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Monograph

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A revision of the *Maechidiini* Burmeister, 1855 (Coleoptera: Scarabaeidae: Melolonthinae) from the Indo-Australian transition zone, and the first record of the tribe west of Wallace's Line

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Abstract. Features of the *Maechidiini* (Scarabaeidae: Melolonthinae) genera *Maechidius* Macleay, 1819, *Epholcis* Waterhouse, 1875 and *Paramaechidius* Frey, 1969 are critically revised and a new synonymy is proposed: *Maechidius* = *Epholcis* syn. nov. = *Paramaechidius* syn. nov. A key to and an annotated checklist of *Maechidiini* from the Indo-Australian transition zone are presented for the first time. Thirty-five new species are described, namely *Maechidius aiyura* sp. nov., *M. alesbezdeki* sp. nov., *M. awu* sp. nov., *M. babyrousa* sp. nov., *M. bintang* sp. nov., *M. boessnecki* sp. nov., *M. brocki* sp. nov., *M. caperatus* sp. nov., *M. ciliatus* sp. nov., *M. crypticus* sp. nov., *M. dani* sp. nov., *M. deltouri* sp. nov., *M. dendrolagus* sp. nov., *M. hamatus* sp. nov., *M. kazantsevi* sp. nov., *M. konjo* sp. nov., *M. lapsus* sp. nov., *M. legalovi* sp. nov., *M. leucopsar* sp. nov., *M. longipes* sp. nov., *M. mailu* sp. nov., *M. maleo* sp. nov., *M. merdeka* sp. nov., *M. miklouhomaclayi* sp. nov., *M. nepenthephilus* sp. nov., *M. owenstanleyi* sp. nov., *M. riedeli* sp. nov., *M. similis* sp. nov., *M. skalei* sp. nov., *M. sougb* sp. nov., *M. suwawa* sp. nov., *M. trivialis* sp. nov., *M. ursus* sp. nov., *M. weigeli* sp. nov. and *M. yamdena* sp. nov. Six new synonyms are proposed: *Maechidius* Macleay, 1819 = *Epholcis* Waterhouse, 1875 syn. nov. = *Paramaechidius* Frey, 1969 syn. nov., *Maechidius esau* Heller, 1914 = *M. setosus* Moser, 1920 syn. nov. = *M. setosellus* Frey, 1969 syn. nov., *Maechidius heterosquamosus* Heller, 1910 comb. rest. = *Paramaechidius clypeatus* Frey, 1969 syn. nov. and *Maechidius paupianus* Heller, 1910 = *M. arrowi* Frey, 1969 syn. nov. The first records of *Maechidiini* from the Tanimbar Islands (Yamdena), Sangihe Islands (Sangir) and Lesser Sunda Islands (Bali) are documented, of which the latter two are the northern- and westernmost known records of *Maechidius* and of the tribe *Maechidiini*. Lectotypes are designated for 23 species. Fifteen new combinations are proposed and the original combination to *Maechidius* is restored for four species. Ecological data are presented for the first time for selected Papuan and Wallacean species. Type material of Wallacean and Papuan *Maechidiini* is depicted for the first time. A key to species is given. In total, 78 species of *Maechidiini* are confirmed for the Indo-Australian transition zone.

Keywords. *Maechidius*, *Epholcis*, *Paramaechidius*, taxonomy, biogeography, Papuan Region, Wallacea.

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Introduction

The melolonthine tribe Maechidiini Burmeister, 1855 comprises seven genera (*Epholcis* Waterhouse, 1875, *Harpechys* Britton, 1957, *Maechidius* Macleay, 1819, *Microcoenus* Britton, 1957, *Microthopus* Burmeister, 1855, *Paramaechidius* Frey, 1969 and *Termitophilus* Britton, 1957), previously considered to be of predominantly Australian distribution (Britton 1957; Weir *et al.* 2019).

The distribution range of the closely related genera *Maechidius*, *Epholcis* and *Paramaechidius*, as hitherto known, includes most of Australia, Sulawesi and the Moluccas of Wallacea and all of New Guinea with its satellite islands (Lansberge 1886; Britton 1957; Frey 1969; Prokofiev 2018; Narakusumo & Balke 2019). As demonstrated in the present paper, the extant distribution of Maechidiini is significantly larger and is extended to include Bali (new record) in the west and Sangir (new record) in the north; the Bali record is currently the only one known for Maechidiini to the west of Wallace's Line. Prior to the present study, *Maechidius* included 102 species (Fairmaire 1877, 1883; Lansberge 1886; Arrow 1941; Britton 1957, 1963; Frey 1969), and *Epholcis* and *Paramaechidius* 9 species each (Britton 1957; Frey 1969; Prokofiev 2018; Narakusumo & Balke 2019), four of which are placed as junior synonyms in this paper.

The Melolonthinae monograph by Britton (1957) was the first and remains hitherto the most comprehensive work on Australian Maechidiini genera and species. Frey (1969) published the only review of Papuan Maechidiini (Wallacea and several islands surrounding New Guinea were for some reason not included or omitted) prior to the current monograph. Frey (1969) established the new genus *Paramaechidius* (synonymised with *Maechidius* in this publication), 6 new *Maechidius* and 5 new *Paramaechidius* species descriptions were made (three of which are placed as junior synonyms in this paper), and a key to 27 *Maechidius* and 8 *Paramaechidius* was presented (see also introductory section of Results).

The proposed new generic synonymy *Maechidius* = *Epholcis* syn. nov. = *Paramaechidius* syn. nov. is based on morphological features. Consequently, 15 new combinations are proposed and the original combination is restored for four species. Four new species-rank synonyms are proposed, namely *Maechidius esau* Heller, 1914 = *M. setosus* Moser, 1920 syn. nov. = *M. setosellus* Frey, 1969 syn. nov., *M. heterosquamosus* Heller, 1910 comb. rest. = *Paramaechidius clypeatus* Frey, 1969 syn. nov. and *Maechidius paupianus* Heller, 1910 = *M. arrowi* Frey, 1969 syn. nov.

Thirty-five new species are described based on historical and recent material, namely *Maechidius aiyura* sp. nov., *M. alesbezdeki* sp. nov., *M. bintang* sp. nov., *M. brocki* sp. nov., *M. caperatus* sp. nov., *M. ciliatus* sp. nov., *M. crypticus* sp. nov., *M. dani* sp. nov., *M. dendrolagus* sp. nov., *M. hamatus* sp. nov., *M. lapsus* sp. nov., *M. longipes* sp. nov., *M. mailu* sp. nov., *M. merdeka* sp. nov., *M. miklouhomaclayi* sp. nov., *M. nepenthephilus* sp. nov., *M. owenstanleyi* sp. nov., *M. similis* sp. nov., *M. sougb* sp. nov., *M. trivialis* sp. nov., *M. weigeli* sp. nov. (all from mainland New Guinea), *M. awu* sp. nov. (Sangihe Islands), *M. riedeli* sp. nov. (Yapen Island, Cenderawasih Bay Islands), *M. leucopsar* sp. nov. (Bali, Lesser Sunda Islands), *M. babyrousa* sp. nov., *M. boessnecki* sp. nov., *M. deltouri* sp. nov., *M. kazantsevi* sp. nov., *M. konjo* sp. nov., *M. legalovi* sp. nov., *M. maleo* sp. nov., *M. skalei* sp. nov., *M. suwawa* sp. nov. (all Sulawesi), *M. ursus* sp. nov. (Misool, Raja Ampat Islands) and *M. yamdena* sp. nov. (Yamdena, Tanimbar Islands). Lectotypes are designated for 22 species, namely *M. aenescens* Heller, 1910, *M. aroae* Heller, 1914, *M. esau* Heller, 1914, *M. fraterculus* Moser, 1920, *M. heterosquamosus* Heller, 1910 comb. rest., *M. hirtipes* Arrow, 1941, *M. humeralis* Heller, 1914, *M. jobiensis* Moser, 1920, *M. milneanus* Heller, 1914, *M. opatroides* Arrow, 1941 comb. rest., *M. papuanus* Moser, 1926, *M. parallelcollis* Moser, 1920, *M. paupianus* Heller, 1910, *M. pauxillus* Heller, 1910 comb. rest., *M. rugicollis* Moser, 1920, *M. seriegranosus* Heller, 1914, *M. seriepunctatus* Moser, 1920, *M. setosus* Moser, 1920, *M. subcostatus* Heller, 1895, *M. tarsalis* Arrow, 1941, *M. vicinus* Heller, 1914 and *M. woodlarkianus* Heller, 1914. An updated species key for *Maechidius* from the Indo-Australian transition zone (including Bali) is presented and a brief biogeographical assessment is given.

As a result, 77 species of Maechidiini are confirmed for the Indo-Australian transition zone and one more has been found on Bali, outside the study area, but worthy of note as it is an extraordinary record that extends the known distribution of the tribe beyond Wallace's line into another biogeographical region. This total is already greater than the known Australian Maechidiini fauna.

Material and methods

Type material of nearly all previously described Indo-Australian transition zone and some Australian species of *Epholcis*, *Maechidius* and *Paramaechidius* were studied and are depicted here for the first time, with the exception of species recently described by Prokofiev (2018) and Narakusumo & Balke (2019), as well as the one of Lansberge (1886).

For the examination of newly collected material, the beetles were relaxed in water, then their detached abdomens were kept for several hours in 10% KOH at room temperature. The KOH-treated aedeagi and terminal abdominal segments were then placed on slides for photography. A Leica S6D stereoscopic microscope with a 10–80× magnification range was used for the study of specimens. If not stated otherwise, photographs were taken by the author with Canon EOS 1200D and EOS 77D DSLR cameras and a Canon 100 mm macro lens.

Label text is generally reproduced verbatim, with no additions. Original label text is placed in quotation marks. Labels (if more than one for the same specimen) are separated by double slashes. Each type specimen of a newly described species is provided with a black framed label on red paper stating "HOLOTYPUS" or "PARATYPUS", respectively. Newly designated lectotypes and paralectotypes are provided with a black framed label on red paper "LECTOTYPUS" or "PARALECTOTYPUS", respectively. The authors' supplemental or explanatory comments are placed in square brackets. All taxa are listed alphabetically since no phylogenetic arrangement is yet possible.

Terminology and measurements generally follow Britton (1957) and Narakusumo & Balke (2019). The length of the elytra is measured along the suture including the scutellar shield. The length of the pronotum is measured along the midline. The length of the head is measured along the midline towards the tip of the labroclypeus. The maximum width of the head is measured across the eyes and includes the canthus.

The "Papuan Region" is a zoogeographic term used in the sense of Gressitt (1982), Beehler *et al.* (1986), Riedel (2002) and Telnov (2011). This area is defined as the Sahul continental shelf islands with the Pacific Ocean north and east of New Guinea and Torres Strait south of it. In the west, chains of the Moluccan Islands (North, Central and South Moluccas) with a high percentage of Papuan fauna elements are also considered part of the Papuan Region, with Weber's Line used as the western boundary of the region as a line of fauna balance. In parallel, these islands are also a part of Wallacea (which includes the Lesser Sunda Islands, Sulawesi and adjacent islands, and the SE Moluccas). Both Wallacea and the Papuan Region comprise zones of the Indo-Australian faunal transition (Fig. 1). Bali, which is outside Wallacea and considered part of the Oriental realm, was intentionally included in this study since this is the westernmost record of the tribe Maechidiini.

A proportion of the studied Sulawesi specimens are from BMNH material sampled for the 1985 "Project Wallace", organised by the Royal Entomological Society.

Abbreviations used in the text

- h = handwritten (for label text)
- p = printed [if not stated, label is printed]
- Mts. = mountains

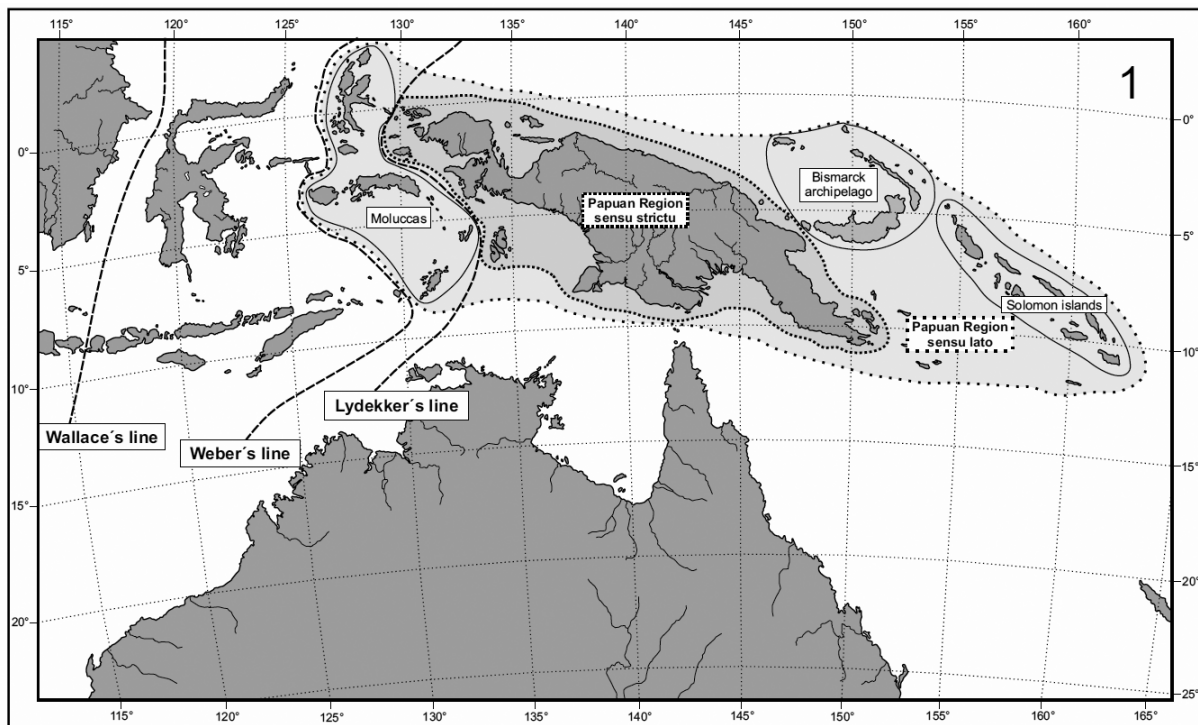


Fig. 1. Map of the study area. All island groups east of Wallace's Line towards the Solomon Islands are considered. The Papuan Region *sensu stricto* is shaded dark grey, *sensu lato* is pale grey. Major lines of biogeographical importance are shown.

Acronyms of the material repositories

- ANIC = Australian National Insect Collection, Canberra, Australia
- APC = Collection of Artem M. Prokofiev, Moscow, Russia
- ASC = Collection of André Skale, Gera, Germany
- BMNH = The Natural History Museum (British Museum, Natural History), London, United Kingdom
- BPBM = Bernice Pauahi Bishop Museum (The State Museum of Cultural and Natural History), Honolulu, Hawaii, USA
- DTC = Collection of Dmitry Telnov, Rīga, Latvia
- IECA = Biology Centre CAS, Institute of Entomology, České Budějovice, Czech Republic
- IRSN = Institut royal des Sciences naturelles de Belgique, Brussels, Belgium
- MNHN = Muséum national d'histoire naturelle, Paris, France
- MZB = Museum Zoologicum Bogoriense, Zoology Division, Indonesian Institute of Science, Cibinong, Indonesia
- NHMB = Naturhistorisches Museum Basel, Switzerland
- NME = Naturkundemuseum Erfurt, Germany
- NMNL = Nederlands Centrum voor Biodiversiteit "Naturalis", Leiden, the Netherlands
- NMPC = Národní muzeum, Praha, Czech Republic
- SMNS = Staatliches Museum für Naturkunde, Stuttgart, Germany
- SNSD = Senckenberg Naturhistorische Sammlungen, Dresden, Germany
- ZMHB = Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung [formerly Museum für Naturkunde der Humboldt-Universität], Berlin, Germany
- ZMUH = Zoologische Sammlung, Centrum für Naturkunde der Universität Hamburg [formerly Zoologisches Institut und Zoologisches Museum der Universität von Hamburg], Hamburg, Germany

Results

Taxonomy, morphology and history of study of Maechidiini

Class Insecta Linnaeus, 1758
 Order Coleoptera Linnaeus, 1758
 Family Scarabaeidae Latreille, 1802
 Subfamily Melolonthinae Samouelle, 1819

Tribe **Maechidiini** Burmeister, 1855

Macleay (1819: 14) established the genus *Maechidius* for his single Australian species, *M. spurius*, which consequently became the type species of this genus by monotypy. The number of species known from the Australian continent grew gradually until Britton (1957) finally listed and keyed 67 species for Australia (surprisingly ignoring *M. bidentulus* Fairmaire, 1877 with a comment “[*Maechidius bidentulus*] ... is described as lacking tarsal pulvilli so that it is probably a true *Maechidius*. It is almost certainly a species known under another name but it is impossible to identify it from the description” (Britton 1957: 175). In parallel, descriptions of six species from the Papuan region appeared (Frey 1969) and 27 species of *Maechidius* from New Guinea and adjacent islands were keyed. However, in his account Frey (1969) omitted five species described earlier from islands surrounding New Guinea, namely by Fairmaire (1883) from New Britain (*M. luniceps*), Moser (1920) from Roon (*M. parallelicollis*) and Yapen (*M. jobiensis*), *M. sturnus*, another species from Yapen by Arrow (1941), and *M. woodlarkianus* from Woodlark by Heller (1914). It seems Frey was not aware of a geographical (and biogeographical) connection of the aforementioned localities with New Guinea. Moser (1920) described the first Moluccan species, *M. moluccanus* comb. rest. (Gorom Island, Central Moluccas), which was recently moved to *Epholcis* (Narakusumo & Balke 2019). To date, the westernmost recorded species, *Maechidius peregrinus* Lansberge, 1886 (South Sulawesi), was not covered by the aforementioned authors. No new taxa have been added to *Maechidius* since 1969. Therefore, prior to the present research, the total number of *Maechidius* in Australia was 68 or 70 or 71 (Weir *et al.* 2019 state 71 on p. 468 but 70 on p. 489; according to my personal account, there are 68 Australian species of *Maechidius*, not including those until now placed in *Epholcis*, in the Indo-Australian transition zone – 34 (33 in the Papuan Region and another one in Wallacea (Fairmaire 1883; Lansberge 1886; Arrow 1941; Britton 1957, 1963; Frey 1969)).

Epholcis was erected by Waterhouse (1875: 192) for his Australian *E. divergens*, the consequent type of this genus by monotypy. Britton (1957) listed five *Epholcis* in his revision, all Australian. No *Epholcis* was known from the Indo-Australian transition zone until recently, when Narakusumo & Balke (2019) moved *E. moluccanus* (Moser, 1920) from *Maechidius* and described four additional North Moluccan species. Prior to this study, *Epholcis* consisted of 10 species, of which 5 are Australian and 5 Moluccan (Britton 1957, 1959; Narakusumo & Balke 2019; Weir *et al.* 2019).

Frey (1969: 503) established a new Papuan genus, *Paramaechidius*, with eight species and originally designated *Maechidius pauxillus* comb. rest. as the type species. Recently, Prokofiev (2018) placed his *P. agnellus* from the Central Moluccas in this group.

Burmeister (1855: 208) erected a new melolonthine tribe, *Maechidiini* (originally as *Maechidiina*), for *Maechidius* (Smith 2006). Britton (1957: 123), probably being unaware of Burmeister’s priority publication, repeatedly established “*Maechidiini* trib. nov.” and assigned six Australian genera to it (refer to Britton’s (1957) publication for the list of these genera). Later on, *Maechidiini* was supplemented with *Paramaechidius* (Frey 1969, see above). The following features of the *Maechidiini* were highlighted by Britton (1957): Mesosternum and metasternum without a median longitudinal process, metatibiae with

one or two apical spurs, claws simple (not toothed or denticulate) and symmetric, pulvilli present or not, metacoxae narrow and strongly transverse, clypeus fused with labrum, penultimate abdominal tergite and ventrite fused at all margins, hypomeron in most taxa produced into a fee edge to enclose a pocket for the reception of the antenna, antenna 7, 8 or 9-segmented with 3 or 5 lamellae, pronotum usually with posterior angles rounded, if present, basal tooth of foretibia obtuse and situated one half or less of the tibia length from the apex.

Britton's highlighted characters of *Maechidiini* were recently supplemented by Weir *et al.* (2019): Mandibles never exposed, antenna 7–10 segmented, elytra with characteristic annular setiferous punctures supplemented or not with extra setae, protrochantin concealed, abdomen medially longer than metaventrite, abdominal ventrites with or without lateral longitudinal ridge fitting to the elytra, metacoxae narrow and distinctly transverse, metatarsus twice as long as metatibia or less, protarsal claws simple, body somewhat depressed dorso-ventrally.

No comprehensive molecular studies have been performed on *Epholcis*, *Maechidius* or *Paramaechidius*; therefore, *Maechidiini* remains based only on morphological characters. Here, I follow Bouchard *et al.* (2011) and Weir *et al.* (2019) for a prevailing concept of Melolonthinae classification.

It is worth mentioning separately that the descriptions and key by Frey (1969) are not perfect, incomplete (see above, four Papuan species omitted), in part controversial (see Discussion) and present considerable mistyped label data (e.g., “Amagon Bay” for Amazon Bay, “Kianga” for Kiunga, “Madong” or “Madand” for Madang, “Morose” or “Moraba” for Morobe, “Nebire” for Nabire, “Okape” for Okapa, “Tipu” or “Topu” for Topa, etc.)

Maechidiini distribution

Epholcis of previous authors is distributed in northern and eastern Australia (Britton 1957; Weir *et al.* 2019) and in the North Moluccas of Wallacea (Narakusumo & Balke 2019).

Maechidius appears all throughout the Australian continent except for Tasmania (Britton 1957; Weir *et al.* 2019), in the Papuan Region (Frey 1969), Wallacea (Sulawesi (Lansberge 1886) and the Tanimbar Islands (new record)), with the currently westernmost record known from Bali (Lesser Sunda Islands, Oriental Region, new record) and the northernmost from the Sangihe Islands (within Wallacea, new record).

Paramaechidius is known from New Guinea (Frey 1969) and the Central Moluccas (Prokofiev 2018).

No *Maechidiini* have hitherto been reported from the Solomon Islands, Vanuatu, Timor or most of the Lesser Sunda Islands (Bali is an exception). However, considering their ecological needs, they are almost certainly present on other Wallacean islands and, possibly, also on Mindanao in the Philippines.

No *Maechidius* are yet known from the fossil record.

Review of features of *Maechidius sensu lato*

(Re-)evaluated critical features of *Maechidius* are presented below, compared with the type species of *Maechidius* Macleay, 1819 (*M. spurius* Macleay, 1819), *Epholcis* (*E. divergens* Waterhouse, 1875), *Paramaechidius* Frey, 1969 (*Maechidius pauxillus* Heller, 1910 comb. rest.) and numerous congeners (all studied material of the present review).

i. Head

i.i.i. Labrum completely fused to clypeus (labroclypeus)

i.i.ii. Labroclypeus, anterior margin subtruncate (a)/moderately emarginate (b)/deeply emarginate (c) [this feature is sexually dimorphic]

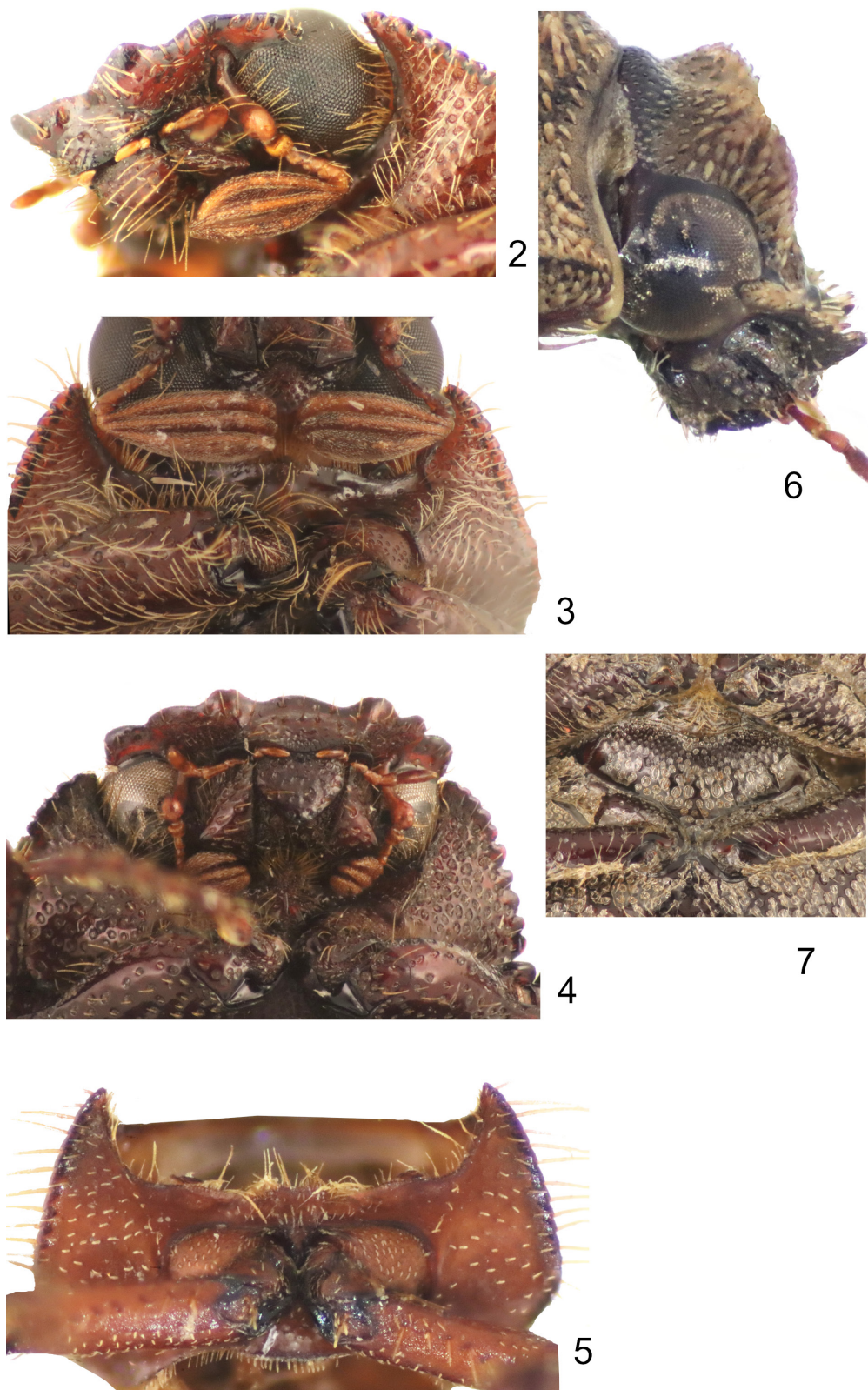
- i.i.iii. Labroclypeus, anterolateral angles in lateral view nearly straight (on same axis as frons) (a)/slightly to moderately bent up, 20–50° to the axis of the frons (b)/perpendicularly or more to the axis of the frons (c) [nearly all species from the Indo-Australian transition zone]
- i.i.iv. Labroclypeus, lateral margins smooth (a) [all species from the Indo-Australian transition zone]/delicately lobulate or crenulate (b)
- i.i.v. Labroclypeus, anterior and/or lateral margins setose
- i.i.vi. Labroclypeus, prominence between canthus and the anterior angle present (a)/absent (b)
- i.ii. Canthus straight in dorsal view (a)/sinuous or rounded (b)
- i.iii.i. Labium comprises the mentum
- i.iii.ii. Labium shallowly emarginate on anterior margin
- i.iv.i. Compound eye spherical, deeply separated by narrow canthus
- i.iv.ii. Compound eye partly concealed by the anterolateral angles of pronotum
- i.v. Frons in lateral view flattened (a)/moderately convex (b)/with one or two humps (c)
- i.vi. Mandibles not exposed
- i.vii. Terminal maxillary palpomere elongate
- i.viii.i. Antenna 7- (a)/8- (b)/9-segmented (c)
- i.viii.ii. Antennal club of 3-5 lamellae [3 in all species from the Indo-Australian transition zone]
- i.viii.iii. Scape of antenna large, with bulbous predistal projection on dorsal side, with long scattered setae and two extraordinarily long distal setae. Antennomere 2 shortened, transverse or not. Shape of scape and its setae perfectly suited for cleaning compound eye (Figs 2–3, 269, 273–274, 278–279).

ii. Pronotum

- ii.i. Anterolateral angles acutely protruding anteriorly (a)/rounded (b)
- ii.ii.i. Lateral margin in dorsal view nearly straight (slightly widened towards base) (a)/evenly rounded (b)/straight or evenly rounded anteriorly, emarginate before posterolateral angles (c)
- ii.ii.ii. Lateral margin with short setae between crenulae or denticles (a)/with long setae (b)
- ii.ii.iii. Lateral margin crenulate (a)/denticulate (b) (in some species it can be mixed crenulate-denticulate)
- ii.ii.iv. Lateral margin in lateral view nearly straight (a)/sinuous or angulate (b)
- ii.ii.v. Anterior margin of pronotum sinuous (a)/emarginate (b)/subtruncate (c)
- ii.ii.vi. Anterior margin of pronotum with thin narrow membrane overrunning vertex (a)/without membrane (b)
- ii.ii.vii. Basal margin of pronotum evenly rounded (a)/slightly sinuous, e.g., emarginate on either side at posterolateral angle (b)
- ii.iii. Pronotal disc in dorsal view flattened and expanded laterally along lateral margins (a)/not flattened and not expanded (b)
- ii.iv.i. Pronotal hypomeron free edge setose (long setae suitable for cleaning compound eye) (Figs 2, 266–285), with one or two shallow emarginations opposite to compound eye (to receive canthus separating the eye) (a)/emargination not present, hypomeron margin nearly straight to hardly emarginate (b)
- ii.iv.ii. Pronotal hypomeron free edge without median denticle (a)/with one or two obtuse or acute denticle(s) (b)
- ii.iv.iii. Pronotal hypomeron flange-like produced forward to enclose a deep pocket for reception of antenna (a)/moderately produced (antennal pocket moderately deep) (b)/not produced (antennal pocket shallow or not present) (c) (Figs 3–5, 266–285); suture separating pronotal hypomeron from prosternum (extending from procoxal cavity towards anterolateral angle of prosternum) not present or very vague (a)/present, low or moderately raised (b) (Figs 3–5, 266–285)

iii. Prosternum

- iii.i. Procoxal cavity closed from behind by transverse process of the dorsal sclerite
- iii.ii. Lateral process of prosternum meets with the hypomeron at a suture which extends forwards from the anterolateral margin of procoxal cavity (a)/not as specified (b)



Figs 2–7. Maechidiini Burmeister, 1855 features. **2.** *Maechidius esau* Heller, 1914, head, ventro-lateral view. **3.** Same, head and pronotum, ventral view. **4.** *Maechidius* sp., same. **5.** *M. bilobiceps* (Fairmaire, 1877) comb. nov., prosternum and pronotal hypomera, ventral view (BMNH). **6.** *M. weigeli* sp. nov., paratype, ♂, head, lateral view (NME). **7.** *M. spurius* Macleay, 1819, mesoventrite. Not to scale.

- iii.iii. Median anterior process of prosternum present, long brushy setose, broad, slightly to moderately carinate (a)/present but narrow, strongly flange-like protruding (b)/absent (c)
- iii.iv.i. Procoxa elongate cylindrical
- iii.iv.ii. Procoxa with a sclerotized condyle applied to the underside of pronotum
- iii.v. Intercostal process of procoxae narrow, procoxae contiguous
- iii.vi.i. Prosternum in front of procoxa flattened (a)/angulate elevated (b)/strongly carinate elevated (c)
- iii.vi.ii. Prosternum on anterior margin medially with a brush of long setae, not produced anteriorly (a)/more or less strongly produced anteriorly (b)

iv. Mesothorax

- iv.i.i. Mesoventrite strongly transverse
- iv.i.ii. Mesoventrite slightly depressed ventrally (a)/almost flat (b)
- iv.i.iii. Mesoventrite, intercostal process rather short, narrowly separates mesocoxae (a)/moderately broad (b)
- iv.ii. Mesanepisternum small, short & transverse
- iv.iii. Mesepimeron trapezoid, transverse
- iv.iv.i. Mesocoxa carinate on anterior margin, not carinate dorsally
- iv.iv.ii. Mesocoxa elongate subcylindrical

v. Metasternum

- v.i.i. Metaventrite, increment complete, shallow
- v.i.ii. Metaventrite, anterior median process short, obtuse triangular, meets with the intercostal process of mesoventrite
- v.i.iii. Metaventrite, posterior median process short and broadly obtuse triangular
- v.ii. Metanepisternum long, narrowed posteriorly
- v.iii. Metepimeron small, triangular
- v.iv.i. Metacoxa contiguous
- v.iv.ii. Metacoxa narrow, strongly transverse

vi. Scutellar shield moderately large, apically acute to obtuse pointed

vii. Elytra

- vii.i. Epipleuron complete, extends towards the apex of elytron
- vii.ii. Longitudinal costae absent (a)/present (complete or interrupted, flat to rather high) (b)
- vii.iii. Punctures of elytral disc arranged in single or paired striae (a)/at most irregular and confused (b)
- vii.iv. Punctures of elytral disc of common structure (a)/annular (b)/strongly elongate, incision-shaped (c) punctures/tuberculate (d)
- vii.v. Apical hump inconspicuous (a)/protruding, glabrous (b)
- vii.vi. Elytron lateral margin sinuous in anterior half
- vii.vii. Elytron lateral margin smooth (a)/denticulate (b)
- vii.viii. Elytron, lateral margin in dorsal view not setose (a)/shortly setose (b)/conspicuously long setose (c)
- vii.ix. Omoplates moderately present
- vii.x. Elytra gradually falling down on apex, virtually on same axis as pygidium (a)/elytral apices flattened and somewhat prolonged posteriorly so that pygidium is almost perpendicular to the axis of elytral apex (b)
- vii.xi. Elytral disc with appressed setae (a)/suberect to erect setae (b)
- vii.xii. Conspicuous long subhumeral seta at lateral margin of elytron present (best visible on Figs 25, 29, 54–55, 73, 93) [the absence of this seta may be a result of damage and is hard to verify in specimens in poor condition]
- vii.xiii. Suture all along with thin, narrow, delicately setose membrane (not visible when elytra closed) (a)/without membrane (b)

viii. Abdomen

- viii.i.i. Visible abdominal sternite I much shorter than metaventricle
- viii.i.ii. Visible abdominal sternite I anterior median process short, (very) broadly triangular (a)/subspherical (b)
- viii.ii. Abdomen, longitudinal lateral ridge present (a)/not present (b) on all ventrites
- viii.iii. Abdomen, penultimate ventrite and tergite partly (a)/completely fused (b)
- viii.iv. Abdomen, visible sternite III simple (a)/posterior margin with median hump (b)/posterior margin with a pair of three extraordinarily long setae (c)
- viii.v. Pygidium dorsally impressed (a)/flattened (b)/moderately globose (c)

ix. Legs

- ix.i.i. Protibia dorsally not carinate (a)/partly or completely longitudinally carinate (b)/partly or completely longitudinally foveate (c)
- ix.i.ii. Protibia externally with one (distal) external tooth (a)/two teeth (b)/three (c) teeth of various size
- ix.i.iii. Protibia widened distally, flattened dorso-ventrally (a)/slender (b)
- ix.i.iv. Protibia, single terminal spur present (a)/not present (b) [this feature is sexually dimorphic, see Sexual dimorphism section below]
- ix.i.v. Protibia, inner margin nearly straight (a)/concave predistally (b) (cf. Figs 359–428)
- ix.ii. Mesotibia, terminal spurs paired (a)/not paired (b)
- ix.iii.i. Metatibia not carinate (a)/with one or several complete longitudinal carinae (b)
- ix.iii.ii. Metatibia not transverse carinate (a)/with a track of transverse carina (b)
- ix.iii.iii. Metatibia, inner margin punctate or longitudinally carinate, with at least some setae (a)/glabrous, not carinate or punctate (b)
- ix.iii.iv. Metatibia with one (a)/two (b) terminal spurs
- ix.iii.v. Metatibia, terminal spurs (if paired) equally to slightly subequally long (a)/upper spur distinctly shorter than lower spur (b)
- ix.iii.vi. Metatibia, terminal spurs inserted one above and one below tarsal articulation
- ix.iii.vii. Metatibia distally not modified (a)/with distal projection in dorsolateral view (distal margin projects somewhat over basal metatarsomere) (b) (Figs 445–446)
- ix.iv. Protarsomeres glossy (a)/subopaque microreticulate (b)
- ix.v. Male protarsomeres 1 & 2 without modifications (a)/each with large acute ventral denticle (b)
- ix.vi. Basal protarsomere in both sexes without modifications (a)/asymmetrical, concave ventrally, with a short, acute ventro-lateral denticle at inner distal margin (b)
- ix.vii. Inner margin of basal metatarsomere with ordinary straight short or moderately long setae (a)/with a brush of long sinuous dense setae (b)
- ix.viii.i. Tarsal claws equal
- ix.viii.ii. Tarsal claw not toothed on concave side
- ix.viii.iii. Tarsal claw with (a)/without (b) membranous pulvillus [this feature is sexually dimorphic]

x. General appearance and vestiture

- x.i. Dorsal setae ordinary, short or long (a)/moderately to strongly scale-like (clavate in some species) (b)/compound (consisting of brush- or fur-like setae, see *M. ursus* sp. nov. description) (c)
- x.ii. Dorsum without fur-like or microscopical velvety pubescence (referred to as “toment” or “waxy secretions” by authors) (a)/at least elytra partially covered with fur-like or microscopical velvety pubescence (b) (Figs 100, 106–107, 111, 114, 129, 202–203, 221–222, 239, 246, 263, 297, 299, 302, 306, 311–312, 314, 323, 330, 336–338, 346–347, 354, 358, etc.)
- x.iii.i. Punctures of dorsum annular (a)/not annular (b)
- x.iii.ii. Punctures of dorsum (on pronotum and/or elytra) without delicate membrane along inner margin (a)/with delicate membrane (b)
- x.iv. Punctures of elytra peculiarly long and narrow, incision like (a)/punctures different (b)
- x.v. Intervening spaces of elytral disc without microsculpture (a)/microstrigose or reticulate (b)

Review of features of *Epholcis* Waterhouse, 1875

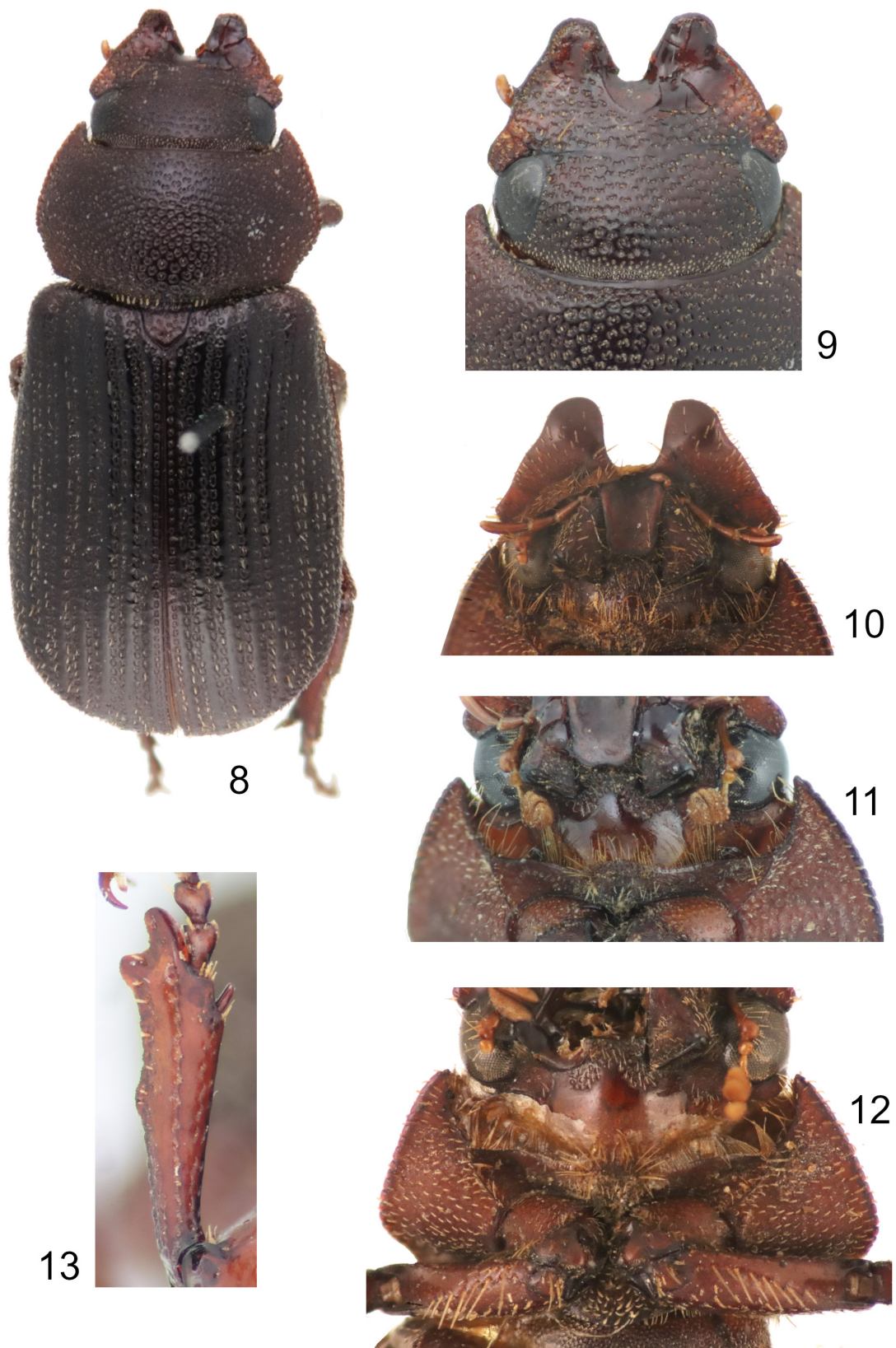
Epholcis was hitherto defined on the basis of the following features: anterior margin of labroclypeus shallowly emarginate, depth less than length of terminal maxillary palpomere; antenna 9-segmented; pronotal hypomeron not produced forward to create a pocket for reception of antenna; ridge extending from procoxal cavity towards anterior angle of pronotum, if present, is low and evenly sinuous; elytral setae or scales often arranged in longitudinal bands; elytral striae not obvious; protibia with two external teeth not elongated; metatibia with transverse ridge not prominent or not indicated, with two terminal spurs of unequal length; all tarsal claws with pulvilli (Waterhouse 1875; Britton 1957; Narakusumo & Balke 2019; Weir *et al.* 2019).

