the pronotum, sexually dimorphic punctation of the elytra, the presence of pronounced tubercles on the male tergites III, IV, and VII, a more deeply concave posterior margin of the male tergite VIII, and a more slender median lobe of the aedeagus (especially in ventral view). For illustrations of *D. imurai* and other *Drusilla* species recorded from China see MARUYAMA & KISHIMOTO (2002a, b) and ASSING (2015a).

Distribution and natural history. The type locality is situated to the northwest of Enshi, Southwest Hubei province, China. The specimens were collected at an altitude of 1750 m.

***Drusilla longispinosa* sp. nov.**

(Figs 464–475)

Type material. Holotype ♂: “SABAH: Poring Spring., Aporusa Sp., Lower Montane Mixed dipterocarp Fst., >650 m / Fog A9/F1, 12.II.1993, A. Floren / Holotypus ♂ *Drusilla longispinosa* sp. n., det. V. Assing 2020” (cAss). Paratype ♂: same data as holotype, but “Fog A62/F2, 28.I.1993” (cAss).

Description. Body length 7.0–7.4 mm; length of forebody 3.0–3.2 mm. Habitus as in Fig. 464. Coloration: head and pronotum blackish with weak metallic hue; elytra dark pitchy-red with the postero-lateral portions blackish; abdomen blackish with the anterior portions of paratergites III–VII yellow and with the antero-lateral portions of tergites

III–VI and the anterior half of tergite VIII yellowish to reddish; legs yellow with the apices of the meso- and metafemora infuscate; antennae pale-brown with antennomeres I–II and the base of antennomere III yellowish; maxillary palpi blackish-brown with the apical palpomere yellow.

Head (Figs 465–466) approximately 1.2 times as broad as long, broadest across eyes; punctation fine and sparse; interstices without microreticulation. Eyes large and strongly convex, approximately twice as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 467) elongate and slender, 3.3–3.4 mm long; antennomeres IV–X of decreasing length and decreasingly oblong; antennomeres IV approximately four times as long as broad and X approximately 1.5 times as long as broad.

Pronotum (Figs 465–466) weakly oblong and approximately as broad as head, broadest in anterior half, lateral margins distinctly sinuate in posterior half; median sulcus sharply defined and narrow; sexual dimorphism probably pronounced; interstices without microreticulation.

Elytra (Figs 465–466) approximately 0.9 times as long as pronotum; punctation very dense and coarsely granulate; interstices extremely narrow and without microsculpture. Hind wings fully developed. Legs slender; metatarsomere I approximately as long as the combined length of II–IV.

Abdomen (Figs 468–469): tergites III–VII each with a transverse row of four setiferous punctures across middle and with setiferous punctures at posterior margin, otherwise impunctate; microsculpture absent; tergites III and VII sexually dimorphic; posterior margin of tergite VII with palisade fringe.

♂: pronotum (Figs 465–466) with moderately dense and coarsely granulate, somewhat irregularly distributed punctation, antero-laterally with a rather small impression and with a deep and extensive impression in postero-median portion, postero-laterally with a pronounced carina on either side, these carinae highest posteriorly; tergite III (Figs 468–469) posteriorly with a conspicuously long and slender spine-shaped median process; tergite VII (Figs 468–469) posteriorly with a pronounced oblong and narrow median tubercle; tergite VIII (Figs 470–471) with pronounced microreticulation, posterior margin truncate and microcrenulate; posterior margin of sternite VIII strongly convex (Fig. 472); median lobe of aedeagus (Figs 473–474): approximately 0.9 mm long; ventral process long and narrow in lateral view; paramere (Fig. 475): nearly as long as median lobe and with pronounced velum.

♀: unknown.

Etymology. The specific epithet (Latin, adjective) alludes to the long spine-shaped process on the male tergite III.

Comparative notes. Aside from its relatively large size, a forebody with a noticeable metallic hue, and slender antennae with distinctly oblong antennomeres IV–X, this species is particularly characterized by the modifications of the male pronotum, conspicuously coarsely granulate and dense punctation of the elytra, the long postero-median process of the male tergite VII, the presence and shape of a postero-median tubercle on the male tergite VII, and by the shapes of the median lobe of the aedeagus

and the paramere. In fact, this species is so distinctive that it is easily distinguished from all other congeners recorded from Borneo based on external characters alone. For a key to the Bornean *Drusilla* species and illustrations of recent additions described since 2008 see PACE (2008a, 2014, 2015).

Distribution and natural history. The type locality is situated in the Kinabalu region, Sabah (Malaysia), North Borneo. The specimens were collected by canopy fogging.

***Drusilla iniqua* sp. nov.**

(Figs 476–485, 491–496)

Type material. Holotype ♂: “Tawau Hills, My, N4 24.021, E117 53.411, *Symplocos* sp. 52, A. Floren, 05.09.2009 / Holotypus ♂ *Drusilla iniqua* sp. n., det. V. Assing 2020” (cAss). Paratypes: 1 ♂: “Bergil, My SW3, N6 17.204° E116 42.305°, *V. pinnata* B2 F2, A. Floren 6.3.97”; 1 ♂, 1 ♀: same data, but “B8 F2, 10.3.97” (cAss); 1 ♂: “Kinabalu Park, 6°5’N, 116°33’E, SW II, 15yrs. / Bergil 2, 26.2.97, A. Floren” (cAss); 1 ♀: same data, but “Sorinsim II, 15 yr., Bergil 8, 10.3.97” (cAss); 1 ♂: same data, but “Sorinsim II, 15 yr, Bergil 4, 27.2.97” (cAss); 1 ♀: same data, but “Sorinsim III, 40 yr, Bergil 5, 7.3.97” (cAss); 1 ♀: “Kinabalu Park, Sorinsim, SW I 5 Years / Topou 1, 16.2.97, A. Floren” (cAss); 1 ♀: “Kinabalupark PHS, *Aporusa subcaudata*, Lower Montane Mixed dipterocarp / A50/F5, 23.2.96, A. Floren” (cAss); 1 ♂: “Kinabalupark PHS, *Aporusa* sp., Lower Montane Mixed dipterocarp / APO7, 24.10.96, Jens & Kerstin” (cAss); 1 ♂, 1 ♀: “Malaysia Borneo, bei Keningau 20 yrs., *Melanolepis* sp. B5, A. Floren 18.2.01” (cAss).

Description. Very variable species. Habitus as in Fig. 476. Body length 3.8–5.0 mm; length of forebody 1.8–2.1 mm. Coloration variable: forebody reddish to blackish-brown; abdomen more or less distinctly bicoloured with tergites III and the anterior portion or all of tergite IV yellow and with the posterior portions of paratergites III–IV and tergites V–VIII, sometimes also the posterior portion of tergite IV pale-brown to blackish; legs yellowish-brown to blackish with the tarsi and usually also the bases of the meso- and metafemora paler; antennae pale-brown to blackish-brown with the basal antennomeres more or less extensively and more or less distinctly paler.

Head (Figs 477–478) approximately as broad as long, broadest across eyes; punctuation fine and sparse; interstices without microreticulation. Eyes large and strongly convex, less than twice as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 479) elongate and slender, 2.0–2.3 mm long; antennomeres IV–X of decreasing length and decreasingly oblong; antennomeres IV approximately three times as long as broad and X approximately 1.5 times as long as broad.

Pronotum (Figs 477–478) approximately as broad as long and as broad as head, broadest in anterior half, lateral margins distinctly sinuate in posterior half; anterior half smoothly elevated, without punctuation or microsculpture; across middle with a pronounced, broadly V- or U-shaped impression; postero-laterally with a conspicuous, laterally carinate elevation, this elevation with coarse and more or less dense granulose punctuation.

Elytra (Figs 477–478) 0.8–0.9 times as long as pronotum, laterally with an oblique impression; punctuation dense and fine; interstices with or without shallow microsculpture. Hind wings fully developed. Legs slender.

Abdomen: tergites with extremely fine and very scattered punctation; anterior tergites usually with, posterior tergites without shallow microreticulation; posterior margin of tergite VII with palisade fringe.

♂: posterior margin of tergite VIII concave and with 4–6 tooth-shaped projections (Fig. 480); posterior margin of sternite VIII strongly convex (Fig. 491); median lobe of aedeagus (Figs 481–483, 492–493) 0.5–0.6 mm long and of compact shape; ventral process short and of variable shape; paramere (Fig. 484) approximately 0.5 mm long.

♀: tergite VIII (Fig. 485) strongly transverse, posterior margin concave in the middle and smooth; sternite VIII (Fig. 494) strongly transverse and with broadly convex posterior margin; spermatheca somewhat comma-shaped.

Intraspecific variation. This species is enormously variable not only in external (coloration, punctation of pronotum), but also in the sexual characters (shape of ventral process of aedeagus; shape of spermatheca). In particular, the differences in the shape of the ventral process are remarkable (see Figs 481–483, 492–493). However, since they do not correspond to any discrete external differences, they are attributed to intra- rather than interspecific variation.

Etymology. The specific epithet (Latin, adjective: uneven, rough) alludes to the pronounced impressions and elevations on the pronotum.

Comparative notes. This species is characterized above all by the conspicuous, unique shape of the pronotum. For a key to other *Drusilla* species known from Borneo and illustrations of recent additions described since then see PACE (2008a, 2014, 2015).

Distribution and natural history. The specimens were collected by canopy fogging in several localities in Sabah (Malaysia), North Borneo.

Drusilla samalica sp. nov.

(Figs 486–490)

Type material. Holotype ♀: “PHILIPPINES, Mindanao, Samal Island, 26.V.2019, leg. Anichtchenko / Holotypus ♀ *Drusilla samalica* sp. n., det. V. Assing 2020” (cAss). Paratype ♀: same data as holotype (cAss).

Description. Body length 5.3–5.5 mm; length of forebody 2.7–2.9 mm. Habitus as in Fig. 486. Coloration: head dark-reddish to reddish-brown with yellow frons; pronotum pale-red; elytra brown with weak metallic hue; abdomen reddish-yellow with tergite VI, the posterior portion of tergite V, and the anterior portion of tergite VII infuscate; legs yellow; antennae yellow to reddish-yellow.

Head (Fig. 487) weakly transverse, broadest across eyes; punctation moderately fine and sparse; interstices without microreticulation. Eyes large and strongly convex, longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna elongate and slender, 2.9–3.0 mm long; antennomeres IV–X decreasingly oblong, IV approximately three times as long as broad, X nearly twice as long as broad.

Pronotum (Fig. 487) approximately as broad as long and as broad as head, broadest in anterior half, lateral margins distinctly sinuate in posterior half; laterally with 6–8 very long and erect dark setae on either side; punctation dense and rather coarse; interstices without microsculpture; midline with sharp sulcus.

Elytra (Fig. 487) 0.8 times as long as pronotum; punctation coarse and dense, extremely dense in antero-sutural portion, and sparse near posterior margins; interstices without microsculpture. Hind wings fully developed. Legs slender.

Abdomen: tergites with rather setiferous punctation near posterior margins, otherwise nearly impunctate; microsculpture absent; posterior margin of tergite VII with palisade fringe.

♂: unknown.

♀: posterior margin of tergite VIII concave in the middle and smooth (Fig. 488); spermatheca (Figs 489–490) distinctly coiled proximally, apical cuticular invagination very large.

Etymology. The specific epithet is an adjective derived from Samal, the name of the island where the species was discovered.

Comparative notes. Among the *Drusilla* species known from Mindanao (see ASSING 2019a, b), *D. samalica* is most similar and evidently most closely related to *D. penicillata* ASSING, 2019. It is distinguished from this species by a distinctly bicoloured forebody, infusate preapical abdominal tergites, more slender antennae, a more slender pronotum with a less deep median sulcus, less dense punctation near the posterior margins of the elytra, and by the shape of the spermatheca, especially the shape of the apical cuticular invagination (shorter, broader, and not distinctly tapering proximally). For illustrations of *D. penicillata* see ASSING (2019a).

Distribution and natural history. The type specimens were collected in Samal Island, to the east of Davao, Mindanao. Additional data are not available.

3.5 Genus *Maschwitzia* Kistner, 1989

Maschwitzia currently includes four species distributed in Southeast Asia (HLAVÁČ *et al.* 2011, MARUYAMA *et al.* 2010). According to MARUYAMA *et al.* (2010), the species are associated with ants of the genus *Leptogenys* ROGER, 1861.