After studying the type of this genus (*E. divergens* Waterhouse, 1875; Figs 6–11) and similar Australian, Papuan and Wallacean *Maechidiini* taxa, I came to the conclusion that the characters of *Epholcis* as stated by the aforementioned authors seem variable, unstable, of little taxonomic value and appear randomly in species of *Maechidius* sensu lato: labroclypeus shallowly emarginate on anterior margin (i.i.ii), antenna 9-segmented (i.viii.i), hypomeron not forming deep pocket for antenna (ii.iv.ii) (antennal pocket vary from completely absent to moderately developed with pronotal hypomeron moderately produced forwards in species previously assigned to *Epholcis*), ridge extending from procoxal cavity towards anterior angle of pronotum, if present, is low and evenly curved (ii.iv.iii), vestiture of dorsum without microscopical velvety pubescence (x.ii) with ordinary (often minute) or/and scale-like clavate setae which are arranged in longitudinal bands in some species (x.i), protibia with two distal external teeth (ix.i.ii), metatibia with or without non-prominent transverse ridge (ix.iii.ii), metatibia with terminal spurs unequal in length (ix.iii.iv), tarsal claws with pulvilli in both sexes (ix.iv.iii).

The main features of *Maechidius* and *Epholcis* – the projected anterolateral margin of the pronotal hypomeron and the presence or absence of ‘deep’ antennal pockets – are rather variable among the studied species. *Epholcis divergens* (here moved to *Maechidius*), the type of its genus, has in fact shallow antennal pockets present, delimited by a moderately raised hypomeron ridge (Figs 11–12), but not flanged to cover the pocket as in ‘typical’ *Maechidius*. In other species, like the East Australian *E. bilobiceps* (Fairmaire, 1877), the anterolateral margin of the hypomeron is completely fused to the prosternum (Fig. 5) and the suture of fusion is not raised or carinate. In other species, like the Papuan *Maechidius subcostatus* Heller, 1895, the hypomeron is moderately produced and partly covers the antennal pocket (Fig. 282), denticulate medially. Any delimitation of the pronotal hypomeron being/not being produced to form/not form a ‘deep’ antennal pocket is here considered artificial and is only evident in extreme cases, with numerous intermediary forms in-between. The depth of the pocket is a relative character in this case.

It remains unclear, whether the species lacking strongly developed antennal pockets are the first branches on the tree of *Maechidius* sensu lato, showing the ancestral character state, or if the species without pockets are right in the middle of the tree and the missing hypomeron protrusion is a reduction back to the ancestral state. It is also unclear whether they are one clade or not, and, if so, what is the derived character defining this genus.

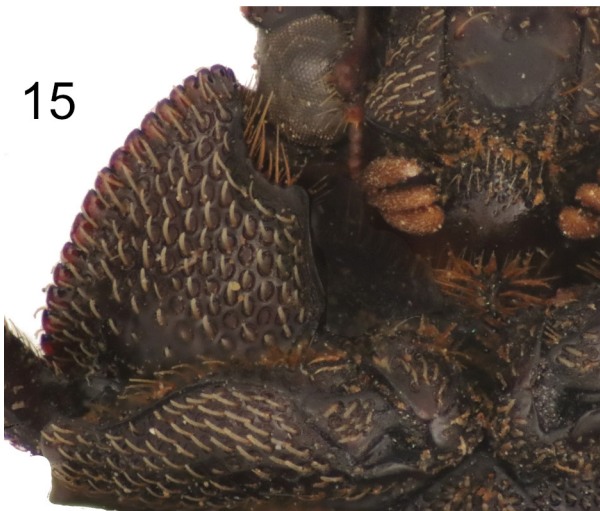
Besides differences in the structure of the hypomera between *Maechidius* and *Epholcis*, other features of importance are the shape and length of male and female tibial terminal spurs and these differences have not been noted by any previous authors. Generally, in *Epholcis* sensu stricto (e.g., species with a moderately produced anterolateral margin of the hypomeron) the terminal spur of the protibia is straight in both sexes (male protibial spur is somewhat shorter and thicker than in female) or the male protibial terminal spur is absent and the female spur is straight (Figs 359–428, 447–450), but the difference is not as great as in *Maechidius* sensu stricto (see Remarks on sexual dimorphism below).



Figs 8–13. *Maechidius divergens* (Waterhouse, 1875) comb. nov., ♂ (BMNH). **8.** Habitus, dorsal view. **9.** Head, dorsal view. **10.** Same, ventral view. **11.** Head, ventral view and antennal pockets. **12.** Prosternum and pronotal hypomera, ventral view. **13.** Left protibia. Not to scale.



14



15



17



16

Figs 14–17. Maechidiini Burmeister, 1855 features. **14.** *Maechidius corrosus* Waterhouse, 1875, antennal pockets. **15.** *M. major* Blackburn, 1888, same. **16.** *M. spurius* Macleay, 1819, holotype, prothorax and pronotal hypomera, ventral view (BMNH). **17.** Same, mesoventrite. Not to scale.

Review of *Paramaechidius* Frey, 1969 features

Undoubtedly, Frey (1969) was driven by Heller's (Heller 1910: 24) comment in the original description of *Maechidius pauxillus* comb. rest. on peculiarities of this species and a need to “establish its own group (or even new genus)” for it (quote translated from German). This species was selected for the type for Frey's newly erected genus. *Paramaechidius* was erected based on of the following characters (Frey 1969, translated from German): “Male tarsal claws with pulvilli, female claws without pulvilli. Foretibiae very long, with acute carina on dorsal surface and with two anterior teeth which are situated close one to one another and are sometimes merged. Metatibiae long, cylindrical. Basal part of head with two large humps. Anterolateral angles of clypeus raised at about 90° with regard to the head axis. Dorsum pruinulent except black anterior part of clypeus. Pronotum, elytra and pygidium in part suberect setose or covered with separate or grouped scales. Antennae (as known hitherto) 9-segmented. Also male club relatively short, not much longer than in females. Antennomeres of pedicel short, cylindrical. Club shorter than pedicel. Pronotum on underside of anterior margin with a furrow, but not as conspicuous as in *Maechidius*.”

Frey omitted (or misinterpreted) Heller's (1910: 24) comment on the “long cylindrical basal metatarsomere” in *P. pauxillus* (which is quite peculiar among congeners except *P. popei* Frey, 1969) and did not mention it in the original diagnosis for *Paramaechidius*. Instead, he mentioned “long cylindrical metatibiae”.

The generic features of *Paramaechidius* as of Frey (1969) seem variable, unstable or of little taxonomic value, and appear randomly in *Maechidius* sensu lato species of the Indo-Australian transition zone: Foretibia “very long”, foretibia with acute dorsal carina (ix.i.i), protibia with two distal external teeth (ix.i.ii) (some *Paramaechidius*-like species (e.g., *M. crypticus* sp. nov., *M. lapsus* sp. nov.) have an externally unidentate protibia), metatibia long cylindrical, frons with two humps (i.v), anterolateral angles of clypeus raised at ~90° with regard to the head axis in lateral view (i.i.iii) (this is the case in most Indo-Australian transition zone *Maechidiini*), dorsum with ordinary (often minute) or/and scale-like clavate setae (x.i), elytra in part covered with microscopical velvety pubescence in most species (x.ii), antenna 9-segmented (i.viii.i), hypomeron produced on anterolateral margin and forming deep pocket for antenna (ii.iv.ii), tarsal claws with pulvilli in males only (ix.viii.iii).

New genus-rank synonymy

In spite of some differences in external appearance, generally the features of *Maechidius*, *Epholcis* and *Paramaechidius*, as defined by earlier authors (see above) and as follows from their respective type species, appear variably or insufficiently defined. Therefore, two new synonyms are proposed herein:

Maechidius Macleay, 1819

Maechidius Macleay, 1819: 14.

Epholcis Waterhouse, 1875: 192. **syn. nov.**

Paramaechidius Frey, 1969: 503. **syn. nov.**

New and restored combinations

The following new combinations are proposed: *Maechidius acutus* (Narakusumo & Balke, 2019) **comb. nov.**, *M. arcuatus* (Narakusumo & Balke, 2019) **comb. nov.**, *M. bilobiceps* (Fairmaire, 1877) **comb. nov.**, *M. cakalele* (Narakusumo & Balke, 2019) **comb. nov.**, *M. divergens* (Waterhouse, 1875) **comb. nov.**, *M. gracilis* (Waterhouse, 1875) **comb. nov.**, *M. longior* (Blackburn, 1898) **comb. nov.**, *M. moluccanus* Moser, 1920 **comb. rest.**, *M. obiensis* (Narakusumo & Balke, 2019) **comb. nov.**, *M. uniformis* (Britton, 1957) **comb. nov.** (all from *Epholcis*), *M. agnellus* (Prokofiev, 2018) **comb. nov.**, *M. clypeatus* (Frey, 1969) **comb. nov.**, *M. helleri* (Frey, 1969) **comb. nov.**, *M. heterosquamosus* Heller, 1910 **comb. rest.**, *M. opatroides* Arrow, 1941 **comb. rest.**, *M. pauxillus* Heller, 1910 **comb. rest.**, *M. perlatus* (Frey, 1969) **comb. nov.**, *M. popei* (Frey, 1969) **comb. nov.** and *M. speciosus* (Frey, 1969) **comb. nov.** (all from *Paramaechidius*).

Sexual dimorphism

The taxa of *Maechidius* are sexually dimorphic. Arrow (1941: 449) was the first to describe sexual dimorphism in *Maechidius* and noted that differences in external morphology are considerable between the two sexes. He listed several sexually dimorphic features: “greater development of the clypeal lobes of the males”, “more slender front tibiae with feebler teeth” [in males], “longer tarsi, especially in the hind legs” [in males], “slightly longer lamellae of the antenna” in male (Britton 1957).

According to my own observations, the best feature for sexing certain *Maechidius sensu novo* species besides a considerable difference in length of male and female antennal lamellae, is the shape of the inner distal spur of the protibia, which in many Papuan and Wallacean taxa is straight and pointed in females but less slender and distally curved inward in males (cf. Figs 449–450). However, at least in male *M. lineatopunctatus* Frey, 1969, the protibial terminal spur is straight and pointed, whereas in *M. nanus* Arrow, 1942, *M. nepenthephilus* sp. nov., *M. rugicollis* Moser, 1920 and *M. woodlarkianus* Heller, 1914 protibial terminal spurs are absent in both sexes. The same is true for the lower terminal spur of the metatibia, which appears curved inward in males but straight in females (Figs 438–440). In other morphological groups the male terminal spur of the protibia is absent or short and hardly curved distally, but straight and longer in the female or basally curved and afterwards straight in both sexes (Figs 447–448). In many males of Papuan species (both with the male protibial terminal spur curved or straight) the lower meso- and metatibial terminal spurs are also curved (Figs 449–450). Metatibial terminal spur(s) can be longer in the female than in the male in certain species (Figs 441–442). In many species, the male and female pygidium is different as well (e.g., flat or convex dorsally in male, concave, humped posteromedial or longitudinally impressed in female) (Figs 451–534). The shape of the labroclypeus is often considerably different between males and females (Figs 9–10, 97–196), in most cases males having more stronger protruding anterolateral angles of the labroclypeus and the anterior margin is more deeply emarginate, but opposite cases are known (see descriptions below).

Ecology

Generally, Australian *Maechidius* are considered silvicolous and connected with diverse forest types (Williams 2002). The Papuan Region species are reported from lowland up to mid-montane rainforests. Many (if not all) Australian taxa are termitophiles and can be found in termite nests (Lawrence & Ślipiński 2013). Adults of the Australian *Maechidius cavus* Britton, 1957 were observed feeding on palm trunks and trunks of “native trees” in Northern Territory, “causing severe damage at a property” (Northern Territory Government 2011). Australian *Maechidius caviceps* Blackburn, 1888, *M. fissiceps* Macleay, 1888, *M. rugosicollis* Macleay, 1873 and *M. bilobiceps* (Fairmaire, 1877) comb. nov. were reported to assemble under the loose bark of dead or alive termite-invaded *Eucalyptus* spp. in the forest (Dodd 1921), sometimes in thousands of specimens. The same author reported *M. gracilis* (Waterhouse, 1875) comb. nov. from flowers (Dodd 1921, as “*Epholcis pacilis*” [sic!]). Most Papuan species were sampled at light (e.g., Arrow 1941; Telnov personal observations) and Australian species are also known to be attracted to lights (Dodd 1921; Britton 1957). As already pointed out by Arrow (1941: 449), and I can confirm it from my own observations, some of the night-collected specimens have clay adhering on both the dorsum and venter, which points to their burrowing behaviour (hiding during the daytime). In my study, *Maechidius lobaticeps* Frey, 1969 and *M. nepenthephilus* sp. nov. were observed (see Descriptions) on flowers of *Nepenthes* sp. pitcher plants (Figs 751–753) and many were found being digested inside pitchers situated below the racemes. *Nepenthes* are known to be insect-pollinated plants. In this particular situation, *M. lobaticeps* were eudominants among all other insects observed both on *Nepenthes* sp. flowers and in pitchers in the Lake Sentani area (only two specimens of *M. nepenthephilus* sp. nov. were collected). It is worth mentioning that the area around Doyo Lama village in the Sentani area is a semi-dry eucalypt forest on very poor soil (woody vegetation consists of bushy *Eucalyptus* sp. only and a grass layer – mainly of ferns and pitcher plants with scarce bunches of hard grass). According to my knowledge, this is the first evidence of such an interaction between *Maechidius* and *Nepenthes*.

Dodd (1921) reported copulation of Australian *Maechidius bilobiceps* comb. nov. during the daytime under loose bark of *Eucalyptus* spp. This author reported a noteworthy passive defence mechanism of the same *M. bilobiceps* comb. nov. observed in crevices and under loose bark of eucalypt: "... a sudden movement will cause them to drop suddenly; first one will fall to the ground, then others, until in a few seconds hundreds are raining down and in the course of a couple of minutes not one is left on the tree-trunk where just before they were in such numbers" (Dodd 1921: 62).

Surprisingly, the Sulawesi species *M. babyrousa* sp. nov. and *M. deltouri* sp. nov. were attracted to yellow pan traps (visiting blossoming plants is not yet recorded for *Maechidiini*), except for *M. lobaticeps* and *M. nepenthephilus* sp. nov. record mentioned above.

Species groups

Based on the studied specimens and new generic synonymy, the following four informal species-groups are herewith established to include most morphologically uniform taxa:

Maechidius sturnus group, based on strongly irregularly arranged punctures forming conspicuous fingerprint-like pattern on dorsal pronotum and elytra (Figs 297, 347).

Maechidius dani group, based on ventrally dentate male protarsomeres 1–2 and humped visible abdominal sternite III. This group includes the Baliem Valley (Papua) species *M. dani* sp. nov. and *M. hamatus* sp. nov.

Maechidius pauxillus group, based on the vestiture of the body (clavate scale-like setae, microscopical velvety pubescence), the shape of the pronotum and the type of dorsal punctures. This group includes the Moluccan *M. agnellus* (Prokofiev) comb. nov. and the Papuan *M. bintang* sp. nov., *M. crypticus* sp. nov., *M. heterosquamosus* Heller comb. rest., *M. dendrolagus* sp. nov., *M. lapsus* sp. nov., *M. merdeka* sp. nov., *M. owenstanleyi* sp. nov., *M. pauxillus* Heller, 1910 comb. rest., *M. popei* (Frey) comb. nov., *M. speciosus* comb. nov. and *M. weigeli* sp. nov.

Maechidius ursus group, based on the flattened and laterally expanded pronotum and brush-like clustered setae of the dorsum (Figs 238, 246, 261, 357). This group includes the Papuan species *M. kazantsevi* sp. nov., *M. opatroides* Arrow, 1941 comb. rest., *M. perlatus* (Frey, 1969) comb. nov. and *M. ursus* sp. nov.

Descriptions

In this chapter redescrptions of previously known species are generally less comprehensive than those of new taxa, intentionally omitting differential diagnoses, ecology and distribution. Species recently (re)described by Narakusumo & Balke (2019) are not redescrbed again, and for those of Arrow (1941) and Frey (1969) only additional features or corrections are given. For the previously described species measurements are only given when necessary, e.g., where they provide additional data.

Descriptions of species

Maechidius aenescens Heller, 1910
Figs 18, 97, 197, 266, 286, 359, 451

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♀; "Kais.Wilhelmsland Paup Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//*aenescens* Heller [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]"; SNSD.

Paralectotypes

PAPUA NEW GUINEA • 3 ♀♀; "Kais.Wilhelmsland Paup Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//Staatl. Museum für Tierkunde.Dresden [p]"; SNSD • 1 ♀; "Kais.Wilhelmsland Paup Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label] // ♀ [h]//Staatl. Museum für Tierkunde.Dresden [p]"; SNSD.

New material

PAPUA NEW GUINEA • 1 ♀; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt.//Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB.

Heller (1910: 22) based his description of *M. aenescens* on a number of specimens – although not explicitly stated, he gives a range of sizes. The four paralectotypes (SNSD) do not bear a type label. However, the locality label has the same text and handwriting as in the only specimen labelled “*aenescens*”. The lectotype here designated is the only syntype in Heller’s original handwriting on a red label, which may indicate (but cannot be stated with confidence), that this specimen was selected by the original author as the holotype. The lectotype designation is made in order to enhance the stability of nomenclature and fix all 5 of Heller’s specimens as members of the type series.

Description

MEASUREMENTS. Total body length 6 (lectotype) to 7.40 (largest paralectotype) mm.

Dorsum and venter brown, forebody with slight green lustre. Head flattened dorsally, somewhat depressed on either side at anterior angle of labroclypeus, slightly glossy dorsally and ventrally. Female labroclypeus subtruncate anteriorly (Fig. 97), its lateral margins sinuous in both dorsal and lateral views, anterolateral angles large, obtuse angulate and raised up at angle of nearly 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus broadly rounded to obtuse angulate in dorsal view. Punctures of frons annular, large and shallow. Intervening spaces with very delicate microreticulation, generally larger than punctures. Pubescence scale-like, elongate, variably long. Some setae very short, much shorter than their corresponding punctures. Each seta rises from anterior margin of corresponding puncture. Female antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy dorsally and laterally. Anterior margin deeply emarginate with anterolateral angles protruding anteriorly. Basal margin sinuous to broadly rounded. Lateral margin broadly rounded, delicately crenulate all along (Fig. 197). Moderately long curved and appressed scale-like seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view except in basal fourth. Hypomeron separated from prosternum by low straight carina, with very long setae on its anterolateral margin opposite to compound eye (Fig. 266). Antennal pocket shallow. Disc with shallow annular punctures, intervening spaces glossy and generally larger than those. Setae similar to those on head, appressed, generally longer. Some setae very short, much shorter than their corresponding punctures. Scutellar shield broadly rounded apically. Elytron glossy, with or without tracks of two vague, almost entirely glabrous longitudinal carinae. Sutural carinae not present. Punctures of elytral disc small, ordinary, intervening spaces in part densely wrinkled, in part glossy (Fig. 286). Setae shorter than those on pronotum, appressed; setae arranged in in part irregular paired longitudinal rows. Most setae extending exactly from one puncture to the next. Female pygidium flattened dorsally, with very large dense punctures which are shagreened on background (Fig. 451). Intervening spaces of pygidium glossy, much smaller than punctures. Protibia widened distally, in female with three external teeth: two large acute distal and one inconspicuous strongly obtuse basal (Fig. 359). Protibial terminal spur not present (in females only?). Tarsal claws with pulvilli (in females only?).

Sexual dimorphism

Male is unknown.



Figs 18–21. Papuan *Maechidius* Macleay, 1819, habitus, dorsal and lateral views. 18. *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). 19. *M. aiyura* sp. nov., holotype, ♂ (BMNH). 20–21. *M. alesbezdeki* sp. nov. ♂ (NME). Not to scale.

Maechidius aiyura sp. nov.

[urn:lsid:zoobank.org:act:568C06B4-A3C4-41A1-B924-4E1232EF8A3B](https://doi.org/10.21203/rs.3.rs-1111111/v1)

Figs 19, 98, 198, 287, 360, 452, 535, 570–572

Differential diagnosis

Undoubtedly related to *M. interruptocarinulatus* Heller, 1914, but clearly different in lateral outline of pronotum in dorsal view (more regularly rounded in *M. interruptocarinulatus*, constricted anteriorly and posteriorly in *M. aiyura* sp. nov.), stronger sinuous lateral margins of labroclypeus, glabrous intervening spaces of elytra (covered with microscopical velvety pubescence in *M. interruptocarinulatus*) and less distinct (narrower, more flat) elytral longitudinal carinae. Males are unknown for *M. interruptocarinulatus*.

Etymology

Toponymic. The name derives from the Aiyura Valley, the type locality of this species. Noun in apposition.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Papua New Guinea East.High.Prov., [p] HAES Aiyura 1560M 30//NOV//1976 [h] E.S.C.Smith Attr.to U.V. light [p]//A327 [p]//26961 [p]//C.I.E. COLL. A. [p] 9461 [h] [red label]//Pres by Comm Inst Ent B.M. 1977–1 [p]//*Maechidius* sp. [h] det. R.B.Madge, 197[p] 7 [h]”; BMNH.

Description

MEASUREMENTS. Total body length 9.15 mm. Head 1.60 mm long, across eyes 2.15 mm wide. Pronotum 2.00 mm long, maximum width 3.20 mm. Elytral length 5.55 mm, maximum combined width 4.10 mm.

Dorsum uniformly black-brown, venter, legs and labroclypeus castaneous brown. Head transverse, glossy dorsally and ventrally, flattened dorsally. Compound eye large, occupying about half side of head. Male labroclypeus broadly emarginate on anterior margin (Fig. 98), its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles of male labroclypeus slightly protruding anteriorly, obtuse in dorsal view, bent up at ~90° to axis of frons in lateral view. Upper- and underside of labroclypeus with moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular to ovoid, deep and dense. Inner margin of some punctures with delicate membrane covered with microscopical velvety pubescence. Intervening spaces glossy, variably large. Canthus covered with microscopical velvety pubescence. Dirty-yellow inconspicuous suberect seta rises from anterior margin of each puncture, generally surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Pronotum strongly transverse, glossy dorsally and laterally, its anterior margin sinuous with median part (slightly) and anterolateral margins (stronger) protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum rounded, more strongly constricted towards base than anteriorly, crenulate all along (Fig. 198). Inconspicuous suberect scale-like seta present between every two crenulae. Lateral margin of pronotum slightly sinuous in lateral view. Areas at antero- and posterolateral angles of pronotum slightly dorsally impressed. Pronotal punctures ovoid, very deep and dense, filled with microscopical velvety pubescence (Figs 19, 198). Intervening spaces glossy, as large as to smaller than punctures. Pronotal setae inconspicuous, appressed to suberect; each seta rises from anterior margin of each puncture, not surpassing length of corresponding puncture. Basal and lateral margins of pronotum covered with microscopical velvety pubescence. Posterolateral angles densely covered with long scale-like setae. Hypomeron sinuous, very long setose on anterior margin opposite to compound eye, flange-like. Antennal pocket deep. Scutellar shield covered with microscopical velvety pubescence, narrowly rounded apically. Elytron glossy dorsally, maximum width across midlength, with

obsolete humerus and distinct omoplate. Tracks of three flat glossy longitudinal carinae on each elytron; sutural stria not indicated. Elytral punctures delicate, ovoid, moderately deep, generally smaller than those on forebody, arranged in irregular longitudinal rows (Fig. 287). Inner margin of each puncture covered with microscopical velvety pubescence (Fig. 287). Intervening spaces glossy, variably large. Setae of elytra inconspicuous, appressed to suberect, rising from anterior margin of corresponding punctures, not surpassing their length. Slightly longer suberect, sparse setae arranged in irregular longitudinal rows along remnants of elytral carinae. Male pygidium dorsally slightly convex and medially longitudinally impressed, with dense shallow ovoid punctures (Fig. 452). Intervening spaces in part microreticulate, generally smaller than punctures. Setae of pygidium inconspicuous, sparse, suberect. Male protibia with two moderately large distal teeth on external margin (Fig. 360). Male protibial terminal spur large, curved. Male lower meso- and metatibial terminal spur curved. Tarsal claws with pulvilli (in males only?). Spiculum gastrale as in Fig. 535. Male aedeagus as in Figs 570–572.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lower montane rainforests.

Distribution

Aiyura Valley, Eastern Highlands Province, East New Guinea.

Maechidius alesbezdeki sp. nov.

[urn:lsid:zoobank.org:act:A7930BCD-9290-497E-ABAF-137253AB5D2E](https://zoobank.org/act:A7930BCD-9290-497E-ABAF-137253AB5D2E)

Figs 20–21, 99, 199, 288, 361, 454, 567, 573–575

Differential diagnosis

Among Papuan congeners, *M. alesbezdeki* sp. nov. is readily distinguishable primarily due to the combination of the following characters: labroclypeus deeply U-shaped emarginate anteriorly with protruding obtuse angulate anterolateral angles and sinuous lateral margins, dense punctured frons, denticulate lateral margin of pronotum (crenulate in most congeners), linear (incision-shaped) punctured elytra and shape of male genitalia.

Etymology

Patronymic. This species is named after the famous Scarabaeidae expert and respected colleague Aleš Bezděk (České Budějovice, Czech Republic).

Type material

Holotype

INDONESIA • ♂; “INDONESIA E, W New Guinea, Doberai Peninsula, Arfak mts, Anggi Gigi Lake S env., Uper vill., 1°18'05”S, 133°54'24”E, 10-11.IX.2015, 2200 m, edge of primary mid montane rainforest, white light”; NME.

Description

MEASUREMENTS. Total body length 8.67 mm. Head 1.67 mm long, across eyes 1.86 mm wide. Pronotum 1.70 mm long, maximum width 2.60 mm. Elytral length 5.30 mm, maximum combined width 3.50 mm.

Dorsum black-brown with castaneous labroclypeus, anterior and lateral margins of pronotum, mouthparts and legs. Venter uniformly dark castaneous brown. Head flattened between eyes, subopaque dorsally and

ventrally, with large slightly prominent eyes occupying about half side of head. Male labroclypeus very deeply and rather narrowly U-shaped emarginate (Fig. 99), its lateral margins sinuous in both dorsal and lateral views, anterolateral angles large, obtuse angulate and raised up at angle of nearly 80° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Punctures of frons annular, large and shallow. Intervening spaces microreticulate, generally much smaller than punctures. Pubescence dirty yellowish, sparse, erect to suberect with longest setae near eyes and on underside of labroclypeus. Each seta rises from anterior margin of corresponding puncture. Male antenna 8-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 transverse. Pronotum flattened dorsally, glossy dorsally and laterally. Anterior margin broadly emarginate, slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin broadly rounded. Lateral margin broadly rounded, constricted towards base in basal third. Along lateral margin with 12–13 acute denticles (two anterior less conspicuous, median ones stronger) (Fig. 199). Long erect seta present between each two denticles. Lateral margin of pronotum nearly straight in lateral view. Punctures on disc ovoid, annular, generally larger and deeper than those on head, becoming flatter and regularly circular along lateral margins. Intervening spaces generally smaller than punctures, glossy. Setation like on head. Hypomeron nearly straight, separated from prosternum by low carina, with long setae on anterolateral margin. Antennal pocket shallow. Scutellar shield narrowly rounded apically. Elytra cylindrical, maximum width across median third, opaque and flattened dorsally, with rounded humeri. Obtuse hump on each elytron near apex. No tracks of longitudinal carinae, sutural carinae also not present. Disc and lateral sides of elytra in irregular delicate wrinkles between dense, narrow and rather deep linear incision-shaped punctures (Fig. 288). Inconspicuous suberect seta rises from anterior margin of each puncture; setae variably long. Epipleuron with row of cilia-like erect setae. Male pygidium and abdominal ventrites densely covered with large and shallow annular punctures, each provided with short seta (Fig. 454). Abdominal ventrites with no track of lateral longitudinal ridge. Legs long and slender, femora and tibiae covered with long erect setae arranged in 4–5 lines. Protibiae straight, metatibiae stouter than protibiae and thickened distally. Protibia with track of inconspicuous carina on dorsal surface. Three teeth on external margin of male protibia: two large pointed distal ones and broad obtuse inconspicuous basal one same distance from median as median one from distal (Fig. 361). Male protibial terminal spur straight. Tarsal claws with large pulvilli (in males only?). Spiculum gastrale as in Fig. 567. Male aedeagus as in Figs 573–575.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in primary mid-montane rainforests at ~2200 m altitude. Possibly nocturnal.

Distribution

Hitherto only known from Arfak Mountains, Doberai Peninsula, western New Guinea.

Maechidius angusticeps Arrow, 1941
Figs 22, 100, 200, 289, 362, 455, 576–578

Type material

Holotype

INDONESIA • ♂; “Type [p, label circular, red frame]//DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. 400 meters. Vii.1937 [p]//W.Süber. B.M.1938-177. [p]//*Maechidius angusticeps* Arrow type [h]”; BMNH.

Description

Dorsum and venter uniformly black-brown, labroclypeus castaneous brown. Male labroclypeus broadly emarginate, anterolateral angles obtuse angulate, protruding anteriorly (Fig. 100), its lateral margins strongly sinuous in lateral view. Punctures of frons ovoid, deep. Setae inconspicuous, scale-like, narrow and short (not or hardly surpassing length of corresponding punctures), each seta rises from anterior margin of corresponding puncture. Lateral margin of pronotum broadly rounded, shallowly emarginate prebasally, delicately crenulate all along (Fig. 200). Appressed scale-like clavate seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron sinuous, long setose opposite to compound eye, flange-like. Antennal pocket deep. Punctures larger and deeper than those on head. Intervening spaces glossy, narrow, wrinkled. All setae much shorter than corresponding punctures, each seta rises from anterior margin of corresponding puncture. Basal margin laterally with fringe of longer clavate scale-like setae. Lateral margins, antero- and posterolateral angles completely covered with microscopical velvety pubescence. Punctures of elytra ovoid, irregular in size, less deep than those on forebody (Fig. 289). Elytral setae generally very short (only few setae are as long as corresponding punctures), each seta rises from anterior margin of corresponding puncture. Most of punctures partly or completely encircled by delicate and extremely short velvety pubescence, composing circular to subcircular patterns around perimeter of punctures. Male pygidium slightly convex dorsally, with dense ovoid deep punctures and suberect scale-like clavate setae not or hardly surpassing length of corresponding punctures (Fig. 455). Male protibia with flat dorsal carina and two distal teeth on external margin (Fig. 362). Male upper metatibial terminal spur longer than half length of male basal metatarsomere, surpassing distal margin of metatibia in dorsal view. Male aedeagus as in Figs 576–578.

Sexual dimorphism

Female is unknown.

Maechidius aroae Heller, 1914
Figs 23, 101, 201, 290, 363, 456

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♀; “14716 [h]//Typus! [p] *Aroae* Heller [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Heller (1914: 627) based his description of *M. aroae* on an unstated number of specimens. The single SNSD specimen labelled “Typus!” is herewith designated as the lectotype in order to enhance the stability of nomenclature and fix the specimen that I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 9.60 mm (lectotype).

Dorsum and venter uniformly black-brown with exception of paler brown appendages and labroclypeus. Head flattened dorsally, subopaque dorsally and ventrally. Female labroclypeus very broadly emarginate anteriorly (Fig. 101), its lateral margins nearly straight in dorsal, sinuous in lateral view. Anterolateral angles of labroclypeus very broadly rounded, not protruding, raised up at angle of nearly 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus very broadly rounded in dorsal view. Punctures of frons circular, moderately large and shallow. Intervening spaces microreticulate, generally much larger than punctures. Pubescence delicate, variably long, appressed. Some setae very short, much shorter than



Figs 22–24. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **22.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **23.** *M. aroae* Heller, 1914, lectotype, ♀ (SNSD). **24.** *M. awu* sp. nov., holotype, ♂ (IECA). Not to scale.

corresponding punctures. Each seta rises from anterior margin of corresponding puncture. Female antenna 8-segmented, club 3-lamellate (antenna 7-segmented according to Frey (1969)). Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin emarginate with anterolateral angles protruding anteriorly. Basal margin subtruncate. Lateral margin of pronotum broadly rounded, somewhat more strongly constricted in basal fourth, crenulate in anterior, denticulate in posterior half (Fig. 201). Long distally curved erect seta present between every two crenulae/denticles. Lateral margin of pronotum slightly sinuous in lateral view. Punctures circular to ovoid, shallow. Intervening spaces as large as to larger than punctures. Hypomeron separated from prosternum by low straight carina, with extraordinarily long setae on anterolateral margin opposite to compound eye. Antennal pocket shallow. Scutellar shield subtriangular, narrowly rounded apically. Elytron glossy, with vague tracks of two vague glabrous longitudinal carinae. Sutural carinae not present. Punctures of disc sparse, narrow and rather deep, linear incision-shaped (Fig. 290). Inconspicuous suberect seta rises from under anterior margin of each puncture; setae generally longer than corresponding punctures. Intervening spaces in part microreticulate, micropunctate or wrinkled. Setae inconspicuous, short, suberect. Female pygidium flattened dorsally, with large annular punctures (Fig. 456). Intervening spaces glossy, smaller than punctures except along midline. Female protibia widened distally, with three large external teeth: two larger acute distal and one obtuse basal (Fig. 363). Protibial terminal spur not present. Female metatibial terminal spurs short, apically rounded. Tarsal claws with pulvilli (in females only?).

Sexual dimorphism

Male is unknown.

Maechidius awu sp. nov.

[urn:lsid:zoobank.org:act:86803286-3157-4DB2-9A03-6040AD2D2226](https://doi.org/10.3897/ejt.721.86803286-3157-4DB2-9A03-6040AD2D2226)

Figs 24, 103–104, 202, 292, 364, 457, 537, 579–581

Differential diagnosis

Undoubtedly very close to Sulawesi congeners, differs primarily in shape of male genitalia (cf. Figs 579–581), comparatively deeper emarginate anterior margin of male labroclypeus and somewhat medially angulate lateral margin of female pronotum (seen in dorsal view). In the shape of the aedeagus, *M. awu* sp. nov. strongly resembles *M. deltouri* sp. nov. from North Sulawesi (see description below), but it is readily distinguishable in male pygidium evenly convex (humped posteriorly in *M. deltouri* sp. nov.), dorsally evenly convex pronotal disc (with circular impression on either side of the midline in *M. deltouri* sp. nov.) and different shape of parameres (cf. Figs 607–610 for *M. deltouri* sp. nov.).

Etymology

Named after Awu, the largest volcano in the Sangihe chain, which caused its last powerful eruption in 1966 and developed a 4.5 km wide crater at the summit as a result of this eruption. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “Indonesia, 200-600 m alt. SANGIR Isl., Tahuna distr. Bukit Bembaluh, SE of Tahuna 14.-21.11.2009, St. Jakl lgt. //coll. IECA České Budějovice, Czech Republic”; IECA.

Paratypes (4 specimens)

INDONESIA • 1 ♂, 2 ♀♀; same labels as for holotype; IECA • 1 ♀; same labels as for holotype; DTC.

Description

MEASUREMENTS. Holotype, total body length 7.05 mm. Head 1.50 mm long, across eyes 1.81 mm wide. Pronotum 1.70 mm long, maximum width 2.78 mm. Elytral length 3.85 mm, maximum combined width 3.12 mm. Paratypes 5.30–6.80 mm long.

Dorsum uniformly black to black-brown with reddish brown labroclypeus, mouthparts, antennae, legs and all of venter. Lateral margins of pronotum and elytra, pronotal hypomera and venter with dense microscopical velvety pubescence in some specimens. Head transverse, glossy to subopaque dorsally and ventrally, convex between eyes. Compound eye large, occupying about half side of head. Male labroclypeus (Fig. 103) rather deeply V-like emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views, anterolateral angles rather strongly protruding, acute in dorsal view, bent up at $\sim 90^\circ$ to frons in lateral view. Female labroclypeus (Fig. 104) with vague and very broad emargination, its anterolateral angles broadly rounded and not protruding, nearly straight in both dorsal and lateral views. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus slightly rounded in dorsal view. Anterior and lateral margins of labroclypeus smooth. Dorsal punctures ovoid, large and very deep; inner margin with delicate membrane. Intervening spaces glossy, glabrous, generally distinctly smaller than punctures. Very long erect seta rises from anterior margin of each puncture. Antenna in both sexes 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum glossy dorsally and laterally. Anterior margin sinuous in male (slightly sinuous with anterolateral angles (stronger) and mesal portion protruding anteriorly), broadly emarginate in female. Basal margin broadly rounded. Lateral margin of pronotum in dorsal view broadly rounded in male (Fig. 202), straight and widened towards obtuse postmedian angulation and afterwards constricted towards base in female. Lateral margin delicately crenulate all along, a long erect seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Punctures ovoid, very deep, variably large; inner margin with delicate membrane. Intervening spaces glossy and glabrous, generally narrower than punctures, nearly wrinkled at lateral margins. Setae curved, as on head. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron emarginate and very long setose on anterior margin, which is flange-like protruding. Antennal pocket deep. Median anterior process of prosternum long brushy setose, short, moderately raised. Scutellar shield pointed apically. Elytra slightly widened postmedially, maximum width across midlength, glossy dorsally, with distinct humeri. Vague tracks of two flat glabrous carinae on each elytron. Punctures of elytral disc ovoid, generally smaller and much shallower than those on forebody, irregular to partly arranged in longitudinal rows; inner margin with delicate membrane covered with microscopical velvety pubescence (Fig. 292). Setae long, suberect to erect, sparse, arranged in longitudinal rows. Epipleuron all along with short suberect setae. Male pygidium slightly convex, deeply punctate (Fig. 537). Pygidium intervening spaces subopaque, microreticulate and covered with microscopical velvety pubescence, with sparse moderately long suberect setae. Female pygidium flattened, glossy on intervening spaces. Venter covered with sparse small shallow punctures, each provided with very short seta, in part covered with microscopical velvety pubescence. Legs long and slender. Male protibia straight on external margin, delicately crenulate all along, with complete dorsal fovea (Fig. 457). Two acute, rather large distal teeth on protibia in both sexes, distal longer than predistal. Male protibial terminal spur large, curved, female one shorter and straight. Male metatibial terminal spurs paired, almost equally long, subacute, lower one curved; female ones shorter, nearly straight, obtuse. Tarsal claws with pulvilli in both sexes. Male aedeagus as in Figs 579–581.

Sexual dimorphism

Male with longer lamellae of antennal club, stronger emarginate anterior margin of labroclypeus, dorsally convex pygidium (flat in female), larger and curved pro- and lower metatibial terminal spurs, and evenly rounded lateral margin on pronotum (in dorsal view).

Ecology

Studied specimens sampled at 200–600 m altitude.

Distribution

Hitherto only known from Sangir, the largest of the Sangihe Islands. This is hitherto the northernmost record of the *Maechidiini*.

Maechidius babyrousa sp. nov.