Maschwitzia derougemonti (Pace, 1986)

Material examined. Myanmar: 3 exs., Chin State, NW Falam, 400–500 m, V–VI.2016, leg. local collector (MNB, cAss).

The original description is based on a male holotype and a female paratype from two localities (“Kalaw”, “Anisakan”) in Myanmar (PACE 1986).

3.6 Genus *Witteia* Maruyama et von Beeren, 2010

The genus *Witteia* was previously represented by three species recorded from Malaysia (Sabah, Selangor), Myanmar, and China (Yunnan) (ASSING 2017a). According to MARUYAMA *et al.* (2010), the species are associated with ants of the genus *Leptogenys* Roger, 1861.

***Witteia arboris* sp. nov.**

(Figs 497–501)

Type material. Holotype ♂: “Tawau Hills, My, N4 24.335, E117 53.515, Aporusa grandistipulata 59, A. Floren, 06.09.2009 / Holotypus ♂ *Witteia arboris* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 6.0 mm; length of forebody 2.8 mm. Habitus as in Fig. 497. Coloration: head blackish with the anterior portion reddish; pronotum reddish with the postero-median portion darker; elytra blackish-brown; abdomen reddish with the median portion of tergites V–VI somewhat darker; legs yellowish; antennae pale-reddish.

Head (Fig. 498) 1.1 times as broad as long, broadest across eyes; frons elevated; postero-medially with impression, on either side of this impressions with an elevation; laterally and posteriorly with moderately dense and granulose punctation; median portion of dorsal surface impunctate; surface with microsculpture. Eyes large and strongly convex, longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna very long and slender, 3.4 mm long; antennomeres IV–XI elongate, X approximately twice as long as broad.

Pronotum (Fig. 498) approximately 1.2 times as long as broad and approximately as broad as head, lateral margins weakly sinuate in posterior half; midline with a narrow and distinct sulcus, on either side of this sulcus with a pronounced oblong, coarsely punctate, and coarsely microsculptured elevation in posterior two-thirds; remainder of pronotal disc with distinct microsculpture and rather dense and rather coarse punctation.

Elytra (Fig. 498) 0.78 times as long as pronotum, laterally with a sharp carina on either side; punctation rather dense and granulose; interstices with microsculpture. Hind wings present. Legs slender.

Abdomen with rather dense and fine, but distinct punctation; interstices with microreticulation composed of transverse meshes on anterior tergites and of isodiametric meshes on posterior tergites; posterior margin of tergite VII with palisade fringe.

♂: tergite VIII and sternite VIII strongly oblong, otherwise unmodified; median lobe of aedeagus (Figs 499–500) slightly more than 0.8 mm long and of distinctive shape; paramere (Fig. 501) of very intricate structure.

♀: unknown.

Etymology. The specific epithet is the genitive of the Latin noun *arbor* (tree) and alludes to the fact that the holotype was collected by canopy fogging.

Comparative notes. This species is characterized above all by the shape of the aedeagus, the modifications of the head, and the shape and sculpture of the pronotum. It additionally differs from *Witteia borneensis* (Pace, 1986) (male unknown), the only other *Witteia* species known from Borneo, by smaller eyes and a shorter antennomere XI.

Distribution and natural history. The holotype was collected by canopy fogging in Southeast Sabah (Malaysia), North Borneo.

3.7 Genus *Tensusa* gen. nov.

Type species: *Tensusa procera* sp. nov.; gender feminine.

Description. Body of very slender habitus and with long and slender legs (Fig. 506). Forebody with distinct microsculpture. Head (Fig. 507) rather small, weakly transverse,

and of rhomboid shape; posterior constriction little more than half as broad as head across eyes. Eyes of moderate size, shorter than postocular region in dorsal view. Antenna (Fig. 509) relatively stout and massive; antennomeres IV–X of equal width; pubescence very dense and very short. Clypeus largely membranous (semi-transparent and white). Mandibles simply curved, without molar teeth. Maxilla (Fig. 502) elongate and slender; maxillary palpomere III approximately four times as long as broad. Labium (Fig. 511): ligula bilobed, the two lobes widely separated and each with a short apical seta; labial palpi not distinctive. Labrum (Fig. 510) weakly transverse, with a transverse series of four dark setae across middle; apical margin distinctly concave in the middle. Gular sutures widely separated (Fig. 508).

Pronotum (Fig. 507) very slender, not margined laterally, along middle with a conspicuously deep and broad smooth sulcus, postero-laterally with an oblong impression. Elytra (Fig. 507) without lateral carinae and with coarse microsculpture. Mesoventrite (Fig. 508) without median carina and without postero-median process. Metaventrite (Fig. 508) with antero-median process extending between mesocoxae, the process apically rounded. Legs without distinct modifications.

Abdomen (Fig. 512) long and of conical shape, broadest at posterior margin of tergite III, with sparse setiferous punctation, without non-setiferous punctation, and with weakly pronounced microsculpture; posterior margin of tergite VIII strongly convex; sternite VIII with conspicuously long dark submarginal setae.

♂: median lobe of aedeagus (Figs 503–504) slender, with small crista apicalis, and with weakly sclerotized internal structures; paramere (Fig. 505) without distinct modifications.

♀: unknown.

Etymology. The generic name is composed of the Latin adjective *tensus* (stretched, extended) and *-usa*, a suffix shared with several other aleocharine and also lomechusine genera.

Comparative notes. Based on the morphology of the mouthparts and on its external characters, *Tensusa* undoubtedly belongs to the Lomechusini. The posterior constriction of the head, the presence of a median sulcus on the pronotum, and other characters suggest that it is a member of the *Wroughtonilla* genus group, which includes several small or monotypical genera (see MARUYAMA *et al.* 2010). It is distinguished from other genera of the group by the non-carinate elytra, a more slender body, a head of rhomboid shape, stouter antennae with denser and shorter pubescence, smaller eyes, the modifications of the more slender pronotum (laterally not margined; median sulcus much deeper and broader), and widely separated lobes of the ligula. For illustrations of several other genera of the *Wroughtonilla* group see MARUYAMA *et al.* (2010).

***Tensusa procera* sp. nov.**

(Figs 502–513)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Tensusa procera* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 6.5 mm; length of forebody 2.6 mm. Habitus as in Fig. 506. Coloration: head blackish with the anterior portion dark-brown; pronotum red; elytra blackish-brown; abdomen dark-yellow with the posterior half of tergite V weakly infuscate and with the posterior half of tergite VI and most of tergites VII and VIII dark-brown; legs pale-brown with antennomeres I–II and the apical half of antennomere XI slightly paler; maxillary palpi pale-reddish with the apical palpomere yellow.

Head (Fig. 507) 1.1 times as broad as long, broadest across eyes; lateral margins behind eyes converging towards posterior constriction of head in straight line; median dorsal portion extensively impressed; near dorsal margin of eye with a small impression on either side; punctuation fine and very sparse in median dorsal portion, somewhat less sparse in lateral and posterior portions; interstices with pronounced microreticulation. Eyes distinctly convex and of moderate size, shorter than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 509) 2.0 mm long; antennomeres I short and broad, less than twice as long as broad, II smaller than I and less than twice as long as broad, III larger than II and twice as broad as long, IV slightly broader than III and weakly oblong; V–X weakly transverse, of equal width, and of similar shape, and XI approximately as long as the combined length of IX and X.

Pronotum (Fig. 507) approximately 1.2 times as long as broad and approximately as broad as head, lateral margins distinctly sinuate in dorsal view; posterior angles sharply marked; punctuation distinct and moderately dense, bearing partly stout, black, and erect setae and partly fine, pale, and suberect setae; median sulcus impunctate; whole surface with distinct microreticulation predominantly composed of oblong meshes.

Elytra (Fig. 507) approximately 0.8 times as long as pronotum; punctuation coarse and rather dense; chaetotaxy similar to that of pronotum; interstices with pronounced coarse microreticulation rendering the surface matt. Hind wings fully developed.

Abdomen (Fig. 512): tergites III and IV with shallow, tergites III–IV without anterior impressions; tergites III–V each with a transverse series of dark setae across middle and another series at posterior margin; tergite VI and VII with scattered fine setiferous punctuation in posterior half; anterior tergites with very shallow, posterior tergites without microsculpture; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 503–504) slightly more than 0.5 mm long and weakly sclerotized; ventral process apically hooked in lateral view; paramere (Fig. 505) 0.4 mm long and without evident modifications.

♀: unknown.

Etymology. The specific epithet (Latin, adjective) alludes to the slender habitus.

Comparative notes. This species is sufficiently characterized by the generic characters and by the shape of the median lobe of the aedeagus.

Distribution and natural history. The holotype was collected in Bokeo province, Northwest Laos, at an altitude between 500 and 700 m, most likely with a Malaise trap.

3.8 Genus *Pheidologitonetes* Cameron, 1939

Episkiodrusilla Pace, 2013: 51, **syn. nov.**

Pheidologitonetes previously included five named species: *P. setifer* Cameron, 1939 (South India; type species), *P. franzi* (Pace, 1992) (Nepal; originally assigned to *Drusilla*), *P. adesi* (Pace, 1998) (Hong Kong; originally described in *Zyras*), *P. bursatus* Assing, 2017 (South India), and *P. biplicatus* Assing, 2019 (China: Yunnan) (ASSING 2017a, 2019a). Two additional species, *P. nilgiriensis* and *P. bartolozzii* (both from Nilgiri Hills, South India) were described and assigned to this genus by PACE (2001a), but the descriptions and the illustrations clearly indicate that the generic placement is erroneous. Based on the figures of the habitus and the aedeagus, they belong to *Drusilla* sensu lato, resulting in the new combinations *Drusilla nilgiriensis* (Pace, 2001), comb. nov., and *D. bartolozzii* (Pace, 2001), comb. nov. The latter combination renders *D. bartolozzii* Pace, 2003 from Malaysia a junior homonym. Nevertheless, a replacement of this name is refrained from until the type material of both taxa has been revised and their generic assignment confirmed.

When describing *Episkiodrusilla*, PACE (2013) included five species, *Astilbus rubricollis* Cameron, 1939, *Drusilla franzi* Pace, 1992, *D. neocoenonicollis* Pace, 2008, *Episkiodrusilla veluticollis* Pace, 2013 (Taiwan), and *E. malayrubricollis* Pace, 2013 (Malaysia: Perak). Of these species, *Drusilla franzi* was already moved to *Pheidologitonetes* by ASSING (2017a). The images of *D. neocoenonicollis*, *Episkiodrusilla veluticollis*, and *E. malayrubricollis* leave no doubt that they, too, belong to *Pheidologitonetes*. PACE (2011, 2013) states that he examined the holotype of *Astilbus rubricollis*. Since PACE (2013) designated this species as the type species of *Episkiodrusilla* and, moreover, since the original description of *A. rubricollis* emphasizes the characters typical of *Pheidologitonetes*, it follows that *Episkiodrusilla* and *Pheidologitonetes* refer to the same genus. Hence the synonymy proposed above.

The original description of *Myrmedonia opacicollis* Cameron, 1920, a primary homonym replaced with the nomen novum *Drusilla vedda* Pace, 1992, suggests that this species belongs to *Pheidologitonetes*, too.

3.8.1 Catalogue of *Pheidologitonetes*

Species	Distribution
<i>acer</i> sp. nov.	North Vietnam
<i>adesi</i> (Pace, 1998)	Hong Kong
<i>artiplicatus</i> sp. nov.	Laos
<i>biplicatus</i> Assing, 2019	China: Yunnan
<i>bursatus</i> Assing, 2017	South India
<i>franzi</i> (Pace, 1992)	Nepal
<i>malayrubricollis</i> (Pace, 2013), comb. nov.	Malaysia: Perak
<i>neocoenonicacollis</i> (Pace, 2008), comb. nov.	Borneo (Malaysia: Sabah)
<i>punctatus</i> sp. nov.	Laos
<i>quadriplicatus</i> sp. nov.	Laos
<i>retusus</i> sp. nov.	North Vietnam
<i>rubricollis</i> (Cameron, 1939), comb. nov.	India
<i>sagittatus</i> sp. nov.	Laos
<i>setifer</i> Cameron, 1939	South India
<i>thaifuscicollis</i> (Pace, 2012), comb. nov.	Thailand
<i>vedda</i> (Pace, 1992), comb. nov.	Sri Lanka
= <i>Myrmedonia opacicollis</i> Cameron, 1920	
<i>veluticollis</i> (Pace, 2013)	Taiwan

3.8.2 Taxonomy of *Pheidologitonetes*

Pheidologitonetes thiafuscicollis (Pace, 2012), comb. nov. (Fig. 569)

Drusilla thiafuscicollis Pace, 2012b: 338 f.