[urn:lsid:zoobank.org:act:E9202A3D-800A-47B0-B9D0-884E101246ED](https://zoobank.org/urn:lsid:zoobank.org:act:E9202A3D-800A-47B0-B9D0-884E101246ED)

Figs 25, 106–107, 203, 293, 365, 438–440, 449–450, 458–459, 538, 582–585

Differential diagnosis

This species is most similar to *M. peregrinus* Lansberge, *M. deltouri* sp. nov., *M. legalovi* sp. nov. and *M. suwawa* sp. nov. (all from Sulawesi). This new species readily differs from them and other congeners only in the shape of the male genital organs, labroclypeus, apically unidentate (males) or bidentate (females) protibiae, and the presence of a transverse median hump on the female pygidium. Two vague circular impressions on the pronotal disc are also present in *M. deltouri* sp. nov.

Etymology

Named after *Babyrousa* Perry, 1811, a genus of enigmatic Suidae endemic to Sulawesi and the Moluccas. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA: SULAWESI UTARA Gng. Ambang F. R. nr Kotamobagu 30.v – 2.vi 1985.//Gng Muajat summit area ca 1780m//light [h, upper side of label] R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10 [underside of label]”; BMNH.

Paratypes (13 specimens)

INDONESIA • 3 ♂♂, 1 ♀; same labels as for holotype; BMNH • 2 ♂♂, 6 ♀♀; “INDONESIA SULAWESI UTARA Gng. Ambang F.R. nr. Kotamobagu 18-24 May 1985.//Yellow pan trap//R.Ent. Soc.Lond. PROJECT WALLACE B.M. 1985-10”; BMNH • 1 ♀; “INDONESIA SULAWESI UTARA Gng. Ambang F.R. nr. Kotamobagu 18-24 May 1985.//Gng. Muajat 1750-1780 m [h]//Yellow pan trap//R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10.”; BMNH.

Description

MEASUREMENTS (exposed abdominal ventrites not included). Male holotype, total body length 6.95 mm. Head 1.25 mm long, across eyes 1.60 mm wide. Pronotum 1.40 mm long, maximum width 2.40 mm. Elytral length 4.30 mm, maximum combined width 3.34 mm. Selected female paratype, total body length 8.20 mm. Head 1.50 mm long, across eyes 1.70 mm wide. Pronotum 1.70 mm long, maximum width 2.70 mm. Elytral length 5.00 mm, maximum combined width 3.52 mm.



25



26



27

Figs 25–27. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal and lateral views. **25.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). **26–27.** *M. bintang* sp. nov., holotype, ♂ (NME). Not to scale.

Dorsum uniformly black to black-brown (elytra somewhat paler brown than forebody) with castaneous labroclypeus, mouthparts, legs and venter. Head transverse, trapezoid, slightly convex dorsally between eyes, glossy dorsally and ventrally, with large not prominent eyes occupying over half side of head. Male labroclypeus (Fig. 106) slightly emarginate on anterior margin, with lateral margins smooth, slightly sinuous in both dorsal and lateral views. Anterolateral angles not protruding anteriorly, strongly obtuse, bent up almost perpendicularly to axis of frons in lateral view. Female labroclypeus (Fig. 107) rather deeply emarginate on anterior margin, with slightly protruding, strongly obtuse anterolateral angles. Punctures circular to hexagonal. Intervening spaces glossy, smaller than up to as large as punctures. Pubescence dirty yellowish, moderately long and suberect, each seta rises from anterior margin of corresponding puncture. Labroclypeus laterally and frontally with more delicate setae. Few longest setae present near eyes. Male antenna 9-segmented, club 3-lamellate. Scape large, bulbous dorsally in distal half, provided with few long erect setae on posterior and distal margins. Antennomere 2 short, slightly transverse. Pronotum transverse, glossy dorsally and laterally. Anterior margin slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin broadly rounded. Lateral margin of pronotum evenly broadly rounded, delicately crenulate all along (Fig. 203). Pronotal disc with two vague circular postmedian impressions on either side of disc (this feature not visible in holotype). Lateral margin of pronotum hardly sinuous in lateral view. Punctures of pronotum ovoid to circular, deep and coarse. Intervening spaces glossy and glabrous, smaller than punctures on disc, becoming larger along lateral margins. Setae shorter than on head, stronger curved. Clavate scale-like seta present between every two crenulae on lateral margin of pronotum. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron smooth, sparsely covered by circular punctures. Hypomeron flange-like, with large emargination opposite to eye (to receive canthus separating compound eye) covered with long setae. Antennal pocket deep. Scutellar shield triangular, narrow apically. Elytra cylindrical, maximum width in median third, glossy and slightly convex dorsally, with rounded humeri and slightly elevated omoplates. Indistinct track of one–two flat longitudinal carinae on each elytron. Sutural carinae not indicated. Rather large obtuse hump on each elytron near apex. Disc and lateral sides of elytra irregularly densely punctured, punctures of irregular size and form (circular to ovoid) (Fig. 293). Intervening spaces glossy, smaller than punctures. Moderately long suberect setae arranged in irregular longitudinal paired rows. Inconspicuous very short setae not surpassing length of corresponding punctures positioned between longitudinal rows of longer setae. Each seta rises from anterior margin of each puncture. Epipleuron with row or two (in broad anterior part) of suberect setae. Male pygidium with shallow annular punctures and glossy intervening spaces (Fig. 458). Female pygidium similarly punctured as in male, with obtuse transverse median hump (Fig. 459). Seta rises from centre of each puncture of pygidium. Abdominal ventrites glossy, covered with large annular punctures, each provided with short seta. Legs slender, femora and tibiae covered with delicate whitish setae. Outer margins of meso- and metatibiae densely denticulate. Male protibia with one (apical) strong tooth on external margin, female protibia with two teeth (Figs 449–450). Male lower meso- and metatibial terminal spurs strongly curved (Fig. 439–440), female ones straight (Fig. 438). Distal margin of metatibia in both sexes with projection over basal metatarsomere. Metatibial terminal spurs paired, shorter than basal metatarsomere in male but almost as long as in female. Tarsal claws with pulvilli in both sexes. Male aedeagus as in Figs 582–585. Spiculum gastrale as in Fig. 538.

Sexual dimorphism

Female is generally larger, with shorter lamellae of antennal club; protibial spur slightly curved distally in male, straight in female; metatibial spurs somewhat longer in female than in male; protibia bidentate in female; female pygidium with modifications (see above); female lower meso- and metatibial terminal spurs slender, slightly curved apically.

Ecology

Occurs in lowland rainforests. Attracted to yellow pan traps (anthophilous?). Possibly nocturnal.

Distribution

Hitherto only known from North Sulawesi.

***Maechidius bintang* sp. nov.**

urn:lsid:zoobank.org:act:D31E9842-D637-451B-A79A-8E4E188EEF7F

Figs 26–27, 102, 204, 294, 366, 460, 568, 586–588

Differential diagnosis

This new species strongly resembles *Maechidius pauxillus* Heller, 1910 comb. rest. and *M. speciosus* (Frey, 1969) comb. nov. (both from Finisterre Mts., NE New Guinea), distinguishable primarily by the structure of the male genitalia (laterally dentate parameres, in particular), lateral margins of pronotum hardly converging anteriorly in anterior third (constricted in most specimens of *M. pauxillus* comb. rest. and in holotype of *M. speciosus* comb. nov., Figs 41, 46), less strong transverse pronotum which is about $1.3 \times$ as broad as long ($1.8\text{--}1.9 \times$ in *M. pauxillus* comb. rest., $1.7 \times$ in *M. speciosus* comb. nov.), absence of lateral median tooth-like angulation on pronotum (widest part of pronotum is on acute median angulations in *M. speciosus* comb. nov., Fig. 46), pronotal disc coarser and denser punctured, and the opaque surface of the elytra (elytra smooth in *M. speciosus* comb. nov.).

Etymology

Toponymic. The name derives from Penugungan Bintang, an Indonesian name for the Star Mountains, on the southern foothills of which this species was first collected. Noun in apposition.

Type material**Holotype**

INDONESIA • ♂; “INDONESIA E, New Guinea, Papua Prov., Star Mountains, Oksibil 22-27 km SSE, 5 km around Beringin vill. (05°05'01”S, 140°43'27”E), 320-250 m, 12-14.III.2018, primary & secondary lowland rainforest”; NME.

Description

MEASUREMENTS. Holotype, total body length 7.95 mm. Head 1.50 mm long, across eyes 1.86 mm wide. Pronotum 1.80 mm long, maximum width 2.35 mm. Elytral length 4.55 mm, maximum combined width 3.40 mm.

Dorsum dark brown to black, elytra with irregular slightly paler markings, especially along carinae. Dorsal colouration covered by numerous paler scale-like setae (see below). Venter uniformly dark brown. Head transverse, subopaque dorsally and ventrally, with large slightly prominent compound eyes occupying over half side of head. Frons with large obtuse hump at inner margin of each eye. Male labroclypeus (Fig. 102) with broad shallow emargination, its lateral margins sinuous in dorsal, nearly straight in lateral view. Anterolateral angles acute, protruding anteriorly and raised up at angle of nearly 90° to frons in lateral view. Anterior margin of labroclypeus smooth and with dense round punctures. Canthus nearly straight in dorsal view. Punctures of frons deep, of irregular oblong shape, small to large. Intervening spaces vary strongly in size, in part glossy and glabrous, in part covered with microscopical velvety pubescence. Except on anterior margin of labroclypeus, suberect dirty yellowish scale-like seta rising from each puncture. Setae smaller and more rounded on anterior and basal parts of head dorsum, becoming elongate clavate and smaller along frons midline (therefore midline looks sparser setose), but becoming very large and strongly clavate, in part suberect, on dorsal humps and along inner margins of eyes (Fig. 102). Anterior margin of labroclypeus with row of long cilia-like setae, lateral margins with

elongate-clavate scales. Male antenna 9-segmented, club 3-lamellate. Scape large, strongly clavate-like widened and very densely microreticulate, provided with several long erect setae on posterior margin and with two very long erect setae in distal half of anterior margin. Antennomere 2 short and broad, transverse. Pronotum transverse, subopaque laterally but shiny on disc. Anterior margin of pronotum slightly sinuous with anterolateral angles and mesal portion slightly protruding anteriorly. Basal margin of pronotum very broadly rounded. Lateral margins of pronotum almost parallel in anterior half, slightly constricted in basal third, up to constriction all along with weakly defined crenulae, constriction area nearly smooth (Fig. 204). Lateral margin of pronotum hardly sinuous in lateral view. Pronotal punctures coarse and deep, variably oblong on disc, becoming smaller and regularly circular but hardly shallower at lateral margins. Setae dirty yellowish, scale-like, generally tiny to very large seta rising from anterior margin of each puncture. Setae longer clavate and erect mesally on anterior margin, arranged in two longitudinal groups facing frons' humps (Figs 26, 204). Between these two groups and posterior to them setae minute (not surpassing length of corresponding punctures), but again becoming larger and more elongate just before pronotal constriction (also arranged in two groups and separated medially). Between second group of longer setae and base only minute setae present. Two nearly straight lines of extremely enlarged clavate setae present on sides of pronotum and covering posterolateral angles. These setae becoming much smaller in anterior fourth of pronotum and expanding outwards reaching anterolateral angles. Lateral area between anterior and posterior angles of pronotum very minutely setose. Underside of anterolateral angles also with large elongate-clavate scales. Hypomeron flange-like, with short and shallow emargination opposite to eye (to receive canthus separating compound eye) provided with some very long and few shorter setae. Antennal pocket deep. Scutellar shield triangular, pointed apically. Elytra rather slender cylindrical, maximum width across median third, opaque and convex dorsally, with prominent rounded humeri. Large hump near apex on each elytron, provided with obtuse glossy glabrous notch at base. Tracks of two longitudinal carinae on each elytron additionally to glabrous glossy and almost complete juxtasutural carina. Punctures deep, of irregular oblong shape, irregular in size (Fig. 294). Intervening spaces subopaque, in part covered with microscopical velvety pubescence. Dorsal setae scale-like. Generally, tiny to very large seta rising from anterior margin of each puncture. Longer setae elongate clavate and sparse, minute setae elongate ovoid, not surpassing length of corresponding punctures. Epipleuron densely covered by rather small clavate scales. Male pygidium densely and deeply punctured, except for margins covered with large strongly clavate setae all pointing obliquely to middle (Fig. 460); intervening spaces subopaque. Anterior margin with minor scale-like setae not surpassing length of corresponding punctures. Along distal margin with longer and stronger elongate clavate setae. Abdominal ventrites much less coarse punctured than dorsum, laterally with small scale-like clavate setae. Abdominal ventrites with no track of lateral longitudinal ridge. Legs long and slender, femora and tibiae covered with minute scale-like setae. Protibia straight, meso- and metatibia stouter than protibiae and gradually thickened distally, on inner margin each provided with row of ordinary setae. Protibia with track of inconspicuous and interrupted carina on dorsal surface. Two teeth on external margin of male protibia: one pointed distal and other broad obtuse inconspicuous basal short distance from distal one (Fig. 366). Tibial spurs not paired, those of pro- and mesotibiae strongly curved. Tarsal claws strong, strongly curved, provided with large pulvilli (in males only?). Spiculum gastrale as in Fig. 568. Male aedeagus as in Figs 586–588.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in primary lowland rainforests at ~250–359 m altitude. Possible diurnal.

Distribution

Hitherto only known from the southern foothills of the Star Mountains, Central Cordillera of New Guinea.

Maechidius boessnecki sp. nov.

urn:lsid:zoobank.org:act:C4A68BE8-8247-4C13-93A5-DEB150FB8B09

Figs 28, 105, 205, 295, 367, 461, 589–591

Differential diagnosis

This species differs from all congeners in the shape of the aedeagus.

Etymology

Patronymic. This species is named in honour of Ulrich Bößneck (4 Mar. 1960–13 Sep. 2019; Erfurt, Germany), a famous malacologist, respected colleague and my friend.

Type material

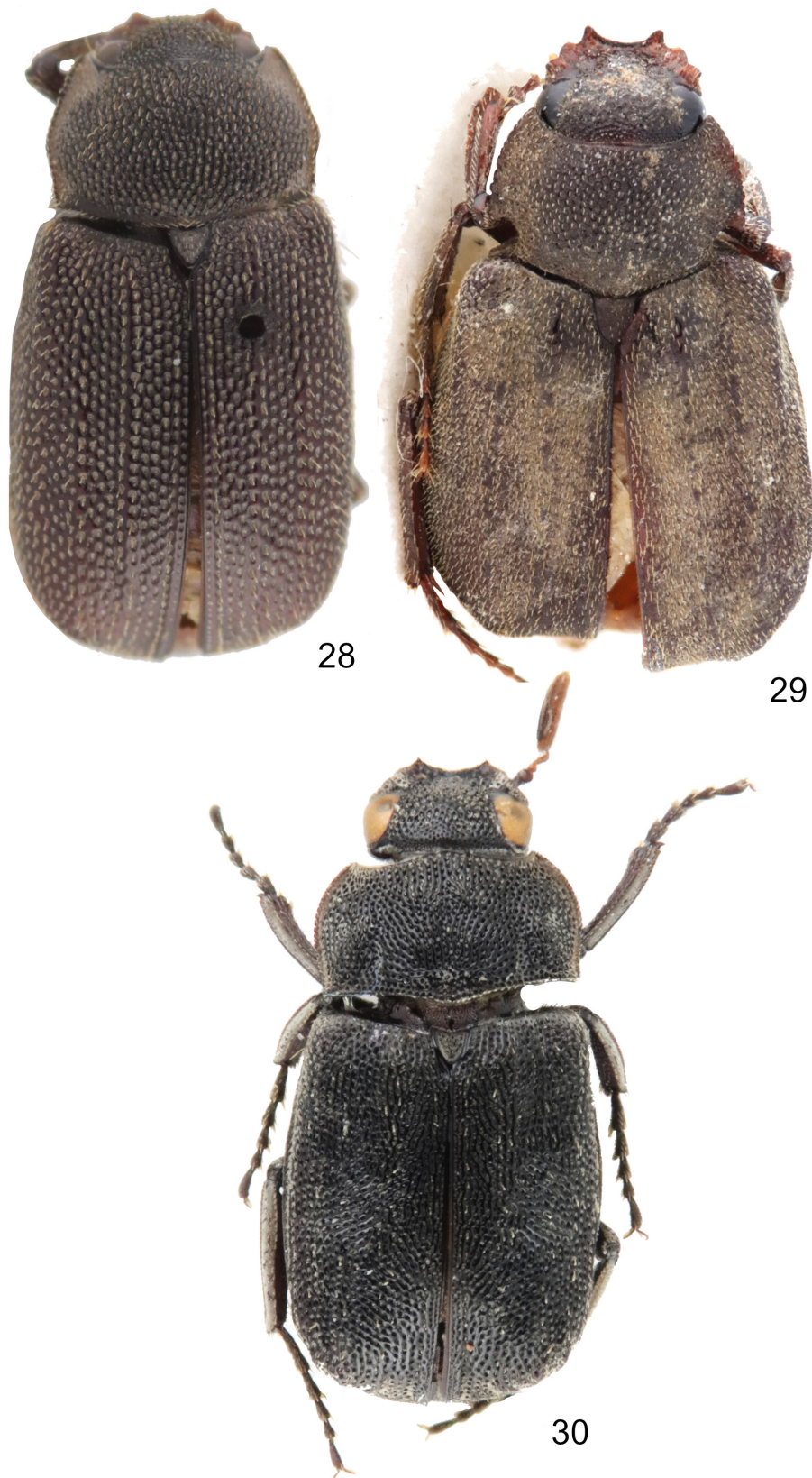
Holotype

INDONESIA • ♂; “Drs. Sarasin N. Celebes [p] Matinang [h]//10575. [h, label yellowish]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

Description

MEASUREMENTS. Holotype, total body length 8.45 mm. Head 1.70 mm long, across eyes 1.80 mm wide. Pronotum 1.80 mm long, maximum width 2.90 mm. Elytral length 4.95 mm, maximum combined width 3.15 mm.

Dorsum black-brown, labroclypeus, antennae, legs and venter brown. Head glossy dorsally, slightly convex on frons. Male labroclypeus (Fig. 105) very shallowly broadly emarginate on anterior margin, its lateral margins slightly sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, hardly protruding anteriorly. Compound eye large, occupy about half side of head. Canthus nearly straight in dorsal view. Head punctures ovoid, deep and dense, filled with microscopical velvety pubescence. Intervening spaces glossy, much smaller than punctures. Head setae suberect, thickened, moderately long, longer on frons than on labroclypeus; each seta rises from anterior margin of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate, basal margin very broadly rounded. Lateral margin of pronotum in dorsal view broadly rounded, maximum width slightly postmedially, crenulate all along (Fig. 205). Moderately long curved suberect seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures ovoid, deep and dense, filled with microscopical velvety pubescence. Intervening spaces glossy, much smaller than punctures, in part wrinkled. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Pronotal setae inconspicuous, suberect; each seta rises from anterior margin of corresponding puncture, surpassing its length. Hypomeron flanged-like protruding, slightly emarginate and long setose opposite to compound eye. Antennal pocket deep. Elytron glabrous, with vague track of one glabrous longitudinal carina. Sutural carina not indicated. Elytral punctures irregularly ovoid, deep and dense, filled with microscopical velvety pubescence (Fig. 295), those on elytral disc arranged in 12 in part irregular longitudinal rows, those along lateral sides confused. Intervening spaces glossy, generally larger than punctures. Setae of elytra inconspicuous, appressed; minute seta rises from anterior margin of each puncture, not surpassing its length (Fig. 295). Several longer suberect setae arranged in 5–6 inconspicuous longitudinal rows. Lateral margin of elytron with row of short suberect setae. Male pygidium flattened dorsally, with moderately large dense annular punctures (Fig. 461). Setae of pygidium rise from anterior margin of corresponding punctures, generally suberect to erect and longer than corresponding punctures. Male protibia with two distal teeth on external margin, of which distal one acute (Fig. 367). Male protibial terminal spur strongly curved. Spiculum gastrale as in Fig. 461. Aedeagus as in Figs 589–591.



Figs 28–30. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **28.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **29.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **30.** *M. caperatus* sp. nov., holotype, ♂ (NME). Not to scale.

Sexual dimorphism

Female is unknown.

Ecology

Unknown.

Distribution

Northern peninsula of Sulawesi.

Maechidius brocki sp. nov.

[urn:lsid:zoobank.org:act:39227DD9-2D93-4AF8-BFF8-050C6B0EF97B](https://zoobank.org/act:39227DD9-2D93-4AF8-BFF8-050C6B0EF97B)

Figs 29, 109–110, 206, 296, 368, 462, 539, 601–603

Differential diagnosis

This species most closely resembles *Maechidius hirtipes* Arrow, 1941 (Papuan Peninsula, East New Guinea) and *M. subcostatus* Heller, 1895 (Finisterre Mountains, East New Guinea), but readily differs from both primarily in the shape of the male genital organs. Additionally, in *M. hirtipes* the lateral margin of the pronotum is denticulate (tuberculate in *M. brocki* sp. nov.) and slightly emarginate (strongly emarginate in *M. brocki* sp. nov.) and the basal metatarsomere has a brush of very long, dense sinuous setae on the inner margin (absent in *M. brocki* sp. nov.).

Etymology

Patronymic. This species is dedicated to Paul Brock (Brockenhurst, United Kingdom), a famous phasmid expert, experienced macrophotographer, respected colleague and my friend.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “♂ [p]//PAPUA: Mafulu. 4,000 ft.xii.1933. L.E.Cheesman. B.M.1933-321. [p]”; BMNH.

Paratypes (8 specimens)

PAPUA NEW GUINEA • 1 ♂♂, 6 ♀♀; same labels as for holotype but without sex label; BMNH • 1 ♀; “PAPUA: Mafulu. 4,000 ft.xii.1933. L.E.Cheesman. B.M.1933-321. [p]//*Maechidius subcostatus*, Hell. Determined from description. G.J.A. [p]”; BMNH.

Description

MEASUREMENTS. Holotype, total body length 8.25 mm. Head 1.55 mm long, across eyes 1.85 mm wide. Pronotum 1.70 mm long, maximum width 2.85 mm. Elytral length 5.00 mm, maximum combined width 3.90 mm. The largest paratype (♀) 9.25 mm long.

Dorsum and venter uniformly black-brown with castaneous labroclypeus, mouthparts, and legs. Head transverse, glossy dorsally and ventrally, flattened between eyes and vaguely impressed on labroclypeus anterior to each compound eye. Compound eye large, occupying over about half side of head. Male labroclypeus (Fig. 109) broadly emarginate on anterior margin, its lateral margins strongly sinuous in both dorsal and lateral views, anterolateral angles protruding, bent up at ~90° to frons in lateral view. Female labroclypeus (Fig. 110) shallower emarginate on anterior margin, with broader rounded anterolateral angles. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus sinuous in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular to irregularly hexagonal, large and moderately deep. Intervening spaces

glossy, much smaller than punctures, in part wrinkled. Head setae suberect, generally surpassing length of corresponding punctures. Few much longer suberect setae along inner margin of either eye. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum glossy dorsally and laterally. Anterior margin of pronotum sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin gradually widens towards postmedium, very deeply emarginate prebasally (Fig. 206). Crenulae of lateral margin long and large except for smooth emargination area; suberect seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Pronotal punctures irregularly hexagonal, dense and moderately deep, variably large. Intervening spaces glossy and glabrous, much smaller than punctures, in part wrinkled. Appressed seta rises from anterior margin of each puncture, not surpassing length of corresponding puncture. Hypomeron separated from prosternum by moderately high sinuous carina strongly acutely dentate medially, with long setae on anterolateral margin. Antennal pocket moderately deep. Median anterior process of prosternum long brushy setose, short, flange-like raised. Scutellar shield narrowly rounded apically. Elytra slightly widened in posterior half, maximum width post midlength, opaque dorsally, with distinct humeri. Vague tracks of 2–3 inconspicuous, very flat longitudinal carinae on disc of each elytron. Elytral punctures linear (long and narrow), incision-shaped, moderately deep and dense (Fig. 296). Intervening spaces covered with microscopical velvety pubescence, larger than incisions. Setation inconspicuous, suberect; seta rises from anterior margin of each incision, not or hardly surpassing its length. Male pygidium flat dorsally, with large shallow annular punctures (Fig. 462). Intervening spaces generally smaller than punctures, in part microreticulate. Setae of pygidium inconspicuous, suberect, about length of corresponding punctures. Male protibia slightly arched on external margin, with three obtuse distal teeth on external margin (Fig. 368). Male protibial terminal spur short, thick and pointed apically, female one longer, straight and acute. All tarsal claws with large pulvilli. Spiculum gastrale as in Fig. 539. Male aedeagus as in Figs 601–603.

Sexual dimorphism

Female lamellae of antennal club shorter; anterior margin of labroclypeus comparatively less deeply emarginate.

Ecology

Occurs at about 1220 m altitude.

Distribution

Hitherto only known from the Papuan Peninsula of New Guinea.

Maechidius caperatus sp. nov.

[urn:lsid:zoobank.org:act:9440F4C6-085C-46F1-BBDB-469D0D04AC53](https://doi.org/10.3896/EBL.2020.721.1.1)

Figs 30, 108, 208, 297, 369, 463, 540, 592–594

Differential diagnosis

This species strongly resembles *Maechidius sturnus* Arrow (Yapen Island), but differs readily in the shape of the aedeagus, less regular (stronger sinuous arranged) punctures of the elytra and in the absence of three long paired setae on the male abdominal sternites 2 and 3.

Etymology

The name of this species is derived from the Latin ‘*caperatus*’, meaning ‘wrinkled’, referring to the irregularly wrinkled pattern of the pronotum and elytra.

Type material**Holotype**

INDONESIA • ♂; “INDONESIA, Irian Jaya Nabire area, road Nabire–Ilaga, km 54, 03°29’517”S 135°43’913”E, 750m NN IV.1998, leg.M.Balke//Sammlung NATURKUNDEMUSEUM ERFURT”; NME.

Description

MEASUREMENTS. Male holotype, total body length 8.15 mm. Head 1.75 mm long, across eyes 2.00 mm wide. Pronotum 1.90 mm long, maximum width 3.20 mm. Elytral length 4.50 mm, maximum combined width 3.60 mm.

Dorsum and venter uniformly black, edges of labroclypeus, legs and antennae dark brown. Head transverse, glossy dorsally and ventrally, inconspicuously convex on frons. Male labroclypeus (Fig. 108) broadly V-shaped emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus almost right-angular, protruding anteriorly. Canthus sinuous in dorsal view. Head punctures circular to irregularly ovoid, very deep and dense, variably large. Intervening spaces glossy, much smaller than punctures except on labroclypeus. At least labroclypeus and areas around either compound eye covered with microscopical velvety pubescence. Head setae minute, rise from anterior margin of each puncture, in most cases not surpassing length of corresponding punctures. Pronotum strongly transverse, glossy dorsally and laterally, sinuous on anterior margin, anterolateral angles and mesal part almost equally slightly protruding anteriorly. Basal margin of pronotum slightly sinuous. Irregular shallow dorsal impressions present on pronotum: small circular one on either side around centre of lateral margin, longitudinal one delimiting lateral third of pronotal disc from central part, and single median longitudinal one (Fig. 30). Lateral margin of pronotum in dorsal view broadly rounded, stronger constricted postmedially towards base than anteriorly, delicately crenulate all along (Fig. 208). Inconspicuous appressed scale-like seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron slightly emarginate and long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Median anterior process of prosternum extraordinarily long brushy setose, flange-like raised. Pronotal punctures irregularly ovoid, very deep, dense, mainly positioned in sinuous rows. Punctures generally smaller and more regularly circular in areas of dorsal impressions. Intervening spaces glossy, in part wrinkled, smaller than punctures. Lateral margins, antero- and posterolateral angles and dorsal impressions covered with delicate microscopical velvety pubescence. Pronotal setae similar to those on head, rarely surpassing midlength of corresponding punctures. Scutellar shield covered with microscopical velvety pubescence, narrowly rounded apically. Elytra cylindrical, subopaque, maximum width in median third. Large obtuse hump on each elytron near apex. Elytral punctures irregularly ovoid, very deep and dense, mainly positioned in sinuous rows in various directions, building conspicuous “dactyloscopic” pattern (Fig. 297). Intervening spaces glossy, wrinkled, generally smaller than punctures. Elytral setae minute, rise from anterior margin of each puncture, not surpassing midlength of corresponding puncture. With few longer appressed scale-like clavate setae scattered over elytral disc; punctures bearing those longer setae partly or completely encircled with microscopical velvety pubescence (Fig. 297). Male abdominal sternites medially with somewhat longer and curved scale-like setae. Male pygidium (Fig. 463) with deep ovoid, rather small punctures. Intervening spaces glossy, generally larger than punctures, covered with microscopical velvety pubescence. Setae of pygidium scale-like, clavate, shorter on anterior, longer on median and posterior parts (surpassing length of corresponding punctures), becoming suberect and longer along distal margin. External margin of male protibia arched, with single acute distal tooth (Fig. 369). Male terminal protibial spur straight, short and pointed. Male lower meso- and metatibial terminal spurs large and strongly curved. Spiculum gastrale as in Fig. 540 Aedeagus as in Figs 592–594.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests at about 750 m altitude.

Distribution

Hitherto only known from the Bird's Neck isthmus area of New Guinea.

Maechidius ciliatus sp. nov.

[urn:lsid:zoobank.org:act:E8521538-4460-4652-8EFC-0ACD2949C012](https://zoobank.org/urn:lsid:zoobank.org:act:E8521538-4460-4652-8EFC-0ACD2949C012)

Figs 31, 111, 209, 298, 370, 464, 595–597

Differential diagnosis

This species is primarily peculiar among all congeners with paired longitudinal rows of elytral punctures due to the shape of the male aedeagus.

Etymology

The name of this species is derived from the Latin '*cilium*' ('cilia'), referring to its apically ciliate parameres.

Type material

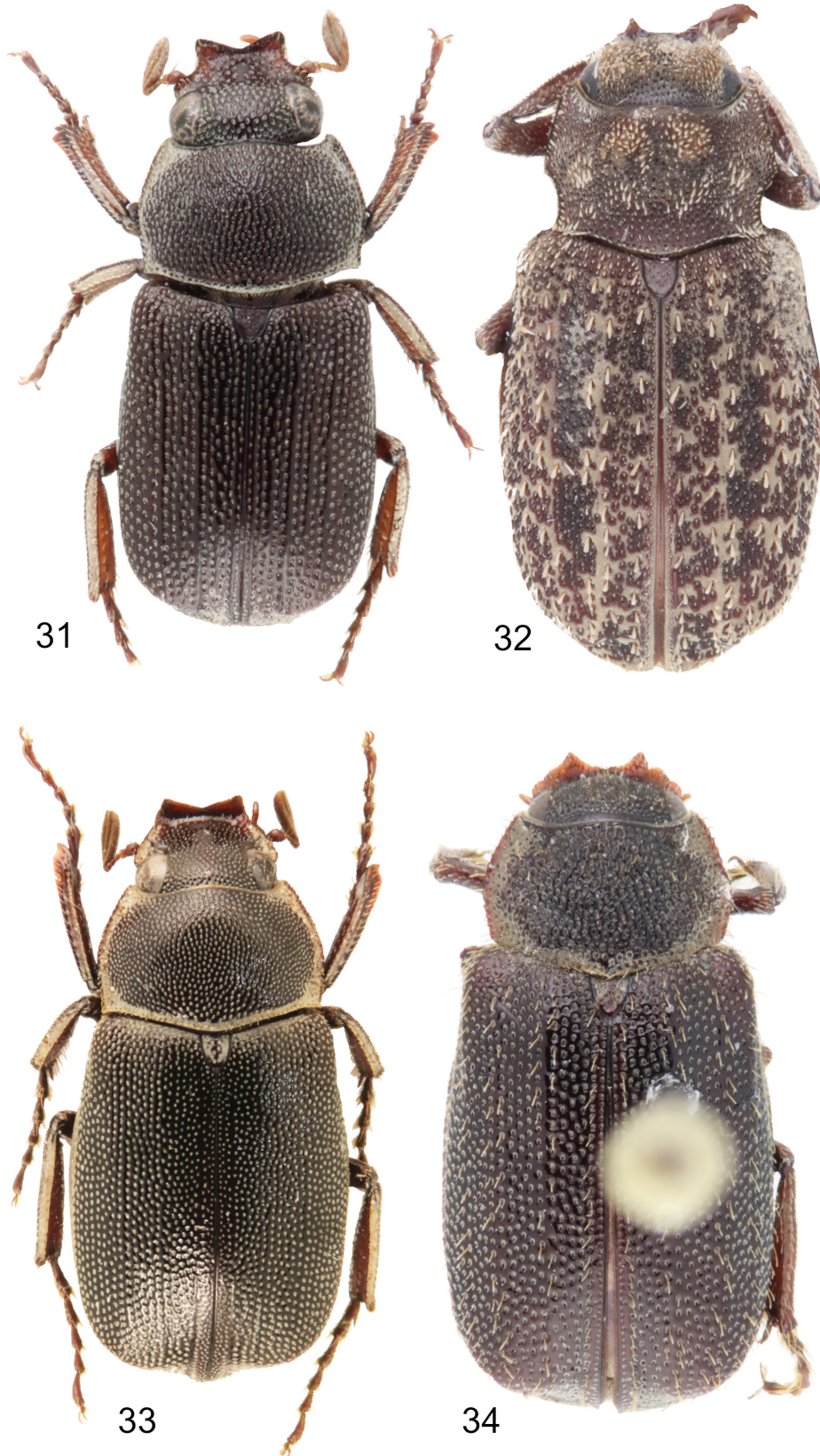
Holotype

PAPUA NEW GUINEA • ♂; “PNG, Madang, Baitabag vill. 50m a.s.l. 145°47'E 5°08'S M. Janda coll., hand collecting 20.iii.2002//coll. IECA České Budějovice, Czech Republic”; IECA.

Description

MEASUREMENTS. Holotype, total body length 6.00 mm. Head 1.20 mm long, across eyes 1.50 mm wide. Pronotum 1.50 mm long, maximum width 2.25 mm. Elytral length 3.30 mm, maximum combined width 2.54 mm.

Dorsum uniformly black-brown with brown labroclypeus, antennae, legs and venter. Head transverse, subopaque dorsally and ventrally, slightly convex dorsally. Compound eye large, occupying half side of head. Male labroclypeus broadly V-shaped emarginate on anterior margin. Lateral margins of male labroclypeus strongly sinuous in both dorsal and lateral views, anterolateral angles rather strongly protruding anteriorly (Fig. 111). Upper- and underside of labroclypeus with long setae along anterior and lateral margins. Canthus obtuse angulate in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular, moderately deep and dense, filled or not with microscopical velvety pubescence. Intervening spaces glossy to delicately microreticulate, variably large, in part covered with microscopical velvety pubescence. Inconspicuous appressed narrow scale-like seta rises from each puncture, slightly surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 ovoid, transverse. Pronotum strongly transverse, glossy medially, subopaque on lateral sides. Anterior margin of pronotum slightly sinuous, anterolateral angles slightly protruding anteriorly. Basal and lateral margins broadly rounded in dorsal view. Crenulae of lateral margin moderately strong; a short suberect curved seta present between every two crenulae (Fig. 209). Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures ovoid, deep and dense, variably large (generally larger along lateral margins and on base); inner margin of some punctures on lateral sides encircled with microscopical velvety pubescence. Intervening spaces in part glossy and



Figs 31–34. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **31.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **32.** *M. crypticus* sp. nov., paratype, ♂ (BMNH). **33.** *M. dani* sp. nov., holotype, ♂ (IECA). **34.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). Not to scale.

glabrous, in part microreticulate, generally smaller than punctures except in some areas. Setae similar to those on head, generally shorter and not surpassing length of corresponding punctures. Lateral and basal margins, antero- and posterolateral angles covered with microscopical velvety pubescence. Hypomeron separated from prosternum by moderately high straight carina which is moderately long setose opposite to compound eye. Antennal pocket moderately deep. Median anterior process of prosternum long brushy setose, short, moderately raised. Scutellar shield narrowly rounded apically. Elytra cylindrical, maximum width across midlength, glossy dorsally, with distinct humeri and vague tracks of two longitudinal carinae (sutural carina not raised). Each elytron between suture and 2nd (outer) track of longitudinal carina with 4 paired rows of moderately deep ovoid punctures (some rows are partly confused). Lateral sides of elytra confusedly punctate. Microscopical velvety pubescence partly or completely encircles perimeter of some punctures (Fig. 298). Intervening spaces glossy, in part microreticulate, about as large as punctures. Elytral setae minute; seta rises from anterior margin of each puncture, not surpassing its length. Apex of elytron covered with microscopical velvety pubescence. Long subhumeral lateral seta not present (due to condition of specimen?). Male pygidium flattened dorsally, with large circular annular punctures (Fig. 464). Intervening spaces glossy, variably large, in part covered with microscopical velvety pubescence. Male protibia with two distal teeth (Fig. 370), crenulate on external margin. Male protibial terminal spur large, strongly curved. Male metatibia somewhat flattened and glabrous on inner margin. Tarsal claws with pulvilli (in male only?). Male aedeagus as in Figs 595–597.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests.

Distribution

Hitherto only known from the surroundings of Madang in East New Guinea.

Maechidius crypticus sp. nov.

[urn:lsid:zoobank.org:act:B63FE428-02B0-42E0-A347-510931841CAB](https://zoobank.org/act:B63FE428-02B0-42E0-A347-510931841CAB)

Figs 32, 112–113, 207, 299, 371, 465–466, 541, 598–600

Etymology

The name of this species is derived from the Greek “κρυπτός” (‘cryptic’), referring to its strong external similarity to several Papuan congeners (see description for the list of these similar species).

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Stn. No. 137. [p]//NEW GUINEA: Morobe Dist., Herzog Mts., Vagau, C.4,000 ft. 4-17.I.1965. [p]//M.E. Bacchus. B.M. 1965-120 [p]//*P. pauxillus* Hell. [h] det.G Frey.1967/68 [p]”; BMNH.

Paratypes (7 specimens)

PAPUA NEW GUINEA • 2 ♂♂, 5 ♀♀; same labels as for holotype; BMNH.

Description

MEASUREMENTS. Male holotype, total body length 6.50 mm. Head 1.20 mm long, across eyes 1.50 mm wide. Pronotum 1.30 mm long, maximum width 2.10 mm. Elytral length 4.00 mm, maximum combined width 2.80 mm. Selected female paratype, total body length 7.85 mm. Head 1.35 mm long, across eyes

1.60 mm wide. Pronotum 1.50 mm long, maximum width 2.30 mm. Elytral length 5.00 mm, maximum combined width 3.70 mm.

With general features of *M. lapsus* sp. nov., *M. owenstanleyi* sp. nov. (see descriptions below) and *M. pauxillus* comb. rest. Frons strongly humped in lateral view. Male and female labroclypeus broadly emarginate on anterior margin. Anterolateral angles of labroclypeus strongly protruding, acute (Figs 112–113). Lateral margins of labroclypeus in both sexes slightly sinuous in both dorsal and lateral views. Antennae 9-segmented, club 3-lamellate. Dorsal surface in part covered with microscopic velvety pubescence. Head and pronotum with moderately long, suberect elongate scale-like setae; each seta rises from anterior margin of deep irregularly oblong puncture. Lateral margin of pronotum obtuse angulate medially, deeply emarginate postmedially (Fig. 207). Scale-like setae longer and broader on sides and anterior part of pronotal disc than along median part, also with numerous much smaller setae not surpassing length of corresponding punctures. Hypomerone flange-like produced. Antennal pocket deep. With or without tracks of two longitudinal carinae on each elytron, carinae incomplete, with interruptions. Sutural carinae incomplete and interrupted. Elytral punctures irregular in shape, deep, somewhat irregularly clustered (Fig. 299) and generally smaller than those on pronotum. Setae between puncture clusters longer, scale-like, stronger erect, arranged in several irregular longitudinal rows. Setae in puncture clusters minute, not surpassing length of corresponding punctures. Male and female pygidium deeply oblongo-punctate, with more or less dense scale-like elongate setae which point obliquely to middle (in main part) (Figs 465–466). Intervening spaces of pygidium in part covered with microscopical velvety pubescence. Protibia with inconspicuous longitudinal dorsal carina, in male with single inconspicuous distal tooth, in female with two acute teeth (Fig. 371). Metatibial terminal spurs in both sexes distinctly shorter than length of basal metatarsomere. Spiculum gastrale as in Fig. 541. Male aedeagus as in Figs 598–600.

Sexual dimorphism

Female is generally larger, with shorter lamellae of antennal club, straight and pointed protibial terminal spur and distally bidentate protibia.

Ecology

Occurs in lower montane rainforests at about 1220 m altitude.

Distribution

Hitherto known from the Herzog Mountains of East New Guinea.

Maechidius dani sp. nov.

[urn:lsid:zoobank.org:act:F07528D9-8700-4B0C-8DB6-57F64DDE90A5](https://zoobank.org/urn:lsid:zoobank.org:act:F07528D9-8700-4B0C-8DB6-57F64DDE90A5)

Figs 33, 114, 210, 300, 372–373, 429–430, 445, 467, 604–606

Differential diagnosis

Maechidius hamatus sp. nov. (see description below), the second species of the *dani* informal species-group, is significantly smaller with the anterior margin of the labroclypeus shallower emarginate, ventral hump of visible abdominal ventrite 3 stronger (Fig. 429), male protibial spur comparatively longer and a different male aedeagus (Figs 617–619).