Type material examined. Holotype ♂: “THAILAND, Doi Angkhang, 24.X.2010, G. de Rougemont / Holotypus *Drusilla thiafuscicollis* mihi, det. R. Pace 2011 / *Pheidologitonetes thiafuscicollis* (Pace), det. V. Assing 2019” (cRou).

The original description is based on a unique male. An examination of this specimen (Fig. 569) revealed that it belongs to *Pheidologitonetes*, not to *Drusilla*. The aedeagus is illustrated in PACE (2012b: figures 123–124).

Pheidologitonetes quadriplicatus sp. nov. (Figs 514–520)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phu Phan Mt., 20°12’N, 104°01’E, 1750 m, 17.V.–3.VI.2007, leg. V. Kubán (NHMB) / Holotypus ♂ *Pheidologitonetes quadriplicatus* sp. n., det. V. Assing 2019” (NHMB). Paratypes: 278 exs.: same data as holotype (cAss, MMB, MNB, NHMB).

Description. Body length 4.7–5.3 mm; length of forebody 2.1–2.3 mm. Habitus as in Fig. 514. Coloration: head blackish-brown; pronotum reddish to dark reddish-brown; abdomen yellowish to reddish with the postero-median portions of tergites V and VI diffusely and weakly infuscate and with the posterior portions of tergites VII and VIII brown to blackish-brown; legs yellow; antennae reddish to dark-brown, sometimes with antennomere I paler; maxillary palpi dark-yellow to yellowish-red.

Head (Fig. 515) transverse; posterior half of dorsal surface with pronounced microreticulation and practically matt, anterior half (region anterior to, between, and immediately behind antennal insertions with very shallow microsculpture and glossy. Eyes large and bulging, much longer than postocular region in dorsal view. Antenna elongate and slender, 2.3–2.4 mm long.

Pronotum (Fig. 515) approximately 1.1 times as broad as long and approximately 1.05 times as broad as head, broadest at anterior angles; lateral margins sinuate in dorsal view; posterior angles marked; disc with conspicuous microreticulation and matt.

Elytra (Fig. 515) approximately 0.9 times as long as pronotum; punctation fine and moderately dense; interstices without microsculpture. Hind wings fully developed. Legs slender; metatarsomere I nearly as long as the combined length of II–IV.

Abdomen: tergites III–IV with very indistinct, tergite V without anterior impressions; tergites III–VI with a median pair of setiferous punctures and with setiferous punctures at posterior margin and laterally, otherwise impunctate; tergite VII with coarse striate sculpture in posterior two-fifths; tergite VIII (Fig. 516) with coarse and dense punctation, posterior margin with five broadly obtuse projections.

♂: sternite VIII (Fig. 516) with convex posterior margin; median lobe of aedeagus (Figs 518–519) 0.70–0.75 mm long; ventral process strongly sinuate in lateral view; bases of ventral process and of ventral side of aedeagal capsule with pairs of pronounced laminae; paramere approximately 0.6 mm long.

♀: posterior margin of sternite VIII weakly concave in the middle; spermatheca as in Fig. 520.

Etymology. The specific epithet (Latin, adjective) alludes to the pairs of pronounced laminae at the bases of the capsule and the ventral process of the aedeagus.

Comparative notes. This species is reliably distinguished from its congeners only by the shape of the aedeagus. For illustrations of *P. setifer*, *P. bursatus*, *P. biplicatus*, *P. franzi*, *P. adesi*, and *P. thaifuscicollis* see ASSING (2017a, 2019a) and PACE (1992, 1998, 2012b), respectively.

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The specimens were probably collected on the wing at an altitude of approximately 1750 m.

***Pheidologitonetes artiplicatus* sp. nov.**

(Figs 521–526)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phu Pane Mt., 20°13′N, 104°00′E, 1480–1510 m, 22.IV.–14.V.2008, leg. V. Kubáň (NHMB) / Holotypus ♂ *Pheidologitonetes artiplicatus* sp. n., det. V. Assing 2019” (NHMB). Paratypes: 1♂, 3♀♀: same data as holotype (cAss).

Description. Body length 4.7–5.0 mm; length of forebody 2.1–2.2 mm. Habitus as in Fig. 521. External characters (Figs 521–523) and secondary sexual characters as in *P. quadriplicatus*, except for slightly smaller eyes and the coloration of the antennae: apical antennomeres usually paler than antennomeres III–V.

♂: median lobe of aedeagus (Figs 524–525) 0.62–0.65 mm long; ventral process very short, not sinuate in lateral view; ventral process with pair of weakly pronounced, base of aedeagal capsule with pair of more distinct laminae; paramere 0.58 mm long.

♀: spermatheca as in Fig. 526.

Etymology. The specific epithet is composed of the Latin adjectives *artus* (narrow) and *plicatus* (with fold or lamina). It alludes to the weakly pronounced laminae on the ventral process of the aedeagus.

Comparative notes. Like *P. quadriplicatus*, this species is reliably distinguished from other *Pheidologitonetes* species of similar size and coloration only by the shape of the aedeagus.

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The specimens were probably collected on the wing at an altitude of approximately 1500 m.

Pheidologitonetes acer sp. nov.

(Figs 527–531)

Type material. Holotype ♂ [elytra missing]: “Vietnam. Bac Kan, BaBe National Park 22.413°N105.632°E, 280–600 m, FIT, slightly dist. prim forest on karst slopes 19–23.V.2019 A. Brunke & H. Schillhammer CNC 1561519 / Holotypus ♂ *Pheidologitonetes acer* sp. n., det. V. Assing 2019” (CNC). Paratypes: 3♀ [partly without elytra]: same data, but CNC 1561520–22 (CNC, cAss).

Description. Body length 5.0–6.0 mm; length of forebody 2.2–2.4 mm. Habitus as in Fig. 527. Coloration: head blackish-brown; pronotum reddish to dark reddish-brown; abdomen reddish with the posterior portions of tergites VII and VIII blackish; legs yellow to reddish-yellow; antennae brown to dark-brown; maxillary palpi reddish.

Antenna relatively stout and 2.1–2.5 mm long. Pronotum (Fig. 528) 1.13–1.18 times as broad as long and approximately 1.05 times as broad as head, broadest at anterior angles; lateral margins strongly sinuate in dorsal view. Legs relatively stout; metatibia weakly curved; metatarsomere I only slightly longer than the combined length of metatarsomeres II and III, much shorter than the combined length of II–IV. Abdominal tergite VII with coarse and partly longitudinally confluent non-setiferous punctation in posterior half. Other external and secondary sexual characters as in *P. quadriplicatus*.

♂: median lobe of aedeagus (Figs 529–530) 0.75 mm long; ventral process slender and apically very acute both in lateral and in ventral view; paramere 0.53 mm long.

♀: spermatheca as in Fig. 531.

Etymology. The specific epithet (Latin, adjective: acute) alludes to the shape of the apex of the ventral process of the aedeagus.

Comparative notes. This species is characterized particularly by the conspicuous shape of the ventral process. It is additionally distinguished from *P. quadriplicatus* by a more transverse pronotum, stouter legs and antennae, curved metatibiae, a relatively shorter metatarsomere I, the different sculpture in the posterior half of tergite VII, and by the shape of the spermatheca.

Distribution and natural history. The type locality is situated in North Vietnam. The specimens were collected with a flight interception trap in a slightly disturbed primary forest at an altitude of 280–600 m.

***Pheidologitonetes retunsus* sp. nov.**

(Figs 532–536)

Type material. Holotype ♂: “Vietnam. Phia Oac Nat. Pk. ca. 500 m E main rd., 22.594°N, 105.889°E 1350 m, FIT, dist. mature secondary forest, 9–18.V.2019 A. Brunke & H. Schillhammer CNC 1561556 / Holotypus ♂ *Pheidologitonetes retunsus* sp. n., det. V. Assing 2019” (CNC). Paratypes: 3 ♀♀ [1 teneral]: same data, but CNC 1561535, 1561553, 1561555 (CNC, cAss).

Description. Relatively small species; body length 3.7–4.3 mm; length of forebody 1.8–2.0 mm. Habitus as in Fig. 532. Coloration: head dark-brown to blackish-brown; pronotum pale-reddish to dark brown with reddish lateral portions; abdomen yellow, with or without the posterior portions of tergites VII and VIII weakly infuscate; legs yellow; antennae uniformly reddish or with the basal 5–6 antennomeres darker; maxillary palpi yellow.

Antenna 1.8–2.0 mm long. Pronotum (Fig. 533) 1.07–1.09 times as broad as long and approximately 1.05 times as broad as head; lateral margins weakly sinuate in dorsal view. Legs slender; metatarsomere I approximately as long as the combined length of metatarsomeres II and III. Abdominal tergite VII with striate sculpture in posterior two-fifths. Other external and secondary sexual characters as in *P. quadriplicatus* and *P. acer*.

♂: median lobe of aedeagus (Figs 534–535) relatively small, 0.45 mm long; ventral process short and not sinuate, apically convex in ventral view; paramere approximately 0.4 mm long.

♀: spermatheca as in Fig. 36.

Etymology. The specific epithet (Latin, adjective: blunt) alludes to the shape of the short apex of the ventral process of the aedeagus.

Comparative notes. This species is characterized particularly by its small aedeagus with a short ventral process, by the shape of the spermatheca, and by its small body size.

Distribution and natural history. The type locality is situated in North Vietnam. The specimens collected with a flight interception trap in a disturbed secondary forest at an altitude of 1350 m.

***Pheidologitonetes sagittatus* sp. nov.**

(Figs 537–540, 562)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phou Pane Mt., 20°13’N, 104°00’E, 1480–1510 m, 22.IV.–14.V.2008, lg. V. Kubán / Holotypus ♂ *Pheidologitonetes sagittatus* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 4.8 mm; length of forebody 2.2 mm. Habitus as in Fig. 537. Coloration: forebody dark-brown; abdomen pale-reddish with segments VII and VIII dark-brown; legs yellow; antennae dark-brown with the apical four antennomeres reddish; maxillary palpi reddish with the apical palpomere yellow.

Head (Fig. 538) transverse; posterior portion of dorsal surface with pronounced microreticulation and practically matt, anterior portion (region anterior to and between antennal insertions without microsculpture and glossy. Eyes large, much longer than postocular region, approximately as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 562) elongate and slender, 2.2 mm long.

Pronotum (Fig. 538) 1.15 times as broad as long and approximately 1.05 times as broad as head, broadest near anterior angles; lateral margins strongly sinuate in dorsal view; posterior angles marked; disc with conspicuous microreticulation and matt.

Elytra (Fig. 538) approximately 0.9 times as long as pronotum; punctuation very fine and moderately dense; interstices without microsculpture. Hind wings fully developed. Legs slender; metatarsomere I nearly as long as the combined length of II and III.

Abdomen: tergite VII with coarse and dense setiferous punctuation in posterior three-fifths; tergite VIII with coarse and dense punctuation, posterior margin with five broadly obtuse projections.

♂: median lobe of aedeagus (Figs 539–540) 0.75 mm long and slender; ventral process long and narrow in ventral view and shaped like an arrowhead in ventral view.

♀: unknown.

Etymology. The specific epithet is an adjective derived from the Latin noun *sagitta* (arrow). It alludes to the shape of the ventral process of the aedeagus, which somewhat resembles that of an arrowhead in ventral view.

Comparative notes. This species is characterized particularly by a relatively dark forebody, a distinctly transverse pronotum with strongly sinuate lateral margins, coarse, dense, and extensive punctuation of tergite VII and VIII, and above all by a slender aedeagus with a distinctively shaped ventral process.

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The holotype was collected at an altitude of approximately 1500 m, most likely with a Malaise trap.

***Pheidologitonetes punctatus* sp. nov.**

(Figs 541–545, 563, 568)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, lg. V. Kubáň / Holotypus ♂ *Pheidologitonetes punctatus* sp. n., det. V. Assing 2020” (NHMB). Paratypes: 24 exs.: same data as holotype (NHMB, cAss); 1 ex.: “LAOS – Houa Phan prov., Phou Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Vít Kubáň” (cAss).