Etymology

This species is named after Dani, the main tribe and language of the Baliem Valley. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA, Papua: Jayawijaya Distr.: Baliem valley, 10km NE of Wamena, forest above “Baliem valley resort”, 04°03.6’S, 139°01.9’E, 2050 m; 2-3.ii.2015 J.Hájek & J.Šumpich leg.//coll. general National Museum Prague, Czech Republic”; NMPC.

Paratype

INDONESIA • 1 ♂; same labels as for holotype; NMPC.

Description

MEASUREMENTS. Holotype, total body length 9.10 mm. Head 1.70 mm long, across eyes 2.06 mm wide. Pronotum 2.10 mm long, maximum width 3.30 mm. Elytral length 5.30 mm, maximum combined width 4.10 mm. Paratype 8.70 mm long.

Dorsum and venter uniformly black-brown with reddish brown labroclypeus, mouthparts, antennae, legs and most of venter. Head transverse, glossy dorsally and ventrally, somewhat convex between eyes and vaguely impressed on labroclypeus anterior to each compound eye. Compound eye large, occupying over half side of head. Male labroclypeus (Fig. 114) broadly and moderately deep V-like emarginate anteriorly, its lateral margins curved in dorsal and sinuous in lateral view, anterolateral angles moderately protruding, almost right-angled to slightly acute in dorsal view, bent up at ~90° to frons in lateral view. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Dorsal punctures ovoid to circular, small and shallow on labroclypeus, larger and moderately deep on frons. Intervening spaces glossy and glabrous, variably large. Inconspicuous short appressed seta rises from anterior margin of each puncture, not surpassing length of corresponding puncture. Few much longer suberect setae along interior surface of either eye. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum glossy dorsally and laterally. Anterior margin sinuous with anterolateral angles (stronger) and mesal portion (inconspicuously) protruding anteriorly. Basal margin slightly sinuous. Lateral margin nearly straight, diverging towards midlength, broadly rounded from here towards posterolateral angles (Fig. 210). Crenulae of lateral margin rather long, short appressed and posteriad directed seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Punctures ovoid, moderately deep, variably large. Intervening spaces glossy and glabrous, in part wrinkled, variably large but generally nearly equal to punctures. Setation as on head, lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron slightly curved and very long setose on anterior margin which is flange-like produced. Antennal pocket deep. Median anterior process of prosternum long brushy setose, short, moderately raised. Scutellar shield rounded apically. Elytra slightly widened in posterior half, maximum width across midlength, glossy dorsally, with distinct humeri. Vague tracks of two inconspicuous, very flat glabrous longitudinal carinae on disc of each elytron. Punctures of elytral disc somewhat denser than those on pronotum, ovoid, becoming arranged in irregular rows in apical third; inner margin with delicate membrane in part or completely covered by microscopical velvety pubescence and partly or completely encircling puncture (Fig. 300). Setae inconspicuous and short, appressed except on elytral apices, generally longer than on forebody (seta as long as corresponding puncture, not or hardly surpassing length of corresponding puncture). Epipleuron all along with short appressed setae. Male pygidium flat to slightly convex, sparsely oblongo-punctate, subopaque microreticulate on intervening spaces, with sparse minute to moderately long and suberect setae (Fig. 467). Venter covered with sparse

small shallow punctures, each provided with very short seta. Third visible abdominal sternite with obtuse ventral median triangular hump on posterior margin (Figs 429–430). Legs long and slender. Male protibia nearly straight on external margin (slightly curved), crenulate in basal two-thirds, with almost complete obtuse dorsal carina (Fig. 372). Only one obtuse distal tooth on male protibia (Fig. 372). Protibial terminal spur very short, nearly straight, acute. Distal margin of metatibia in both sexes with projection over basal metatarsomere (Fig. 445). Male metatibial terminal spurs paired, long, acute, lower (longer) one slightly curved. Underside of male protarsomeres 1 and 2 each with large acute distal denticle (Fig. 373). Male tarsal claws with large pulvilli. Male aedeagus as in Figs 604–606.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in mid-montane rainforests at about 2050 m altitude.

Distribution

Hitherto only known from the Baliem Valley, Central Cordillera of New Guinea.

Maechidius deltouri sp. nov.

[urn:lsid:zoobank.org:act:9F79D2BF-8ADF-4856-9400-2AFCA33DB0D1](https://zoobank.org/act:9F79D2BF-8ADF-4856-9400-2AFCA33DB0D1)

Figs 34, 115, 211, 301, 374, 468, 542, 607–610

Differential diagnosis

This species is most similar to *M. peregrinus* Lansberge, *M. babyrousa* sp. nov., *M. legalovi* sp. nov. and *M. suwawa* sp. nov. (all from Sulawesi). It readily differs from them and other congeners only in the shape of the male genital organs. Two vague circular impressions on the pronotal disc are also present in *M. babyrousa* sp. nov.

Etymology

Patronymic. This species is named after Gaëtan Deltour (Naturevolution, La Rochelle, France) to commemorate his efforts in the conservation of Sulawesi biodiversity.

Type material

Holotype

INDONESIA • ♂; “INDONESIA SULAWESI UTARA Gng. Ambang F.R. nr. Kotamobagu 18-24 May 1985. // Yellow pan trap // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10.”; BMNH.

Description

MEASUREMENTS (exposed abdominal ventrites not included). Male holotype, total body length 8.45 mm. Head 1.60 mm long, across eyes 1.80 mm wide. Pronotum 1.65 mm long, maximum width 2.80 mm. Elytral length 5.20 mm, maximum combined width 3.80 mm.

Dorsum uniformly brown with castaneous labroclypeus, mouthparts, legs and venter. Head transverse, trapezoid, flattened on frons, convex on vertex, glossy dorsally and ventrally, with large not prominent compound eyes occupying nearly half side of head. Male labroclypeus (Fig. 115) broadly emarginate anteriorly, its lateral margins smooth, slightly sinuous in both dorsal and lateral views. Anterolateral

angles strongly protruding anteriad, almost right-angled, bent up perpendicularly to axis of frons in lateral view. Head dorsal punctures irregularly circular to hexagonal, larger in median part. Intervening spaces glossy, much smaller than punctures. Pubescence brownish, rather long and erect but sparse; each seta rising from different part of puncture. Labroclypeus laterally and frontally with delicate yellowish setae. Labroclypeus laterally and frontally with delicate yellowish setae, longest of which present near compound eyes. Male antenna 9-segmented. Scape large, widened on upper side in distal half, provided with few long erect setae on posterior and distal margin. Antennomere 2 short and transverse. Club 3-lamellate. Pronotum transverse, glossy. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (slighter) protruding anteriad. Basal margin of pronotum broadly rounded. Lateral margin of pronotum evenly broadly rounded, largely crenulate all along except for delicately crenulate prebasal area (Fig. 211). Disc with two vague circular postmedian impressions on either side. Lateral margin of pronotum nearly straight in lateral view. Punctures irregularly circular to ovoid, deep and coarse; inner margin with delicate membrane in part covered by microscopical velvety pubescence and partly encircling puncture. Intervening spaces much smaller than punctures, glossy, partly wrinkled. Setation as on head, stronger curved; long seta between each two lateral crenulae and all along basal margin. Hypomeron smooth, sparsely punctured with circular punctures, emarginate opposite to eye (to receive canthus separating compound eye) and covered with long setae, with anterior margin which is flange-like produced. Antennal pocket deep. Scutellar shield triangular, pointed apically. Elytra cylindrical, maximum width in postbasal $\frac{2}{3}$, glossy and slightly convex dorsally, with rounded humeri and elevated omoplates. Indistinct track of one flat longitudinal carina on each elytron. Sutural carinae not indicated. Rather large obtuse hump on each elytron near apex. Elytral disc and lateral sides of elytra irregularly densely punctured, punctures ovoid; inner margin with delicate membrane in part or completely covered by microscopical velvety pubescence and partly or completely encircles puncture (Fig. 301). Setae inconspicuous and short, appressed (except suberect longer slightly clavate scale-like setae on disc and elytral apices), generally longer than on forebody (seta as long as length of corresponding puncture, not or hardly surpassing length of corresponding puncture). Intervening spaces glossy, vary from smaller than up to $2\times$ as large as punctures. An inconspicuous suberect seta rises from anterior margin of each puncture. Epipleuron with row or two (in broad anterior part) of suberect setae. Male pygidium with rather flat mesal hump at apical margin, with shallow annular punctures and partly microscopically velvety pubescent intervening spaces (Fig. 468). Setae of pygidium rather long, suberect. Male abdominal ventrites glossy, covered with large annular punctures, each provided with short seta. Legs long and slender, femora and tibiae covered with delicate whitish setae. Pro- and metatibiae rather strongly thickened distally. Outer margins of meso- and metatibiae densely denticulate. Two strong teeth on external margin of male protibia (Fig. 374). Male lower meso- and metatibial terminal spur strongly curved. Distal margin of metatibia in both sexes with projection over basal metatarsomere. Male metatibial spurs shorter than basal metatarsomere. Male tarsal claws with pulvilli. Spiculum gastrale as in Fig. 542. Male aedeagus as in Figs 607–610.

Sexual dimorphism

Female is unknown.

Ecology

Inhabits lowland rainforests. Attracted to yellow pan traps (anthophilous?). Possibly nocturnal.

Distribution

Hitherto only known from North Sulawesi.

Maechidius dendrolagus sp. nov.

[urn:lsid:zoobank.org:act:1B512828-B4EA-44C2-94CE-3C778DBB5C4C](https://doi.org/10.21203/rs.3.rs-1131111/v1)

Figs 35, 116, 212, 302, 375, 469, 543, 611–613

Differential diagnosis

The new species differs from all congeners primarily in the shape of the aedeagus.

Etymology

The species is named after *Dendrolagus* S. Müller, 1840 (tree-kangaroo), an enigmatic genus of marsupial endemic to New Guinea, adjacent islands and Australian Queensland.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt.//Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB.

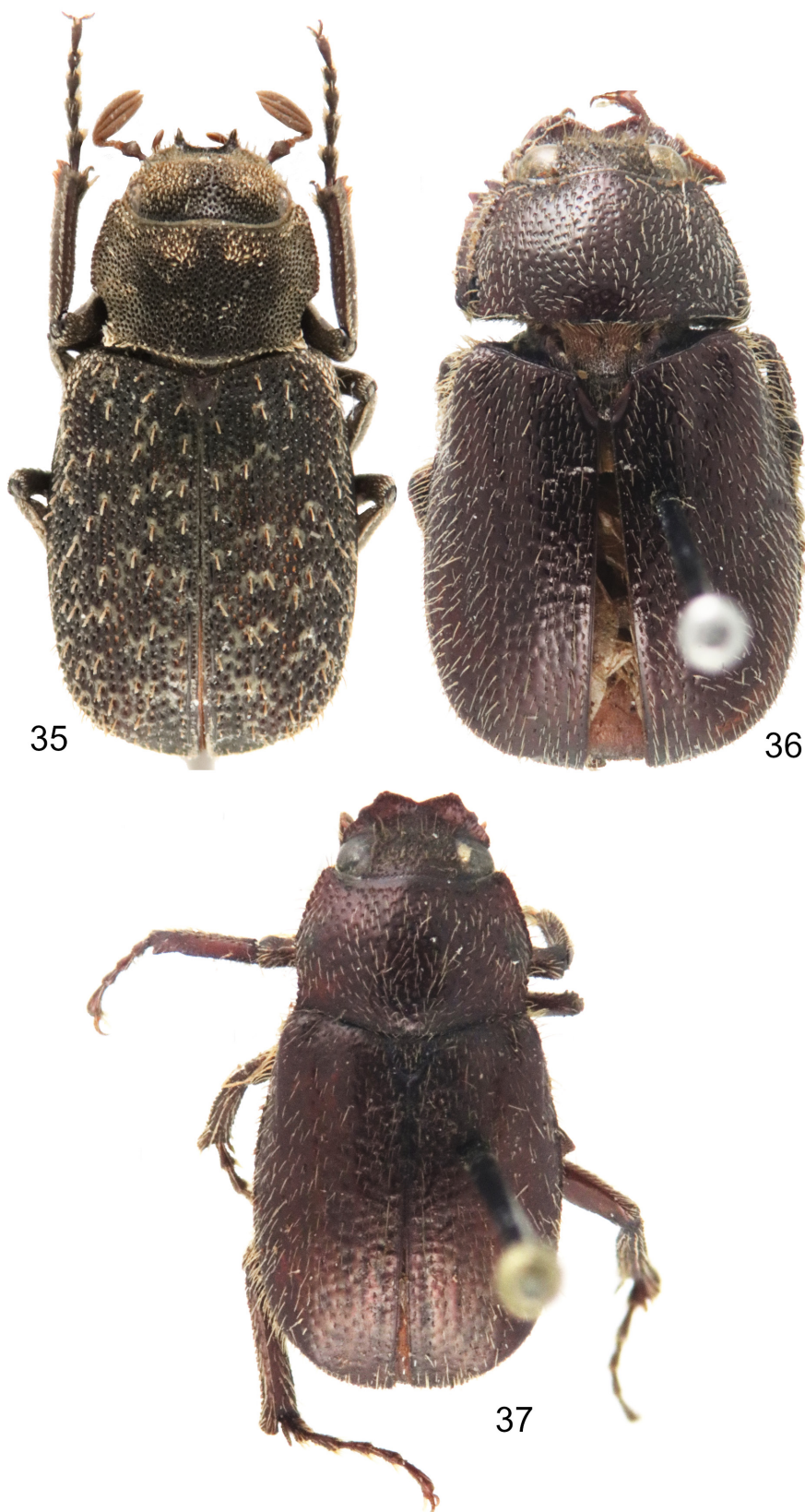
Paratype

PAPUA NEW GUINEA • 1 ♂; same labels as for holotype; NHMB.

Description

MEASUREMENTS. Male holotype, total body length 8.45 mm. Head 1.70 mm long, across eyes 2.05 mm wide. Pronotum 1.75 mm long, maximum width 2.80 mm. Elytral length 5.00 mm, maximum combined width 3.80 mm. Paratype is 8.00 mm long.

With general features of the *pauxillus* group. Dorsal surface opaque except on anterior and lateral margins of labroclypeus. Frons with paired hump. Male labroclypeus (Fig. 116) deeply U-shaped emarginate on anterior margin. Anterolateral angles of labroclypeus acute, strongly protruding, raised up at angle of nearly 90° to frons in lateral view. Lateral margins of labroclypeus sinuous in both dorsal and lateral views. Head dorsum except on margins of labroclypeus covered with microscopic velvety pubescence. Head punctures irregularly shaped, very deep, moderately dense. Head with moderately long, appressed elongate scale-like setae. Setae becoming distinctly longer, suberect to erect and stronger clavate on humps of frons (Fig. 116). Antenna 9-segmented, club 3-lamellate. Pronotum transverse, slightly sinuous on anterior margin with protruding anterolateral angles. Basal margin of pronotum broadly rounded to slightly sinuous, posterolateral angles almost right-angled. Lateral margin of pronotum in dorsal view gradually widened towards middle, deeply emarginate postmedially, crenulate all along (Fig. 212). Lateral margin of pronotum sinuous in lateral view. Two flat humps on anterior margin opposite to those on frons (Fig. 116). Pronotal punctures ovoid, variably large, very deep, dense. Pronotal dorsum and hypomerion covered with microscopic velvety pubescence. Pronotal setae minute, rising from anterior margin of each puncture, generally not surpassing midlength of corresponding puncture. Few slightly longer scale-like setae scattered over pronotal disc, not surpassing length of corresponding punctures. Posterolateral angles of pronotum with long scale-like clavate setae. Setae on pronotal humps also long, erect, scale-like, clavate. Hypomerion flange-like produced, slightly emarginate and very long setose opposite to compound eye. Antennal pocket deep. Scutellar shield elongate, narrowly rounded apically. Elytron with glabrous elevated broadly interrupted tracks of two (in holotype) or three (in paratype) longitudinal carinae, including sutural one. Elytral punctures irregularly shaped, deep and dense (Fig. 302) and generally smaller than those on pronotum. Setae minute, arising from anterior margin of each puncture, not surpassing midlength of corresponding punctures. Much longer suberect scale-like clavate setae arranged in irregular longitudinal rows across elytra. Male pygidium flattened dorsally, dense and deep punctate (Fig. 469). Intervening spaces covered with microscopical velvety pubescence.



Figs 35–37. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **35.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **36.** *M. esau* Heller, 1914 (lectotype ♂ of *M. setosus* Moser, 1920; ZMHB). **37.** *M. esau*, lectotype, ♂ (SNSD). Not to scale.

Setae of pygidium minute on anterior half, becoming longer, suberect and scale-like in apical half. Male protibia with inconspicuous longitudinal dorsal carina, with two acute distal teeth (Fig. 375). Male protibial terminal spur strongly curved. Spiculum gastrale as in Fig. 543. Male aedeagus as in Figs 611–613.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests at about 750 m altitude.

Distribution

Hitherto only known from Madang Province of East New Guinea.

Maechidius esau Heller, 1914

Figs 2–3, 36–37, 118–119, 213, 303, 376, 470, 561, 614–616

Maechidius setosellus Frey, 1969: 500 **syn. nov.**

Maechidius setosus Moser, 1920: 17 **syn. nov.**

Type material

Lectotype of *M. esau* (herewith designated)

PAPUA NEW GUINEA • ♂; “N.Guinea [p, blue label]//Gehr.W.Müller Vermächt.1909 [p, blue label]//Typus! [p] *esau* Heller [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Lectotype of *M. setosus* (herewith designated)

PAPUA NEW GUINEA • ♂; “*Maechidius setosus* Mos. Type [h]//D. Neu-Guinea [p] Stephansort//SYNTYPE *Maechidius setosus* Moser, 1920 labelled by MFNB 2019 [p, red label]”; ZMHB.

Holotype of *M. setosellus*

PAPUA NEW GUINEA • ♂; “Holotype [p, label circular, red frame]//Stn. No. 28. [p]//NEW GUINEA: Madang Dist. R. Buru, c. 90 m. N.W.Lae 1200 ft. 1.x.1964 [p]//Type *Maechidius setosellus* n. sp. [h] det.G.Frey,1967//86 [p]//M.E.Bacchus. B.M. 1965-120. [p]//TYPUS [p, red label]”; BMNH.

Paratype of *M. setosellus*

PAPUA NEW GUINEA • ♂; “Paratype [p, label circular, yellow border]//NEW GUINEA: Madang Dist. R. Buru, c. 90 m. N.W.Lae 1200 ft. 1.x.1964 [p]//M.E.Bacchus. B.M. 1965-120. [p]//PARATYPE [p, red label]//*Maechidius setosellus* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH.

New material

PAPUA NEW GUINEA • 2 specs; “TERR. PAPUA & NEW GUINEA: Maprik. 17.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 2 specs; “TERR. PAPUA & NEW GUINEA: Maprik. 18.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 1 spec.; “TERR. PAPUA & NEW GUINEA: Maprik. 19.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 1 spec.; “TERR. PAPUA & NEW GUINEA: Maprik. 24.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 5 specs; “TERR. PAPUA & NEW GUINEA: Maprik. 26.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 5 specs; “TERR. PAPUA & NEW GUINEA: Maprik. 28.x.1957. J.Smart//Brit.Mus.1957-693.”; BMNH • 22 specs; “Stn. No. 28.//NEW GUINEA: Madang Dist., R. Buru, c. 90 m. N.W.Lae 1200 ft. 1.x.1964//M.E. Bacchus. B.M. 1965-120.”; BMNH • 1 ♀; “Papua New Guinea Wau 1500 m Aug.1983 M. Mastaller leg.”; SMNS.

Remarks

Heller (1914: 627) likely based his description of *M. esau* on a single specimen, although not explicitly stated. The single SNSD specimen labelled “Typus!” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future. Moser (1920: 17) based his description of *M. setosus* on an unstated number of specimens. The single ZMHB syntype is therefore designated as lectotype. The single SNSD specimen labelled “Typus!” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription and new synonymy on, in case other syntypes are discovered in the future. Frey (1969: 500) described *M. setosellus* from two specimens captured near locality that *M. setosus* was described from.

Description

MEASUREMENTS. Total body length 8.70 (lectotype *M. esau*) to 10.10 mm (lectotype *M. setosus*).

Dorsum and venter uniformly black or brown. Head flattened dorsally, glossy to subopaque dorsally and ventrally. Male and female labroclypeus very broadly V-shaped emarginate anteriorly (Figs 36–37), its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles broadly rounded, protruding, raised up at angle of nearly 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Punctures of frons irregularly circular, moderately large to large, rather deep, their backgrounds shagreened. Intervening spaces microreticulate, variably large. Setae long, suberect. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy to subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum slightly gradually widened in anterior half, slightly constricted postmedially, nearly straight at base, crenulate all along (Fig. 213). Extraordinarily long erect seta present between every two crenulae, at least as long as longitudinal diameter of compound eye in fresh specimens. Lateral margin of pronotum sinuous in lateral view. Punctures of pronotal disc generally sparser than those on head, circular to annular (in basal third of disc), intervening spaces glossy, generally larger than punctures. Hypomeron separated from prosternum by low straight carina, with moderately long setae on anterolateral margin opposite to compound eye (Figs 2–3). Pronotal setation as on head, stronger appressed. Scutellar shield rounded apically. Elytron glossy to subopaque, with vague tracks of longitudinal carinae. Punctures of elytral disc double (Fig. 303). Ordinary punctures of disc shallow and rather dense, irregular in size and shape. Each ordinary puncture supplemented with a shallow linear (narrow and long) incision-shaped puncture. Intervening spaces in part microreticulate, in part glossy, generally larger than ordinary punctures. Elytral setae moderately long, erect to suberect. Some setae longer and stronger erect, arranged in poorly defined longitudinal rows. Lateral margin of elytra with extraordinarily long erect setae. Male and female pygidium slightly convex dorsally, with large shallow annular punctures (Fig. 470). Intervening spaces glossy, variably large. Setae of pygidium long, erect to suberect; each seta rises from either anterior margin or centre of corresponding puncture. Protibia widened distally, dorsally with delicate longitudinal carina, with two large acute distal external teeth and much smaller basal one (Fig. 376). Male protibial terminal spur not present. Male metatibial terminal spurs long, nearly equally long. Distal margin of metatibia in both sexes with projection over basal metatarsomere. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 561. Aedeagus as in Figs 614–616.

Sexual dimorphism

Female lamellae of antennal club distinctly shorter; female labroclypeus comparatively shallower emarginate anteriorly.

Maechidius fraterculus Moser, 1920
Figs 38, 117, 214, 304, 377, 471

Type material

Lectotype [herewith designated]

COUNTRY UNKNOWN (Island of New Guinea) • ♀; “*Maechidius fraterculus* Mos. Typ [h]//N. Guinea ... [h, in part unreadable]//SYNTYPE *Maechidius fraterculus* Moser, 1920 labelled by MFNB 2019 [p, red label]”; ZMHB.

Remarks

Moser (1920: 15) based his description of *M. fraterculus* on an unstated number of specimens. The lectotype is therefore designated for the single syntype in ZMHB in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

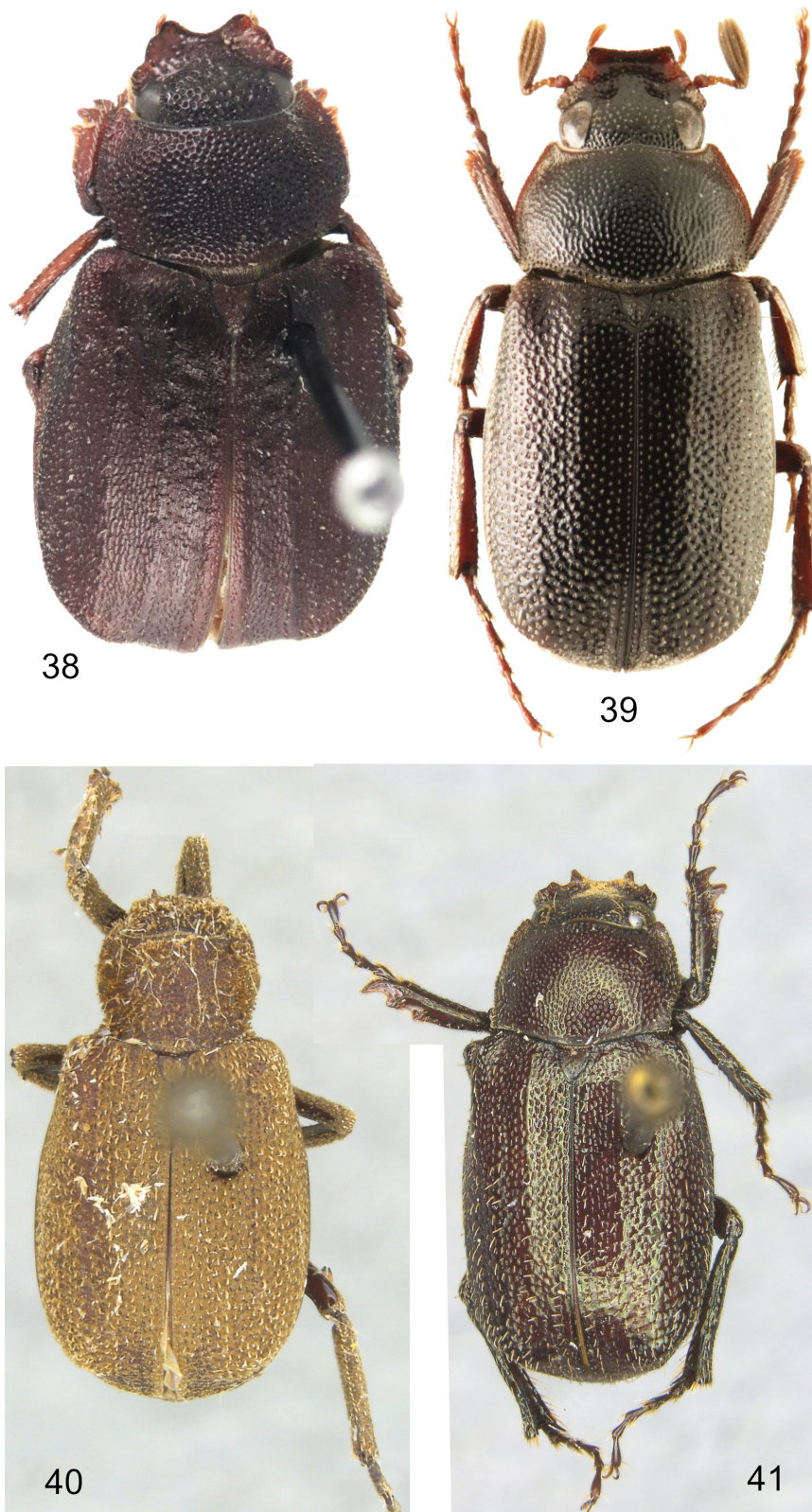
Description

MEASUREMENTS. Total body length 9.10 mm (lectotype).

Dorsum and venter uniformly castaneous brown except for paler appendages and antennae. Head flattened dorsally on frons between eyes, glossy dorsally and ventrally. Female labroclypeus deeply and broadly V-shaped emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views (Fig. 117). Anterolateral angles broadly rounded, moderately protruding, raised up at angle of nearly 80° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Punctures of frons large, of irregular shape (circular to hexagonal), moderately deep and dense. Intervening spaces glossy, distinctly smaller than punctures, in part wrinkled. Setae very inconspicuous, not surpassing length of corresponding punctures; each seta rises from anterior margin of puncture. Few much longer suberect setae present along inner eye margin. Female antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded and crenulate in anterior half, stronger constricted towards base and with 5–6 large denticles in basal third (Fig. 214). An inconspicuous short erect seta present between every two crenulae/denticles. Lateral margin of pronotum in lateral view nearly straight, slightly angulate postmedially. Pronotal disc with vague circular impression on either side of dorsally hardly longitudinally impressed midline. Hypomeron slightly emarginate opposite of compound eye, separated from prosternum by low carina, with long setae on its anterolateral margin. Antennal pocket shallow. Punctures of pronotal disc generally smaller but denser than those on head, circular to hexagonal, inner margin with or without thin membrane. Punctures along lateral margins distinctly oblong. Intervening spaces glossy, much smaller than punctures, in part globose. Setae very inconspicuous, not surpassing length of corresponding punctures. Scutellar shield narrowly rounded apically. Elytra subopaque, with tracks of four vague longitudinal carinae, including sutural one. Punctures of elytral disc sinuous, long and narrow, incision-shaped, dense (Fig. 304). Intervening spaces subopaque, in part densely transverse microstriate. Setae inconspicuous, appressed to suberect; each seta rising from anterior margin of corresponding incision-shaped puncture and not surpassing its length. Female pygidium flattened dorsally, with shallow transverse impression at posterior margin, densely and shallowly annularly punctate and with sparse short to moderately suberect setae (Fig. 471). Female protibia with three distal teeth, two of which much larger and stronger acute (Fig. 377). Female protibial terminal spur short, slightly curved apically. Female metatibial terminal spurs long, rounded apically, strongly subequal in length. Tarsal claws with pulvilli (in female only?).

Sexual dimorphism

Male is unknown.



Figs 38–41. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **38.** *M. fraterculus* Moser, 1920, lectotype, ♀ (ZMHB). **39.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **40.** *M. helleri* (Frey, 1969) comb. nov., holotype, ♂ (BPBM) (photograph courtesy BPBM). **41.** *M. gressitti* Frey, 1969, holotype, ♂ (photograph courtesy BPBM) (BPBM). Not to scale.

Maechidius gressitti Frey, 1969
Figs 41, 120

Type material

Holotype

PAPUA NEW GUINEA • ♂; “NEW GUINEA: PAPUA Kiunga, Fly River X-21-24-1957 [p]//W.W. Brandt Collector [p]//TYPE [p, red label]//*Maechidius Gressitti* n. sp [h] det.G.Frey,1967/68 [p]//+ 2” [h]”; BPBM. Studied from photographs.

Paratypes

PAPUA NEW GUINEA • 1 ♂; “NEW GUINEA: PAPUA Kiunga, Fly River X-26-28-1957//W. W. Brandt Collector//P TYPE//*Maechidius gressitti* det. G.Frey, 1967/68 n sp”; NHMB. Studied from photographs • 1 spec.; “NEW GUINEA: (NE) Wau, Morobe Distr. 1200m, 2-10. XI. ‘61//J. &M.Sedlacek M. V. Light Trap BISHOP//PARATYPE//*Maechidius gressitti* det. G.Frey, 1967/68 n sp”; NHMB. Not studied.

New material

PAPUA NEW GUINEA • 1 spec.; “NEW GUINEA: PAPUA Kiunga, Fly River X-9-14-1957//W. W. Brandt Collector//*Maechidius gressitti* det. G.Frey, 1967/68 n sp”; NHMB.

Remarks

Frey (1969: 503) described this species from 5 ♂♀ specimens from “Papua Kiunga Fly River” stating that “the holotype and paratype are in Bishop Museum, Honolulu [BPBM]. 2 paratypes are in my museum [NHMB]” (translated from German). There are two specimens from Papua New Guinea in NHMB, but one of them is from E New Guinea (Wau) and not from the Transfly lowlands as specified in the description. Moreover, there is one additional specimen from the type locality, which is not labelled as paratype. I had no opportunity to study this specimen, which is probably misidentified (occurrence of New Guinea’s Southern lowlands species in Wau (which is located at an altitude of over 1000 m a.s.l.) is not impossible but doubtful) or mislabelled (it is not impossible that the paratypic label of this specimen in fact belongs to the second NHMB specimen from the type locality).

Description

Male labroclypeus deeply broadly emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views (Figs 41, 120). Anterolateral angles subacute, rounded, in male strongly protruding anteriorly. Canthus broadly rounded in dorsal view. Punctures of frons circular to hexagonal, intervening spaces glossy. Setae suberect, moderately long. Pronotum transverse, flattened dorsally, glossy to subopaque dorsally and laterally. Anterior margin sinuous with protruding anterolateral angles and mesal portion. Basal margin broadly rounded. Lateral margin slightly gradually widened in anterior half, slightly constricted postmedially, crenulate all along. Curved appressed scale-like seta present between every two crenulae. Pronotal disc with deep circular to ovoid, in part annular (especially in basal third) punctures of irregular size. Pronotal punctures becoming larger and stronger ovoid along later margins of pronotum. Intervening spaces glossy, variably large. Hypomerion separated from prosternum by low carina. Antennal pocket shallow. Punctures of elytral disc double. Ordinary punctures of disc shallow and rather dense, irregular in size and shape. Each ordinary puncture supplemented with shallow linear (narrow and long) incision-shaped puncture. Intervening spaces in part microreticulate, in part glossy, generally larger than ordinary punctures. Setae moderately long, appressed to suberect. Some setae longer and stronger erect, arranged into longitudinal rows. Male protibia with three distal teeth on external margin, two obtuse and distal one acute.

Sexual dimorphism

Female anterolateral angles of labroclypeus less strongly produced anteriorly.

Remark

This species' male genital organs were not studied.

Maechidius hamatus sp. nov.

[urn:lsid:zoobank.org:act:DCA112DF-06B6-4767-8991-20D54ED810E7](https://zoobank.org/urn:lsid:zoobank.org:act:DCA112DF-06B6-4767-8991-20D54ED810E7)

Figs 39, 121, 215, 305, 378–379, 431–432, 472, 544, 617–619

Differential diagnosis

This is the second species of the *dani* informal species-group, see the diagnosis of *Maechidius dani* sp. nov. above.

Etymology

The specific name is derived from the Latin '*hamatus*' ('hooked'), referring to the curved denticles of male protarsomeres 1 and 2.

Type material

Holotype

INDONESIA • ♂; "INDONESIA, Papua: Jayawijaya Distr.: Baliem valley, 10km NE of Wamena, forest above "Baliem valley resort", 04°03.6'S, 139°01.9'E, 2050 m; 2-3.ii.2015 J.Hájek & JŠumpich leg. // coll. general National Museum Prague, Czech Republic"; NMPC.

Paratypes (4 specimens)

INDONESIA • 3 ♂♂; same labels as for holotype; NMPC • 1 ♂; same labels as for holotype; DTC.

Description

MEASUREMENTS. Holotype, total body length 7.10 mm. Head 1.30 mm long, across eyes 1.63 mm wide. Pronotum 1.60 mm long, maximum width 2.67 mm. Elytral length 4.20 mm, maximum combined width 3.30 mm. Paratypes 7.30–7.90 mm long.

Dorsum and venter uniformly black-brown with reddish brown labroclypeus, mouthparts, antennae, legs and most of venter. Head transverse, glossy dorsally and ventrally, somewhat convex between eyes and vague impressed on labroclypeus anterior to each compound eye. Compound eye large, occupying about half head side. Male labroclypeus (Fig. 121) very shallowly emarginate anteriorly, its lateral margins curved in dorsal and sinuous in lateral view, anterolateral angles weakly protruding, obtuse and rounded in dorsal view, bent up at ~80–90° to frons in lateral view. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Dorsal punctures circular to ovoid, small and shallow on labroclypeus, larger and moderately deep on frons. Intervening spaces glossy and glabrous, generally larger than punctures. Inconspicuous very short appressed seta rises from anterior margin of each puncture, surpassing or not length of corresponding puncture. Few much longer suberect setae along interior surface of either eye. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles protruding anteriorly and mesal portion nearly straight. Basal margin of pronotum slightly sinuous. Lateral margin of pronotum broadly rounded (Fig. 215). Crenulae of lateral margin poorly defined and rather short; short suberect and posteriad directed seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Punctures of pronotal disc ovoid, moderately deep, variably large; inner margin with delicate membrane in part covered by microscopical velvety pubescence and partly to completely encircles puncture. Intervening spaces glossy and glabrous, variably large but generally as large as to larger than punctures. Setation as on

head but setae not surpassing length of corresponding punctures. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron slightly curved and very long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Median anterior process of prosternum long brushy setose, broad, strongly raised. Scutellar shield rounded apically. Elytra slightly widened in posterior half, maximum width across midlength, glossy dorsally, with distinct humeri. Vague tracks of two inconspicuous, very flat glabrous longitudinal carinae on disc of each elytron. Punctures of elytral disc ovoid, somewhat denser than those on pronotum, irregular but becoming arranged in irregular rows in apical third (Fig. 305). Inner margin of each puncture with delicate membrane, in some punctures in part covered by microscopical velvety pubescence and partly encircles the puncture. Setation inconspicuous and short, appressed; each seta rises from anterior margin of corresponding puncture, not or hardly surpassing length of puncture. Epipleuron all along with very short appressed setae. Male pygidium flattened dorsally, sparsely circular to oblongo-punctate, opaque microreticulate on intervening spaces, with sparse moderately long suberect clavate setae in distal part and short appressed ones not surpassing length of corresponding punctures in anterior part of pygidium (Fig. 472). Venter covered with sparse small shallow punctures, each provided with very short seta. Third visible abdominal sternite with small median triangular hump on posterior margin (Figs 431–432). Legs long and slender. Male protibia nearly straight on external margin (slightly curved), delicately crenulate in basal two-thirds, with almost complete obtuse dorsal carina. Two obtuse distal teeth on male protibia, distal more acute than inconspicuous broad basal one (Fig. 378). Protibial terminal spur nearly straight, acute. Male metatibial terminal spurs paired, long, acute, lower (longer) one slightly curved. Underside of male protarsomeres 1 and 2 each with large acute and apically slightly hooked distal denticle (Fig. 379). Male tarsal claws with large pulvilli. Spiculum gastrale as in Fig. 544. Male aedeagus as in Figs 617–619.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in mid-montane rainforests at about 2050 m altitude.

Distribution

Hitherto only known from the Baliem Valley, Central Cordillera of New Guinea.

Maechidius helleri (Frey, 1969) comb. nov.

Figs 40, 122

Paramaechidius helleri Frey, 1969: 506.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “NEW BRITAIN Sio, N. Coast 600m. VII-24-'56 [p]//Light Trap E. J. Ford, Jr. [p]//TYPE [p, red label]//Type *Paramaechidius helleri* n. sp. [h] det.G.Frey, 1967/68 [p]”; BPBM. Studied from photographs.

Remarks

Frey (1969: 506) described this species from two females, but at least the holotype specimen appears to be amale taking into account the curved protibial terminal spur (paratype in NHMB not studied).

Description

Dorsum covered with dense dirty yellow fur-like pubescence. Male labroclypeus (Fig. 122) broadly deeply emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles acute, strongly protruding. Punctures circular to ovoid, deep and dense. Setae very dense, appressed to erect, in part scale-like and broad, in part brush- or fur-like. Anterior margin sinuous with protruding anterolateral angles (stronger) and mesal portion (less strong). Basal margin broadly rounded. Lateral margin broadly rounded and shallowly emarginate prebasally, delicately crenulated all along. Punctures of pronotal disc circular to ovoid, moderately deep, dense. Setae brush- or fur-like, particularly dense along anterior and lateral margins, here completely hiding sculpture of dorsal surface. Hypomeron slightly curved and very long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Elytra with maximum width in postmedian third, with no tracks of longitudinal carinae. Elytral punctures elongate, irregularly shaped, moderately dense. Setae clavate, curved, suberect, of variable length and size. Intervening spaces densely covered by velvety pubescence. Male protibia with almost complete dorsal carina and two rather small distal external teeth and curved protibial terminal spur.

Remark

This species' male genital organs were not studied.

Maechidius heterosquamosus Heller, 1910 comb. rest.
Figs 42–43, 124–125, 216, 267, 306, 380, 473

Maechidius heterosquamosus Heller, 1910: 23.

Paramaechidius clypeatus Frey, 1969: 508 **syn. nov.**

Type material

Lectotype of *M. heterosquamosus* (herewith designated)

PAPUA NEW GUINEA • ♀; “[upper side of label] Kais.Wilhelmsland Toricelli [sic!] Gebirge [p] [underside of label] 640 m [h] [blue label]//1910 [p] 1 [h] [blue label]//[upper side of label] typus [p] [underside of label] *heterosquamosus* [h] [red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Holotype of *M. clypeatus*

PAPUA NEW GUINEA • ♂; “NEW GUINEA: NE. Torricelli Mts. Mobitei, 750 m. II-28-III-4-'59 [p]//W.W. Brandt Collector Bishop [p]//Type [h, red label]//TYPE *Paramaechidius clypeatus* n sp det.G.Frey,1967/68 [p]”; NHMB.

Remarks

The paratype of *M. clypeatus* from NHMB (Frey 1969: 508) belongs to *Maechidius lapsus* sp. nov.

Heller (1910: 23) likely based his description of *M. heterosquamosus* comb. rest. on a single specimen, although not explicitly stated. The single SNSD specimen labelled “typus” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription and new synonymy on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 7.00–8.10 mm (lectotype of *M. heterosquamosus* comb. rest.).