Description. Body length 4.6–6.0 mm; length of forebody 2.2–2.6 mm. Habitus as in Fig. 541. Coloration: head blackish; pronotum uniformly reddish to blackish-brown, or dark-coloured with the margins more or less extensively and more or less distinctly reddish; elytra dark-brown to blackish-brown, usually with the anterior portions more or less distinctly and more or less extensively paler; abdomen pale-reddish with the posterior portions of tergites IV–VI and most of tergites VII and VIII more or less extensively infuscate; legs yellow; antennae brown to dark-brown with the apical 1–3 antennomeres reddish; maxillary palpi reddish with the apical palpomere yellow.

Head (Fig. 542) transverse; dorsal surface with more or less pronounced microreticulation; frons with shallow microsculpture. Eyes large and bulging, longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 463) slender, 2.2–2.5 mm long, with elongate antennomere XI.

Pronotum (Fig. 542) approximately 1.1 times as broad as long and approximately as broad as head, broadest at anterior angles; lateral margins sinuate in dorsal view;

posterior angles marked; along middle with narrow, but defined median sulcus; postero-laterally with more or less pronounced oblong impression on either side; disc with very dense and distinct, partly granulose punctation; microsculpture indistinct.

Elytra (Fig. 542) nearly as long as pronotum; punctation distinct and conspicuously dense; interstices without microsculpture. Hind wings fully developed. Legs slender; metatarsomere I nearly as long as, or slightly longer than the combined length of II and III.

Abdomen (Fig. 568): tergite III with fine and moderately dense setiferous punctation in posterior half; tergites IV–VI with two transverse rows of fine setiferous punctures in posterior portions; tergite VII with coarse and dense setiferous punctation in posterior two-thirds; tergite VIII with similarly dense, but less coarse setiferous punctation, posterior margin smoothly convex.

♂: median lobe of aedeagus (Figs 543–544) 0.55–0.65 mm long and of rather compact shape; base of ventral process with a distinct notch in lateral view; crista apicalis very small.

♀: spermatheca as in Fig. 545.

Etymology. The specific epithet (Latin, adjective) alludes to the distinctly punctate pronotum, a character distinguishing this species from all other known representatives of the genus.

Comparative notes. The generic assignment of this species is somewhat tentative. It differs from all other representatives of the genus, except *P. setifer*, by the absence of the typical pronotal microsculpture, by dense and distinct punctation of the elytra, and by the smooth (unmodified) posterior margin of the abdominal tergite VIII. On the other hand, it does have the typical punctation of tergites VII and VIII and the general morphology of the aedeagus resembles that of other species of *Pheidologitonetes*.

Based on the punctation and sculpture of the forebody, as well as on the morphology of the aedeagus and the spermatheca, *P. punctatus* is most closely allied to *P. setifer*, from which it differs by a darker head strongly contrasting with the paler pronotum, more pronounced microsculpture of the head and pronotum, more distinct punctation of the pronotum and elytra, and by the primary sexual characters. For illustrations of *P. setifer* see ASSING (2017a).

Distribution and natural history. This species was collected in two geographically close localities in Houa Phan province, Northeast Laos. The type locality and the circumstances of collection are identical to those of *P. sagittatus* and *P. artiplicatus*.

3.9 Genus *Tetrabothrus* Bernhauer, 1915

Tetrabothrus currently includes 30 species distributed in the southern East Palearctic, Oriental, and Australian region. For a checklist see ASSING (2016b).

***Tetrabothrus clavatus* Bernhauer, 1915**

Material examined. Vietnam: 7 exs., Pia Ouac Nat. Park, Phia Den vill., Kolia Organic Farm, 22.56°N, 105.86°E, 1000 m, at light, 7–17.V.2019, leg. Brunke & Schillhammer (CNC, cAss).

The vast distribution of this species ranges from Japan to Thailand and Indonesia (Sumatra, Sulawesi Utara) (ASSING 2016b).

***Tetrabothrus inflexus* Assing, 2015**

Material examined. Myanmar: 1♂, Chin State, Chin Hills, NW Falam, 400–500 m, V–VI.2016, local collectors (MNB). Laos: 1♂, 1♀, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV–14.V.2008, leg. Kubáň (cAss); 2♂♂, 7♀♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

This species is widespread from North India to Thailand and Laos. The above specimen from Myanmar represents a new country record.

3.10 Genus *Zyras* Stephens, 1835

The East Palaearctic and Oriental species of the nominal subgenus of the speciose genus *Zyras* were revised by ASSING (2016a, 2017b, c). The subgenus was previously represented in the Palaearctic and Oriental regions by 128 species (ASSING 2017c, 2019a, b).

For a key to the *Zyras* species recorded from Borneo until 2008 see PACE (2008a) and for illustrations of species described from this island subsequently see PACE (2014, 2015) and ASSING (2017b, c).

***Zyras (Zyras) preangeranus* Cameron, 1939**

Material examined. Laos: 6 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

Zyras preangeranus is one of the most common and most widespread representatives of the subgenus in the Oriental region.

***Zyras (Zyras) luteipes* Assing, 2017**

Material examined. Myanmar: 1♂, Chin State, NW Falam, 400–500 m, V–VI.2016, leg. local collector (MNB).

The original description of this species is based on a unique male from Khasi Hills in Meghalaya (Northeast India) (ASSING 2017b). The above male represents the first subsequent record and the first record from Myanmar.

***Zyras (Zyras) geminus* (Kraatz, 1859)**

Material examined. Vietnam: 3 exs., Vihn Phuc, SE Tam Dao, Me Lihn Stat. for Boidv., 21.384°N, 105.712°E, 60 m, at light, 5–6.V.2019, leg. Brunke & Schillhammer (CNC, cAss). Indonesia. Moluccas: 1 ex., Bacan island, SE slopes of Mt. Sibela, 5 km SE Makian vill., 500–700 m, 2–12.V.2008, leg. Jakl (MNB).

The above specimen from Bacan island represents the first record from the Moluccas and considerably expands the known distribution to the east. For a map illustrating the previously known distribution see ASSING (2017b).

***Zyras (Zyras) bettotanus* Cameron, 1930**

Material examined. Laos: 1♀, Bolikhamsay province, Pakkading, ban Phone Kham env., 18°19'N, 104°08'E, 200–300 m, 23–29.V.2011, leg. Brancucci et al. (cAss); 1♂, Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Brancucci (cAss); 2♀♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

Zyras bettotanus is widespread from the Chinese province Yunnan to Malaysia and the Sunda Islands, but was previously unknown from Laos (ASSING 2017c).

***Zyras (Zyras) proximus* Cameron, 1939**

Material examined: Laos: 2♂♂, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, leg. Kubáň (cAss); 6 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The distribution of this widespread species ranges from India across South China to Thailand and Laos (ASSING 2017c).

***Zyras (Zyras) novinversus* Assing, 2017**

Material examined. Laos: 7♂♂ [1 teneral], 3♀♀, Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); 5 exs., same data, but leg. Brancucci (cAss); 3##, 3§§ [1 teneral], Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubáň (cAss); 20♂♂, 17♀♀, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, leg. Kubáň (cAss, MNB); 2♂♂, 3 exs., Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The known distribution of *Z. novinversus* is confined to Thailand and Laos (ASSING 2017b, c).

***Zyras (Zyras) castaneus* (Motschulsky, 1861)**

Material examined. Malaysia: 1♀, Sabah, Keninqau env., 18.II.2001, leg. Floren (cAss).

Zyras castaneus is one of the most widespread species of *Zyras* sensu stricto in the Oriental region.

***Zyras (Zyras) brevilobatus* Assing, 2017**

Material examined. Laos: 2♂♂, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

This species was previously known only from Thailand. The above males represent the first record from Laos.

***Zyras (Zyras) thaiorum* Pace, 1986**

Material examined. Laos: 1♂, 1♀, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

Like *Z. brevilobatus*, this species was previously known only from Thailand. The above specimens represent the first record from Laos.

***Zyras (Zyras) quasar* Dvořák, 1996**

Material examined. Laos: 4♂♂, 2♀♀, Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss); 5 exs., same data, but leg. Brancucci (cAss).

The sole confirmed previous record of *Z. quasar* was from the type locality in Vietnam (ASSING 2015c, 2016b). The above specimens represent the first record from Laos.

***Zyras (Zyras) conlectus* Assing, 2019**

Material examined. Myanmar: 39 exs., Chin State, NW Falam, 400–500 m, V–VI.2016, leg. local collector (MNB, cAss, cFel).

The above specimens were collected together with the type specimens.

***Zyras (Zyras) schuelkei* Assing, 2016**

Material examined. China: Guizhou: 1♀, Guizhou, Dashahe Nat. Res., 29°10'N, 107°35'E, 1500 m, 3–8.VI.2018, leg. Reuter (NHMW).

Zyras schuelkei was previously known from the Chinese provinces Sichuan, Fujian, and Guangxi (ASSING 2016a, b). The above specimen represents the first record from Guizhou.

***Zyras (Zyras) wei* Pace, 1993**

Material examined. China: Zhejiang: 1♂, 3♀♀, Gutianshan NNR, 29°08–17'N, 118°02–11'E, 2009, leg. Schuldt & Assmann (cFel, cAss). **Laos:** 3♀♀, Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, leg. Kubáň (cAss).

Zyras wei has been recorded from several provinces in China (including Zhejiang), as well as from Laos and Vietnam (ASSING 2016a, 2017c, 2019a).

***Zyras (Zyras) bisinuatus* Assing, 2016**

Material examined. Vietnam: 1♂, Cao Bang Prov., Pia Ouac Nat. Park, below Salmon Station, 22°356'N, 105°53'E, 1270 m, pitfall trap, 12–18.V.2019, leg. Brunke & Schillhammer (NHMW).

The previously known distribution was confined to Southeast Yunnan, China (ASSING 2016a). The above specimen represents the first record from Vietnam.

***Zyras (Zyras) fansipanicus* Assing, 2015**

Material examined. Vietnam: 8 exs., Pia Ouac Nat. Park, ca. 500 m E main road, 22.594°N, 105.889°E, 1350 m, mature secondary forest, flight interception trap, 9–18.V.2019, leg. Brunke & Schillhammer (CNC, cAss).

The original description is based on two specimens from the environs of Sa Pa, North Vietnam (ASSING 2015b).

***Zyras (Zyras) bituberosus* sp. nov.**

(Figs 546–554)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Vit Kuban / Holotypus ♂ *Zyras bituberosus* sp. n., det. V. Assing 2020” (NHMB). Paratypes: 3♂♂ [1 without aedeagus], 1♀ [1 teneral]: same data as holotype (cAss); 1♀: “LAOS – Houa Phan prov., Phou Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, lg. V. Kubán” (cAss).

Description. Body length 7.0–8.0 mm; length of forebody 2.9–3.5 mm. Habitus as in Fig. 546. Coloration: head and pronotum black; elytra yellowish with the postero-lateral portions extensively infuscate; abdomen black with the posterior margins of tergites III–VII narrowly reddish; legs pale-yellow; antennae blackish with the basal 2–3 antennomeres pale-reddish and antennomere XI red to dark-red; maxillary palpi reddish with the apical palpomere dark-yellow. Whole body without microsculpture.

Head (Fig. 547) 1.12–1.15 times as broad as long, broadest across the large and bulging eyes, lateral margins behind eyes weakly convex; dorsal surface with rather sparse and coarse punctation, median portion impunctate. Eyes longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 548) 2.4–2.8 mm long and slender; antennomeres IV–VI weakly oblong, VII approximately as broad as long, VIII–X weakly transverse, and XI slender, nearly as long as the combined length of VIII–X. Maxillary palpomere III very long and slender.

Pronotum (Fig. 547) approximately 1.15 times as broad as long and 1.2 times as broad as head, broadest at anterior angles; surface noticeably uneven (with shallow and irregular impressions); punctation rather coarse and moderately dense, somewhat irregularly distributed; impunctate median band absent or indistinct.

Elytra (Fig. 547) nearly as long as pronotum; punctation coarse, well-defined, rather dense, and nearly regularly distributed (only slightly less dense posteriorly than anteriorly). Hind wings fully developed. Legs long and slender; metatarsomere I slender, approximately as long as the combined length of metatarsomeres II–IV, or nearly so.

Abdomen (Figs 549–550) with rather deep anterior impressions on tergites III–V, these impressions each with a transverse band of dense and coarse non-setiferous punctures; remainder of tergal surfaces with a median pair of setiferous punctures, a

lateral puncture on either side, and with 4–6 setiferous punctures at posterior margins; tergite VI with a transverse row of rather coarse non-setiferous punctures anteriorly, a lateral setiferous puncture on either side, and six setiferous punctures at posterior margin; tergite VII with a narrow transverse band of rather fine and sparse non-setiferous punctures anteriorly, a lateral setiferous puncture on either side, and a somewhat irregular transverse row of fine setiferous punctures at posterior third, posterior margin with palisade fringe.

♂: tergite VII (Fig. 550) with a pair of setiferous tubercles in postero-median portion; tergite VIII with long setae inserting in shallow tubercles posteriorly, posterior margin weakly concave in the middle; sternite VIII (Fig. 550) with strongly convex posterior margin; median lobe of aedeagus approximately 0.8 mm long and shaped as in Figs 551–553; paramere (Fig. 554) approximately 1.0 mm long and with unmodified apical lobe.

♀: tergite VII without setiferous pair of tubercles; setiferous punctation of tergite VIII unmodified.

Etymology. The specific epithet (Latin, adjective) alludes to the pair of setiferous tubercles on the male tergite VII.

Comparative notes. This species is readily distinguished from all other consubgenera by the conspicuous shape of the ventral process of the aedeagus and the pair of tubercles on the male tergite VII. Among the species with a coloration of the *Z. shaanxiensis* type it is additionally characterized by the combination of relatively large size, slender antennae, a somewhat uneven pronotum with irregularly distributed punctation, and by the punctation pattern of the abdomen.

Distribution and natural history. The specimens were collected in two close localities in Houa Phan province, Northeast Laos, at altitudes of approximately 1500 and 1750 m, most likely with a Malaise trap.

Zyras (Zyras) semicalvus sp. nov.

(Figs 555–561)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Zyras semicalvus* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 5.8 mm; length of forebody 2.4 mm. Habitus as in Fig. 555. Coloration: body black with the anterior portions of paratergites III–VII dark-yellow; legs pale-yellow with the profemora and the apical halves of the meso- and metafemora blackish; antennae blackish with antennomeres I–III and the apical portion of antennomere XI reddish; maxillary palpi blackish-brown with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 556) 1.15 times as broad as long, broadest across the large and bulging eyes, lateral margins behind eyes straight; dorsal surface broadly impunctate along middle, laterally with rather coarse and moderately dense punctation. Eyes significantly longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 557) 2.0 mm long and rather slender; antennomeres IV

distinctly oblong, V–VI weakly oblong, VII approximately as broad as long, VIII–X very weakly transverse, and XI approximately as long as the combined length of IX and X. Maxillary palpomere III approximately four times as long as broad.

Pronotum (Fig. 556) approximately 1.1 times as broad as long and 1.2 times as broad as head, broadest near anterior angles, rather strongly convex in cross-section, and without impressions (except for the usual impression near the middle of the posterior margin); punctation rather coarse and dense, nearly regularly distributed; midline narrowly impunctate.

Elytra (Fig. 556) approximately 0.85 times as long as pronotum; punctation coarse, well-defined, and dense anteriorly, posterior portions impunctate. Hind wings fully developed. Legs long and slender; metatarsomere I slender, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 558) with rather deep anterior impressions on tergites III–V, these impressions and the anterior portion of tergite VI each with a transverse row of dense and coarse non-setiferous punctures; remainder of tergal surfaces III–VI with a lateral setiferous puncture on either side and with six setiferous punctures at posterior margin; tergite VII with a narrow transverse band of sparse and fine non-setiferous punctures anteriorly and with two transverse rows of fine setiferous punctures behind middle, posterior margin with palisade fringe.

♂: posterior margin of tergite VIII somewhat produced, in the middle noticeably concave; sternite VIII with strongly convex posterior margin; median lobe of aedeagus approximately 0.6 mm long and shaped as in Figs 559–560; paramere (Fig. 561) approximately 0.7 mm long and with rather long and slender apical lobe.

♀: unknown.

Etymology. The specific epithet is an adjective composed of the Latin *semi-* (half) and the Latin adjective *calvus* (bald). It alludes to impunctate posterior portions of the elytra.

Comparative notes. Based on the external and male sexual characters, this species is closely allied and most similar to *Z. brignolii* (Pace, 1986) (male unknown), a species currently known from Thailand and the Chinese province Yunnan, and *Z. nigerrimus* Cameron, 1943 from mainland Malaysia and Borneo. It is distinguished from both by smaller body size, shorter antennae with less oblong antennomeres IV–VI and transverse antennomeres VIII–X, much denser and coarser punctation of the pronotum, impunctate posterior portions of the elytra, a darker antennomere XI (yellow in *Z. brignolii* and *Z. nigerrimus*), and less extensive yellow coloration of the paratergites and anterior tergites, from *Z. nigerrimus* (and presumably also from *Z. brignolii*) additionally by the shape of the aedeagus. For illustrations of *Z. brignolii* and *Z. nigerrimus* see PACE (2003: figures 87–88) and ASSING (2017b), respectively.

Distribution and natural history. The holotype was collected in Bokeo province, Northwest Laos, at an altitude between 500 and 700 m, most likely with a Malaise trap.

***Zyras (Zyras) janetlarae* sp. nov.**

(Figs 564–567)

Type material. Holotype ♀: “Tawau Hills, My, N4 24.444 E117 53.589, *Mallotus caudatus* 65, A. Floren 08.09.2009 / Holotypus ♀ *Zyras janetlarae* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 5.7 mm; length of forebody 2.9 mm. Habitus as in Fig. 564. Coloration distinctive: head dark-brown with the anterior portion reddish; pronotum bright-reddish; elytra dark-yellow with a broad transverse blackish band posteriorly; abdomen bright-reddish with the extreme apex (segments IX–X and posterior portion of segment VIII) sharply blackish; legs yellow with the pro- and mesofemora and the apices of the metafemora blackish-brown; antennae blackish with antennomeres I–II and the base of antennomere IX pale reddish; maxillary palpi dark-yellow with palpomere III somewhat darker. Whole body without microsculpture.

Head (Fig. 565) 1.17 times as broad as long, broadest across the large and bulging eyes, lateral margins behind eyes weakly convex; dorsal surface with sparse and moderately coarse punctation and impunctate median portion. Eyes significantly longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 566) 1.8 mm long and distinctly incrassate; antennomeres IV–X increasingly transverse, IV–V moderately transverse, approximately 1.5 times as broad as long, VI–VIII approximately twice as broad as long, IX–X nearly three times as broad as long and almost disc-shaped, and XI conspicuously elongate, approximately as long as the combined length of antennomeres VI–X [sic].

Pronotum (Fig. 565) 1.17 times as broad as long and 1.15 times as broad as head, broadest near anterior angles, moderately convex in cross-section, and without impressions (except for the usual impression near the middle of the posterior margin); punctation conspicuously irregularly distributed, some macropunctures in antero-median portion, some behind middle, and very few laterally; antero-lateral and posterior portions largely impunctate.

Elytra (Fig. 565) approximately 0.9 times as long as pronotum; punctation irregularly distributed, coarse, well-defined, and moderately dense anteriorly, posterior portions impunctate. Hind wings fully developed. Legs long and slender; metatarsomere I slender, nearly as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 567) with rather deep anterior impressions on tergites III–V, these impressions each with a transverse row of dense and coarse non-setiferous punctures; anterior portions of tergites VI–VII with a narrow transverse band of sparse and moderately coarse non-setiferous punctation; disc of tergite III with a median pair and with a lateral and a postero-lateral setiferous puncture on either side, that of tergite IV with a transverse row of four setiferous punctures across middle and with four setiferous punctures at posterior margin, that of tergite V with a transverse row of four setiferous punctures across middle and with six setiferous punctures at posterior margin; tergite VI with a transverse row of six setiferous punctures across middle and with six setiferous punctures at posterior margin; tergite VII with six setiferous punctures across middle and with numerous minute setae at posterior margin, posterior margin with palisade fringe;

posterior margin of tergite VIII somewhat produced in the middle and with distinct median concavity.

♀: posterior margin of sternite VIII weakly concave in the middle and with short marginal setae.

Etymology. This beautiful species is dedicated to my son Jan and his newly-wed wife Lara to provide them with something special and lasting to share during their life together, and beyond.

Comparative notes. This species is so distinctive that a description based on a female seems justified. It is distinguished from all other consubgenera by the coloration and by the morphology of the antennae, especially the extremely long antennomere XI.

Distribution and natural history. The type locality is situated near Tawau in Southeast Sabah (Malaysia), Northeast Borneo. The holotype was collected by canopy fogging.

***Zyras (Zyras) parvihirtus* sp. nov.**

(Figs 570–573, 586–588)

Type material. Holotype ♂: “Tawau Hills, My, N4 24.208 E117 53.549, *Aporusa lagenocarpa* 56, A Floren 06.09.2009 / Holotypus ♂ *Zyras parvihirtus* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 4.7 mm; length of forebody 2.3 mm. Habitus as in Fig. 570. Coloration: forebody black; abdomen bright-reddish; legs reddish-yellow; antennae blackish with antennomeres I–II blackish-brown and antennomere XI dark-yellow; maxillary palpi dark-brown with the apical palpomere yellow. Whole body without microsculpture. Forebody and abdominal sternites with relatively dense and rather long suberect to erect pubescence.

Head (Fig. 571) strongly transverse, 1.28 times as broad as long, broadest across eyes, lateral margins behind eyes weakly convex; dorsal surface with moderately sparse and moderately coarse punctation, median portion extensively impunctate. Eyes longer than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 572) 1.7 mm long and weakly incrassate; antennomeres IV–X increasingly transverse, IV–VI weakly transverse, VII–IX approximately 1.5 times as broad as long, X nearly twice as broad as long, and XI approximately as long as the combined length of antennomeres IX–X.

Pronotum (Fig. 571) 1.12 times as broad as long and 1.12 times as broad as head, broadest near anterior angles, moderately convex in cross-section; punctation moderately coarse and moderately dense, slightly irregularly distributed.

Elytra (Fig. 571) approximately 0.85 times as long as pronotum; punctation rather fine and moderately dense. Hind wings fully developed. Legs rather short; metatarsomere I, approximately as long as the combined length of metatarsomeres III–IV.

Abdomen (Fig. 573) with moderately deep anterior impressions on tergites III–V, these impressions practically impunctate; remainder of tergites III–V with scattered setiferous punctures; tergite VI–VII with moderately broad, moderately dense, and rather fine non-setiferous punctation, remainder of tergites VI–VII with moderately sparse setiferous punctation; posterior margin of tergite VII with palisade fringe.

♂: tergite VIII with moderately dense black setae in posterior third, posterior margin very weakly concave; sternite VIII with rather dense black setae in posterior half, posterior margin obtusely pointed in the middle; median lobe of aedeagus (Figs 586–587) 0.55 mm long, with straight and apically rather obtuse (lateral view), and basally rather broad ventral process (ventral view); paramere (Fig. 588) approximately as long as median lobe, with flattened and rather short apical lobe.

Etymology. The specific epithet is an adjective composed of the Latin adjectives *parvus* (small) and *hirtus* (hairy). It alludes to the small size, which distinguishes this species from all other geographically close representatives of the *Z. hirtus* group.

Comparative notes. Based on the dense and long pubescence, the shape of antennomere XI, on the shape of the median lobe of the aedeagus, and on the short and flattened apical lobe of the paramere, this species belongs to the *Zyras hirtus* group. It is readily distinguished from other representatives of this group recorded from Borneo (*Z. matangensis* Cameron, 1943, *Z. parahirtus* Assing, 2017) by smaller body size and a significantly smaller aedeagus with a straight and apically obtuse ventral process in lateral view. For illustrations of *Z. matangensis* and *Z. parahirtus* see ASSING (2017b, c).

Distribution and natural history. The type locality is situated close to that of *Z. janetlarae*. The holotype was collected by canopy fogging.

***Zyras (Zyras) cyaniceps* sp. nov.**

(Figs 574–577, 589–593)

Type material. Holotype ♂: “WEST-PAPUA: Foja Mountains, 2°27'47.34”S 138°45'47.56”E, 1000 m, cloud forest, sifting wood and leaf litter, leg. T. Mainda 30.05.2019 / Holotypus ♂ *Zyras cyaniceps* sp. n., det. V. Assing 2019” (cAss). Paratype ♂: “WEST PAPUA: Foja Mountains, moss and laeves [sic], forest stream, 200 m, 2°27'32.37”S 138°46'30.19”E, leg. Tobias Mainda 28.05.2019” (cAss).