Dorsum and venter uniformly brown. Head strongly convex dorsally between eyes, glossy dorsally and ventrally. Female labroclypeus (Figs 124–125) broadly emarginate anteriorly, its lateral margins nearly straight in dorsal, slightly sinuous in lateral view. Anterolateral angles acute, protruding, raised up at angle of nearly 80–90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Underside



Figs 42–45. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **42.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **43.** Same, ♂, holotype of *M. clypeatus* (Frey, 1969) comb. nov. (BPBM). **44.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **45.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). Not to scale.

of labroclypeus with sparse long setae, upper side with clavate short setae along lateral margins. Canthus straight in dorsal view. Punctures of frons ovoid, very deep and dense, on periphery encircled with dense microscopical velvety pubescence. Intervening spaces glossy, generally smaller than punctures. Setae moderately long, scale-like, suberect to erect, variably strongly clavate to fusiform. Female antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum sinuous in lateral view, with obtuse median protruding in dorsal view, slightly emarginate anteriorly and somewhat stronger towards base, delicately (indistinctly) crenulate all along (Fig. 216). Clavate erect seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron emarginate and long setose on anterior margin which is flange-like (Fig. 267). Antennal pocket deep. Pronotal punctures deeper than those on head, of variable shape (ovoid to hexagonal). Scale-like clavate seta rises from anterior margin of each puncture. Lateral, basal margins and hypomeron covered with dense microscopical velvety (fur-like) pubescence (Fig. 267). Scutellar shield pointed apically. Elytron opaque, with five raised glabrous partly interrupted longitudinal carinae, including sutural one. Punctures of elytral disc irregular, small to rather large, deep, of variable shape (Fig. 306). Intervening spaces hidden under dense microscopical velvety pubescence. Pronotal setae scale-like, short to rather long, strongly to less strong clavate, suberect to erect. Obtuse partially glossy hump near apex. Female pygidium slightly longitudinally impressed dorsally, with dense deep ovoid punctures (except on anterior margin) and long dense erect scale-like clavate (medially) to ordinary (along posterior margin) setae. Elytral setae generally pointing obliquely to middle of pygidium. Midline of female pygidium generally sparser punctured, in part glabrous (Fig. 473). Intervening spaces glossy, covered with fur-like microscopical pubescence except along midline. Venter covered with extremely delicate fur-like microscopical pubescence. Protibia slightly widened distally, dorsally with delicate longitudinal carina, in female with two large distal external teeth of which distal one is stronger and narrower (Fig. 380). Female protibial terminal spur short, nearly straight. Female metatibial terminal spurs strongly unequal, lower one about twice as long as upper. Tarsal claws without pulvilli (in females only?).

Sexual dimorphism

This species' male genitalia were not studied.

Maechidius hirtipes Arrow, 1941

Figs 44, 123, 217, 268, 307, 381, 436, 474, 545, 620–622

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♂; “Type [p, label circular, red frame]//SYNTYPE [p, label circular, blue frame] // ♂ [p]//N.E.NEW GUINEA: Saiko, 5,500-6,000 ft. Bubu River. (Upper Waria River.) Sept.-Oct. 1936. [p]//F.Shaw-Mayer. B.M. 1937-350. [p]//*Maechidius hirtipes*, type. Arrow [h]”; BMNH.

Remarks

Arrow (1941: 453) based his description on two male specimens. Only one was found at BMNH with Arrow's type label and is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case the 2nd syntype is found and turns out to be a different species from *M. hirtipes* in this sense.

Description

Male labroclypeus (Fig. 123) broadly deeply emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles broadly rounded, strongly protruding. Canthus broadly rounded in dorsal view. Punctures of frons of irregular circular to hexagonal shape, intervening spaces glossy and variably large, in part wrinkled. Background of punctures in part covered with

dense microscopical velvety pubescence. Setae very inconspicuous, generally not surpassing length of corresponding punctures. Pronotum transverse, flattened dorsally, glossy to subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with slightly protruding anterolateral angles. Basal margin of pronotum slightly sinuous. Lateral margin of pronotum nearly straight, indistinctly gradually widened towards postmedium, strongly constricted in basal third, denticulate all along (Fig. 217). An inconspicuous seta present between each two denticles. Hypomeron separated from prosternum by moderately high nearly straight carina which is strongly acutely dentate medially, with long delicate setae on its anterolateral margin (Fig. 268). Antennal pocket shallow. Pronotal disc with dense and deep irregularly shaped (ovoid to hexagonal) punctures variably large; inner margin of each puncture with delicate membrane. Intervening spaces glossy, smaller than punctures, in part wrinkled. Setae very inconspicuous. Punctures of elytral disc sinuous, long and narrow, incision-shaped, dense (Fig. 307). Intervening spaces wrinkled, glossy to subopaque, generally larger than incision-shaped punctures. Elytral setae inconspicuous, appressed, about as long as corresponding incision-shaped punctures. Some longer suberect setae arranged in 4 longitudinal irregular rows on each elytron. Male pygidium with large shallow annular punctures, intervening spaces much smaller than those (Fig. 474). Setae of pygidium rather long and suberect in distal part, much shorter and inconspicuous on anterior part of pygidium. Male protibia with complete dorsal groove and three distal teeth of distal margin (Fig. 381). Male basal metatarsomere leaf-like, flat and slightly convex dorsally, with a brush of long dense setae on either lateroventral margin (Fig. 436). Spiculum gastrale as in Fig. 545. Aedeagus as in Figs 620–622.

Maechidius humeralis Heller, 1914

Figs 45, 127–128, 218, 269, 308, 382, 475–476, 546, 623–625

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♂; “Kais.Wilhelmsland Toricelli [sic!] Gebirge Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//Typus! [p] *humeralis* H. [h, red label]//Staatl. Museum für Tierkunde. Dresden [p]”; SNSD.

Paralectotypes

PAPUA NEW GUINEA • 1 ♀; “Kais.Wilhelmsland Toricelli [sic!] Gebirge Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD • 1 ♀; “Kais. Wilhelmsland Paup Dr.Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//Typus! [p] *humeralis* H. [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Remarks

Heller (1914: 628) based his description of *M. humeralis* on a number of specimens, although not explicitly stated, and two different localities are given. The lectotype designated here is one of two syntypes with Heller’s original “typus” handwriting on a red label and is the single male syntype. Lectotype designation is made in order to enhance the stability of nomenclature and fix the only male specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 6.80 (smallest paralectotype) to 8.10 (lectotype) mm.

Dorsum and venter uniformly black-brown except for brown appendages and labroclypeus. Head flattened dorsally, glossy dorsally and ventrally. Male labroclypeus (Fig. 127) broadly and moderately deeply emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles rounded, moderately strongly protruding, raised up at angle of nearly 80–90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Female labroclypeus as in

Fig. 128. Underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Punctures of frons irregularly shaped, annular, large and shallow. Intervening spaces subopaque, variably large. Setae inconspicuous, suberect, sparse, generally hardly surpassing length of corresponding punctures. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with protruding anterolateral angles, basal margin slightly sinuous. Lateral margin of pronotum sinuous in dorsal and lateral view, delicately crenulate all along (Fig. 218). Long erect seta present between every two crenulae. Hypomeron separated from prosternum by moderately high emarginate carina, with moderately long setae on its anterolateral margin (Fig. 269) opposite to compound eye. Antennal pocket moderately deep. Punctures of pronotal disc large, variably shaped (generally ovoid), double annular, moderately deep; lateral and latero-basal punctures irregularly ovoid, oblong, larger than median ones. Intervening spaces generally smaller than punctures, glossy. Setation slightly longer than on head, appressed to suberect; seta rises from anterior margin of each puncture, not or hardly surpassing its length. Scutellar shield pointed apically. Elytron subopaque, with very vague tracks of two longitudinal carinae. Sutural carinae not present. Punctures of elytral disc sinuous, long and narrow, incision-shaped, dense (Fig. 308). Intervening spaces wrinkled, opaque while densely transverse microstriate, generally larger than incision-shaped punctures. Intervening spaces delicately microreticulate. Setae inconspicuous, suberect, not surpassing length of punctures. Pygidium in both sexes (Figs 475–476) flattened dorsally, with very large and shallow irregularly shaped annular punctures. Intervening spaces microreticulate, distinctly smaller than punctures. Setae of pygidium moderately long, suberect. Protibia widened distally, dorsally with delicate longitudinal carina, in both sexes with three external teeth: acute largest distal, less acute predistal and strongly obtuse small median (Fig. 382). Male and female protibial terminal spur thin and long. Male metatibial terminal spurs long, nearly equally long, female lower metatibia spur distinctly longer than upper. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 546. Aedeagus as in Figs 623–625.

Sexual dimorphism

Lamellae of antennal club longer in male, labroclypeus stronger emarginate in female (in dorsal view) than in male.

Maechidius interruptocarinulatus Heller, 1914

Figs 46, 126, 219, 309, 383, 477

Type material

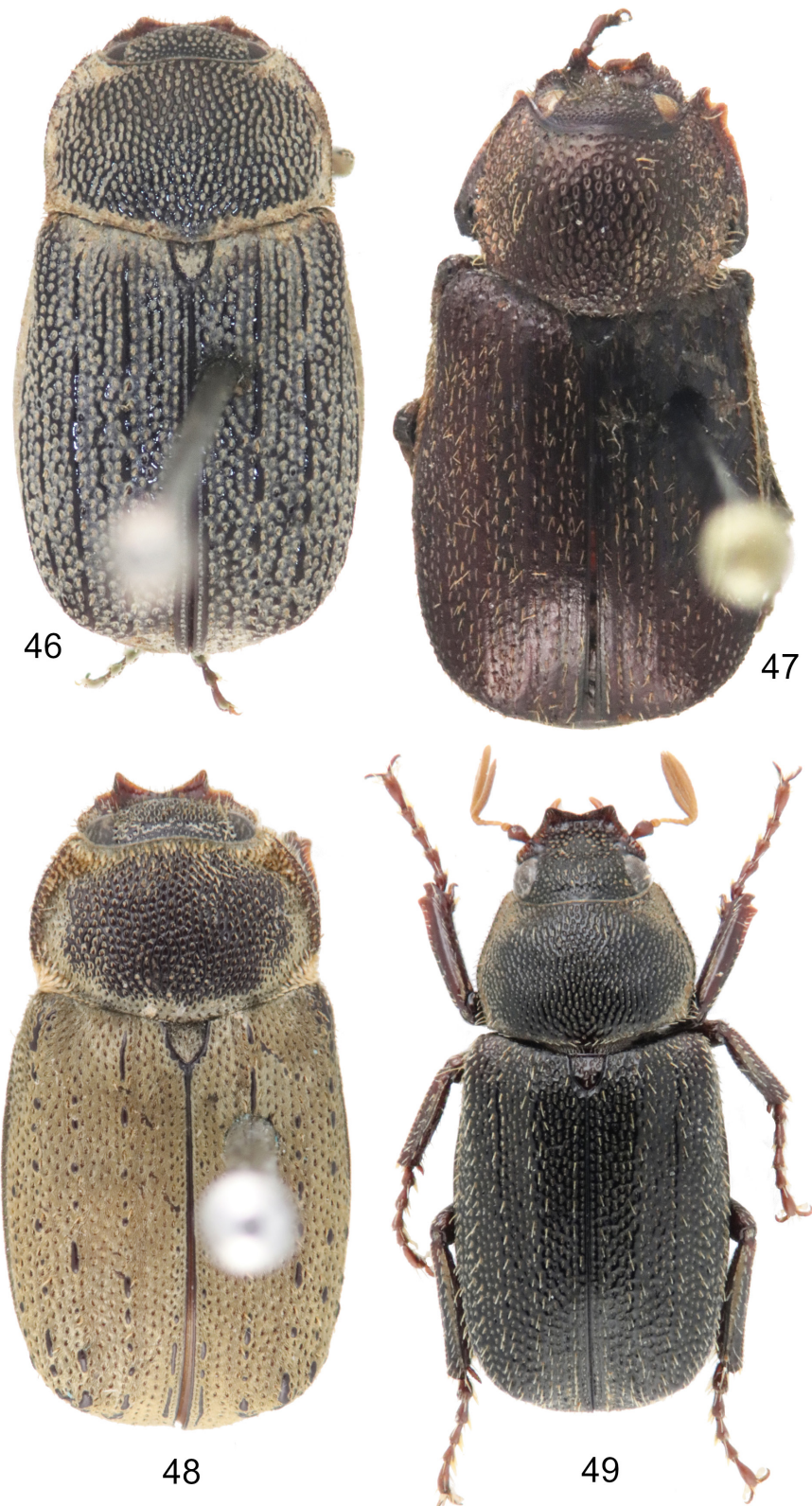
Holotype

INDONESIA • ♀; “Nieuw.Guinea-Expeditie 190[p] 4 Etna-bai [h]//typus! [p, red label]//1913 [p] 18 [h]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 1 ♀; “PAPUA: Orrori 3,000ft. vii.1933. L.E.Cheesman. B.M.1933-492.”; BMNH • 1 ♀; “W.NEW GUINEA: Mt.Nomo. S.of Mt.Bougainville. 700 ft. ii.1936.//L.E.Cheesman. B.M.1936-271.”; BMNH.

INDONESIA • 1 specimen; “DUTCH NEW GUINEA: Cyclops Mts., Sabron. 2,000 ft.vi.1936. L.E.Cheesman. B.M.1936-271.”; BMNH • 1 ♀; “Sabron Camp 2.//DUTCH NEW GUINEA: Cyclops Mts.,Sabron. 2,000 ft.vi.1936. L.E.Cheesman. B.M.1936-271.”; BMNH • 1 ♀; “DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. ix.1937. [p]//W.Stüber. B.M. 1938-177.”; BMNH • 1 ♀; “N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500 ft. iv.1938. L.E.Cheesman. B.M.1938-593.”; BMNH.



Figs 46–49. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **46.** *M. interruptocarinulatus* Heller, 1914, holotype, ♀ (SNSD). **47.** *M. jobiensis* Moser, 1920, lectotype, ♂ (ZMHB). **48.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **49.** *M. konjo* sp. nov., holotype, ♂ (NMPC). Not to scale.

Remarks

Heller (1914: 624) based his description of *M. interruptocarinulatus* on a single specimen, mentioning that the holotype was deposited at ZMHB. However, the only type specimen with label data as in the original description was allocated in SNSD and has never been deposited in ZMHB (B. Jaeger, personal communication).

Description

MEASUREMENTS. Total body length 7.40 (holotype) to 8.60 (selected specimen from Cyclops Mts.) mm.

Dorsum and venter uniformly black-brown except for brown appendages and labroclypeus. Head slightly convex dorsally on frons between eyes, glossy dorsally and ventrally. Female labroclypeus (Fig. 126) broadly emarginate anteriorly, its lateral margins nearly straight in dorsal, sinuous in lateral view. Anterolateral angles almost right-angled, not protruding, raised up at angle of nearly 80° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Punctures of frons ovoid, deep and dense; inner margin with thin membrane covered with dense microscopical velvety pubescence. Intervening spaces glossy, generally smaller than punctures. Setae inconspicuous, suberect; each seta rises from anterior margin of corresponding puncture, not or hardly surpassing its length. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly sinuous with protruding anterolateral angles (stronger) and mesal portion (slightly), basal margin broadly rounded. Lateral margin of pronotum broadly rounded, delicately crenulate all along (Fig. 219). An appressed short seta present between every two crenulae. Lateral and basal margins, antero- and posterolateral angles partly covered with dense microscopical velvety pubescence. Lateral margin of pronotum slightly sinuous in lateral view. Hypomeron emarginate and long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Punctures of pronotal disc generally larger and stronger oblong than those on head, inner margin with thin membrane covered with dense microscopical velvety pubescence. Intervening spaces glossy, in part wrinkled. Setation scale-like, appressed to suberect, short. Seta generally not surpassing length of corresponding puncture. Scutellar shield narrowly rounded apically. Elytron glossy, with five poorly defined glabrous variously broadly interrupted longitudinal carinae, including sutural one. Punctures of elytral disc ovoid, generally smaller than on forebody, deep (Fig. 309). Each puncture encircled with dense microscopical velvety pubescence. Intervening spaces glossy, in part glabrous, generally smaller than punctures. Setae inconspicuous, similar to those on pronotum, becoming longer and less appressed along longitudinal carinae. Each elytron with long lateral subhumeral seta on lateral margin. Female pygidium flattened dorsally, with vague median longitudinal impression, covered with dense microscopical fur-like velvety pubescence (Fig. 477). Punctures of pygidium dense, setae long, dense, erect, intervening spaces opaque, microreticulate. Punctures of venter narrowly surrounded by dense fur-like microscopical pubescence. Female protibia with upper longitudinal carina, slightly widened distally, with two distal teeth of which basal one is broader and stronger obtuse (Fig. 383). Female protibial terminal spur straight. Female metatibial terminal spurs rounded apically. Tarsal claws with pulvilli (in female only?).

Sexual dimorphism

Male is unknown.

Maechidius jobiensis Moser, 1920
Figs 47, 130, 220, 310, 384, 478

Type material

Lectotype [herewith designated]

INDONESIA • ♂; “*Maechidius jobiensis* Mos. Type [h]//Jobi Doherty [p]//SYNTYPE *Maechidius jobiensis* Moser, 1920 labelled by MFNB 2019 [p, red label]”; ZMHB.

New material

INDONESIA • 1 ♂; “♂//W.Stüber. B.M.1938-481.//DUTCH NEW GUINEA: Hollandia. Jan.1937-8. 140°E.long.3°1’S. 300-600 m.alt.”; BMNH.

Remarks

Moser (1920: 18) based his description of *M. jobiensis* on an unstated number of specimens. The lectotype is therefore designated for the single syntype in ZMHB in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 8.70 (lectotype) to 10.00 mm (specimen from Hollandia).

Dorsum and venter uniformly black-brown, appendages and labroclypeus paler brown. Head flattened dorsally on frons, glossy dorsally and ventrally. Male labroclypeus (Fig. 130) deeply and broadly V-shaped emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles acute, strongly protruding, raised up at angle of about 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Punctures of frons circular to ovoid, moderately deep, dense; inner margin with thin membrane covered with microscopical velvety pubescence. Intervening spaces glossy to subopaque, variably large. Setae moderately long, erect to suberect. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded, crenulate all along (Fig. 220). Long thick erect seta present between every two crenulae. Lateral margin of pronotum slightly sinuous in lateral view. Hypomeron separated from prosternum by moderately low straight carina, with moderately long setae on anterolateral margin opposite to compound eye. Antennal pocket moderately deep. Punctures of pronotal disc annular, larger and stronger oblong than those on head, horseshoe-shaped; inner margin with thin membrane covered with microscopical velvety pubescence. Intervening spaces glossy, variably large. Moderately long suberect seta rises from anterior margin of each puncture, generally surpassing length of corresponding puncture. Scutellar shield broadly triangular, pointed apically. Elytron subopaque, without tracks of longitudinal carinae. Punctures of elytral disc linear (long and narrow), incision-shaped, rather deep (Fig. 310). Intervening spaces much larger than punctures, microscopically wrinkled, subopaque. Elytral setae inconspicuous, suberect, generally surpassing length of incision. Male pygidium flattened dorsally, with large and shallow double annular punctures (Fig. 478). Intervening spaces glossy, much smaller than punctures. Setae of pygidium moderately long, suberect to erect. Male protibia with complete dorsal longitudinal furrow, with two distal teeth of which basal one is broader and stronger obtuse (Fig. 384). Male protibial terminal spur not present. Tarsal claws with pulvilli (in male only?).

Sexual dimorphism

Female is unknown.

Maechidius kazantsevi sp. nov.

[urn:lsid:zoobank.org:act:5AAB251F-9877-41E0-85EC-EB299FE0FA9F](https://zoobank.org/act:5AAB251F-9877-41E0-85EC-EB299FE0FA9F)

Figs 48, 129, 221, 311, 385, 479, 548, 626–628

Differential diagnosis

This species is undoubtedly very close to *M. perlatus* (Frey, 1969) comb. nov. and *M. ursus* sp. nov. (see description below), but differs in the shape of the male genitalia, the prebasally shortly excavated lateral margin of the pronotum, vestiture, and punctures of the pronotum, elytra, pygidium and abdominal ventrites.

Etymology

Patronymic. This species is named after Sergey Kazantsev (Moscow, Russia), a famous specialist of Lycidae and my good friend.

Type material

Holotype

INDONESIA • ♂; “♂ [p]//W.Stüber. B.M. 1938-177. [p]//DUTCH NEW GUINEA: Humboldt Bay Dist. Pukusam [sic! Correct name is Pukusum] Dist. West of Tami River. vi.1937. [p]”; BMNH.

Description

MEASUREMENTS. Male holotype, total body length 9.35 mm. Head 1.80 mm long, across eyes 2.10 mm wide. Pronotum 2.30 mm long, maximum width 3.60 mm. Elytral length 5.25 mm, maximum combined width 4.35 mm.

Dorsum uniformly dark brown with paler brown legs. Head transverse, glossy dorsally and ventrally, dorsally convex between eyes and impressed at each anterolateral angle of labroclypeus. Compound eye large, occupying about half side of head. Male labroclypeus (Fig. 129) deeply and broadly emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles of male labroclypeus strongly protruding, acute in dorsal view, bent up at ~90-100° to axis of frons in lateral view. Upper- and underside of labroclypeus with long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular to ovoid, very deep and dense. Inner margin of most punctures with delicate membrane covered with microscopical velvety pubescence (Fig. 129). Intervening spaces glossy, variably large. Canthus, part of lateral margin of labroclypeus and narrow area around inner margin of each compound eye covered with microscopical velvety pubescence. Dirty-yellow suberect to erect moderately long, in part curved seta rises from anterior margin of each puncture. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Pronotum strongly transverse, glossy dorsally and laterally, anterior margin broadly emarginate and basal margin broadly rounded. Lateral margin of pronotum very broadly rounded, shortly emarginate at posterolateral angles, delicately crenulate all along (Fig. 221). Conspicuous appressed brush of clustered setae present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Areas at antero- and posterolateral angles of pronotum slightly dorsally impressed. Punctures oblong-ovoid, very deep and dense, arranged in dichotomic rows (Fig. 221). Inner margin of most punctures completely or partly with delicate membrane covered with microscopical velvety pubescence (Fig. 221). Intervening spaces glossy, smaller than punctures. Pronotal setae scale-like, longer on anterior margin facing frons and at posterolateral angles, but medially and basally generally short and not surpassing length of corresponding punctures. Conspicuous rather long appressed brush of clustered setae (fur-like) rises from each puncture along lateral and anterior margins of pronotum (both dorsally and ventrally), especially dense on antero- and posterolateral angles. Basal and lateral margins of pronotum covered with microscopical velvety pubescence. Hypomeron nearly straight, very long setose on anterior margin opposite to compound eye, flange-like, covered by fur-like pubescence. Antennal pocket deep. Scutellar shield covered with microscopical velvety pubescence, narrowly rounded apically. Elytron completely covered with microscopical appressed fur-like pubescence (Figs 48, 311), surface structure therefore almost completely hidden. Elytron maximum width across midlength, with obsolete humerus and distinct omoplate. Tracks of four convex longitudinal carinae on each elytron (including sutural one) formed by irregular delicate glossy glabrous humps. Elytral punctures delicate, oblongo-ovoid, moderately deep, generally smaller than those on forebody and with microreticulate background (Fig. 311). Intervening spaces generally much larger than punctures. Setae of elytra inconspicuous, appressed, rise from anterior margin of corresponding punctures, not surpassing their length. Moderately long, suberect,

sparse scale-like and apically pointed setae arranged in irregular longitudinal rows along remnants of elytral carinae. Male pygidium flattened dorsally, deeply oblongo-punctate, intervening spaces covered with microscopical velvety pubescence directed in part circularly around punctures (Fig. 479). Setae of pygidium inconspicuous, sparse, suberect. Venter covered with sparse small shallow punctures, each provided with short brush of fur-like clustered setae. Ventral intervening spaces in part covered with microscopical velvety pubescence. Distal margin of male metatibia with projection over basal metatarsomere. Male metatibia flattened and glabrous on inner margin. Male protibia nearly straight on external margin, with complete dorsal groove. Two large distal teeth on external margin of male protibia, distal one acute (Fig. 385). Male protibial terminal spur large, curved. Male lower metatibial terminal spur curved. Tarsal claws with pulvilli (in males only?). Spiculum gastrale as in Fig. 548. Male aedeagus as in Figs 626–628.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests.

Distribution

Western surroundings of Jayapura, North New Guinea.

Maechidius konjo sp. nov.

[urn:lsid:zoobank.org:act:EEEEC581-5447-42AA-9CAC-144395EB5C9C](https://zoobank.org/act:EEEEC581-5447-42AA-9CAC-144395EB5C9C)

Figs 49, 131, 222, 313, 386, 480, 629–631

Differential diagnosis

This new species is undoubtedly very close to other Sulawesi congeners, primarily in the shape of the aedeagus in combination with the V-shaped emarginate male labroclypeus and the lateral margin of the pronotum being somewhat obtuse angulate postmedially.

Etymology

The new species is named after Konjo, a group of South Sulawesi native languages (Coastal Konjo and Highland Konjo) spoken in the area where it occurs. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA, S Sulawesi: Gowa Distr.; 6 km E of Malino, Gn. Bawakaraeng Area, border gardens and mixed forest (dominant *Pinus*) nr Lembanna Base camp 05°15.4’S, 119°54.5’E, 1520 m; J.Hájek & J.Šumpich leg. 11-13.ii.2015//coll. general National Museum Prague, Czech Republic”; NMPC.

Paratype

INDONESIA • 1 ♂; same labels as for holotype; NMPC.

Description

MEASUREMENTS. Male holotype, total body length 7.30 mm. Head 1.40 mm long, across eyes 1.60 mm wide. Pronotum 1.70 mm long, maximum width 2.55 mm. Elytral length 4.20 mm, maximum combined width 3.40 mm. Paratype 6.90 mm long.

Dorsum and venter uniformly black to black-brown, labroclypeus, antennae and legs castaneous brown. Male labroclypeus (Fig. 131) shallowly emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, strongly protruding. Frons convex dorsally. Compound eye moderately large, less than half head length. Head punctures ovoid to irregularly hexagonal, dense. Intervening spaces glossy, generally smaller than punctures. Head setae appressed to suberect, inconspicuous, sparse; each seta rises from anterior margin of corresponding puncture, surpassing its length. Pronotum broadly emarginate on anterior margin, basal margin broadly rounded. Lateral margin of pronotum broadly rounded, with very obtuse postmedian angulation, shallowly emarginate prebasally, crenulate all along (Fig. 222). Long erect seta present between every two crenulae. Pronotal punctures elongate ovoid, deep and dense. Intervening spaces glossy, smaller than punctures, in part wrinkled. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Setae generally as on head, but with numerous minute ones not surpassing midlength of corresponding punctures. Elytron with tracks of two flat glabrous longitudinal carinae, sutural carina not indicated. Elytral punctures irregularly ovoid, deep and dense. Intervening spaces glossy, generally larger than punctures (Fig. 313). Elytral setae appressed to suberect. Minute setae rise from anterior margin of corresponding punctures, not surpassing their midlength. Longer suberect setae arranged in 5–6 irregular longitudinal rows on each elytron. Male pygidium with moderately large sparse annular punctures, intervening spaces glossy, variably large (Fig. 480). Setae of pygidium rise from anterior margin of corresponding punctures, generally suberect to erect and longer than corresponding punctures. Several minute setae not surpassing length of corresponding punctures located along anterior margin of pygidium. Male protibia widened distally, with two obtuse distal teeth on external margin (Fig. 386). Male protibial terminal spur strongly curved. Aedeagus as in Figs 629–631.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lower to mid-montane mixed rainforests (altitude ~1500 m a.s.l.) dominated by *Pinus* sp.

Distribution

Hitherto only known from South Sulawesi.

Maechidius lapsus sp. nov.

[urn:lsid:zoobank.org:act:EA0D564C-7967-4819-8D85-30D7DE7A1EA6](https://zoobank.org/act:EA0D564C-7967-4819-8D85-30D7DE7A1EA6)

Figs 50, 133–134, 223, 314, 387, 481–482, 632–639

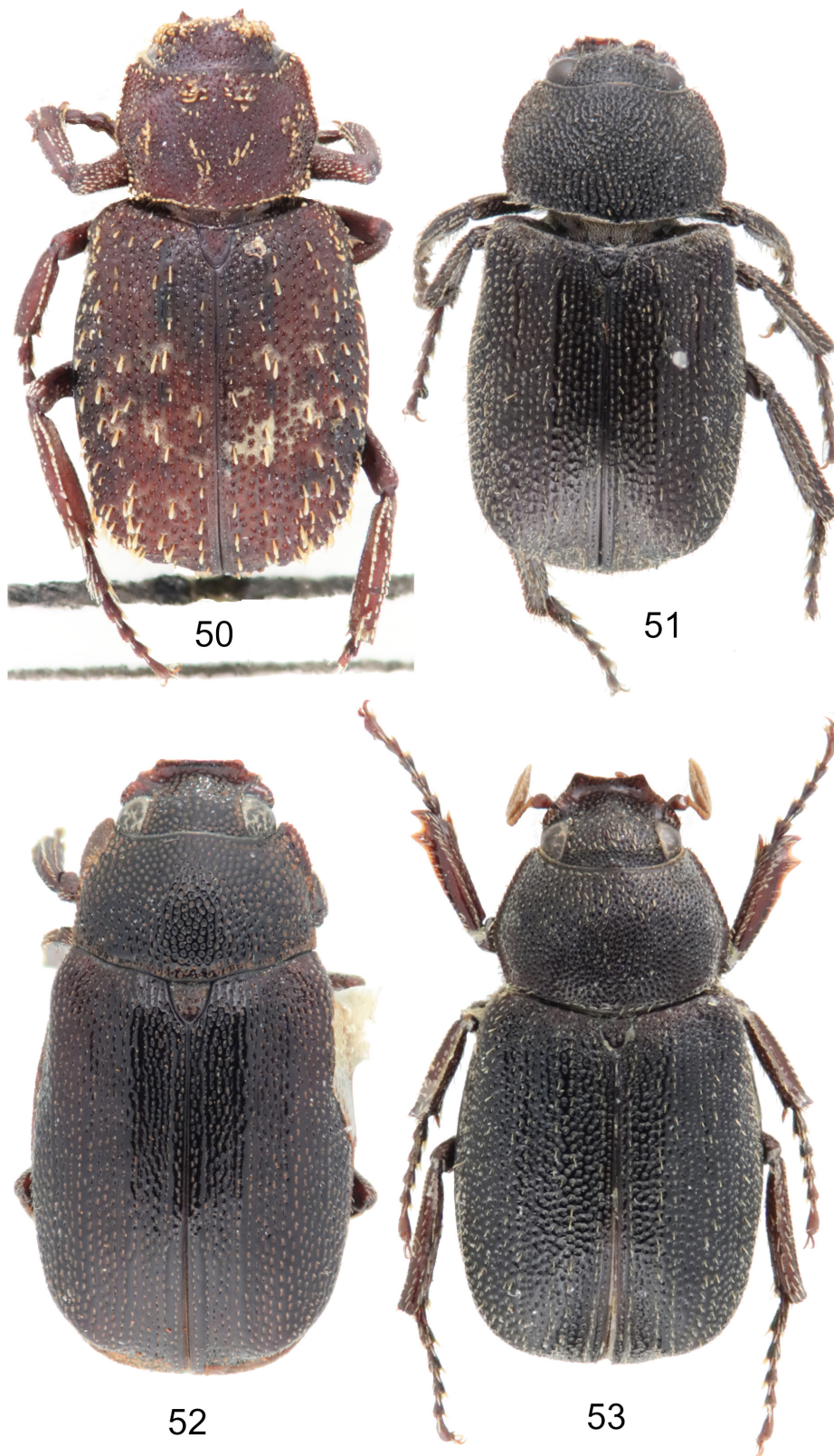
Etymology

Name derives from Latin ‘*lapsus*’ (meaning ‘lapse’, ‘slip’) since specimens of this species were incorrectly identified and published under the name of *Paramaechidius pauxillus* by several coleopterists (e.g., Frey 1969; Prokofiev 2018). Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. // *Paramaechidius pauxillus* Heller [h] det.G.Frey, 1967/68 [p]”; BMNH.



Figs 50–53. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **50.** *M. lapsus* sp. nov., holotype, ♂ (BMNH). **51.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **52.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). **53.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). Not to scale.

Paratypes (26 specimens)

INDONESIA • 1 ♂, 2 ♀♀; same label as in holotype but “*pauxillus* Heller” [h] “det.G.Frey, 1967/68 [p] [not mentioning genus name]”; BMNH • 1 ♂; paratype of *Maechidius clypeatus* comb. nov.; “NEW GUINEA: NETH. Waris, S. of Hollandia, 4500-500m VIII-1-7-1959 [p]//T. C. Maa Collector BISHOP [p]//PARATYPE [p, red label]//*Paramaechidius clypeatus* n sp [h] det.G.Frey, 1967/68 [p]”; NHMB • 1 ♀; “DUTCH NEW GUINEA: Cyclops Mts. Sabron. Camp I. 1,200 ft. 15.v.1936. L.E. Cheesman. B.M. 1936-271.”; BMNH • 1 ♂; “DUTCH NEW GUINEA: Cyclops Mts., Sabron. 2,000 ft. vi. 1936. L.E. Cheesman. B.M. 1936-271.”; BMNH • 1 ♀; “DUTCH NEW GUINEA: Cyclops Mts., Sabron. 2,000 ft. vii. 1936. L.E. Cheesman. B.M. 1936-271.”; BMNH • 1 ♂; “INDONESIA or. Irian Jaya 170km S Nabire Epomani 1150m, 06.I.1996 leg. A. Weigel”; NME • 1 ♀; “INDONESIA, Irian Jaya Nabire area, road Nabire–Ilaga, km 54, 03°29'517”S 135°43'913”E, 750m NN IV.1998, leg. M. Balke//Sammlung NATURKUNDEMUSEUM ERFURT”; NME • 6 ♂♂, 1 ♀; “IRIAN JAYA, Japen [sic!] Isl., Kontinuai, road to Ambaidru, 600-700 m, 23-25.XII.2000, leg. A. RIEDEL”; SMNH • 1 ♂; same label; DTC • 6 ♂♂, 3 ♀♀; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt.//Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB.

Description

MEASUREMENTS. Male holotype, total body length 5.90 mm. Head 1.20 mm long, across eyes 1.30 mm wide. Pronotum 1.30 mm long, maximum width 1.90 mm. Elytral length 3.40 mm, maximum combined width 2.80 mm. Selected female paratype from Waigeo Is., total body length 7.00 mm. Head 1.20 mm long, across eyes 1.40 mm wide. Pronotum 1.50 mm long, maximum width 2.10 mm. Elytral length 4.30 mm, maximum combined width 3.60 mm. Male paratype from Cyclops Mts, total body length 6.30 mm, selected female paratype 7.00 mm long.

With general features of *Maechidius bintang* sp. nov., *M. crypticus* sp. nov., *M. dendrolagus* sp. nov., *M. lapsus* sp. nov., *M. owenstanleyi* sp. nov. and *M. weigeli* sp. nov. (see descriptions above and below). Dorsum in part covered with dense to moderately dense microscopical velvety pubescence. Frons strongly humped in lateral view. Male labroclypeus (Fig. 133) subtruncate on anterior margin, in female (Fig. 134) vaguely emarginate. Anterolateral angles of labroclypeus strongly protruding anteriorly, acute, its lateral margins slightly sinuous both in dorsal and lateral view in both sexes. Antennae 9-segmented, club 3-lamellate. Head and pronotum covered with long, suberect elongate scale-like clavate setae. Pronotum constricted laterally postmedially towards base in dorsal view (Fig. 223). Punctures of pronotal disc oblong, rather small but deep, intervening spaces larger than punctures. Punctures becoming denser along lateral margins. Elytral disc with ovoid to linear incision-shaped deep punctures (Fig. 314). Intervening spaces microreticulate, subopaque, larger than punctures. Setae longer, sparser, stronger appressed on elytra than on forebody. Elytron with or without tracks of two longitudinal carinae on each elytron. Male and female pygidium flattened dorsally, with deep oblong variably shaped and sized punctures (Figs 481–482). Pygidium setae scale-like, elongate, clavate. Male protibia with two inconspicuous distal teeth, female (Fig. 387) with two stronger, acute teeth. Male aedeagus as in Figs 632–639, paramere each with lateral denticle (aedeagus of this species was erroneously attributed to *Paramaechidius pauxillus* by Prokofiev (2018: fig. 6)).

Sexual dimorphism

Female is generally larger, with straight and pointed protibial spur, distally distinctly bidentate protibia.

Ecology

Occurs in lowland and lower montane rainforests up to 1060 m altitude.

Distribution

Hitherto known from the Cyclops Mountains and western part of the Central Cordillera of New Guinea, Madang Province of Papua New Guinea, Yapen Island (Cenderawasih Bay) and Waigeo Island (Raja Ampat Islands).

Maechidius legalovi sp. nov.

[urn:lsid:zoobank.org:act:ABC509EC-B963-4A6D-8CC7-804615AB794D](https://doi.org/10.21203/rs.3.rs-1234567)

Figs 51, 136, 224, 315, 388, 483, 549, 640–642

Differential diagnosis

This new species is most similar to *M. peregrinus* Lansberge, 1886, *M. babyrousa* sp. nov., *M. deltouri* sp. nov. and *M. suwawa* sp. nov. (all from Sulawesi). It readily differs from them and other congeners in the widened and flattened male basal metatarsomere, the shape of the male genital organs and the labroclypeus, which is entire and without protruding anterolateral angles in both sexes.

Etymology

Patronymic. This species is named after the famous expert of Curculionoidea and respected colleague Andrei A. Legalov (Novosibirsk, Russia).

Type material

Holotype

INDONESIA • ♂; “SULAWESI TENGAH: Nr.Morowali, Ranu River Area. 27.i.-20.iv.1980//Vert. Series 30m.actinic code:11.iii.80//S.L.Sutton C.J.Rees B.M.1980-281”; BMNH.

Paratypes (2 specimens)

INDONESIA • 1 ♀; “Vert.Series 30m.actinic code:15.iii.80//SULAWESI TENGAH: Nr.Morowali, Ranu River Area. 27.i.-20.iv.1980//S.L.Sutton C.J.Rees B.M.1980-281”; BMNH • 1 ♀; “SULAWESI TENGAH: Nr.Morowali, Ranu River Area. 27.i.-20.iv.1980//Vert.Series 30m.actinic code:13.iii.80//S.L.Sutton C.J.Rees B.M.1980-281”; BMNH.

Description

MEASUREMENTS (exposed abdominal ventrites not included). Male holotype, total body length 7.40 mm. Head 1.50 mm long, across eyes 1.78 mm wide. Pronotum 1.80 mm long, maximum width 2.80 mm. Elytral length 4.10 mm, maximum combined width 3.50 mm. Selected female paratype, total body length 8.50 mm. Head 1.50 mm long, across eyes 1.87 mm wide. Pronotum 2.00 mm long, maximum width 3.20 mm. Elytral length 5.00 mm, maximum combined width 4.10 mm.

Dorsum and venter uniformly black with dark castaneous labroclypeus and anterior and lateral margins of pronotum, mouthparts and legs. Head transverse, trapezoid, slightly convex on frons in lateral view, glossy dorsally and ventrally, with large not prominent compound eyes occupying nearly half side of head. Male labroclypeus (Fig. 136) truncate, its lateral margins smooth, straight in both dorsal and lateral views. Anterolateral angles obtuse angulate, not protruding. Female labroclypeus generally as in male, anterolateral angles strongly obtuse. Frons punctures circular to irregularly hexagonal, smaller in anterior, somewhat larger in posterior half. Intervening spaces glossy, much smaller than punctures, in part wrinkled. Setae dirty yellowish, sparse, somewhat thickened and suberect; seta rises from anterior margin of corresponding puncture, surpassing or not its length. Longer setae present near compound eyes and on underside of labroclypeus. Labroclypeus laterally and frontally with longer and slender setae. Male and female antenna 9-segmented, club 3-lamellate. Scape large, strongly widened on upper side in distal half, provided with few long erect setae on posterior and distal margins. Antennomere 2 short cylindrical, transverse or nearly so. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum rather deeply emarginate, anterolateral angles protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum broadly rounded, slightly constricted towards base, delicately crenulate all along (Fig. 224). Lateral margin of pronotum sinuous in lateral view. Punctures of pronotal disc of irregular shape (generally ovoid), deep and large, becoming flatter along

lateral margins; inner margin with delicate membrane covered with microscopical velvety pubescence. Intervening spaces much smaller than punctures, in part wrinkled, glossy. Setation as on head; setae generally not surpassing length of corresponding punctures. Longer and thicker appressed seta between each of two lateral crenulae and all along basal margin. Hypomeron smooth, its anterolateral margin flange-like produced, with large sparse circular punctures, with large shallow emargination opposite to eye (to receive canthus separating compound eye), covered with long setae. Antennal pocket deep. Scutellar shield triangular, narrowly rounded apically. Elytra broadly cylindrical, maximum width across median third, glossy and slightly convex dorsally, with rounded humeri. Indistinct tracks of three flat longitudinal carinae on each elytron. Short sutural carinae indicated near apices. Rather large obtuse hump on each elytron near apex. Disc and lateral sides of elytra irregularly densely punctured, punctures irregularly ovoid (Fig. 315). Periphery of punctures in part covered with microscopical velvety pubescence, completely or not encircling them. Intervening spaces generally smaller than punctures, glossy, in part microreticulate. Inconspicuous suberect seta rises from anterior margin of each puncture. Epipleuron with row or two (in broad anterior part) of suberect setae. Pygidium and abdominal ventrites glossy. Pygidium in both sexes dorsally flattened, covered with moderately large and deep irregularly ovoid punctures, each provided with moderately long suberect seta (Fig. 483). Legs long and slender, femora and tibiae covered with delicate whitish setae. Pro- and mesotibiae less distinct, metatibiae stronger thickened distally. Outer margins of meso- and metatibiae densely denticulate. Two teeth on external margin of protibia in both sexes (Fig. 388). Male lower meso- and metatibial terminal spur strongly curved. Distal margin of metatibia in both sexes with projection over basal metatarsomere. Male metatibial terminal spurs shorter than basal metatarsomere, female one as long as this. Male basal metatarsomere widened and dorso-ventrally flattened. Tarsal claws with pulvilli in both sexes. Spiculum gastrale as in Fig. 549. Male aedeagus as in Figs 640–642.