Description. Body length 6.2–6.5 mm; length of forebody 2.9 mm. Habitus as in Fig. 574. Coloration distinctive: head black with a metallic-blue hue; pronotum and elytra black; abdomen black with the anterior halves of paratergites III–VII yellow; legs yellow with the apical two-fifths of the femora and nearly all of the tibia (except the apices) black; antennae blackish with the apical two antennomeres pale-yellow; maxillary palpi blackish with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 575) 1.12–1.14 times as broad as long, broadest across the large and bulging eyes, lateral margins behind eyes nearly straight to convex, smoothly converging to posterior constriction of head; dorsal surface with scattered and rather fine punctures, median portion impunctate. Antenna (Fig. 576) 2.7–2.9 mm long and conspicuously slender; antennomeres IV nearly three times as long as broad, V–X gradually decreasing in length, decreasingly oblong, and gradually, but weakly increasing in width, X weakly oblong, and XI more than twice as long as broad and slightly longer than the combined length of IX and X. Maxillary palpomere III enlarged and apically sharply, obliquely truncate; palpomere IV distinctly coniform.

Pronotum (Fig. 575) approximately as broad as long and as broad as head, broadest at anterior angles; lateral margins sinuate in dorsal view; posterior angles sharply

marked; punctuation rather coarse and dense, regularly distributed; impunctate median band absent.

Elytra (Fig. 575) 0.9 times as long as pronotum; punctuation similar to that of pronotum. Hind wings fully developed. Legs long and slender; metatarsomere I slender, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 577) with rather deep anterior impressions on tergites III–V, these impressions each with a transverse row of weakly defined non-setiferous punctures; remainder of tergal surfaces with scattered setiferous punctures; anterior portions of tergites VI and VII with scattered and very fine non-setiferous punctures; tergite VIII with setiferous punctuation only near posterior margin, posterior margin convex.

♂: sternite VIII strongly produced posteriorly, posterior margin truncate to acute in the middle; median lobe of aedeagus 0.75–0.80 mm long and shaped as in Figs 589–592; paramere (Fig. 593) 0.83–0.87 mm long, apical lobe very slender and with very long apical seta.

♀: unknown.

Intraspecific variation. The paratype is distinguished from the holotype by nearly straight contours between the posterior margin of the eye and the posterior constriction of the head, less numerous punctures on the discs of tergites III–VI, a posteriorly less acute male sternite VIII, and a slightly smaller aedeagus with a broader ventral process (ventral view) and a crista apicalis of slightly different shape (lateral view). In view of the otherwise similar characters and the fact that only two males are available, these differences are attributed to intra- rather than interspecific variation for the time being.

Etymology. The specific epithet is an adjective composed of *cyan* (derived from Greek *kyanos*: dark-blue) and the Latin suffix *-ceps* (of the head). It alludes to the metallic-blue hue of the head.

Comparative notes. The new species is distinguished from the seven species of *Zyras* sensu stricto previously recorded from New Guinea by the metallic-blue head alone. Using the key provided by PACE (2009), *Z. cyaniceps* would key out at couplet 4, together with *Z. longapicalis* Pace, 2009. It is additionally distinguished from this species by the coloration of the legs and antennae (*Z. longapicalis*: tibiae yellowish; apical portions of femora weakly infuscate; basal antennomeres yellowish), strongly sinuate lateral margins of the pronotum; coarser punctuation of the pronotum and the elytra, and by a more slender apex of the ventral process of the aedeagus in lateral view. For illustrations of *Z. longapicalis* see PACE (2009).

Distribution and natural history. The Foja Mountains are located in the North of Irian Jaya (West Papua), Indonesia. The specimens were sifted from moss and leaves in a cloud forest at an altitude of 1000 m and near a forest stream at an altitude of 200 m.

***Zyras (Zyras) maindai* sp. nov.**

(Figs 578–581, 594–596)

Type material. Holotype ♂: “WEST PAPUA: Foja Mountains, moss and laeves [sic], forest stream, 200 m, 2°27'32.37”S 138°46'30.19”E, leg. Tobias Mainda 28.05.2019 / Holotypus ♂ *Zyras maindai* sp. n., det. V. Assing 2019” (cAss).

Description. Body length 5.2 mm; length of forebody 2.2 mm. Habitus as in Fig. 578. Coloration: forebody black except for a pair of transverse yellow spots near the posterior margin of the pronotum; abdomen black with the anterior halves of paratergites III–VII and a pair of antero-lateral spots of tergite III yellow; legs yellow with the apical halves of the femora and nearly all of the tibia (except the apices) black; antennae brown with the apical two antennomeres yellow; maxillary palpi dark-brown with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 579) 1.1 times as broad as long, broadest across the bulging eyes, lateral margins behind eyes convexly converging towards posterior constriction of head; dorsal surface with moderately dense and very coarse punctures, impunctate along middle. Antenna (Fig. 580) 2.1 mm long and moderately slender; antennomeres IV approximately twice as long as broad, V–VII distinctly oblong, VIII weakly oblong, IX–X weakly transverse, and XI less than twice as long as broad and approximately as long as the combined length of IX and X. Maxillary palpomere III enlarged and apically sharply, obliquely truncate; palpomere IV distinctly coniform.

Pronotum (Fig. 579) 1.09 times as broad as long and 1.09 times as broad as head, broadest at anterior angles; lateral margins weakly sinuate in dorsal view; posterior angles obtusely marked; punctation conspicuously coarse and dense, slightly irregularly distributed; impunctate median band nearly obsolete.

Elytra (Fig. 579) 0.8 times as long as pronotum; punctation as coarse and as dense as that of pronotum. Hind wings fully developed. Legs long and slender; metatarsomere I slender, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 581) with rather deep anterior impressions on tergites III–V, these impressions each with a transverse row of weakly defined fine non-setiferous punctures and laterally with a setiferous tubercle on either side; remainder of tergal surfaces with scattered setiferous punctures; anterior portion of tergite VII with rather sparse and moderately fine non-setiferous punctures; tergite VIII with setiferous punctation only in posterior portion, posterior margin convex.

♂: sternite VIII strongly produced posteriorly, posterior margin obtusely angled in the middle; median lobe of aedeagus 0.6 mm long and shaped as in Figs 594–595; paramere (Fig. 596) 0.65 mm long, apical lobe very slender and with very long apical seta.

♀: unknown.

Etymology. This species is dedicated to Tobias Mainda (Berlin), who collected the holotypes of both this species and *Z. cyaniceps*.

Comparative notes. As can be inferred from the similarly derived conditions of the maxillary palpomere III and of the apical lobe of the paramere, *Z. maindai* is closely allied to *Z. cyaniceps*, from which it differs by the different coloration of the head, the pronotum, and the antennae, smaller body size, shorter and much less slender antennae, much coarser punctation of the forebody, the shape of the male sternite VIII, and by a smaller aedeagus with a ventral process of different shape.

Regarding the habitus and coloration, the most similar previously described species is *Z. basicollis* Pace, 2009 (male unknown), which has less slender, basally paler, and apically

darker antennae, a broadly yellowish posterior margin of the pronotum, paler legs (apical portions of tibiae yellow; apical portions of femora less extensively and less distinctly infuscate), and a reddish tergite V. For illustrations of *Z. basicollis* see PACE (2009).

Distribution and natural history. The type locality is situated in Foja Mountains in the North of Irian Jaya (West Papua), Indonesia. The holotype was collected from moss and leaves near a forest stream at an altitude of 200 m.

***Zyras (Zyras) interruptus* sp. nov.**

(Figs 582–585, 597–599)

Type material. Holotype ♂: “WEST-PAPUA: Cyclops Mts., 2°33'13.15”S 140°34'34.32”E, 300 m, rain forest, sifting leaf litter, leg. T. Mainda 11.06.2019 / Holotypus ♂ *Zyras interruptus* sp. n., det. V. Assing 2019” (cAss).

Description. Body length 5.5 mm; length of forebody 2.4 mm. Habitus as in Fig. 582. Coloration: forebody black except for broadly yellow transverse band at the posterior margin of the pronotum; abdomen black with tergite V pale-reddish, and the antero-lateral portions of tergites III–IV and VI, and the anterior portions of paratergites III–VI yellow; legs with the basal portions of the femora yellow, the apical portions of the femora blackish, the tibiae brown, and the tarsi reddish-yellow; antennae with antennomeres I–II and the base of III reddish, apex of III and antennomeres IV–VII dark-brown, VIII–X brown, and XI pale-reddish; maxillary palpi dark-brown with the apical palpomere yellow. Whole body without microsculpture.

Head (Fig. 583) 1.05 times as broad as long, broadest across the bulging eyes, lateral margins behind eyes convexly converging towards posterior constriction of head; dorsal surface with moderately dense and very coarse punctures, impunctate along middle. Eyes slightly shorter than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 584) 2.0 mm long and moderately slender; antennomeres IV approximately twice as long as broad, V–VII distinctly oblong, VIII weakly oblong, IX–X weakly transverse, and XI less than twice as long as broad and approximately as long as the combined length of IX and X. Maxillary palpomere III enlarged and apically sharply, obliquely truncate; palpomere IV distinctly coniform.

Pronotum (Fig. 583) 1.06 times as broad as long and 1.08 times as broad as head, broadest at anterior angles; lateral margins sinuate in dorsal view; posterior angles obtusely marked; punctation conspicuously coarse and dense, slightly irregularly distributed; impunctate median band very narrow.

Elytra (Fig. 583) 0.7 times as long as pronotum; punctation very dense and coarse, denser and coarser than that of pronotum, extremely dense and somewhat confluent near anterior portion of suture and scutellum. Hind wings fully developed. Legs long and slender; metatarsomere I slender, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 585) with rather deep anterior impressions on tergites III–V, these impressions each with a transverse row of moderately fine non-setiferous punctures; tergites III–VI each with an irregular row of rather dense (except tergite III) and coarse setiferous punctures across middle and with numerous fine setiferous punctures at

posterior margins; tergite VII anteriorly with a transverse band of fine non-setiferous punctures and with scattered fine setiferous punctures on remainder of disc; tergite VIII with dense setiferous punctation in posterior portion, posterior margin convex, in the middle truncate.

♂: sternite VIII strongly produced posteriorly, posterior margin angularly pointed in the middle; median lobe of aedeagus 0.53 mm long and shaped as in Figs 597–598; paramere (Fig. 599) 0.59 mm long, apical lobe very slender and with very long apical seta.

♀: unknown.

Etymology. The specific epithet (Latin, adjective) alludes to the coloration of the abdomen: the reddish tergite IV conspicuously contrasting with the anterior and posterior tergites.

Comparative notes. The highly similar external and sexual characters leave no doubt that *Z. interruptus* is very closely allied to *Z. maindai*, from which the species is distinguished by the red abdominal tergite V, a medially uninterrupted transverse yellow band at the posterior margin of the pronotum, a pronotum with less dense and less coarse punctation and with a less uneven surface, significantly coarser and denser setiferous punctation of tergites III–VI, and a smaller median lobe of the aedeagus with an apically angular (lateral view) and a broader (ventral view) ventral process and with a less pronounced crista apicalis.

Regarding the coloration of the abdomen, *Z. interruptus* is similar to *Z. basicollis* (male unknown; type locality “Nabire area, road Nabire–Ilaga, km 62, 03°30'936”S [sic]135°41'945”E [sic]”), from which it differs by more extensively and more distinctly blackened apical portions of the femora, a posteriorly less broadly yellow pronotum, more densely punctured and less glossy elytra, and more slender antennae with darker antennomeres IV–IX. For illustrations of *Z. basicollis* see PACE (2009).

Distribution and natural history. The type locality is situated in the south of Cyclops mountains in Northeast Irian Jaya (Indonesia), New Guinea. The holotype was sifted from leaf litter in a rainforest at an altitude of 300 m.

Zyras (incertae sedis) *laocaiensis* Pace, 2008

Material examined. Laos: 1♀, Xieng Khouang, 30 km NE Phonsavan, Phou Sane Mt., 19°38.2'N, 103°20.2'E, 1420 m, 10–30.V.2009, leg. Hauck (cAss).

Zyras laocaiensis was previously known only the type locality in North Vietnam. The male holotype was examined by ASSING (2015b). The above female represents the first record of this species from Laos.

Zyras (incertae sedis) *pressitibialis* sp. nov.

(Figs 600–607)

Type material. Holotype ♂: “Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / MF4, 21.3.96, A. Floren / Holotypus ♂ *Zyras pressitibialis* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 4.3 mm; length of forebody 2.0 mm. Habitus as in Fig. 600. Coloration: head and pronotum reddish; elytra reddish-yellow with the postero-lateral portions extensively brown; abdomen with tergites II yellow, III–IV and paratergites III–IV yellow with the anterior portion brown, and the remainder blackish-brown to blackish; legs reddish with the metafemora slightly darker; antennae brown with the basal three antennomeres reddish; maxillary palpi reddish.