Sexual dimorphism

Female is generally larger; lamellae of antennal club shorter; protibial spur slightly curved distally in male, straight in female; male metatibial terminal spur shorter than, in female as long as basal metatarsomere; apical margin of female pygidium with vague emargination, not emarginate in male; female basal metatarsomere not conspicuously widened or flattened; female lower meso- and metatibial terminal spur slender, slightly curved apically.

Ecology

Occurs in lowland rainforests. Possibly nocturnal.

Distribution

Hitherto only known from Central Sulawesi.

Maechidius leucopsar sp. nov.

[urn:lsid:zoobank.org:act:6D5298A8-F6E1-4361-B7CA-62C55B85C1DB](https://doi.org/10.3897/ejt.721.643-645)

Figs 52, 132, 225, 316, 357, 389, 485, 550, 643–645

Differential diagnosis

This new species is undoubtedly very close to *Maechidius suwawa* sp. nov. from North Sulawesi (see description of this species below) and other congeners. It differs primarily in the male genitalia (cf. Figs 643–645, 726–729), the shape of the male metatibial terminal spurs, the absence of glossy elytral carinae (two flat glossy glabrous carinae on each elytron in *M. suwawa* sp. nov.), a less coarsely punctured pronotum (punctures of pronotal disc smaller, ovoid, deeper in *M. leucopsar* sp. nov. than in any Sulawesi species), the punctures of the elytral disc are circular and less regular (elytral punctures ovoid, substrate in *M. suwawa* sp. nov.), and the comparatively deeper emarginate anterior margin of the labroclypeus.

Etymology

Named after *Leucopsar* Stresemann, 1912, the monotypical sturnid genus of the famous and critically endangered Bali endemic *Leucopsar rothschildi* Stresemann, 1912, widely known as the Bali myna, Rothschild's mynah, or Bali starling.

Type material**Holotype**

INDONESIA • ♂; “Indonesia, Bali Isl. Bedugul Region, Tamblingan Lakes N.R. XI.2004, 1200 m//coll. IECA České Budějovice, Czech Republic”; IECA.

Paratype

INDONESIA • 1 ♂; same labels as for holotype; IECA.

Description

MEASUREMENTS. Holotype, total body length 6.60 mm. Head 1.30 mm long, across eyes 1.47 mm wide. Pronotum 1.50 mm long, maximum width 2.50 mm. Elytral length 3.80 mm, maximum combined width 3.26 mm.

Dorsum uniformly black with reddish brown labroclypeus, mouthparts, antennae, legs and all of venter. Head transverse, glossy to subopaque dorsally and ventrally, somewhat convex between eyes and vaguely impressed on labroclypeus anterior to each compound eye. Compound eye large, occupying about half side of head. Male labroclypeus (Fig. 132) very shallowly broadly emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views, anterolateral angles weakly protruding, obtuse in dorsal view, bent up at ~80–90° to frons in lateral view. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular to ovoid, deep, smaller on labroclypeus than on frons; inner margin of some punctures with delicate membrane. Intervening spaces glossy to very delicately microreticulate, glabrous, variably large. Suberect thickened moderately long scale-like seta rises from anterior margin of each puncture, surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate, anterolateral angles protruding anteriorly. Vague dorsal impression beyond anterolateral angle on either side. Basal and lateral margins broadly rounded. Crenulae of lateral margin delicate, a long suberect seta present between every two crenulae (Fig. 225). Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures ovoid, very deep, variably large; inner margin of some punctures with delicate membrane. Intervening spaces glossy and glabrous, in part wrinkled, generally smaller than punctures except near lateral margins. Setae shorter than those on frons. Lateral and basal margins, antero- and posterolateral angles partly covered with dense microscopical velvety pubescence (Fig. 357). Hypomerion shallowly emarginate and very long setose on anterior margin which is flange-like. Antennal pocket deep. Median anterior process of prosternum long brushy setose, short, moderately raised. Scutellar shield rounded apically. Elytra slightly widened in posterior half, maximum width across midlength, glossy dorsally, with distinct humeri. Punctures of elytral disc irregular in shape and size, generally much shallower than those on pronotal disc; on periphery partly or completely encircled with dense microscopical velvety pubescence (Fig. 316). Setae inconspicuous, in part minute, in part moderately large and surpassing length of corresponding punctures. Epipleuron all along with very short appressed setae. Male pygidium slightly convex dorsally, circularly punctate, subopaque microreticulate on intervening spaces, spaces generally smaller than punctures, with moderately long suberect seta that rises from each puncture (Fig. 485). Venter covered with sparse small shallow punctures, each provided with very short seta.

Legs long and slender. Male protibia nearly straight on external margin, delicately crenulate in basal third, with almost complete dorsal fovea. Two acute rather large distal teeth on male protibia, distal longer than basal one (Fig. 389). Male protibial terminal spur large, curved. Male metatibial terminal spurs obtuse, the lower stronger curved than upper one. Tarsal claws with large pulvilli (in male only?). Spiculum gastrale as in Fig. 550. Male aedeagus as in Figs 643–645.

Sexual dimorphism

Female is unknown.

Variability

Paratype elytral disc less coarsely punctured.

Ecology

Occurs at an altitude of about 1200 m.

Distribution

Hitherto only known from Bali, the westernmost of the Lesser Sunda Islands. This is hitherto the westernmost record of the *Maechidiini*.

Maechidius lineatopunctatus Frey, 1969
Figs 53, 135, 226, 270, 317, 390, 486, 646–648

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Port Moresby New-Guinea P. Voss [h]//TYPE [p, red label]//Type *Maechidius lineatopunctatus* n sp [h] det.G.Frey,1967/68 [p]”; NHMB.

Paratypes

According to the original description, there are 17 ♂♀ at NHMB. I had the opportunity to examine four of them which are referred below to *M. mailu* sp. nov.

Remarks

Frey (1969: 502) designated the single specimen from Port Moresby as the holotype.

Description

MEASUREMENTS. Holotype male 6.70 mm long.

Dorsum and venter uniformly black-brown, appendages and labroclypeus castaneous brown. Head flattened dorsally on frons, glossy dorsally and ventrally. Male labroclypeus (Fig. 135) subtruncate anteriorly, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles broadly rounded, not protruding. Upper- and underside of labroclypeus with sparse inconspicuous setae along anterior and lateral margins. Canthus very broadly rounded in dorsal view. Punctures of frons circular to ovoid, moderately deep and dense. Intervening spaces glossy, variably large. Head setae minute, appressed to suberect, not surpassing length of corresponding punctures. Antenna 9-segmented, club 3-lamellate. Pronotum strongly transverse, glossy dorsally and laterally. Anterior margin of pronotum sinuous with slightly protruding anterolateral angles. Basal margin of pronotum broadly rounded. Lateral margin of pronotum in dorsal view nearly straight, stronger constricted anteriorly and straight at base, crenulate all along (Fig. 226). An inconspicuous short seta present between every two crenulae. Lateral margin of pronotum hardly sinuous in lateral view. Hypomerion separated from prosternum

by moderately high straight carina which is shortly flange-like protruding in posterior half, obtusely angulate medially, with long setae on its anterolateral margin opposite to compound eye (Fig. 270). Antennal pocket moderately deep. Punctures of pronotal disc ovoid, moderately deep and dense, filled with microscopical velvety pubescence, in part horseshoe-shaped along lateral margins of pronotum. Intervening spaces glossy, variably large. Setae as those on head, very inconspicuous. Base of pronotum with very narrow area of microscopical velvety pubescence. Scutellar shield triangular, pointed apically, covered with microscopical velvety pubescence. Elytron glossy, with vague tracks of three longitudinal carinae, including sutural one. Base of elytra with narrow area covered with microscopical velvety pubescence. Punctures of elytral disc linear (long and narrow), rather deep (Fig. 317). Intervening spaces larger than punctures, glossy. Elytral setae inconspicuous, appressed; each seta rises from anterior margin of each puncture, not surpassing length of incision. Male pygidium slightly convex dorsally, with large and shallow annular punctures (Fig. 486). Intervening spaces glossy, generally smaller than punctures. Setae of pygidium suberect to erect, short in anterior, longer in apical half. Male protibia with two distal teeth of which basal one very inconspicuous (Fig. 390). Male protibial terminal spur straight, pointed. Male lower meso- and metatibial terminal spurs strongly curved. Tarsal claws with pulvilli (in male only?). Aedeagus as in Figs 646–648.

Sexual dimorphism

Female is unknown

Maechidius lobaticeps Frey, 1969

Figs 54, 139–140, 227, 272, 318, 391, 487, 569, 649–651, 751–753

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Holotype [p, label circular, red frame]//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964 [p]//M.E. Bacchus. B.M. 1965-120. [p]//*Maechidius lobaticeps* n. sp. ♂ [h] det.G.Frey,1967/68 [p]”; BMNH.

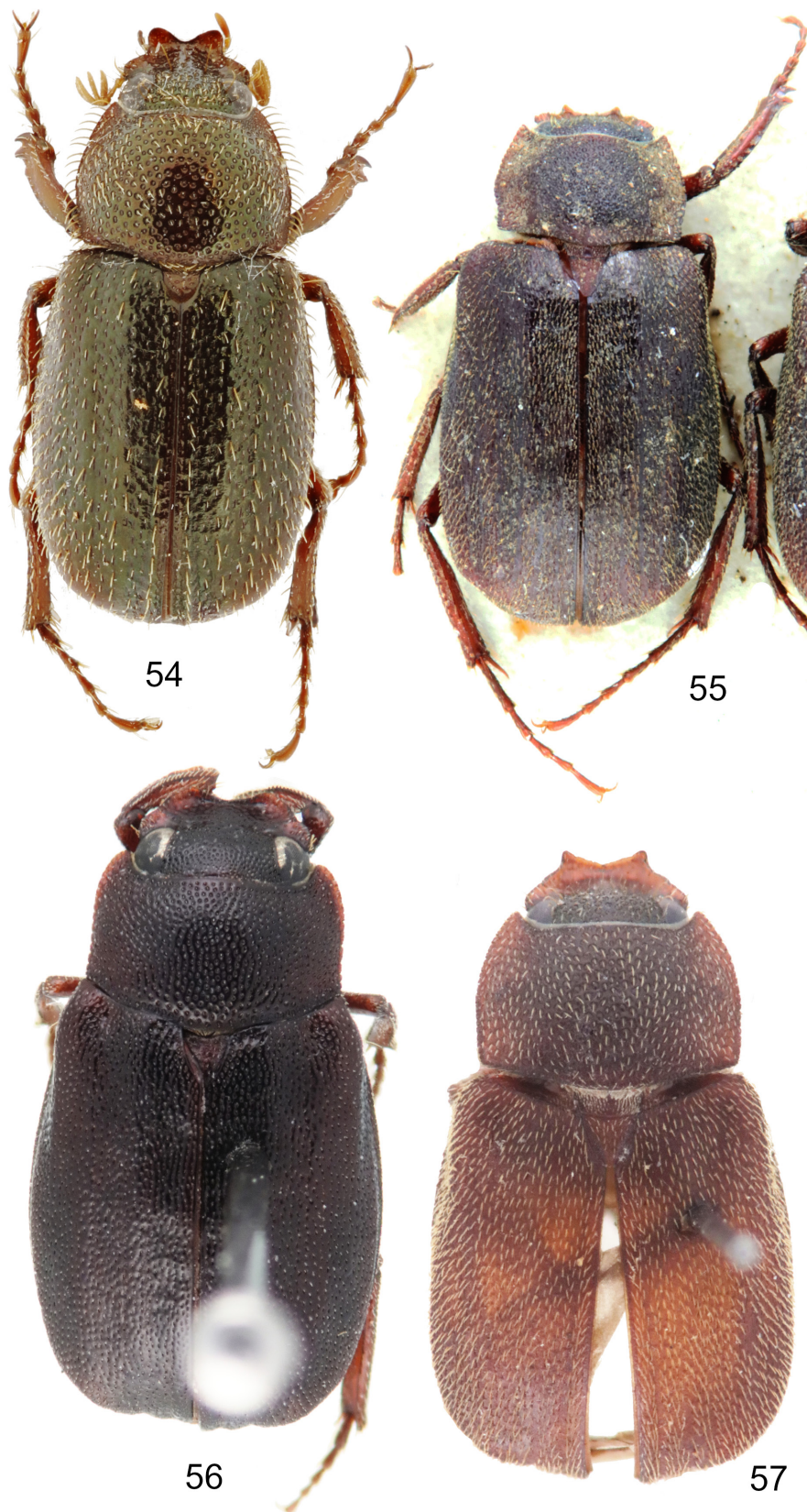
Paratypes (109 specimens)

PAPUA NEW GUINEA • 1 ♂; “WEST NEW GUINEA 10km E of Bokondini 40km N of Baliem Val.1300m, 24.XI.'61 [p]//Light trap S. Quate & L. Quate [p]//geschenkt [h]//PARATYPE [p, red label]//*Maechidius lobaticeps* n. sp. [h]//det.G.Frey,1968 [p]”; SNSD • 1 ♀; “Allotype [p, label circular, red frame]//M.E. Bacchus. B.M. 1965-120. [p]//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964 [p]//*Maechidius lobaticeps* n. sp. ♀ [h] det.G.Frey,1967/68 [p]”; BMNH • 97 specs; “Paratype [p, label circular, yellow frame]//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964//M.E. Bacchus. B.M. 1965-120. [p]//PARATYPE [p, red label]//*Maechidius lobaticeps* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 10 specs; “Paratype [p, label circular, yellow frame]//PAPUA:Kokoda. 1,200ft. viii.1933. L.E.Cheesman. B.M.1933-577. [p]//PARATYPE [p, red label]//*Maechidius lobaticeps* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH.

New material

PAPUA NEW GUINEA • 1 spec.; “PAPUA:Kokoda. 1,200ft. viii.1933. L.E.Cheesman. B.M.1933-577.”; BMNH.

INDONESIA • 1 spec.; “DUTCH NEW GUINEA: Cyclops Mts. Sabron. Camp 2. 2,000 ft. vi.1936. L.E.Cheesman. B.M.1936-271”; BMNH • 1 spec.; “Sabron. Camp 2.//DUTCH NEW GUINEA: Cyclops Mts., Sabron. 2,000 ft. vi.1936. L.E.Cheesman. B.M.1936-271”; BMNH • 18 specs collected and > 100 observed; “INDONESIA E, New Guinea, Papua Prov., Sentani 5.5 km W, road to Nimbokrang, Doyo



Figs 54–57. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **54.** *M. lobaticeps* Frey, 1969, ♂ (DTC). **55.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **56.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **57.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). Not to scale.

Lama vill., 02°33'50"S, 140°27'20"E, 150-165 m, 31.III.2018, semidry eucalypt forest, from flowers & pitchers of *Nepenthes* sp., leg. D.Telnov"; DTC (Figs 751–753 for habitat).

Description

Male labroclypeus (Fig. 139) deeply emarginate, anterolateral angles protruding. Female labroclypeus (Fig. 140) with obtuse and less protruding anterolateral angles. Lateral margins of labroclypeus strongly sinuous in both dorsal and lateral views. Anterolateral angles raised up at angle of nearly 70-80° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse very long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Head dorsal punctures circular, in part annular. Intervening spaces glossy, variably large. Head setae scale-like, elongate; each seta rises from anterior margin of corresponding puncture. Antenna 7-segmented, club 3-lamellate. Anterior margin of pronotum subtruncate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded, delicately crenulate all along (Fig. 227). Extraordinarily long erect distally curved seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures annular, variable in size. Intervening spaces glossy, variably large. Pronotal setae rather large, suberect, rising from anterior margin of corresponding punctures. Hypomeron separated from prosternum by straight vague carina, with moderately long setae on its anterolateral margin opposite to compound eye (Fig. 272). Antennal pocket shallow. Elytron subopaque, surface delicately wrinkled. Punctures of elytral disc double (Fig. 318). Ordinary punctures of irregular shape, shallow, dense. On background of each ordinary puncture with additional linear (long and narrow), incision-shaped puncture. Intervening spaces glossy, much larger than incisions. Elytral setae of variable length, not surpassing to strongly surpassing length of corresponding incisions. Pygidium in both sexes slightly convex dorsally, with large dense and shallow annular punctures and moderately long erect setae (Fig. 487). Protibia is modified also on inner margin, concave predistally. Male and female protibia distally tridentate on external margin (Fig. 391). Female metatibial terminal spurs short, unequal in length, rounded apically, male one longer, subequal in length and nearly pointed. Spiculum gastrale as in Fig. 569. Aedeagus as in Figs 649–651.

Sexual dimorphism

Female lamellae of antennal club shorter; labroclypeus subtruncate anteriorly, not or vaguely emarginate.

Maechidius longipes sp. nov.

[urn:lsid:zoobank.org:act:933B9ADB-8E8F-459F-A4EB-30A79372D136](https://zoobank.org/act:933B9ADB-8E8F-459F-A4EB-30A79372D136)

Figs 55, 138, 228, 319, 392, 443, 488, 551, 652–654

Differential diagnosis

Maechidius longipes sp. nov. is peculiar among all congeners primarily due to the lengthened tarsi and the shape of the male aedeagus.

Etymology

Named from the Latin '*longipes*' (meaning 'long-legged') to highlight the conspicuously long tarsi of this species.

Type material

Holotype

COUNTRY UNKNOWN (Island of New Guinea) • ♂; "New Guinea. [p]//Nevinson Coll.1918–14 [p]"; BMNH.

Paratype

COUNTRY UNKNOWN (Island of New Guinea) • 1 ♂; same labels as for holotype; BMNH.

Remarks

Both holo- and paratype are mounted on the same card on one pin and share the same labels; the holotype is the specimen on the left, the paratype is the specimen on the right with completely missing head.

Description

MEASUREMENTS. Holotype, total body length 7.35 mm. Head 1.30 mm long, across eyes 1.60 mm wide. Pronotum 1.55 mm long, maximum width 2.45 mm. Elytral length 4.50 mm, maximum combined width 3.60 mm.

Dorsum and venter uniformly brown, labroclypeus, antennae, legs and lateral margins of pronotum paler. Head flattened dorsally, glossy dorsally and ventrally. Male labroclypeus (Fig. 138) broadly shallowly emarginate on anterior margin, anterolateral angles nearly right-angled, protruding anteriorly. Lateral margins of labroclypeus sinuous in both dorsal and lateral views. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long delicate setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Punctures of frons circular to irregularly hexagonal, annular, large and shallow. Intervening spaces smaller than punctures, glossy. Setae inconspicuous, suberect; each seta rises from anterior margin of corresponding puncture, surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding acute anterolateral angles, basal margin very broadly rounded. Lateral margin of pronotum broadly rounded, very shallowly emarginate postmedially, crenulate all along (crenulae at well defined intervals, not merged) (Fig. 228). Lateral margin of pronotum nearly straight in lateral view. Short suberect seta present between every two crenulae. Hypomeron separated from prosternum by low nearly arched carina. Antennal pocket shallow. Pronotal punctures larger than those on head, circular to irregularly ovoid, annular, shallow and very dense. Intervening spaces much smaller than punctures, glossy or in part microreticulate. Inconspicuous curved suberect seta rises from anterior margin of each puncture, generally surpassing its length. Scutellar shield narrowly rounded apically. Elytron opaque, without tracks of longitudinal carinae. Elytral punctures linear (elongate and narrow), incision-shaped, moderately deep (Fig. 319). Intervening spaces densely microreticulate. Inconspicuous suberect seta rises from anterior margin of each puncture, not surpassing length of corresponding incision. Male pygidium flattened dorsally, with large very shallow annular punctures (Fig. 488). Intervening spaces densely microreticulate, much smaller than punctures. Setae of pygidium inconspicuous, sparse, suberect. Male protibia with two acute external teeth (Fig. 319). Male protibial terminal spur short, thickened, slightly sinuous. Male lower metatibial terminal spur extraordinarily long (Fig. 443), pointed apically. In male all tarsi very long, tarsomeres lengthened; tarsus at least as long as or longer than corresponding tibia. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 551. Aedeagus as in Figs 652–654.

Sexual dimorphism

Female is unknown.

Ecology

Unknown.

Distribution

New Guinea, exact locality unknown.

Maechidius luniceps Fairmaire, 1883

Figs 57, 142–143, 229, 320, 393, 489, 552, 655–657

The type material of this species was not registered at the MNHN (O. Montreuil, personal communication).

New material

PAPUA NEW GUINEA • 1 ♂, 1 ♀; “NEW BRITAIN Talasea 4.XI.1940 F.Henderson per T.L.Frogatt // ♂ or ♀ // C.2410 // Pres. by. Com. Inst. Ent. B. M. 1948-142 // *Maechidius luniceps*, Fairm. Determined from description. G.J.A.”; BMNH • 2 specs; “RABAUL N.Britain FHTaylor // NEW BRITAIN. B.M.1933-603.”; BMNH.

Description

Dorsum uniformly brown to black-brown, venter and appendages somewhat paler. Head flattened dorsally, glossy dorsally and ventrally. Male labroclypeus (Fig. 142) broadly shallowly V-shaped emarginate on anterior margin, anterolateral angles obtuse angulate, protruding anteriad. Female labroclypeus (Fig. 143) very broadly emarginate on anterior margin with anterolateral angles rounded and not protruding. Lateral margins of labroclypeus slightly sinuous in both dorsal and lateral views. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long delicate setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Punctures of frons irregularly circular, annular, large and shallow. Intervening spaces generally smaller than punctures, glossy. Setae inconspicuous, appressed to suberect; each seta rises from anterior margin of corresponding puncture, surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with slightly protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum in dorsal view slightly rounded, delicately crenulate all along (Fig. 229). Lateral margin of pronotum slightly sinuous in lateral view. Short suberect curved seta present between every two crenulae. Hypomeron separated from prosternum by low nearly straight carina, with long setae on anterolateral margin opposite to compound eye. Antennal pocket shallow. Pronotal punctures larger than those on head, irregularly circular to ovoid, annular, shallow and dense. Intervening spaces smaller than punctures, in part microreticulate. Moderately long curved suberect seta rises from anterior margin of each puncture, surpassing its length. Scutellar shield narrowly rounded apically. Elytron opaque, without tracks of longitudinal carinae. Elytral punctures linear (elongate and narrow), incision-shaped, moderately deep (Fig. 320). Intervening spaces densely microreticulate. Seta rises from anterior margin of each puncture, suberect, hardly surpassing length of corresponding incision. Male and female pygidium flattened dorsally, with large shallow irregularly shaped annular punctures (Fig. 489). Intervening spaces microreticulate, much smaller than punctures. Setae of pygidium sparse, suberect, moderately long. Male and female protibia widened distally, with delicate dorsal carina and three obtuse external teeth (Fig. 393). Male protibial terminal spur short and thickened, female one narrow and pointed. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 552. Aedeagus as in Figs 655–657.

Sexual dimorphism

Female lamellae of antennal club shorter; labroclypeus shallower emarginate anteriorly, with stronger rounder and less produced anterolateral angles; protibial terminal spur longer and more slender.

Maechidius mailu sp. nov.

[urn:lsid:zoobank.org:act:65367219-2F03-4D5A-B717-CA6A980839F6](https://zoobank.org/urn:lsid:zoobank.org:act:65367219-2F03-4D5A-B717-CA6A980839F6)

Figs 56, 141, 230, 271, 321, 394, 490, 658–660

Differential diagnosis

Maechidius mailu sp. nov. is peculiar among all congeners primarily due to the shape of the male aedeagus, the almost straight lateral margins of the pronotum and the partly wrinkled elytral sculpture.

Etymology

Named after the Mailu, the local tribe and language of Amazon Bay, Papua New Guinea. Noun in apposition.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “NEW GUINEA Amazon Bay area, Komania.3400 ft., 11.11.–26.11.1962 W. W. Brandt [p]//PARATYPE [p, red label]//*Maechidius lineatopunctatus* n sp [h] det.G.Frey,1967/68 [p]”; NHMB.

Paratypes

PAPUA NEW GUINEA • 3 specimens; same labels as for holotype: NHMB.

Remarks

According to the original description of *M. lineatopunctatus* (Frey 1969: 502), there are 17 male/female paratypes at NHMB of which I had the opportunity to study one single male and three additional specimens that were allocated by the NHMB staff (C. Germann, personal communication).

Description

MEASUREMENTS. Male holotype, total body length 8.20 mm. Head 1.50 mm long, across eyes 2.00 mm wide. Pronotum 1.70 mm long, maximum width 2.90 mm. Elytral length 5.00 mm, maximum combined width 4.00 mm.

Dorsum and venter uniformly brown, appendages and labroclypeus castaneous. Head flattened dorsally on frons, subopaque dorsally and ventrally. Male labroclypeus (Fig. 141) broadly and shallowly emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles strongly obtuse, rounded, not protruding. Upper- and underside of labroclypeus with sparse inconspicuous setae along anterior and lateral margins. Compound eye moderately large. Canthus very broadly rounded in dorsal view. Head punctures circular, moderately deep and dense. Intervening spaces glossy to microreticulate, variably large. Head setae minute, appressed, rise from anterior margin of each puncture, not surpassing midlength of corresponding punctures. Antenna 9-segmented, club 3-lamellate. Pronotum strongly transverse, glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles slightly protruding anteriorly. Basal margin of pronotum slightly sinuous. Lateral margin of pronotum in dorsal view nearly straight, very slightly emarginate in basal half, delicately crenulate all along (Fig. 230). Minute erect seta present between every two crenulae. Lateral margin of pronotum slightly sinuous in lateral view. Hypomerion separated from prosternum by moderately high nearly straight carina which is shortly flange-like protruding in posterior half, with long setae on its anterolateral margin opposite to compound eye (Fig. 271). Antennal pocket moderately deep. Pronotal punctures circular to ovoid, dense and moderately deep, in part annular. Intervening spaces glossy or delicately microreticulate, variably large, in part wrinkled. Setae as those on head, very inconspicuous. Scutellar shield triangular, pointed apically. Elytron subopaque, without tracks of longitudinal carinae.

Punctures of elytral disc ovoid, deep, dense. Intervening spaces in part wrinkled in part glossy, variably large. Elytral setae inconspicuous, appressed; each seta rises from anterior margin of each puncture, not surpassing length of corresponding puncture (Fig. 321). Male pygidium flattened dorsally, with large and shallow irregularly hexagonal punctures (Fig. 490). Intervening spaces microreticulate, much smaller than punctures. Setae of pygidium very short in anterior, slightly longer in apical half. Male protibia with two inconspicuous distal teeth on external margin (Fig. 394). Male protibial terminal spur straight, pointed. Male lower mesotibial terminal spur slightly curved. Tarsal claws with pulvilli (in male only?). Aedeagus as in Figs 658–660.

Sexual dimorphism

Female not studied.

Ecology

Unknown.

Distribution

Hitherto only known from Papuan Peninsula of New Guinea.

Maechidius maleo sp. nov.

[urn:lsid:zoobank.org:act:5C492B03-9C41-49A3-9D56-663F3C42574A](https://zoobank.org/act:5C492B03-9C41-49A3-9D56-663F3C42574A)

Figs 58, 144, 231, 322, 395, 491, 553, 661–663

Differential diagnosis

Maechidius maleo sp. nov. is peculiar among all congeners primarily in the shape of the male aedeagus.

Etymology

Named after the Maleo (*Macrocephalon maleo* S. Müller, 1846), the enigmatic and endangered North Sulawesi endemic megapode. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA N-Sulawesi 1-2 km S Airmadidi, 260m N 1°22’57”, E 124°59’76”, LF 18.II.2008 leg. A. Skale (004)//Coll. A. Skale Hof, Germany”; NME.

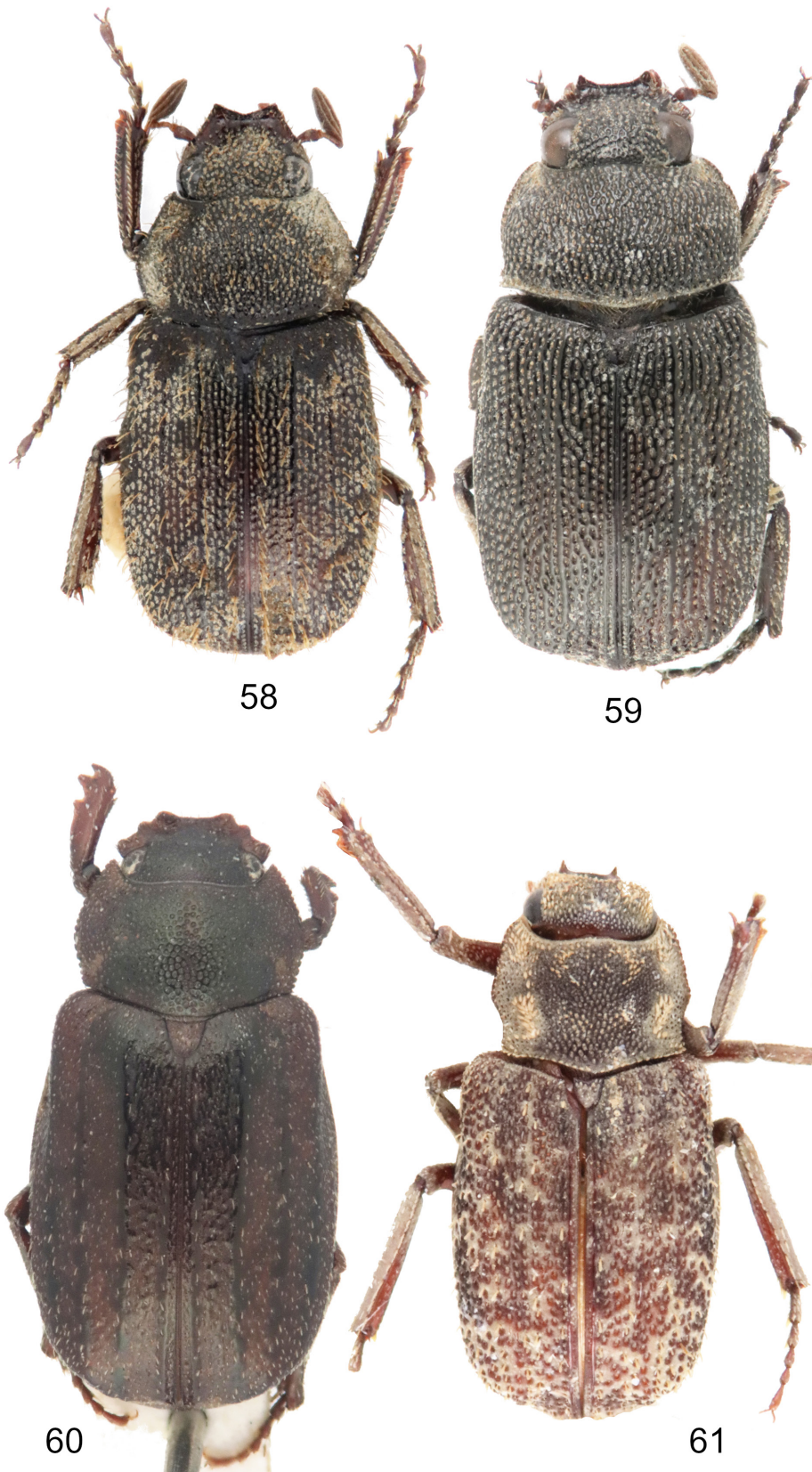
Paratype

INDONESIA • 1 ♂; “Coll. I.R.Sc.N.B. Sulawesi: Utara – Dumoga Bone Nat. Park – Poniki Trail (1600m) Station 029 X.1985 Leg. J. Van Stalle//Coll. I.R.Sc.N.B. Don. O. Missa I.G.:33-444”; IRSN.

Description

MEASUREMENTS. Male holotype, total body length 6.35 mm. Head 1.05 mm long, across eyes 1.60 mm wide. Pronotum 1.60 mm long, maximum width 2.60 mm. Elytral length 3.70 mm, maximum combined width 3.10 mm. Paratype is 6.80 mm long.

Dorsum and venter uniformly black-brown with brown labroclypeus, antennae and legs. Head transverse, slightly convex dorsally between eyes, subopaque dorsally and ventrally, with large not prominent eyes occupying less than half side of head. Male labroclypeus (Fig. 144) broadly V-shaped emarginate on anterior margin, with lateral margins smooth, sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus protruding anteriorly, nearly right-angular. Head punctures irregularly ovoid, very



Figs 58–61. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **58.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **59.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **60.** *M. milneanus* Heller, 1914, lectotype, ♀ (SNSD). **61.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). Not to scale.

deep and dense. Each puncture encircled with microscopical velvety pubescence. Intervening spaces glossy, generally much smaller than punctures. Head setae dirty yellowish, generally sparse, long and erect, with some scattered minute setae not surpassing length of their corresponding punctures. Labroclypeus laterally and frontally with long sparse setae. Male antenna 9-segmented, club 3-lamellate. Scape moderately large, bulbous dorsally in distal half, provided with few long erect setae on its posterior and distal margin. Antennomere 2 short, slightly transverse. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum broadly rounded with maximum width posterior to midlength, crenulate all along (Fig. 231). Long curved erect seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures ovoid, very deep and dense. Intervening spaces glossy and glabrous, much smaller than punctures. Setae similar to those on head, stronger curved and comparatively shorter. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron smooth, sparsely covered by circular punctures, flange-like, with large emargination opposite to compound eye (to receive canthus separating compound eye), provided with long setae. Antennal pocket deep. Scutellar shield pointed apically. Elytra cylindrical, maximum width in median third, subopaque, with rounded humeri and slightly elevated omoplates. Indistinct tracks of two flat longitudinal carinae on each elytron. Sutural carina not indicated. Elytral disc and lateral sides of elytra with dense and deep ovoid punctures; perimeters of many punctures completely or partly encircled with microscopical velvety pubescence (Fig. 322). Intervening spaces glossy, generally smaller than punctures. Setae of two kinds on elytral disc. Very long, erect, in part clavate setae arranged in irregular longitudinal rows present on each elytron. Inconspicuous short setae rising from anterior margin of corresponding punctures and not surpassing their length positioned between longitudinal rows of longer setae. Male pygidium flattened dorsally, with deep ovoid punctures (Fig. 491). Intervening spaces variably large, covered with dense microscopical pubescence. Setae of pygidium erect, long, in part clavate. Male protibia with two inconspicuous distal teeth on external margin (Fig. 395). Male lower meso- and metatibial terminal spur strongly curved. Distal margin of male metatibia with projection over basal metatarsomere. Male basal metatarsomere widened and dorso-ventrally flattened. Claws with pulvilli (in males only?). Spiculum gastrale as in Fig. 553. Male aedeagus as in Figs 661–663.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland up to mid-montane rainforests. Possibly nocturnal (holotype was attracted to light).

Distribution

Hitherto only known from North Sulawesi.

Maechidius merdeka sp. nov.

[urn:lsid:zoobank.org:act:4CE118C9-AC74-47C5-93B3-82F7844A0000](https://zoobank.org/act:4CE118C9-AC74-47C5-93B3-82F7844A0000)

Figs 61, 145, 232, 323, 396, 492, 664–666

Etymology

The name is derived from the Indonesian ‘merdeka’ (meaning ‘independent’, ‘free’) to celebrate the craving for spiritual freedom of the Papuan people. Noun in apposition.

Type material

Holotype

COUNTRY UNKNOWN (Island of New Guinea) • ♂; “New Guinea Doron xi.1921 R.Neill Rothschild B.M.1939-1”; BMNH.

Paratype

COUNTRY UNKNOWN (Island of New Guinea) • 1 ♂; same label as in holotype; BMNH.

Description

MEASUREMENTS. Male holotype, total body length 7.05 mm. Head 1.30 mm long, across eyes 1.50 mm wide. Pronotum 1.45 mm long, maximum width 2.30 mm. Elytral length 4.30 mm, maximum combined width 3.05 mm.

With general features of *M. bintang* sp. nov., *M. crypticus* sp. nov., *M. lapsus* sp. nov. and *M. owenstanleyi* sp. nov. (see descriptions above and below). Dorsal surface covered with microscopic velvety pubescence. Male labroclypeus (Fig. 145) straight on anterior margin. Anterolateral angles of male labroclypeus strongly protruding anteriorly, acute. Lateral margins of male labroclypeus sinuous both in dorsal and lateral view. Head dorsal punctures deep, circular to ovoid. Antennae 9-segmented, club 3-lamellate. Head and pronotum covered with sparse, rather short suberect scale-like setae which are rounded apically. Pronotum constricted postmedially towards base. Obtuse median angulation on lateral margin of pronotum in dorsal view (Fig. 232). Pronotal punctures deep of different shape and size. Scales broader on sides of pronotal disc. With vague track of one longitudinal carina on each elytron; carina with multiple interruptions. Elytral punctures with ovoid to linear incision-shaped deep punctures (Fig. 323). Intervening spaces microreticulate, subopaque, larger than punctures. Elytral scale-like setae strongly vary in size from minute (more abundant) to clavate and strongly surpassing length of corresponding punctures. Sutural carinae partly present, with interruptions. Setae scale-like, extremely minute (mini-seta rising from anterior margin of each puncture) with sparse large scales. Male pygidium with deep ovoid punctures, intervening spaces covered with microscopical velvety pubescence (Fig. 492). Setae of pygidium scale-like, larger and clavate in median part (all pointing obliquely to the middle), minute and not surpassing length of corresponding punctures in most of anterior part of pygidium. Male protibia with two distal teeth on external margin (Fig. 396). Male metatibial terminal spurs distinctly shorter than length of basal metatarsomere. Spiculum gastrale rounded distally. Male aedeagus as in Figs 664–666.

Sexual dimorphism

Female is unknown.

Ecology

Unknown.

Distribution

New Guinea. Exact location of Doron cannot be tracked.

Maechidius mikloughomaclayi sp. nov.

[urn:lsid:zoobank.org:act:67684347-0780-41AA-84B2-11503C8E04F0](https://zoobank.org/act:67684347-0780-41AA-84B2-11503C8E04F0)

Figs 59, 146, 234, 324, 397, 493, 554, 667–669

Differential diagnosis

This new species differs from all congeners primarily in the shape of the aedeagus.

Etymology

Patronymic. This species named in honour of Nicholas Miklouho-Maclay (1846–1888), a famous Russian explorer, ethnologist, anthropologist and biologist who was the first European to settle among and study the indigenous people in what is now Madang Province of Papua New Guinea.

Type material**Holotype**

PAPUA NEW GUINEA • ♂; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt.//Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB.

Description

MEASUREMENTS. Male holotype, total body length 6.60 mm. Head 1.30 mm long, across eyes 1.50 mm wide. Pronotum 1.50 mm long, maximum width 2.50 mm. Elytral length 3.80 mm, maximum combined width 3.05 mm.