Head (Fig. 601) 1.15 times as broad as long, broadest across the bulging eyes; dorsal surface with moderately sparse and very fine setiferous punctures; interstices without microsculpture. Eyes approximately as long as distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 602) 1.6 mm long; antennomeres IV moderately transverse, V–X of gradually increasing width and increasingly transverse, X nearly twice as broad as long, and XI distinctly coniform, approximately as long as the combined length of IX and X; antennomeres X and XI distinctly separated from each other (more so than other antennomeres). Maxillary palpomere III very long and slender, nearly four times as long as broad.

Pronotum (Fig. 601) 1.35 times as broad as long and 1.23 times as broad as head, broadest in anterior half, distinctly convex in cross-section; lateral margins smoothly merging with posterior margin, posterior angles obsolete; near anterior margin and anterior portion of lateral margins with four erect dark setae on either side, disc otherwise impunctate.

Elytra (Fig. 601) 0.85 times as long as pronotum, in medio-lateral portion impressed; punctuation sparse and very fine; interstices without microsculpture. Hind wings fully developed. Legs of moderate length; meso- and especially metatibia strongly flattened.

Abdomen broad; punctuation confined to setiferous punctures at posterior margins of tergites and scattered setiferous punctures in lateral tergal portions.

♂: tergite VIII (Fig. 603) strongly transverse, posterior margin concave and finely serrate, laterally with a moderately pronounced tooth on either; sternite VIII as in Fig. 604; median lobe of aedeagus 0.65 mm long and shaped as in Figs 605–606; paramere significantly shorter than median lobe and shaped as in Fig. 607.

♀: unknown.

Etymology. The specific epithet is an adjective composed of the Latin adjectives *pressus* (compressed, flattened) and *tibialis* (of the tibiae). It alludes to the strongly compressed meso- and metatibiae.

Comparative notes. Based on the similar external characters and on the morphology of the aedeagus, *Z. pressitibialis* is closely allied to *Z. laocaiensis*, from which it is distinguished by antennae with much more transverse antennomeres IV–X, the absence of micropunctuation on the pronotum, much finer and sparser punctuation on the elytra, shorter and more distinctly compressed meso- and metatibiae, shorter tarsi, and by the shape of aedeagus (ventral practically straight in lateral view and more slender in ventral view). For illustrations of *Z. laocaiensis* see PACE (2008c).

Distribution and natural history. The type locality is situated Kinabalu National Park, West Sabah (Malaysia), North Borneo. The holotype was collected by canopy fogging.

***Zyras (incertae sedis) trapeziceps* Dvořák, 1996**

(Figs 608–611)

Material examined. Laos: 14♂♂, 10♀♀ [partly teneral], Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Kubáň (cAss); 1♂, Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27'–28'N, 100°45'E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. (cAss).

The original description is based on a unique female from North Vietnam. The holotype was studied and illustrated by ASSING (2015b). A male from the vicinity of the type locality would be required to clarify the identity of *Z. trapeziceps*. In the meantime, the above specimens are hypothesized to be conspecific with the holotype. Their primary sexual characters are illustrated in Figs 608–611.

***Zyras (incertae sedis) cuneatus* sp. nov.**

(Figs 612–619)

Type material. Holotype ♂: “LAOS – Houa Phan prov., Phu Phan Mt., 20°12'N, 104°01'E, ca. 1750 m, 17.V.–3.VI.2007, leg. Vit Kuban / Holotypus ♂ *Zyras cuneatus* sp. n., det. V. Assing 2020” (NHMB). Paratypes 5♀♀ [1 teneral]: same data as holotype (cAss); 1♀: “LAOS – Houa Phan prov., Phu Pane Mt., 20°13'N, 104°00'E, 1480–1510 m, 22.IV.–14.V.2008, lg. V. Kubáň” (cAss).

Description. Body length 6.0–6.6 mm; length of forebody 2.5–2.7 mm. Habitus as in Fig. 612. Coloration: body blackish; legs yellow with the pro- and mesofemora dark-brown; antennae brown to blackish-brown; maxillary palpi yellow with palpomere III infuscate. Whole body without microsculpture.

Head (Fig. 613) transversely wedge-shaped, approximately 1.4 times as broad as long; dorsal surface with scattered fine punctation; median dorsal portion impunctate. Eyes more than twice as long as postocular region in dorsal view. Antenna (Fig. 614) approximately 2.5 mm long; antennomeres IV approximately 1.5 times as long as broad, V–X of gradually, but weakly increasing width and decreasingly oblong, X weakly oblong, and XI approximately as long as the combined length of IX and X. Maxillary palpomere III very slender, more than four times as long as broad.

Pronotum (Fig. 613) approximately 1.2 times as broad as long and about as broad as head, broadest anteriorly, distinctly convex in cross-section; posterior angles moderately marked; disce with rather sparse and fine punctation.

Elytra (Fig. 613) approximately 0.85 times as long as pronotum; punctation of similar density as that of pronotum, but less fine. Hind wings fully developed. Legs of slender; metatarsomere I slightly longer than the combined length of metatarsomeres II and III.

Abdomen (Fig. 615): punctation moderately dense on tergite III, gradually decreasing in density towards posterior tergites, very sparse on posterior tergites; posterior margin of tergite VIII truncate in the middle and extremely finely serrate.

♂: sternite VIII with posterior margin convex in the middle; median lobe of aedeagus 0.55 mm long and shaped as in Figs 616–617; paramere 0.6 mm long and shaped as in Fig. 618.

♀: posterior margin of sternite VIII truncate in the middle; spermatheca as in Fig. 619.

Etymology. The specific epithet (Latin, adjective: wedge-shaped) alludes to the shape of the head.

Comparative notes. Based on the similarly shaped head and the similar morphology of the primary sexual characters, *Z. cuneatus* is closely allied to *Z. trapeziceps*, from which it is distinguished by numerous characters such as a larger and more transverse head, longer and more massive antennae with oblong antennomeres IV–X, much sparser and finer punctuation of the pronotum and elytra, a differently shaped pronotum, an unmodified tergite III, and the sexual characters.

Distribution and natural history. The type locality is situated in Houa Phan province, Northeast Laos. The specimens were probably collected on the wing at altitudes between 1480 and 1750 m.

3.11. Genus *Mimaenictus* Kistner et Jacobson, 1975

The myrmecoid genus *Mimaenictus* was described by KISTNER & JACOBSON (1975) to include only the type species *M. wilsoni* Kistner et Jacobson, 1975 from Selangor, Malaysia. The species was recorded also from Sumatra by KISTNER (1993). Subsequently, two additional species were described from Borneo, *M. maschwitzi* Kistner, 1993 from Sabah (Malaysia) and *M. matsumotoi* Maruyama, 2011 from Sarawak (Malaysia) (KISTNER 1993, MARUYAMA et al. 2011).

Mimaenictus bisetosus sp. nov.

(Figs 621–627)

Type material. Holotype ♀: “THAILAND_10, Prov.: Nakhon Si Thammarat, Phromm Lok Waterfall, 25 km NW. Nakhon, 100–300 mH, 08.01.1996, Leg. A. Schulz, K. Vock / Holotypus ♀ *Mimaenictus bisetosus* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 4.3 mm (with abdominal apex bent upwards); length of forebody 2.3 mm. Species of myrmecoid habitus (Figs 624–625). Coloration: head blackish-brown with the frons slightly paler; pronotum reddish; elytra reddish with the postero-lateral portions extensively, diffusely infuscate; abdomen and legs reddish; antennae reddish, gradually darkened towards apex.

Head (Fig. 620) weakly oblong; lateral margins behind eyes almost straightly converging towards the distinct, neck-shaped posterior constriction of the head; dorsal surface completely smooth, impunctate and without microsculpture. Eyes rather large, weakly convex, somewhat shorter than distance from posterior margin of eye to posterior constriction of head. Antenna (Fig. 626) 2.1 mm long; antennomeres I strongly enlarged, IV–X distinctly oblong, and XI slightly longer than the combined length of IX and X. Mouthparts as in Figs 621–622.

Pronotum (Fig. 620) strongly oblong, nearly 1.7 times as long as broad, anteriorly very slender; laterally with a pronounced, very deep impression on either side, medially with a shallow oblong impression; median and posterior portions with pronounced microsculpture, anterior third without microsculpture, smooth; median portion with a pair of conspicuously long, thin, yellow setae behind middle, otherwise without pubescence, except for very few short setae at margins.

Elytra (Fig. 620) 0.73 times as long as pronotum, with pronounced humeral angles; punctuation, pubescence, and microsculpture absent. Hind wings not examined, but

probably present. Legs long and slender; mesotibiae weakly, metatibiae more distinctly curved; tarsi very long; metatarsomere I slender and elongate, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 627) basally (segments III–V) constricted and apically (segments VI–VIII) enlarged; tergite III smooth, without microsculpture, and flat; tergites IV–V with a median elevation, this elevation and anterior portions of tergites with pronounced microreticulation; paratergites III strongly elevated and modified; paratergites IV–V pronounced, but not distinctly modified; sternites III–V laterally produced (well visible in dorsal view); tergites VI–VIII smooth, with very sparse and fine punctures bearing long pale setae and without microsculpture; posterior margin of tergite VII with palisade fringe.

♂: unknown.

♀: spermatheca as in Fig. 623.

Etymology. The specific epithet (Latin, adjective) alludes to the conspicuous pair of long setae on the pronotum.

Comparative notes. The new species is distinguished from the three previously described species by the shape of the spermatheca (more slender distal portion; straight proximal portion) and additionally as follows:

- from *M. wilsoni* and *M. matsumotoi* by longer and more slender antennae with more oblong antennomeres III–XI, longer and more slender legs with a longer metatarsomere I, the chaetotaxy of the pronotum and the elytra (*M. wilsoni*: pronotum and elytra “with a sparse but relatively even vestiture of long setae” (KISTNER & JACOBSON 1975); *M. matsumotoi*: at least pronotum with several long setae on dorsal surface), strongly modified paratergites III, and probably numerous additional characters;
- from *M. maschwitzi*, with which *M. bisetosa* shares the chaetotaxy of the pronotum and elytra, by larger body size, the modifications of tergites III–V, and probably additional characters not illustrated or described by KISTNER (1993).

For illustrations of the compared species see KISTNER (1993), KISTNER & JACOBSON (1975), and MARUYAMA *et al.* (2011).

Distribution and natural history. The type locality is situated in Nakhon Si Thammarat province, South Thailand, at an altitude of 100–300 m. Additional data are not available.

3.12 Genus *Scapaenictus* gen. nov.

Type species: *Scapaenictus longiscapus* sp. nov.; gender masculine.

Description. Body small and of conspicuously myrmecoid habitus. Head (Fig. 629) approximately as long as broad; whole dorsal surface strongly and extensively impressed, this impression smooth and glossy, with very few fine punctures, reaching posterior margin of head and labrum, and separated from dorsal margins of eyes only by very narrow carina; posterior margin of head with deep U-shaped excision; antennal insertions strongly elevated. Eyes large, but weakly convex. Antenna (Fig. 632) of conspicuous

morphology: antennomere I very long, more than half as long as combined length of antennomeres II–XI, very massive, flattened posteriorly, strongly convex anteriorly, and sharply carinate dorsally; antennomeres II–III of sub-triangular shape and flattened dorsally, IV asymmetric and flattened dorsally, V–X of subequal width and decreasingly transverse, X slightly less than 1.5 times as broad as long, and XI elongate, nearly as long as the combined length of VIII–X. Clypeus anteriorly forming a pronounced transverse elevation together with posterior margin of labrum. Labrum strongly transverse and membranous apically. Mandibles short, smoothly curved, acute apically, and without molar teeth. Maxillary palpi rather short, without evident modifications.

Pronotum (Fig. 629) strongly oblong and of vertically quadrangular shape in cross-section; nearly all of dorsal surface distinctly impressed, this impression margined, smooth, with puncture-like circular impressions, along middle with sulcus; sulcus and puncture-like impressions with granulose sculpture (gland openings?); posterior and lateral portions of pronotum strongly microsculptured.

Elytra (Fig. 629) with sub-parallel lateral margins, smooth, and with moderately fine and moderately dense punctation. Hind wings fully developed. Legs relatively long; femora massive and somewhat dilated in the middle (especially metafemora); protibia distinctly and smoothly curved along its entire length; metatibia (Fig. 633) strongly modified, stiliform and flattened in basal fifth, in apical four-fifths conspicuously enlarged and strongly excavate along its length posteriorly (most likely to conceal metatarsi when attacked); all tarsi strongly flattened; tarsal formula 4,5,5.

Abdomen (Fig. 630) strongly modified; segments III–V petiole-shaped and with distinct microsculpture; dorso-lateral portions of sternite III dorsally extending into a large process on either side, these processes enveloping tergite III and extending beyond surface of tergite III; dorso-lateral portions of sternite IV flattened and contiguous with tergite IV; dorso-lateral portions of sternite V with dorsal processes similar to those of sternite III, but much smaller and shorter; segment VI larger and long; sternite VI much larger than tergite VI; segment VII less than half as long as segment VI and strongly transverse; segments VI–VII smooth, without microsculpture, and with scattered setiferous punctures; tergite VIII small and with truncate posterior margin; sternite VIII acutely pointed posteriorly.

♂: median lobe of aedeagus (Figs 634–635) minute and weakly sclerotized; paramere (Fig. 636) without distinct modifications.

♀: unknown.

Etymology. The generic name is composed of Scap- (derived from scapus and alluding the conspicuous shape of antennomere I) and of the generic name of the putative host ant.

Comparative notes. This genus is readily distinguished from all other myrmecoid Lomechusini by the highly conspicuous modifications of the head, the antennae, the pronotum, the legs, and the abdomen. For illustrations of several other myrmecoid genera associated with army ants see MARUYAMA *et al.* (2011).

***Scapaenictus longiscapus* sp. nov.**

(Figs 628–636)

Type material. Holotype ♂: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28′N, 100°45′E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♂ *Scapaenictus longiscapus* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 2.9 mm; length of forebody 1.5 mm. Habitus as in Figs 628, 631. Coloration: body yellowish-red; legs and antennae yellowish. Antenna (Fig. 632) 1.1 mm long. Eyes (Fig. 629) as long as distance from posterior margin of eye to posterior constriction of head in dorsal view.

Pronotum (Fig. 629) 1.85 times as long as broad and 0.7 times as broad as head. Elytra (Fig. 629) 0.8 times as long as pronotum.

♂: median lobe of aedeagus (Figs 634–635) 0.2 mm long; ventral process rather broad basally and medially, and apically convexly pointed in ventral view; paramere (Fig. 636) nearly 0.3 mm long, with short apical lobe and long velum.

For additional characters see description of genus.

Etymology. The specific epithet is a noun composed of the Latin adjective *longus* (long) and the Latin noun *scapus*. It alludes to the conspicuously long antennomere I.

Comparative notes. This species is sufficiently characterized by the generic characters.

Distribution and natural history. The holotype was collected in Bokeo province, Northwest Laos, at an altitude between 500 and 700 m, most likely with a Malaise trap. The conspicuous myrmecoid habitus suggests that the species may be associated with army ants (*Aenictus* sp.).

3.13 Genus *Planusa* gen. nov.

Type species: *Planusa granulosa* sp. nov.; gender feminine.

Description. Body of distinctly depressed and broad habitus (Fig. 637). Forebody (Fig. 638) with coarsely granulate punctation. Head (Fig. 638) broad and somewhat wedge-shaped (broadest posteriorly), without posterior constriction. Eyes of moderate size and weakly convex. Antenna (Fig. 639) gradually, but weakly incrassate, without evident modifications. Labrum (Fig. 644) moderately transverse, apical margin weakly concave in the middle. Mandibles of moderate length, basally rather broad, subapically curved, and apically acute; without distinct molar teeth. Maxilla very slender and elongate; maxillary palpus (Fig. 643) long and slender, palpomere III approximately three times as long as broad. Labium (Fig. 642): ligula short and broad, apically incised, the two lobes contiguous basally and each with a stout seta apically; labial palpi unmodified. Gular sutures broadly separated (Fig. 641).

Pronotum (Fig. 638) strongly transverse, much broader than head, laterally broadly explanate, and with weakly marked posterior angles. Prosternum (Fig. 641) strongly transverse, without median carina.

Elytra (Fig. 638) without distinct modifications. Mesoventrite (Fig. 641) without median carina, truncate postero-medially, without distinct process. Metaventrite (Fig. 641) with broad and apically nearly truncate antero-median process separating mesocoxae. Legs with somewhat flattened metatibiae, otherwise without evident modifications. Tarsal formula 4,5,5.

Abdomen (Fig. 640): tergites III–V with very shallow, nearly obsolete anterior impressions; punctuation rather coarse and dense.

♂: unknown.

♀: spermatheca (Fig. 647) minute and of intricate shape.

Etymology. The generic name is composed of the Latin adjective *planus* (flat) and *-usa*, a suffix shared with several other aleocharine and also lomechusine genera.

Comparative notes. *Planusa* is distinguished from other lomechusine genera of broad habitus by a strongly flattened body, coarsely granulose punctuation of the forebody, a broad and laterally broadly explanate pronotum, coarse punctuation of the abdomen, and the shape of the spermatheca.

***Planusa granulosa* sp. nov.**

(Figs 637–647)

Type material. Holotype ♀: “LAOS – Bokeo prov., 5 km W Ban Toup, Bokeo Nature Reserve, 20°27–28’N, 100°45’E, 500–700 m, 4–18.V.2011, leg. Brancucci et al. / Holotypus ♀ *Planusa granulosa* sp. n., det. V. Assing 2020” (NHMB).

Description. Body length 3.9 mm; length of forebody 1.5 mm. Habitus as in Fig. 637. Coloration: head blackish with the anterior portion yellowish-brown; pronotum yellow with the median portion extensively darker; elytra brown with the humeral portions diffusely yellow; abdomen yellow with the median portion of tergite V and the anterior two-thirds of tergite VI somewhat infuscate; legs and antennae yellow.

Head (Fig. 638) approximately 1.3 times as broad as long; punctuation rather dense and distinct; interstices with predominantly transverse microsculpture, but glossy. Eyes shorter than distance from posterior margin of eye to posterior constriction of head in dorsal view. Antenna (Fig. 639) 1.3 mm long; antennomeres I distinctly excavate dorso-laterally in apical two-thirds, II–III distinctly oblong, IV weakly transverse, V–X of gradually, but weakly increasing width and increasingly transverse, X approximately 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X.

Pronotum (Fig. 638) 1.8 times as broad as long and 1.5 times as broad as head; posterior margin broadly, convexly produced in the middle. Punctuation coarsely granulose, coarser and denser laterally than medially, coarser and denser than that of head; lateral and posterior margins furnished with dark setae; interstices without microsculpture.

Elytra (Fig. 638) 0.85 times as long as pronotum; punctuation similar to that of lateral portions of pronotum; interstices with very shallow traces of microsculpture, glossy. Hind wings fully developed. Legs of moderate length; metatarsomere approximately as long as the combined length of metatarsomeres II and III.

Abdomen (Fig. 640) with segments III–V of subequal width; punctuation of tergites III–V dense, coarse, and partly granulose, that of tergite VI less dense, and that of tergite

VII rather sparse; interstices with shallow transverse microsculpture, glossy; posterior margin of tergite VII with palisade fringe.

♀: posterior margin of tergite VIII concave in the middle, on either side of this concavity with an acute process; posterior margin of sternite VIII convex (Fig. 645); sternite VIII (Fig. 646) with convex posterior margin; spermatheca shaped as in Fig. 647.

For additional characters see description of genus.

Etymology. The specific epithet (Latin, adjective) alludes to the conspicuously granulose punctuation of the forebody.

Comparative notes. This species is sufficiently characterized by the generic characters.

Distribution and natural history. The type locality and circumstances of collection are identical to those of *Scapaenictus longiscapus* and *Tensusa procera*.

3.14 Genus *Sulciusa* gen. nov.

Type species: *Sulciusa boops* sp. nov.; gender feminine.

Description. Body small and of distinctive habitus (Fig. 648). Head (Fig. 649) of conspicuously orbicular shape, without posterior constriction; frons between antennal insertions strongly elevated; antennal insertions situated near middle of dorsal margins of eyes; part between antero-dorsal margins of eyes and middle of frons and anterior to antennal insertions deeply excavate; posterior portion of head few long black setae, dorsal portion with sparse and inconspicuous pale pubescence. Eyes enormous, occupying most of the lateral portions of head. Antenna (Fig. 650) with antennomeres III–X contiguous; antennomeres VI–X with a fringe of short whitish setae apically. Labrum strongly transverse; anterior margin weakly concave. Mandibles of moderate length, basally rather broad, subapically curved, and apically acute; without distinct molar teeth. Maxillary palpus of moderate length, palpomere III barely three times as long as broad. Labium: ligula short, broad, and bilobed; labial palpi unmodified.

Pronotum (Fig. 649) transverse and of derived morphology: in the middle with enormous sulcus; lateral and posterior margins strongly convex; posterior angles obsolete.

Elytra (Fig. 649) without distinct modifications. Legs rather long and slender; meso- and metafemora weakly clavate. Tarsal formula 4,5,5.

Abdomen with very sparse punctuation, anterior portions of tergites extensively impunctate; anterior tergites without distinct anterior impressions.

♂: sternite VIII conspicuously oblong and with longitudinally striate sculpture; median lobe of aedeagus slender and with long internal flagellum; paramere smaller than median lobe and with highly derived, apically needle-shaped apical lobe.

♀: unknown.

Etymology. The generic name is composed of the Latin noun *sulcus* (alluding to the pronounced median sulcus of the pronotum) and the ending *-usa*, a suffix shared with numerous other aleocharine and also lomechusine genera.

Comparative notes. *Sulciusa* is distinguished from other lomechusine genera particularly by the highly derived morphology of the head and the pronotum, contiguous

antennomeres III–XI, and by the derived shape of the apical lobe of the paramere (unique).

***Sulciusa boops* sp. nov.**

(Figs 649–654)

Type material. Holotype ♂: “Kinabalu Park, 6°5′N, 116°33′E, Lowland mixed Dipterocarp Forest / B1, B2 Mix, 27.3.98, A. Floren / Holotypus ♂ *Sulciusa boops* sp. n., det. V. Assing 2020” (cAss).

Description. Body length 2.2 mm; length of forebody 1.4 mm. Habitus as in Fig. 648. Coloration: whole body yellow with the head slightly darker.

Head (Fig. 649) of orbicular shape; dorsal surface with very fine and moderately dense punctation; posteriorly with four long black setae and an additional long black seta at postero-ventral margin of eye on either side; interstices without microsculpture. Eyes enormous, approximately three times as long as postocular portion. Antenna (Fig. 640) 1.0 mm long; antennomeres I large, clavate, and strongly excavate apico-laterally, II and III of subequal length and approximately twice as long as broad, IV and V weakly oblong, VI–X of gradually and weakly increasing width and increasingly transverse, X approximately 1.5 times as broad as long, and XI larger than the preceding antennomeres, nearly as long as the combined length of antennomeres VIII–X.

Pronotum (Fig. 649) 1.25 times as broad as long and 1.07 times as broad as head; lateral and posterior margins distinctly convex; posterior angles completely obsolete; punctation dense and moderately fine; interstices without microsculpture; median sulcus impunctate and with microsculpture.

Elytra (Fig. 649) nearly as long as pronotum; punctation similar to that of lateral portions of the pronotum; interstices without microsculpture. Hind wings fully developed. Legs long and slender; metatarsomere approximately as long as the combined length of metatarsomeres II and III.

Abdomen without microsculpture; posterior portion with sparse and fine punctation; tergite VII posteriorly with a median pair of small tubercles, posterior margin with palisade fringe.

♂: sternite VIII (Fig. 651) distinctly oblong, with two transverse rows of 4–6 long black setae across middle, otherwise without pubescence, posterior margin obtusely pointed in the middle and with fine marginal setae; median lobe of aedeagus 0.33 mm long, slender, and apically acute; internal sac with a long flagellum; paramere 0.24 mm long and with apical lobe of conspicuous shape.

For additional characters see description of genus.

Etymology. The specific epithet (adjective) alludes to the enormously large eyes.

Comparative notes. This species is sufficiently characterized by the generic characters.

Distribution and natural history. The type locality is situated in the Kinabalu region, West Sabah (Malaysia), North Borneo. The holotype was collected by canopy fogging.

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