Dorsum and venter uniformly black-brown, labroclypeus castaneous brown. Head transverse, subopaque, slightly convex dorsally. Compound eyes large and globose, occupying more than a half of head length. Male labroclypeus (Fig. 146) broadly shallowly emarginate, anterolateral angles of labroclypeus acute, rather strongly protruding anteriorly, its lateral margins sinuous in both dorsal and lateral views. Canthus nearly straight in dorsal view. Head punctures ovoid, very deep and dense, variably large, filled with dense microscopical velvety pubescence. Intervening spaces glossy, generally much smaller than punctures. At least labroclypeus and areas around either compound eye covered with microscopical velvety pubescence. Head setae inconspicuous, scale-like and in part clavate, rise from anterior margin of corresponding punctures, not or slightly surpassing their length. Pronotum strongly transverse, subopaque dorsally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum in dorsal view very broadly rounded, slightly constricted prebasally, crenulate all along (Fig. 234). Suberect scale-like clavate seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Very vague circular dorsal impression on either side of pronotum on axis of compound eye. Hypomeron shallowly emarginate and long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Median anterior process of prosternum long brushy setose, short, flange-like raised. Pronotal punctures stronger oblong, very deep and dense, filled with dense microscopical velvety pubescence, on sides of pronotum larger than those on head. Intervening spaces glossy, narrow, in part wrinkled. Pronotal setae minute, shorter than their corresponding punctures; each seta rises from anterior margin of corresponding puncture. Basal margin all along with row of curved scale-like clavate setae. Lateral margins, antero- and posterolateral angles completely covered with microscopical velvety pubescence. Elytra cylindrical, subopaque dorsally, each elytron with vague tracks of three longitudinal carinae including sutural one. Punctures of elytra ovoid, confused, variably large, deep and in part filled with microscopical velvety pubescence (Fig. 324). Elytral setae generally minute, scale-like, appressed; each seta arises from anterior margin of corresponding puncture, generally not surpassing half its length. Male pygidium flattened dorsally, densely coarsely irregularly punctured with glossy intervening spaces variably large (Fig. 493). Setae of pygidium inconspicuous, sparse, scale-like, suberect. Male protibia with two acute distal teeth on external margin (Fig. 397). Male terminal protibial spur slender, slightly curved (Fig. 397). Distal margin of metatibia in both sexes with projection over basal metatarsomere. Upper metatibial terminal spur half length of male basal metatarsomere, not surpassing distal margin of metatibia in dorsal view. Spiculum gastrale as in Fig. 554. Aedeagus as in Figs 667–669.

Sexual dimorphism

Female is unknown.

Ecology

Unknown.

Distribution

East New Guinea, surroundings of Madang.

Maechidius milneanus Heller, 1914
Figs 60, 148–149, 233, 325, 398, 494, 670–672

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♀; “Neu Guinea Milne-Bay [p, blue label]//1910 [p] 18 [h] [blue label]//Typus! [p] *milneanus* H. [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Paralectotype

PAPUA NEW GUINEA • 1 ♀; “Neu Guinea Milne-Bay [p, blue label]//1910 [p] 18 [h] [blue label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 15 specs (♂♀); “Milnebay N.Guinea//W.H.MUCHE Radeberg, Ankauf [p]//Staatl.Museum für Tierkunde Dresden [p]”; SNSD.

Remarks

Heller (1914: 628) based his description of *M. milneanus* on an unstated number of specimens. Since two specimens with identical locality data are present in SNSD (and a number of specimens with slightly different labels – see above), the lectotype designated here is the only syntype with Heller’s original “typus” handwriting on a red label, which, without confidence, may indicate that this specimen was selected by the original author as the holotype. The lectotype designation is made in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 7.30–9.10 (lectotype) mm.

Dorsum and venter uniformly brown, appendages somewhat paler, forebody with greenish metallic lustre. Head convex dorsally on frons between compound eyes, subopaque dorsally and ventrally. Labroclypeus (Figs 148–149) in both sexes very broadly shallowly emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles broadly rounded, hardly protruding, raised up at angle of nearly 80–90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus strongly obtusely angulate in dorsal view. Punctures of frons circular to hexagonal, in part annular, large and shallow. Intervening spaces glossy, variably large. Setae inconspicuous, appressed, generally not surpassing length of corresponding punctures. Antenna 7-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded in dorsal view, strongly crenulate all along (Fig. 233). Lateral margin of pronotum sinuous in lateral view. Short suberect seta present between every two crenulae. With small circular vague median impression on either side of disc.

Hypomeron separated from prosternum by low nearly straight carina, with moderately long setae on its anterolateral margin opposite to compound eye. Antennal pocket shallow. Punctures of pronotal disc large, circular to ovoid, dense, annular. Intervening spaces distinctly smaller than punctures. Pronotal setae inconspicuous, appressed; each seta rises from anterior margin of corresponding puncture, not surpassing its length. Scutellar shield narrowly rounded apically. Elytron subopaque, without or with vague tracks of four flat longitudinal carinae, including sutural one. Surface of elytral disc wrinkled and with sinuous (long and narrow) incision-shaped punctures. Intervening spaces microrugulose (Fig. 325). Elytral setae inconspicuous, appressed, not surpassing length of corresponding incisions. Male and female pygidium flattened dorsally, with large shallow annular punctures (Fig. 494). Intervening spaces glossy, variably large. Setae of pygidium short, inconspicuous, sparse, generally not surpassing length of corresponding punctures except several long suberect ones along posterior margin of pygidium. Protibia widened distally, with three external teeth (Fig. 398). Male protibial terminal spur very short, female one longer and very narrow. Male metatibial terminal spurs long, nearly equally long, female lower metatibial spur distinctly longer than the upper. Tarsal claws with pulvilli.

Sexual dimorphism

Female lamellae of antennal club shorter; protibial terminal spur longer and more slender than in male.

Maechidius muticus Arrow, 1941

Figs 63, 147, 235, 326, 399, 495, 555, 673–675

Type material

Syntypes

INDONESIA • 1 ♂; “Type [p, label circular, red frame]//SYNTYPE [p, label circular, blue frame]//DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. 400 metres. vii.1937. [p]//W. Stüber. B.M.1938-177. [p]//*Maechidius muticus*, type Arrow [h]”; BMNH • 2 ♂♂; “SYNTYPE [p, label circular, blue frame]//DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. 400 metres. vii.1937. [p]//W.Stüber. B.M.1938-177. [p]”; BMNH • 1 ♂; “SYNTYPE [p, label circular, blue frame] // ♂ [p]//W.Stüber. B.M.1938-177. [p]//DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. 400 metres. vii.1937. [p]”; BMNH.

Remarks

There are several male syntypes from the same locality available for this species. A lectotype is therefore not designated since there is no risk of confusion.

Description

With general features of *M. interruptocarinulatus* Heller, 1914. Male labroclypeus (Fig. 147) sinuous and shallowly emarginate anteriorly, its anterolateral margins sinuous in both dorsal and lateral views. Anterolateral angles almost right-angled, slightly protruding. Punctures of frons circular to hexagonal, moderately deep and dense. Intervening spaces glossy, generally smaller than punctures. Setae inconspicuous, scale-like, appressed; each seta rises from anterior margin of corresponding puncture, surpassing or not length of corresponding puncture. Male antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin broadly sinuous with protruding anterolateral angles (stronger) and mesal portion (slightly), basal margin broadly rounded with posterolateral angles somewhat protruding posteriad. Lateral margin of pronotum nearly straight, slightly constricted anteriorly and prebasally, crenulate all along (Fig. 235). Lateral margin of pronotum nearly straight in lateral view. An appressed short seta present between every two crenulae. Lateral and basal margins, antero- and posterolateral angles partly covered with dense microscopical velvety pubescence. Hypomeron emarginate and long setose on anterior margin which is flange-like protruding.



62



63



64



65

Figs 62–65. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **62.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **63.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **64.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **65.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). Not to scale.

Antennal pocket deep. Punctures of pronotal disc generally larger and stronger oblong than those on head, inner margin with thin membrane covered with dense microscopical velvety pubescence. Intervening spaces glossy, in part wrinkled. Setae scale-like, appressed to suberect, generally not surpassing length of corresponding puncture. Longer scale-like clavate suberect setae on posterolateral angles. Scutellar shield narrowly rounded apically. Elytron glossy, with five vague glabrous, variously broadly interrupted longitudinal carinae, including sutural one. Punctures of elytral disc ovoid, generally smaller than on forebody, deep (Fig. 326). Each puncture partly or completely encircled with dense microscopical velvety pubescence. Intervening spaces glossy, glabrous, generally smaller than punctures. Setae inconspicuous, generally not surpassing length of corresponding punctures, becoming somewhat longer and less appressed along tracks of longitudinal carinae. Each elytron with a long lateral subhumeral seta on lateral margin. Male pygidium flattened dorsally (Fig. 495). Punctures of pygidium ovoid, dense and very deep, setae suberect, not or hardly surpassing length of corresponding punctures. Male protibia somewhat arched and crenulate on external margin, with single obtuse distal tooth (Fig. 399). Male tarsal claws with pulvilli. Spiculum gastrale as in Fig. 555. Aedeagus as in Figs 673–675.

Sexual dimorphism

Female is unknown.

Maechidius nanus Arrow, 1941

Figs 64, 151, 236, 327, 400, 496, 676–678

Type material

Syntypes

INDONESIA • 1 ♂; “Type [p, label circular, red frame]//Syntype [p, label circular, blue frame]//N. DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*Maechidius nanus* Arrow Co-type [h]”; BMNH • 20 syntypes; “Syntype [p, label circular, blue frame]//N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]”; BMNH • 152 syntypes; “N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]”; BMNH • 1 ♂; “♂ [p]//N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*Maechidius nanus* Arrow Co-Type [h]”; BMNH.

Remarks

There are several male syntypes from the same locality available for this species. A lectotype is therefore not designated since there is no risk of confusion.

Redescription

Male labroclypeus (Fig. 151) broadly V-shaped emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Head dorsal punctures circular, variably large, shallow, annular, with shagreened background. A long suberect seta rises from anterior margin of each puncture. Intervening spaces glossy, larger on labroclypeus, generally much narrower than punctures on frons. Pronotum broadly emarginate on anterior margin, anterolateral angles slightly protruding, basal margin broadly rounded. Lateral margin of pronotum broadly rounded in dorsal view, with large crenulae all along (Fig. 236). A moderately long suberect seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Hypomeron separated from prosternum by low nearly straight carina, with moderately long setae on its anterolateral margin opposite to compound eye. Antennal pocket shallow. Pronotal punctures circular, annular, large, shallow. Intervening spaces glossy, variably large. Minute appressed seta rises from anterior margin of each puncture, not surpassing midlength of corresponding puncture. Elytral punctures irregularly ovoid, annular, shallow, arranged in double

longitudinal rows (Fig. 327). Intervening spaces glossy, generally larger than punctures. Elytral setae minute, surface looks glabrous under $50\times$ magnification; minute seta rises from anterior margin of each puncture, not surpassing midlength of corresponding puncture. Pygidium in both sexes flattened dorsally, with large circular to ovoid shallow annular punctures (Fig. 496). Intervening spaces generally smaller than punctures, glossy. Setae inconspicuous and short in anterior part, becoming longer than corresponding punctures in distal part. Protibia in both sexes widened distally, with three distal teeth on external margin, of which two distal ones larger and stronger acute (Fig. 400). Protibia without terminal spur in both sexes. Male aedeagus as in Figs 676–678.

Sexual dimorphism

Lamellae of female antennal club shorter.

Maechidius nepenthephilus sp. nov.

[urn:lsid:zoobank.org:act:C34ACD72-FDCF-42C6-BCFE-0E6E5B06F38C](https://zoobank.org/act:C34ACD72-FDCF-42C6-BCFE-0E6E5B06F38C)

Figs 65, 152–153, 237, 328, 401, 497, 679–681, 751–753

Differential diagnosis

This species is primarily different among congeners due to the shape of the aedeagus in combination with the sculpture (irregularly paired rows of linear punctures) and the setae of the dorsum.

Etymology

The name is derived from a combination of *Nepenthes* Linnaeus, 1753 (genus of carnivorous pitcher plants) and the Greek ‘*philia*’ (φιλία, Ancient Greek for love and friendship), indicating the association of the imago with flowers of pitcher plants.

Type material

Holotype

INDONESIA • ♂; “INDONESIA E, New Guinea, Papua Prov., Sentani 5.5 km W, road to Nimbokrang, Doyo Lama vill., 02°33’50”S, 140°27’20”E, 150–165 m, 31.III.2018, semidry eucalypt forest, from flowers & pitchers of *Nepenthes* sp.”; NME.

Paratype

INDONESIA • 1 ♀; same label as for holotype; DTC.

Description

MEASUREMENTS. Holotype, total body length 7.70 mm. Head 1.30 mm long, across eyes 1.60 mm wide. Pronotum 1.90 mm long, maximum width 2.80 mm. Elytral length 4.50 mm, maximum combined width 3.40 mm. Paratype female is 6.70 mm long.

Dorsum uniformly black-brown with brown labroclypeus, antennae, legs and venter. Head transverse, subopaque dorsally and ventrally, flattened dorsally. Compound eye moderately large, occupying less than half side of head. Male labroclypeus (Fig. 152) broadly emarginate, in female (Fig. 153) shallower emarginate anteriorly. Lateral margins of labroclypeus in both sexes sinuous in both dorsal and lateral views, anterolateral angles weakly protruding, obtuse in dorsal view. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head dorsal punctures circular, moderately deep and dense, filled or not with microscopical velvety pubescence. Intervening spaces glossy to delicately microreticulate, variably large. Suberect long seta rises from anterior margin of each puncture; four extraordinarily long erect setae at inner margin of either compound eye and one single on

either canthus. Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 trapezoid, transverse. Pronotum strongly transverse, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate, anterolateral angles protruding anteriorly. Basal and lateral margins broadly rounded in dorsal view. Crenulae of lateral margin moderately strong; a long erect curved seta present between every two crenulae (Fig. 237). Lateral margin of pronotum slightly arched in lateral view. Pronotal punctures ovoid to oblong-ovoid, annular, deep and dense, variably large (generally larger along lateral margins and on base), filled or not with microscopical velvety pubescence. Intervening spaces in part glossy and glabrous, in part microreticulate, generally smaller than punctures except in some areas. Setae similar to those on head, somewhat stronger curved. Lateral margins partly (narrowly) covered with microscopical velvety pubescence. Hypomeron separated from prosternum by low nearly straight carina which is long setose opposite to compound eye. Antennal pocket shallow. Median anterior process of prosternum long brushy setose, short, strongly raised. Scutellar shield narrowly rounded apically. Elytra cylindrical, maximum width across midlength, opaque dorsally, with distinct humeri. Elytral disc irregularly, mainly transversely wrinkled. Punctures of elytral disc linear (elongate and narrow), incision-like, arranged in irregular paired longitudinal rows (Fig. 328). Moderately long suberect seta rises from anterior margin of each incision, surpassing its length (elytral setae shorter than those on forebody). Lateral margin of elytra all along with moderately long erect setae. Male and female pygidium flattened dorsally, shallowly impressed in apical part. Punctures of pygidium large and dense, circular, annular, very shallow. Intervening spaces much smaller than punctures, glossy to subopaque (Fig. 497). Setae of pygidium suberect, sparse, moderately long. Male and female protibia with two inconspicuous distal teeth (Fig. 401), female ones generally larger. Protibial terminal spur absent in both sexes. Male tarsal claws with large pulvilli. Male aedeagus as in Figs 679–681.

Sexual dimorphism

Female lamellae of antennal club shorter; female labroclypeus comparatively shallower emarginate anteriorly with less protruding anterolateral angles.

Ecology

Occurs on dry nutrient-poor semidry slopes in eucalypt stands at altitudes around 150 m. Found on flowers of *Nepenthes* sp. (Figs 751–753).

Distribution

Hitherto only known from Sentani surroundings in North New Guinea.

Maechidius opatroides Arrow, 1941 comb. rest.
Figs 70, 150, 238, 329, 402, 498

Type material

Lectotype [herewith designated]

INDONESIA • ♀; “Type [p, label circular, red frame]//SYNTYPE [p, label circular, blue frame]//N. DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*Coniomaechidius opatroides*, Type Arrow [h]”; BMNH [the name “*Coniomaechidius*”, which appears on label, was never published].

Paralectotypes

INDONESIA • 3 ♀♀; “SYNTYPE [p, label circular, blue frame]//N. DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]”; BMNH.

New material

INDONESIA • 1 ♀; “N.DUTCH NEW GUINEA: Waigeu.Camp I.Mt.Nok. 2,500ft. v.1938. L.E.Cheesman. B.M.1938-593. [p]//not a syntype [h] M. E. Bacchus det. 196[p] 9[h]”; BMNH.

Remarks

The lectotype is designated in order to enhance the stability of nomenclature and fix the specimen I based my redescription on.

Arrow (1941: 454) described this species from four female specimens, not designating the holotype. The BMNH specimen with Arrow’s handwriting “type” is herewith designated as the lectotype.

Description

Dorsum densely covered with dirty yellowish microscopical velvety pubescence. Female labroclypeus (Fig. 150) broadly emarginate on anterior margin, its lateral margins nearly straight in dorsal, slightly sinuous in lateral view. Anterolateral angles of labroclypeus acute, rather strongly protruding. Head dorsal punctures dense, circular to ovoid, deep. Intervening spaces generally smaller than punctures. Setae scale-like, suberect, clavate, small to rather long. Pronotum anterior and basal margins sinuous in dorsal view. Lateral margin of pronotum somewhat flattened and laterally expanding in anterior half (in dorsal view), strongly sinuous in dorsal view, broadly rounded in anterior $\frac{2}{3}$, emarginate prebasally and again widened at base. Lateral margin of pronotum nearly straight in lateral view, delicately crenulate all along (Fig. 238). A scale-like curved clavate seta present between every two crenulae. Hypomeron flange-like protruding, emarginate opposite compound eye. Antennal pocket deep. Pronotal punctures elongate ovoid, deep. Intervening spaces generally larger than punctures. Lateral sides of pronotum covered with dense brush-like clusters of setae reminiscent of mammal fur (Fig. 238), dorsal surface fully hidden. Setae scale-like, clavate, suberect; each seta rises from anterior margin of corresponding puncture, not surpassing its length. Elytral punctures elongate, irregularly sized and shaped, deep (Fig. 329). Intervening spaces much larger than punctures. Elytral setae scale-like, clavate, appressed, not surpassing length of corresponding punctures. Longer suberect scale-like clavate setae arranged in irregular longitudinal rows – single sutural and two doubled rows. Female pygidium covered with fur-like pubescence, deeply densely punctate with ovoid punctures (Fig. 498). Setae of pygidium scale-like, elongate, suberect, rather long. Female protibia with two distal teeth on external margin, both nearly acute (Fig. 402).

Sexual dimorphism

Male is unknown.

Maechidius owenstanleyi sp. nov.

[urn:lsid:zoobank.org:act:FDB53221-457B-409D-A7AC-D3584820DFC2](https://zoobank.org/act:FDB53221-457B-409D-A7AC-D3584820DFC2)

Figs 66, 154–155, 239, 330, 403, 499–500, 682–684

Etymology

Toponymic. The species is named after the Owen Stanley Range where this species was first collected.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “PAPUA:Kokoda. 1,200 ft. vii.1933. L.E.Cheesman. B.M.1934-321. [p]//? *M. pauxillus* Hell. [h]//*pauxillus* Hell. [h] det.G Frey.1967/68 [p]”; left mesotibia and tarsus missing; BMNH.



Figs 66–69. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **66.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **67.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **68.** Same, paratype, ♂ (*M. arrowi* Frey, 1969) (BMNH). **69.** *M. parallellicollis* Moser, 1920, lectotype, ♂ (ZMHB). Not to scale.

Paratypes (2 specimens)

PAPUA NEW GUINEA • 1 ♀; “PAPUA:Kokoda. 1,200ft. ix.1933. L.E.Cheesman. B.M.1934-321.//*M. pauxillus* Hell. [h] det G.Frey,1967/68 [p]//*Paramaechidius pauxillus* Hell. [h] det.G.Frey,1967/68 [p]”; BMNH • 1 ♂; “PAPUA:Kokoda. 1,200ft. x.1933. L.E.Cheesman. B.M.1934-321.//*Paramaechidius pauxillus* Hell. [h] det.G.Frey,1967/68 [p]”; BMNH.

Description

MEASUREMENTS. Male holotype, total body length 6.80 mm. Head 1.30 mm long, across eyes 1.60 mm wide. Pronotum 1.50 mm long, maximum width 2.15 mm. Elytral length 4.00 mm, maximum combined width 3.00 mm. Female paratype, total body length 8.30 mm. Head 1.55 mm long, across eyes 1.80 mm wide. Pronotum 1.75 mm long, maximum width 2.70 mm. Elytral length 5.00 mm, maximum combined width 3.40 mm.

With general features as in *M. bintang* sp. nov., *M. crypticus* sp. nov., *M. dendrolagus* sp. nov., *M. lapsus* sp. nov., *M. merdeka* sp. nov. and *M. weigeli* sp. nov. (see descriptions above and below) and *M. pauxillus* Heller, 1910 comb. rest. Dorsum covered with microscopical velvety pubescence. Frons strongly humped in lateral view. Male and female labroclypeus (Figs 154–155) broadly emarginate on anterior margin. Anterolateral angles of labroclypeus strongly protruding anteriorly, acute in male, obtuse and weaker protruding in female. Lateral margins of labroclypeus in male slightly, in female stronger sinuous in both dorsal and lateral views. Head dorsal punctures ovoid, deep and dense. Antennae 9-segmented, club 3-lamellate. Head and pronotum covered with sparse, rather short suberect scale-like setae which are rounded apically. Pronotum narrowing laterally postmedially towards base in dorsal view (Fig. 239). No or very obtuse median angulation on lateral margins of pronotum in dorsal view. Hypomeron flange-like protruding, emarginate opposite compound eye. Antennal pocket deep. Pronotal punctures irregularly ovoid, intervening spaces generally larger than punctures. Scales larger on sides of pronotal disc. With vague track of one longitudinal carina on each elytron; carina with multiple interruptions. Sutural carinae also partly present, with interruptions. Punctures of elytra of irregular elongate shape, clustered in groups (Fig. 330). Intervening spaces within clusters smaller, between clusters larger than punctures. Setae scale-like, minute; seta rises from anterior margin of each puncture, not surpassing its midlength. Larger scale-like suberect setae arranged in irregular longitudinal rows. Male and female pygidium covered with microscopical velvety pubescence, deep ovoid punctured, with minute scales not surpassing length of punctures and large scale-like clavate setae pointing obliquely to middle (Figs 499–500). Female pygidium shallowly longitudinally impressed. Male and female protibia with two distal teeth (Fig. 403), female distal tooth much stronger than in male. Male and female metatibial terminal spurs distinctly shorter than length of basal metatarsomere. Aedeagus as in Figs 682–684.

Sexual dimorphism

Female is generally larger, with short, straight and pointed protibial terminal spur, weaker protruding and obtuse anterolateral angles of labroclypeus. Female pygidium longitudinally impressed and lamellae of antennal clubs shorter.

Ecology

Occurs in lowland rainforests at about 365 m altitude.

Distribution

Hitherto only known from Owen Stanley Range, Papuan Peninsula of New Guinea.

Maechidius papuanus Moser, 1926
Figs 62, 156, 240, 273, 331, 404, 501–502

Type material

Lectotype [herewith designated]

INDONESIA • ♀; “Nieuw.Guinea-Expeditie 1903 [p] Etna-Bai [h] [black frame]//*Maechidius papuanus* Mos. Typus [h]//SYNTYPE *Maechidius papuanus* Moser, 1926 labelled by MFNB 2019 [p, red label]”; ZMHB.

Remarks

Moser (1926: 200) based his description of *M. papuanus* on an unstated number of specimens. The lectotype is therefore designated for the single syntype in ZMHB in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 7.90 mm (lectotype).

Body uniformly brown, labroclypeus and legs slightly paler. Head slightly wider than long, opaque dorsally, frons flattened. Female labroclypeus (Fig. 156) spatulate, truncate on anterior margin, its lateral margins straight in dorsal, slightly sinuous in lateral view. Anterolateral angles of labroclypeus obtuse, on same axis as its anterior margin (not protruding). Head punctures irregularly circular, deep and dense, intervening spaces opaque, microreticulate. Head setae not present due to condition of specimen. Pronotum transverse, opaque dorsally. Anterior margin of pronotum sinuous with anterolateral angles (stronger) and median part (slightly) protruding anteriorly. Basal margin of pronotum very broadly rounded. Lateral margin of pronotum in dorsal view very broadly rounded, delicately crenulate all along (Fig. 240). Moderately long suberect thickened curved seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron separated from prosternum by low carina, slightly arched, with long setae opposite to compound eye (Fig. 273). Antennal pocket moderately deep. Pronotal punctures deep and dense, smaller and more regular circular in median third, larger and ovoid in lateral thirds. Intervening spaces generally smaller than punctures, microreticulate. Pronotal setae inconspicuous, suberect, curved; each seta rises from anterior margin of corresponding puncture, generally surpassing its length. On posterolateral and basal margins with a row of longer thicker setae. Lateral and basal margins, antero- and posterolateral angles partly covered with dense microscopical velvety pubescence. Scutellar shield narrowly rounded apically. Elytron cylindrical, opaque, with vague track of one longitudinal carina. Elytral punctures linear (elongate and narrow), incision-like, deep (Fig. 331). An appressed inconspicuous seta rises from anterior margin of each puncture, generally surpassing length of corresponding incision. Intervening spaces larger than punctures, microreticulate. Female pygidium flattened dorsally, with strong glabrous median hump (Figs 501–502). Area around median hump with large irregularly circular annular punctures, intervening spaces smaller than those. Setae of pygidium inconspicuous, short, suberect. Female protibia with two conspicuous distal teeth on external margin: predistal one callus-like, very inconspicuous, distal one somewhat curved inwards, obtuse (Fig. 404). Female protibial terminal spur conspicuous, very short and thick, blunt. Female metatibia widened on distal margin.

Sexual dimorphism

Male is unknown.

Maechidius parallelcollis Moser, 1920
Figs 69, 157, 241, 332, 503

Type material

Lectotype [herewith designated]

INDONESIA • ♂; “Roon [p]//*Maechidius parallelcollis* Mos. Type [h]//SYNTYPE *Maechidius parallelcollis* Moser, 1920 labelled by MFNB 2019 [p, red label]”; ZMHB [forelegs are completely missing].

Remarks

Moser (1920: 15) based his description of *M. parallelcollis* on an unstated number of specimens. The lectotype is therefore designated for the single syntype in ZMHB in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 7.45 mm (lectotype).

Dorsum and venter uniformly brown except for paler appendages and antennae. Head flattened dorsally on frons between eyes, glossy dorsally and ventrally. Male labroclypeus (Fig. 157) shallowly and very broadly emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles almost right-angled, hardly protruding, raised up at angle of nearly 90–95° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus slightly sinuous in dorsal view. Punctures of frons large, of irregular shape, annular, shallow and dense. Intervening spaces glossy, distinctly smaller than punctures. Each seta rises from anterior margin of corresponding puncture. Male antenna 9-segmented, club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin slightly sinuous. Lateral margin of pronotum nearly straight, delicately crenulate all along (about 20 flat crenulae on either side) (Fig. 241). Inconspicuous erect seta present between every two crenulae. Lateral margin of pronotum hardly sinuous in lateral view. Hypomeron slightly arched, separated from prosternum by moderately high partly acute carina. Antennal pocket moderately deep. Pronotal punctures larger than those on head, annular, stronger ovoid at lateral sides and base. Setae inconspicuous, erect, hardly surpassing length of corresponding punctures. Scutellar shield narrowly rounded apically. Elytron subopaque, without tracks of longitudinal carinae. Elytral punctures very elongate and narrow, dense, incision-shaped (Fig. 332). Setae inconspicuous, not surpassing length of corresponding punctures, appressed. Male pygidium slightly convex dorsally, densely annularly punctate and with short erect setae (Fig. 503). Male metatibial terminal spurs long, subequal in length. Tarsal claws with pulvilli at least on middle and posterior legs (in male only?).

Sexual dimorphism

Female is unknown.

Maechidius paupianus Heller, 1910
Figs 67–68, 158–159, 242, 274, 291, 405, 504, 536, 748–750

Maechidius arrowi Frey, 1969: 501 **syn. nov.**

Type material**Lectotype of *M. paupianus*** (herewith designated)

PAPUA NEW GUINEA • ♀; “Kais. Wilhelmsland Paup Dr. Schlaginhaufen [p, blue label]//1910 [p] 1 [h] [blue label]//[upper side of label] typus [p] [underside of label] *paupianus* Heller [h, red label]//Staatl. Museum für Tierkunde. Dresden [p]”; SNSD.

Holotype of *Maechidius arrowi*

PAPUA NEW GUINEA • ♂; “Holotype [p, label circular, red frame]//Brit. Mus. 1957-693. [p]//TERR. PAPUA & NEW GUINEA: Maprik. 28.x.1957. J.Smart. [p]//TYPE [p, red label]//TYPE *Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH.

Paratypes of *Maechidius arrowi*

PAPUA NEW GUINEA • 1 spec.; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 16.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//A. TYPE *Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 2 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 16.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 3 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 17.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 2 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 18.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 2 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 24.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 4 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 26.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 1 spec.; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 28.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 2 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 29.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 3 specs; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 16.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 1 spec.; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 16.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH • 1 spec.; “Paratype [p, label circular, red frame]//TERR. PAPUA & NEW GUINEA: Maprik. 26.x.1957. J.Smart. [p]//Brit. Mus. 1957-693. [p]//PARATYPE [p, red label]//*Maechidius arrowi* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH.

New material

INDONESIA • 1 ♀; “INDONESIA, Papua, Jayapura Distr.; 5 km NE of Sentani S slopes of Cyclops Mts., Gn. Ifar 02°32.8’S, 140°33.2E, 315 m J.Hájek & J.Šumpich leg., 30.I.2015//coll.general National Museum Prague, Czech Republic”; NMPC.

PAPUA NEW GUINEA • 2 specs; “PAPUA: Kokoda. 1,200 ft.vi.1933. L.E.Cheesman. B.M.1933-456.”; BMNH • 1 spec.; “at light//PAPUA: Kokoda. 1,200 ft.vi.1933. L.E.Cheesman. B.M.1933-456.”; BMNH • 8 specs; “PAPUA: Kokoda. 1,200 ft.vii.1933. L.E.Cheesman. B.M.1933-492.”; BMNH • 50 specs; “PAPUA: Kokoda. 1,200ft. viii.1933. L.E.Cheesman. B.M.1933-577.”; BMNH • 2 specs; “PAPUA: Kokoda. 1,200ft. ix.1933. L.E.Cheesman. B.M.1933-577.”; BMNH • 1 spec.; “PAPUA:

Mafulu. 4,000 ft. xii. 1933. L.E. Cheesman. B.M. 1934-321.”; BMNH • 1 ♂; “PAPUA: Mafulu. 4,000 ft. i. 1934. L.E. Cheesman. B.M. 1934-321. L.E. Cheesman. B.M. 1933-577. // ♂ // *Maechidius paupianus*, Hell. Determined from description. G.J.A.”; BMNH • 1 ♀; “Str. No. 46. [p] // NEW GUINEA: Madang Dist., Finisterre Mts. Damanti 3,550 ft. 2-11. x. 1964 [p] // M.E. Bacchus. B.M. 1965-120 [p] // M2) prope *M. arrowi* [h] det. G. Frey, 1967/68 [p]”; BMNH • 1 ♀; “NEUGUINEA Wau 6.6. 1965 PYKA leg.”; SMNS • 1 ♀; “NEUGUINEA Boana, 1000 m 22.11. 1965 H. Pyka leg.”; SMNS.

Remarks

Heller (1910: 23) likely based his description of *M. paupianus* on a single specimen – although not explicitly stated. The single SNSD female specimen labelled “typus” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 5.90 (lectotype *M. paupianus*) to 7.50 mm.

Dorsum uniformly brown, venter and appendages somewhat paler. Head flattened dorsally, glossy dorsally and ventrally. Male labroclypeus (Fig. 159) broadly shallowly emarginate on anterior margin, anterolateral angles obtuse angulate, protruding anteriorly. Female labroclypeus (Fig. 158) very broadly emarginate on anterior margin. Lateral margins of labroclypeus sinuous in both dorsal and lateral views. Anterolateral angles raised up at angle of nearly 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long delicate setae along anterior and lateral margins. Canthus strongly obtusely angulate to broadly rounded in dorsal view. Punctures of frons circular to ovoid, annular, large and shallow. Intervening spaces smaller than punctures, glossy to microreticulate. Setae inconspicuous, suberect, each seta rises from anterior margin of corresponding puncture, hardly surpassing length of corresponding puncture to twice as long as it. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum gradually widened anteriorly or broadly rounded, very obtusely angulate postmedially, from here constricted towards base or shallowly emarginate, distinctly crenulate all along (crenulae small but with well-defined intervals, not merged) (Fig. 242). Lateral margin of pronotum sinuous in lateral view. Short suberect seta present between every two crenulae. Hypomeron separated from prosternum by low nearly straight carina, with very long setae on its slightly arched anterolateral margin opposite to compound eye (Fig. 274). Antennal pocket shallow. Pronotal punctures larger than those on head, ovoid, annular, rather dense, intervening spaces variably large, opaque and microreticulate. Inconspicuous curved appressed to suberect seta rises from anterior margin of each puncture, generally surpassing its length. Basal margin near posterolateral angles with a fringe of long setae on either side in some specimens. Scutellar shield narrowly rounded apically. Elytron opaque, without tracks of longitudinal carinae. Elytral punctures linear (elongate and narrow), incision-shaped, moderately deep (Fig. 291). Intervening spaces microreticulate. Seta rises from anterior margin of each puncture, suberect, not surpassing length of corresponding incision. Male and female pygidium flattened dorsally (female one with inconspicuous V-shaped dorsal impression), with large shallow annular punctures (Fig. 504). Intervening spaces microreticulate, generally smaller than punctures. Setae of pygidium sparse, suberect, each seta rises from centre of puncture. Male and female protibia widened distally, with delicate dorsal carina and three external teeth (two distal significantly larger, lower tooth inconspicuous in some specimens) (Fig. 405). Male protibial terminal spur short and thickened, female one narrow and pointed. Female metatibial terminal spurs long, unequal in length, distally rounded. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 536. Aedeagus as in Figs 748–750.

Sexual dimorphism

Female lamellae of antennal club shorter; labroclypeus comparatively shallower emarginate anteriorly; female pygidium with vague V-shaped impression in apical part.

Maechidius pauxillus Heller, 1910 comb. rest.

Figs 71, 160–161, 243, 275, 333, 406, 505–506, 685–687

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♂; “K. Wilhelm Land, Bongu [p, blue label]//[upper side of label] typus [p] [underside of label] *pauxillus* Heller [h] [red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 14 specs; “Stn. No. 46.//NEW GUINEA: Madang Dist., Finisterre Mts. Damanti 3,550 ft. 2-11.x.1964//M.E. Bacchus. B.M. 1965-120.”; BMNH • 1 spec.; “Stn. No. 51.//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964//M.E. Bacchus. B.M. 1965-120.//*Paramaechidius pauxillus* det.G.Frey, 1967/68”; BMNH.

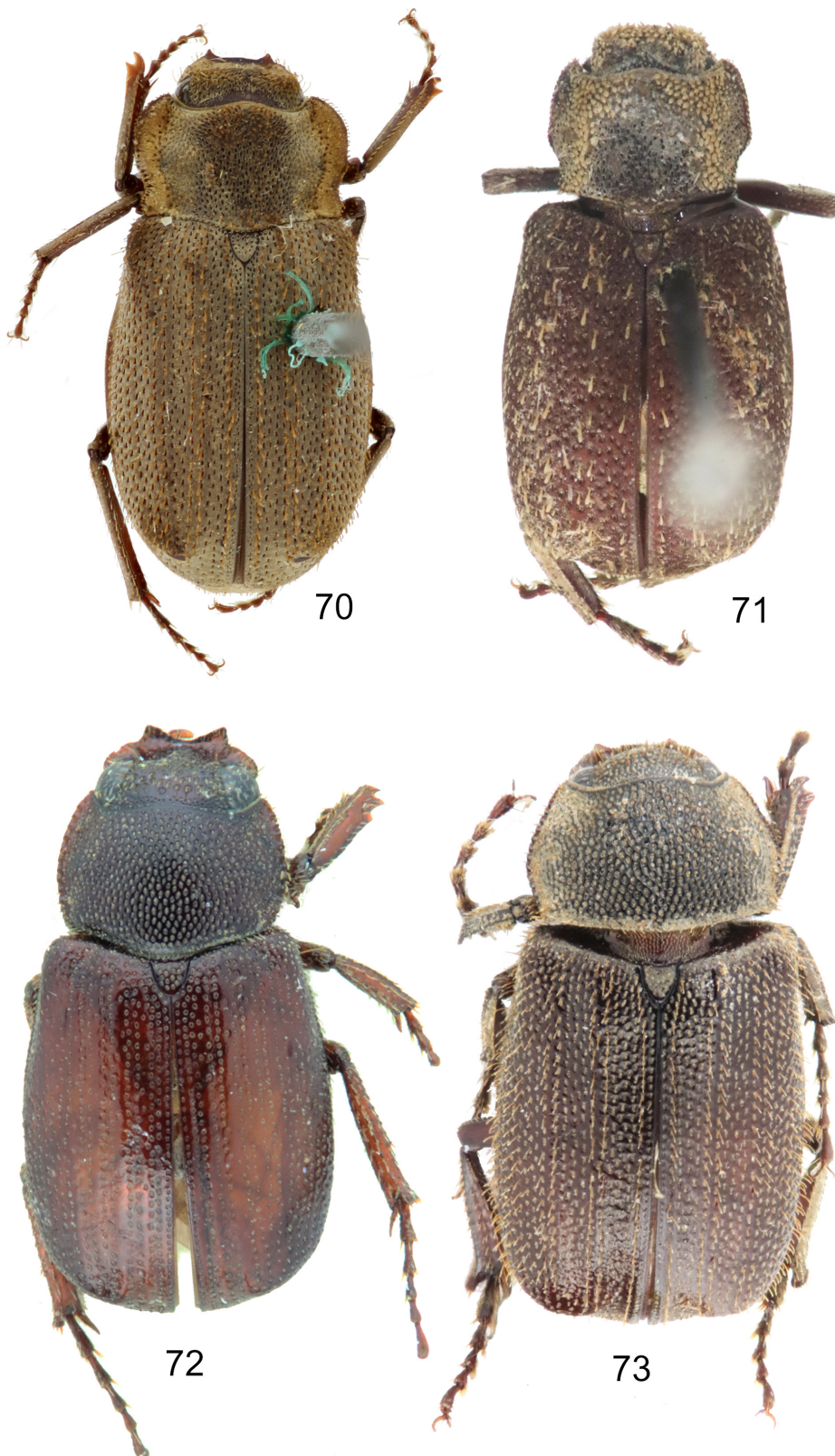
Remarks

Heller (1910: 24) likely based his description of *M. pauxillus* on a single specimen – although not explicitly stated. The single SNSD specimen labelled “typus” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 5.20–5.65 (lectotype) to 6.10 mm.

Dorsum and venter uniformly brown. Dorsum almost completely covered with microscopical velvety pubescence. Head humped dorsally between eyes, opaque dorsally and ventrally. Male labroclypeus (Fig. 160) broadly emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles acute, strongly protruding, raised up at angle of nearly 90–95° to frons in lateral view. Female labroclypeus less deeply emarginate on anterior margin (Fig. 161). Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus straight in dorsal view. Dorsal sculpture of head almost completely obscured by dense suberect strongly clavate scales. Punctures of frons ovoid, deep and dense. Setae scale-like, dense, more or less strongly clavate, suberect to erect. Male antenna 9-segmented, club 3-lamellate. Pronotum transverse, opaque dorsally and laterally. Anterior margin of pronotum sinuous with median part (slightly) and anterolateral angles (stronger) protruding, basal margin broadly slightly sinuous. Lateral margin of pronotum sinuous, nearly straight in anterior two thirds, constricted afterwards towards base, delicately (indistinctly) crenulate all along (Fig. 243). Clavate short seta present between every two crenulae. Lateral margin of pronotum straight in anterior two thirds, curved in basal third in lateral view. Hypomeron hardly emarginate and long setose on anterior margin which is flange-like (Fig. 275). Antennal pocket deep. Pronotal punctures deeper than those on head, irregularly ovoid. Median ones provided with minute seta at anterior margin not surpassing midlength of corresponding puncture. Lateral and anterior margins very densely scale-like clavate setose. Scutellar shield narrowly rounded apically. Elytron opaque, with vague tracks of two longitudinal carinae plus broadly interrupted glabrous remnants of sutural one. Punctures of elytral disc irregular, ovoid, deep, intervening spaces irregularly large (Fig. 333). Majority of elytral setae minute, not surpassing midlength of corresponding puncture. Numerous large scale-like clavate setae arranged in several irregular longitudinal rows. Obtuse



Figs 70–73. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **70.** *M. opatroides* Arrow, 1941 comb. rest., lectotype, ♀ (BMNH). **71.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **72.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **73.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). Not to scale.

partially glossy hump near apex. Male pygidium covered with microscopical velvety pubescence, slightly impressed dorsally in anterior part, transversely humped medially, flattened otherwise (Fig. 505). Punctures of pygidium rather deep and dense, circular to ovoid, intervening spaces (when exposed from under velvety pubescence) glossy. Setae of pygidium scale-like, mostly not surpassing length of corresponding punctures, with several much larger clavate erect scales in central part. All scales pointing obliquely to middle. Female pygidium with generally larger scale-like setae than male (Fig. 506). Male pygidium sometimes with transverse row of scale-like setae, is/is not interrupted medially. Protibia narrow, delicately crenulate along external margin. Distal teeth virtually not present: remnants of two inconspicuous ones can be tracked (Fig. 406). Male protibial terminal spur curved. Male metatibial terminal spurs strongly unequal, the curved lower one about twice as long as straight upper one. Male tarsal claws with pulvilli. Aedeagus as in Figs 685–687.

Sexual dimorphism

Female claws without pulvilli. Apex of female elytron without conspicuous protrusion. Female pygidium generally flat (not transversely humped), with a transverse row of dense scale-like elongate setae.

Maechidius pedarioides Arrow, 1941

Figs 72, 163–164, 244, 334, 407, 507–508, 556, 688–690

Type material

Syntypes

INDONESIA • ♂; “SYNTYPE [p, label circular, blue frame]//Type [p, label circular, red frame] // ♂ [p]//N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500 ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*Maechidius pedarioides*, Arrow type [h]”; BMNH • 1 ♂; “SYNTYPE [p, label circular, blue frame]//N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500 ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*pedarioides* ? var. [h]”; BMNH • 1 ♀; “SYNTYPE [p, label circular, blue frame]//N.DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500 ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]//*Maechidius pedarioides*, co-type Arrow [h]”; BMNH • 1 ♀; “SYNTYPE [p, label circular, blue frame] // ♀ [p]//N. DUTCH NEW GUINEA: Waigeu. Camp Nok. 2,500 ft. iv.1938. L.E.Cheesman. B.M.1938-593. [p]”; BMNH.

Description

Male labroclypeus (Fig. 164) broadly emarginate on anterior margin, female labroclypeus shallowly emarginate. Male anterolateral angles of labroclypeus rounded, strongly protruding, female one broadly obtuse, not protruding (Fig. 164). Lateral margin of labroclypeus sinuous in both dorsal and lateral views. Punctures of frons circular to ovoid, variably large, shallow, those on vertex annular. Long suberect seta rises from anterior margin of each puncture. Pronotum broadly emarginate on anterior margin, anterolateral angles protruding. Basal margin of pronotum broadly rounded. Lateral margin of pronotum in dorsal view broadly rounded, all along with large deep punctures splitting margin into indistinct long and flat crenulae (Fig. 244). Long erect seta present in each puncture between two crenulae. Hypomeron separated from prosternum by low arched carina, with long setae on anterolateral margin opposite to compound eye. Antennal pocket shallow. Pronotal punctures large, shallow, ovoid, those along lateral sides annular. Intervening spaces glossy, smaller to much smaller than punctures. Pronotal punctures in part with inner margin with delicate membrane covered with microscopical velvety pubescence. Pronotal setae minute, seta rises from anterior margin of each puncture, not surpassing its midlength. Elytral punctures circular to ovoid, in part annular, shallow, arranged in double longitudinal rows (Fig. 334). Intervening spaces glossy, generally larger than punctures. Elytral setae minute, surface looks glabrous under 50 × magnification; minute seta rises from anterior margin of each puncture, not surpassing midlength of corresponding puncture. Male pygidium flattened dorsally, with large

shallow annular punctures. Intervening spaces variably large, generally smaller than punctures. Setae of pygidium sparse, long, suberect. Male and female protibia widened distally, with three distal teeth on external margin (Fig. 407). Male terminal spur of protibia short. Spiculum gastrale as in Fig. 556. Aedeagus as in Figs 688–690.

Sexual dimorphism

Female lamellae of antennal club considerably shorter; terminal spur of protibia distinctly longer.

Maechidius peregrinus Lansberge, 1886
Figs 73, 162, 245, 276, 335, 408, 509, 691–693

Type material

Syntype

INDONESIA • ♀; South Sulawesi; NMNL. Studied from photographs.

New material

INDONESIA • 2 ♀♀; “INDONESIA, S Sulawesi, Palopo 8 km NW, Battang vill., 350 m, 2°57’S, 120°08’E, 26-28.XII.2019, at light, leg. local collector”; DTC • 1 ♀; “INDONESIA, S Sulawesi, W of Palopo, Rantepao 7 km W, Sarambu vill., 985 m, 2°58’54”S, 119°50’18”E, at light, 28.XII.2019”; DTC • 1 ♂, 2 ♀♀; “INDONESIA, S Sulawesi, Palopo 45 km SW, 5 km SW Makale, 1490 m, 3°08’32”S, 119°49’27”E, 1.I.2020”; DTC • 1 ♂; “INDONESIA, S Sulawesi, Palopo 12 km NWW, Puri Rimba resort, 2°57’31”S, 120°05’13”E, 765 m, 4.I.2020, at light”; DTC • 1 ♀; “INDONESIA, S Sulawesi, Palopo 12 km NWW, Puri Rimba resort, 2°57’31”S, 120°05’13”E, 765 m, 4.I.2020, at light”; DTC • 2 ♂♂, 3 ♀♀; “INDONESIA, S Sulawesi, W of Palopo, Rantepao 10 km NW, Landorundun vill., 2°53’41”S, 119°50’59”E, 1430 m, at light, 14.I.2020”; DTC.

Description

MEASUREMENTS. Total body length 7.60–9.40 mm.

Dorsum and venter uniformly black-brown, labroclypeus, antennae and legs brown. Male (Fig. 162) and female labroclypeus shallowly emarginate to subtruncate on anterior margin, its lateral margins nearly straight to slightly sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, rounded, not protruding anteriorly. Frons convex dorsally. Head punctures ovoid to irregularly hexagonal, very deep and dense, filled with microscopical velvety pubescence. Intervening spaces glossy, generally much smaller than punctures. Head setae suberect to erect, moderately dense, much longer on frons than on anterior part of head; each seta rises from anterior margin of corresponding puncture. Pronotum strongly transverse, sinuous on anterior margin, with slightly protruding anterolateral angles. Basal margin of pronotum very broadly rounded to subtruncate. Lateral margin of pronotum broadly rounded, crenulate all along (Fig. 245). Long erect apically slightly curved seta present between every two crenulae. Maximum width of pronotum postmedially. Pronotal punctures ovoid, very deep and dense, filled with microscopical velvety pubescence. Intervening spaces glossy, much smaller than punctures, in part wrinkled. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Setae of pronotum generally shorter than those on head, erect, apically curved; wide median prebasal area glabrous. Hypomeron broadly emarginate and very long setose on anterior margin which is flange-like (Fig. 276). Scutellar shield narrowly rounded apically. Elytron with tracks of three flat glabrous longitudinal carinae; sutural carina not indicated. Elytral punctures elongate ovoid and narrow, deep and dense. Intervening spaces glossy, generally larger than punctures, in part covered with microscopical velvety pubescence. Elytral setae suberect to erect, variably long. All setae rise from anterior margin of corresponding punctures, shorter ones about their length, longer ones much

longer and arranged in longitudinal rows along tracks of elytral carinae. Male pygidium slightly convex dorsally, partly covered with microscopical velvety pubescence, with moderately large dense circular punctures and variably large intervening spaces (Fig. 509). Female pygidium with rather large obtuse median impression at posterior margin. Setae of pygidium suberect to erect, moderately long. Male and female protibia widened distally, with two obtuse distal teeth on external margin (Fig. 408). Distal margin of metatibia in both sexes with projection over basal metatarsomere. Male protibial terminal spur strongly curved, female one straight and pointed. Male lower meso- and metatibial terminal spur strongly curved, not rounded apically. Male basal metatarsomere widened and dorso-ventrally flattened. All claws with pulvilli in both sexes. Aedeagus as in Figs 691–693.

Sexual dimorphism

Lamellae of female antennal club shorter; terminal spur of protibia straight and pointed; basal metatarsomere moderately widened and flattened; pygidium humped medially; lower meso- and metatibial terminal spur not curved.

Maechidius perlatus (Frey, 1969) comb. nov.

Figs 74, 166–167, 246, 277, 337–338, 409, 510, 557, 694–696

Paramaechidius perlatus Frey, 1969: 507.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “TYPE [p, red label]//Bismarck Geb. v. Guinea [h]//Type *Paramaechidius perlatus* n. sp. [h] det.G.Frey,1967/68 [p]”; NHMB.

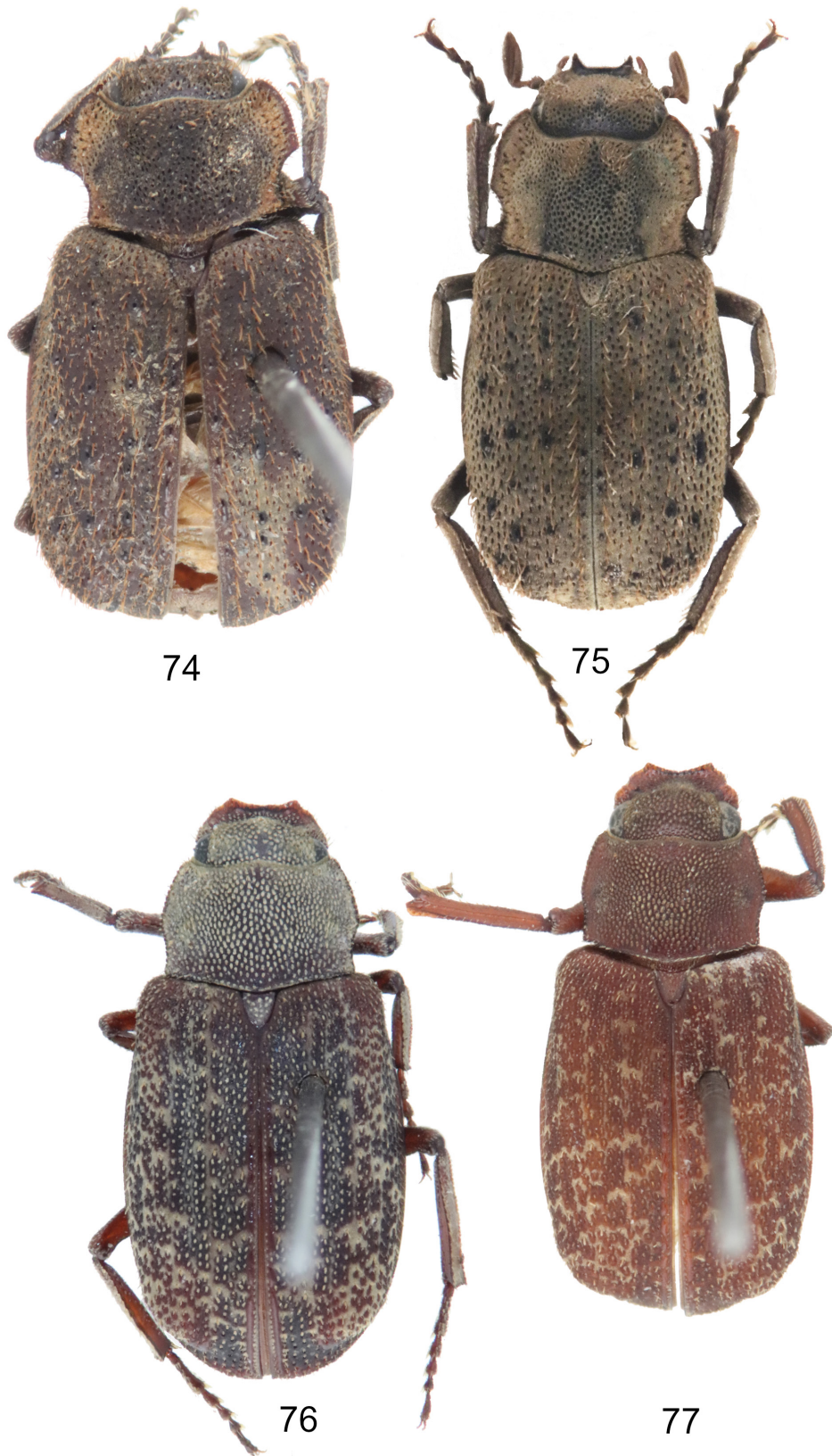
New material

INDONESIA • 1 ♂, 1 ♀; “IRIAN JAYA, Japen [sic!] Isl., Kontiunai, road to Ambaidru, 600-700 m, 23-25.XII.2000, leg. A. RIEDEL”; SMNS • 1 ♂; same label as for preceding; DTC • 1 ♂; “IRIAN JAYA, Wandammen Bay, Wondiwoi Mts. Wasior, 300-850 m, 5.I.2001, leg. A. RIEDEL”; SMNS.

Description

MEASUREMENTS. Total body length 7.50–9.00 mm.

Dorsum uniformly black to black-brown with castaneous brown labroclypeus, mouthparts and antennae. Entire dorsum covered with dirty yellowish dense microscopical fur-like velvety pubescence (Fig. 338), surface structure therefore almost completely hidden. Head transverse, opaque dorsally and ventrally, convex between eyes. Compound eye large, occupying about half side of head. Male labroclypeus (Fig. 166) deeply and broadly emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views, male anterolateral angles strongly protruding, acute in dorsal view, bent up at ~90° to frons in lateral view. Female labroclypeus (Fig. 167) with broad anterior emargination, its anterolateral angles broadly rounded and not protruding, sinuous in both dorsal and lateral views. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Dorsal punctures of irregular ovoid shape, very deep. Intervening spaces generally distinctly larger than punctures. Dirty-yellow suberect seta rises from anterior margin of each puncture; setae vary in size and shape from longer than to not surpassing length of corresponding punctures. Antenna in both sexes 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 transverse. Pronotum anterior margin broadly emarginate. Basal margin of pronotum obtusely angulate medially. Lateral margin of pronotum widened towards obtuse postmedian angulation and afterwards broadly emarginate before base (Fig. 246). Lateral margin somewhat flattened and



Figs 74–77. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **74.** *M. perlatus* (Frey, 1969) comb. nov., holotype, ♂ (NHMB). **75.** Same, ♂ (SMNS). **76.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **77.** Same, paratype, ♂ (BMNH). Not to scale.

expanded laterally, delicately crenulate all along – a scale-like appressed seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Punctures deep, of irregular ovoid shape, on disc generally larger than those on head, near lateral margins small. Intervening spaces variably large, generally larger than punctures. Setae scale-like, longer on anterior margin facing frons and at posterolateral angles, but medially generally short and not surpassing length of corresponding punctures. Conspicuous rather short appressed brush of clustered setae rises from each puncture along lateral margins of pronotum. Hypomeron emarginate and very long setose on anterior margin which is flange-like (Fig. 277), covered by fur-like pubescence. Antennal pocket deep. Median anterior process of prosternum long brushy setose, short, slightly raised. Scutellar shield narrowly rounded apically. Elytra with maximum width across midlength, with distinct humeri. Tracks of four convex longitudinal carinae on each elytron (including sutural one) formed by irregular large glossy glabrous humps. Remnants of sutural carinae indicated by more delicate humps. Punctures of disc of irregular oblong shape, deep, generally smaller than those on forebody (Fig. 337). Entire elytral surface covered with velvety fur-like setae (Fig. 338). Ordinary setae scale-like, moderately long, suberect, arranged in irregular paired longitudinal rows (Fig. 74). Each seta rises from anterior margin of corresponding puncture. Pygidium in both sexes slightly convex, deeply irregularly oblong-shaped punctate, intervening spaces covered with fur-like pubescence (Fig. 510). Setae elongate clavate, rather long, suberect. Venter covered with sparse small shallow punctures, each provided with a very short seta, in part covered with microscopical velvety pubescence. Legs long and slender. Male protibia nearly straight on external margin, with complete dorsal carina. Two small obtuse distal teeth on protibia in both sexes (Fig. 409). Male protibial terminal spur large, curved, female one shorter and straight. Male metatibial terminal spurs paired, almost equally long, subacute, lower one curved; female ones shorter, nearly straight, obtuse. Tarsal claws with pulvilli in both sexes. Spiculum gastrale as in Fig. 557. Male aedeagus as in Figs 694–696.

Sexual dimorphism

Female body generally larger, labroclypeus shallower emarginate on anterior margin; lamellae of antennal club shorter; terminal spur of protibia straight.

Maechidius popei (Frey, 1969) comb. nov.

Figs 76–77, 169–170, 247, 278, 336, 410, 511–512, 558, 697–699

Paramaechidius popei Frey, 1969: 508.

Type material

Holotype

PAPUA NEW GUINEA • ♀; “Holotype [p, label circular, red frame]//N.E. New Guinea: S.E. Bismarck Range, Tapu. 6000ft. May 1940. F. Shaw Mayer. [p]//Rothschild Bequest. 1961-429. [p]//TYPUS [p, red label]//TYPE *Paramaechidius Popei* n sp [h] det. G. Frey, 1967/68 [p]”; BMNH.

Paratype

PAPUA NEW GUINEA • 1 ♂; “Paratype [p, label circular, yellow frame]//New Guinea: Papua. Boneno, 400ft. nr. Mt. Mura (30 m. N W. Mt. Simpson) Nov. 1940. F. Shaw Mayer. [p]//Rothschild Bequest. 1961-429. [p]//PARATYPE [p, red label]//*Paramaechidius Popei* n sp. [h] det. G. Frey, 1967/68 [p]”; BMNH.

Remarks

Frey (1969: 508) based his description of *Paramaechidius popei* comb. nov. on three specimens (1 ♂ and 2 ♀♀). Only two specimens were located in BMNH. Moreover, the ♂ paratype from the Papuan Peninsula (Boneno) is not mentioned in the original description, only 2 ♂♂ from the Bismarck Range. However, since the Boneno specimen contains Frey’s original labels (including partly handwritten ones) with same determination data (1967–1968), I consider this specimen part of the original type series as the second ♂ specimen (but with locality data omitted in the original description). The note by

Frey (1969) “Type im Britischen Museum, Paratype in meinem Museum” indicates that the specimen labelled “TYPE” was selected as the holotype by Frey.

Some features as described by Frey (1969: 508–509) should be corrected as follows.

Description

Dorsum is partly covered with microscopical velvety pubescence. Female labroclypeus (Fig. 169) broadly emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Male labroclypeus as in Fig. 170. Anterolateral angles of labroclypeus obtuse, somewhat protruding. Head punctures ovoid, deep. Intervening spaces variably large. Inconspicuous appressed to suberect seta rises from anterior margin of each puncture, surpassing its length. Pronotum broadly emarginate on anterior margin, basal margin slightly sinuous. Anterolateral angles of pronotum obtuse, slightly protruding. Lateral margin of pronotum in dorsal view gradually widened in anterior half, shallowly emarginate postmedially, delicately crenulate all along (Fig. 247). An inconspicuous scale-like seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron sparsely circularly punctured, shallowly emarginate opposite to compound eye (to receive canthus separating compound eye), covered with long setae (Fig. 278). Antennal pocket deep. Pronotal punctures generally larger than those on head, of irregular shape, deep. Intervening spaces variably large, in part subopaque. Pronotal setae longer and stronger scale-like along lateral margins, slender and shorter along median part of disc. Elytral punctures irregular in shape, deep, somewhat irregularly clustered (Fig. 336) and generally smaller than those on pronotum. Intervening spaces generally larger than punctures, in part microscopically wrinkled. Setae scale-like, appressed, generally short and not surpassing length of corresponding punctures with some longer suberect setae scattered over elytral disc. Female protibia with nearly complete obtuse longitudinal carina, with two distal teeth on external margin (Fig. 410). Female pygidium with circular to ovoid moderately deep punctures, intervening spaces glossy and variably large; with largely unpunctured median longitudinal area. Setae of pygidium inconspicuous, suberect, sparse, arise from anterior margin of corresponding punctures, surpassing its length. Spiculum gastrale as in Fig. 558. Aedeagus as in Figs 697–699.

Maechidius riedeli sp. nov.

[urn:lsid:zoobank.org:act:C67FBA17-03C1-45B1-A5DD-716FBBCB7A7B](https://zoobank.org/act:C67FBA17-03C1-45B1-A5DD-716FBBCB7A7B)

Figs 78, 165, 248, 339, 411, 513, 700–702

Differential diagnosis

This new species is primarily peculiar in the shape of the male parameres.

Etymology

Patronymic. The species is named after its collector, Alexander Riedel (Staatliches Museum für Naturkunde Karlsruhe, Germany), a well-known coleopterist and explorer of Eastern Indonesia.

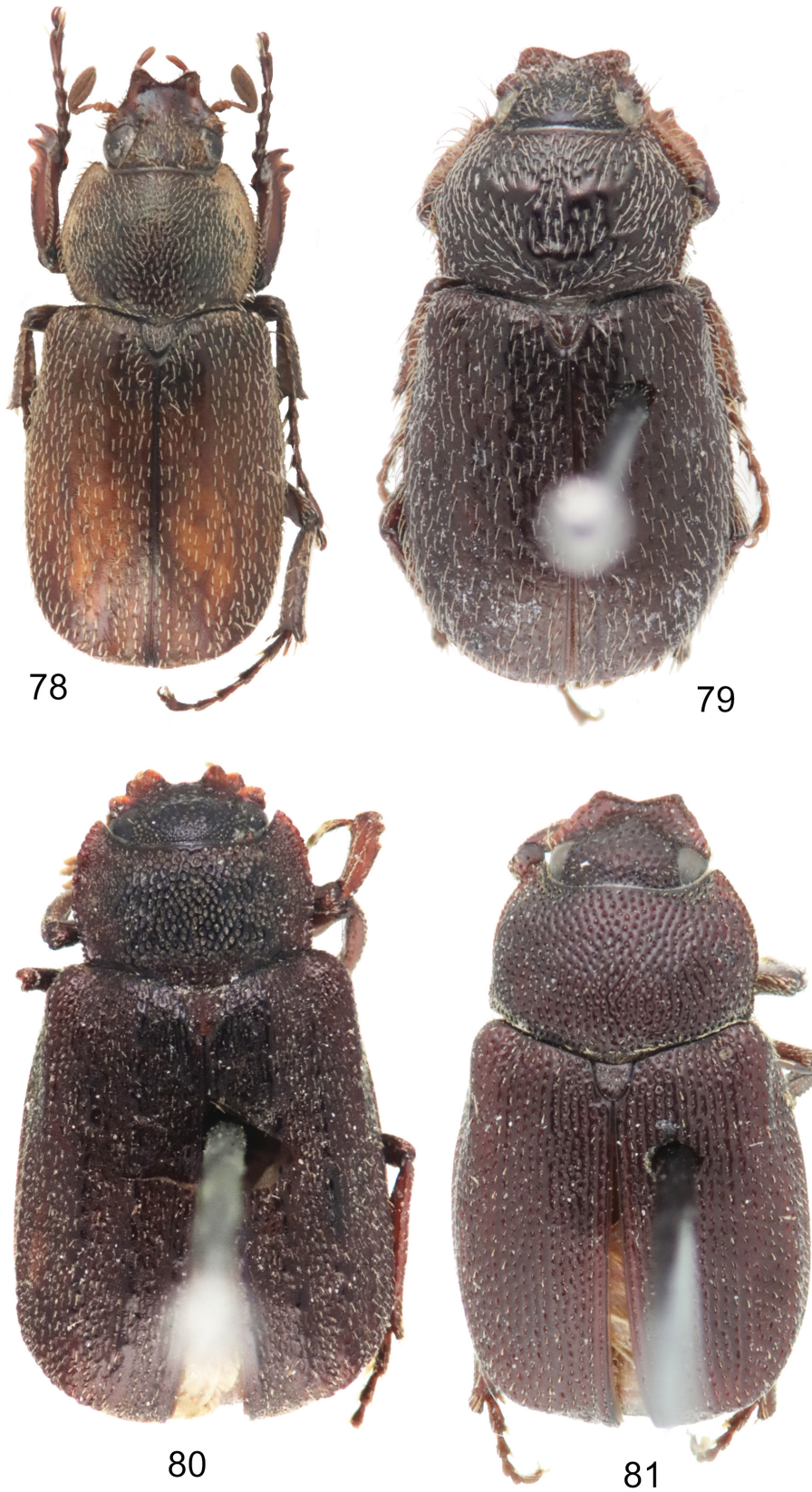
Type material

Holotype

INDONESIA • ♂; “IRIAN JAYA, Japen [sic!] Isl., Kontiunai, road to Ambaidru, 600-700 m, 23-25. XII.2000, leg. A. RIEDEL”; SMNS.

Description

MEASUREMENTS. Holotype, total body length 6.60 mm. Head 1.10 mm long, across eyes 1.30 mm wide. Pronotum 1.60 mm long, maximum width 2.20 mm. Elytral length 3.90 mm, maximum combined width 2.90 mm.



Figs 78–81. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **78.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **79.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **80.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **81.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). Not to scale.

Body uniformly pale brown. Head glossy dorsally and ventrally, frons flattened dorsally. Male labroclypeus (Fig. 165) broadly deeply emarginate on anterior margin, its anterolateral angles rounded, strongly protruding. Lateral margins of labroclypeus sinuous in both dorsal and lateral views, raised up at angle of nearly 80° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Head dorsal punctures circular, in part annular. Intervening spaces glossy, variably large. Head setae scale-like, elongate, appressed; each seta rises from anterior margin of puncture, generally longer to much longer than length of corresponding puncture. Three extraordinarily long erect setae along inner margin of either compound eye and additional one on either canthus. Antenna 9-segmented, club 3-lamellate. Pronotum glossy dorsally and laterally. Anterior margin of pronotum sinuous, anterolateral angles protruding anteriorly, basal margin broadly rounded. Lateral margin of pronotum in dorsal view broadly rounded, delicately crenulate all along (Fig. 248). Long erect, more or less strongly curved seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures circular to ovoid, variably large, dense and shallow; inner margin of punctures with delicate membrane. Intervening spaces glossy, in part microreticulate, generally as large as punctures except near lateral margins where punctures are denser. Setae similar to those on frons. Lateral margin, antero- and posterolateral angles partly covered with dense microscopical velvety pubescence. Hypomeron separated from prosternum by low nearly straight carina, with long setae on anterolateral margin opposite of compound eye. Antennal pocket shallow. Median anterior process of prosternum long brushy setose, short, strongly raised. Scutellar shield pointed apically. Elytron subopaque, with vague tracks of two glabrous longitudinal carinae. Sutural striae or carinae not present. Punctures of elytral disc linear (long and narrow), incision-shaped (Fig. 339). Intervening spaces opaque to subopaque, microscopically wrinkled, much larger than incisions. Elytral setae appressed, not surpassing length of corresponding incisions. Male pygidium slightly convex dorsally, with large and shallow annular punctures which are denser in median part (Fig. 513). Setae of pygidium suberect, moderately long in anterior, longer in apical half. Male protibia modified on inner margin, concave predistally. Male protibia with three distal teeth on external margin, median and distal ones rather acute (Fig. 411). Male terminal protibial spur absent. Aedeagus as in Figs 700–702.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests.

Distribution

Hitherto only known from Yapen Island, Cenderawasih Bay of New Guinea.

Maechidius rugicollis Moser, 1920

Figs 79, 172–173, 249, 279, 340, 412, 514, 559, 703–705

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♀; “D.Neu-Guinea [p] Stephansort [h] [black frame]//P.Type *Maechidius rugicollis* Mos. [h] det.G.Frey,1967/68 [p]//SYNTYPE *Maechidius rugicollis* Moser, 1920 labelled by MFNB 2020 [p, red label]”; ZMHB.

Paralectotype

PAPUA NEW GUINEA • 1 ♀; “D.Neu-Guinea [p] Stephansort [h] [black frame]//*Maechidius rugicollis* Mos. Typus [h]//SYNTYPE *Maechidius rugicollis* Moser, 1920 labelled by MFNB 2020 [p, red label]”; ZMHB.

New material

INDONESIA • 1 ♂; “♂//DUTCH NEW GUINEA: Cyclops Mts., Sabron. 930 ft.v.1936. L.E.Cheesman. B.M.1936-271.//*Maechidius rugicollis*, Moser Determined from description. G.J.A.”; BMNH • 4 specs; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt. //S 5°08’, E 145°46’ Baitabag village 50m a.s.l., 1999”; NHMB • 1 spec.; same labels as for preceding; DTC • 4 specs; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt. //Ohu vill. near Gum r. S 5°13’ E 145°41’ I.-II.2001, 150m”; NHMB.

The lectotype is designated in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. 6.90 mm (lectotype) to 9.00 mm (the largest female from Ohu village)

Dorsum and venter uniformly black-brown, labroclypeus, antennae and legs paler castaneous. Head subopaque, flattened dorsally. Male (Fig. 173) and female labroclypeus very broadly V-shaped emarginate anteriorly (in female in some cases anterior emargination very shallow, Fig. 172), its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles broadly rounded, in male moderately strongly protruding antero-laterally, in female not or hardly protruding. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Punctures of frons irregularly ovoid, large and coarse, moderately deep, their backgrounds shagreened. Intervening spaces microreticulate, smaller than punctures. Head setae dirty yellowish, long to extraordinarily long, suberect, directed posteriad. Longest setae on canthus (one single) and along inner margin of either compound eye. Antenna 9-segmented, club 3-lamellate. Antennomere 2 short, in male slightly longer than wide, in female about as long as wide. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum rather shallowly emarginate with slightly protruding anterolateral angles, basal margin very broadly rounded. Lateral margin of pronotum rounded, stronger constricted anteriorly than towards base, crenulate all along (Fig. 249). Extraordinarily long curved erect seta present between every two crenulae, at least as long as longitudinal diameter of compound eye in fresh specimens. Lateral margin of pronotum broadly arched in lateral view. Punctures of pronotal disc large and coarse, irregularly circular to ovoid, dense. Intervening spaces in part flat and microreticulate, in part broad and globose, glossy, variably large. Hypomeron nearly fused to prosternum, carina not present or very inconspicuous, place of fusion provided with a row of delicate whitish setae; moderately long setae on anterolateral margin of hypomeron opposite of compound eye (Fig. 279). Setation as on head, generally whitish. Scutellar shield rounded apically. Elytron subopaque, without tracks of longitudinal carinae. Punctures of elytral disc double. Ordinary punctures of disc large, shallow and rather dense, irregular in size and shape. Each ordinary puncture supplemented with a shallow linear (narrow and long) incision-shaped puncture (Fig. 340). Intervening spaces in part microreticulate, in part glossy, generally larger than ordinary punctures. Elytral setae moderately long, appressed to suberect. Lateral margin of elytra with extraordinarily long erect setae. Male and female pygidium flattened dorsally, with large shallow annular punctures (Fig. 514). Intervening spaces microreticulate, subopaque. Setae of pygidium very long, suberect; each seta rises from anterior margin of corresponding puncture. Protibia rather slender, with two large distal external teeth and much smaller stronger obtuse third one (median on protibia) (Fig. 412); distal tooth in male lobe-like prolonged anteriorly. Protibial terminal spur not present in both sexes. Distal margin of metatibia in both sexes with projection over basal metatarsomere. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 559. Aedeagus as in Figs 703–705.

Sexual dimorphism

Female lamellae of antennal club comparatively shorter; female labroclypeus comparatively shallower emarginate anteriorly; female distal external tooth of protibia less strongly prolonged.

Maechidius seriegranosus Heller, 1914
Figs 80, 171, 250, 341, 413, 515, 560, 706–708

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♂; “Br. N. Guinea Aroa Fl. E.Weiske [p, blue label]//14420 [h, blue label]//Typus! [p] *seriegranosus* [h, red label]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 2 specs; “Papua: Kokoda. 1,200ft. x.1933. L.E.Cheesman. B.M.1934-321.”; BMNH • 23 specs; “PAPUA:Mondo. 5,000ft. ii.1934. L.E.Cheesman. B.M.1933-321 [&] 492.”; BMNH • 1 ♀; “PAPUA:Mondo. 5,000ft. ii.1934. L.E.Cheesman. B.M.1933-321.//*Maechidius fraterculus* Moser Determined from description. G.J.A.”; BMNH.

Remarks

Heller (1914: 628) likely based his description of *M. seriegranosus* on a single specimen – although not explicitly stated. The single SNSD specimen labelled “Typus!” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 6.80 mm (lectotype).

Dorsum and venter uniformly dark brown, appendages paler brown. Head convex dorsally between compound eyes, with inconspicuous transverse impression at front margin of either eye, glossy dorsally and ventrally. Male labroclypeus (Fig. 171) deeply U-shaped emarginate on anterior margin, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles rounded, strongly protruding, raised up at angle of nearly 80–90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Underside of labroclypeus with sparse long delicate setae along anterior and lateral margins. Canthus strongly obtusely angulate in dorsal view. Punctures of frons irregularly hexagonal, in part annular, moderately large and deep. Intervening spaces glossy, variably large. Head setae minute, appressed; each seta rises from anterior margin of corresponding puncture not surpassing its length. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy dorsally, opaque laterally. Anterior margin of pronotum broadly emarginate with strongly protruding anterolateral angles, basal margin sinuous. Lateral margin of pronotum very broadly rounded in dorsal view, crenulate all along except denticulate prebasal area; lateral margin with 13–15 crenulae/denticles. Inconspicuous suberect seta present between every two crenulae (Fig. 250). Lateral margin of pronotum sinuous in lateral view. Pronotal punctures irregularly ovoid to hexagonal, annular, dense, moderately deep. Intervening spaces glossy, flat. Setation as on head. Hypomeron separated from prosternum by moderately high nearly straight carina, with long setae on anterolateral margin opposite of compound eye. Antennal pocket moderately deep. Scutellar shield rounded apically. Elytron subopaque, with vague tracks of three longitudinal carinae, including sutural one. Elytral punctures sinuous (elongate and narrow), incision-shaped, shallow (Fig. 341). Intervening spaces wrinkled. Appressed to suberect seta rises from anterior margin of each puncture, not surpassing length of corresponding incision. Lateral margins of

elytra in part covered with microscopical velvety pubescence. Male and female pygidium flattened dorsally, opaque, with large shallow annular punctures (Fig. 515). Intervening spaces microreticulate, much smaller than punctures. Setae of pygidium suberect, surpassing length of corresponding punctures. Male protibia widened distally, with three external teeth, median one largest (Fig. 413). Male protibial terminal spur narrow. Male metatibia distally with a brush of dense long sinuous setae. Male metatibial terminal spurs long, unequal, lower spur slightly curved. Male basal metatarsomere with a brush of dense long sinuous setae on inner margin. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 560. Aedeagus as in Figs 706–708.

Sexual dimorphism

Female lamellae of antennal club shorter; female pygidium with inconspicuous preapical dorsal impression.

Maechidius seriepunctatus Moser, 1920

Figs 81, 174, 251, 280, 342, 414, 522

Type material

Lectotype [herewith designated]

PAPUAN NEW GUINEA • ♂; “N.Lauenburg Mioko C.Ribbe [p, black frame]//*Maechidius seriepunctatus* Mos. Type [h]//SYNTYPE *Maechidius seriepunctatus* Moser, 1920 labelled by MFNB 2019 [p, red label]”; ZMHB.

Remarks

Moser (1920: 16) based his description of *M. seriepunctatus* on an unstated number of specimens. The single ZMHB syntype is therefore designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future.

Description

MEASUREMENTS. Total body length 6.80 mm (lectotype).

Dorsum and venter uniformly castaneous brown. Frons convex dorsally between compound eyes, subopaque dorsally and ventrally. Male labroclypeus (Fig. 174) broadly shallowly emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles rounded, slightly protruding, raised up at angle of nearly 95° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse moderately long setae along anterior and lateral margins. Canthus nearly straight in dorsal view. Punctures of frons ovoid, moderately large, rather flat. Intervening spaces microreticulate, variably large. Head setae scale-like, appressed to suberect, those along internal margin of compound eye surpassing length of corresponding punctures, those on labroclypeus, most of frons and vertex minute, rising from anterior margin of corresponding punctures, not surpassing their length. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded, delicately crenulate all along (Fig. 251). Lateral margin of pronotum sinuous in lateral view. Short thickened suberect seta present between every two crenulae. Lateral margins, antero- and posterolateral angles completely covered with microscopical velvety pubescence. Hypomeron emarginate and long setose on anterior margin which is flange-like (Fig. 280). Antennal pocket deep. Pronotal punctures ovoid, deep and dense, intervening spaces glossy, larger than punctures on anterior half, smaller than

those on posterior half of disc. Setae minute, arise from anterior margin of corresponding punctures, not surpassing length of punctures. Scutellar shield rounded apically. Elytron subopaque, without tracks of longitudinal carinae. Elytral punctures elongate, dense and deep, arranged in irregular longitudinal rows (Fig. 342). Intervening spaces glossy, generally smaller than punctures, in part wrinkled. Elytral setae inconspicuous, scale-like, appressed; seta rises from anterior margin of each puncture, generally not surpassing length of corresponding puncture. Some longer scale-like clavate scattered over disc and especially abundant along lateral sides. Male pygidium flattened dorsally, very vaguely medially longitudinally impressed, with dense rather deep ovoid punctures (Fig. 522). Intervening spaces glossy, variably large. Setae of pygidium scale-like, in part clavate, sparse, suberect, those on distal half longer than corresponding punctures. Male protibia widened distally, with two obtuse external teeth (Fig. 414). Male protibial terminal spur straight. Male metatibial terminal spurs long, subequal, pointed. Tarsal claws with pulvilli (in male only?).

Sexual dimorphism

Female is unknown.

Maechidius similis sp. nov.

[urn:lsid:zoobank.org:act:3727E57E-1211-4A7A-BC4A-804DBF844DAF](https://zoobank.org/act:3727E57E-1211-4A7A-BC4A-804DBF844DAF)

Figs 82, 175–176, 252, 343, 415, 516, 708–711

Differential diagnosis

This species is generally close to *Maechidius subcostatus* Heller, 1895, but readily differs primarily in the shape of the male aedeagus. The aedeagus of *M. similis* sp. nov. is similar to that in *M. hirtipes* Arrow, 1941 (cf. Figs 620–622, 708–711), but specifically different in the dorsal and lateral aspects, with a broader dorsal opening of the parameres with their lateral and posterior margins somewhat raised and visible in lateral view.

Etymology

Named from the Latin ‘*similis*’ (meaning ‘similar’), because of the similarity in external morphology to *Maechidius subcostatus*.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Stn. No. 51. [p]//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964 [p]//M.E. Bacchus. B.M. 1965-120. [p]”; BMNH.

Paratypes (12 specimens)

PAPUA NEW GUINEA • 6 ♀♀; same labels as for holotype; BMNH • 2 ♀♀; “Stn. No. 46. [p]//NEW GUINEA: Madang Dist., Finisterre Mts. Damanti 3,550 ft. 2-11.x.1964 [p]//M.E. Bacchus. B.M. 1965-120. [p]”; BMNH • 1 ♂, 1 ♀; “Stn. No. 46. [p]//NEW GUINEA: Madang Dist., Finisterre Mts. Damanti 3,550 ft. 2-11.x.1964 [p]//M.E. Bacchus. B.M. 1965-120. [p]//*Maechidius hirtipes* Ar. [h] det.G.Frey,1967/68 [p]”; BMNH • 1 ♂, 1 ♀; “Stn. No. 174. [p]//NEW GUINEA: E.Highlands Dist., Wanatabe valley. Nr. Okapa, c. 5,000 ft. 5.ii.1965 [p]//M.E. Bacchus. B.M. 1965-120. [p]//*Maechidius tarsalis* ♀ Ar. [h] det.G.Frey,1967/68 [p]”; BMNH.



82



83



84



85

Figs 82–85. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **82.** *M. similis* sp. nov., paratype, ♂ (BMNH). **83.** *M. skalei* sp. nov., paratype, ♂ (NME). **84.** *M. simplex* Frey, 1969, holotype, ♂ (photograph courtesy BPBM) (BPBM). **85.** *M. sougb* sp. nov., holotype, ♂ (NME). Not to scale.

Description

MEASUREMENTS. Holotype, total body length 9.45 mm. Head 1.65 mm long, across eyes 2.15 mm wide. Pronotum 1.90 mm long, maximum width 3.00 mm. Elytral length 5.90 mm, maximum combined width 4.80 mm. Selected paratypes 8.80–10.30 mm long.

Dorsum uniformly black-brown, venter and appendages brown. Head flattened dorsally between compound eyes, glossy dorsally and ventrally. Male labroclypeus (Fig. 175) deeply and broadly V-shaped emarginate on anterior margin, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles acute, apically rounded, strongly protruding, raised up at angle of nearly 90° to frons in lateral view. Female labroclypeus (Fig. 176) with much less protruding anterolateral angles. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse setae along anterior and lateral margins. Canthus broadly rounded in dorsal view. Punctures of frons irregularly hexagonal, variably large, deep and dense. Intervening spaces glossy, much smaller than punctures, in part wrinkled. Head setae inconspicuous, appressed to suberect, not or hardly surpassing length of corresponding punctures. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy to subopaque dorsally and laterally. Anterior margin broadly emarginate with slightly protruding anterolateral angles, basal margin broadly rounded. Lateral margin in dorsal view slightly gradually widened towards middle, deeply emarginate in basal third, crenulate in anterior half (crenulae acute angulate at area of emargination), irregularly rugulose in emargination area. Lateral margin of pronotum arched in lateral view. Inconspicuous erect seta present between every two crenulae (Fig. 252). Hypomerion separated from prosternum by moderately high nearly straight carina which is obtusely angulate medially, with long setae on its anterolateral margin opposite to compound eye. Antennal pocket moderately deep. Punctures of pronotal disc irregularly hexagonal, large and coarse, deep and dense. Intervening spaces glossy, distinctly smaller than punctures, in part wrinkled. Pronotal setae inconspicuous; seta rises from anterior margin of each puncture, not surpassing length of corresponding puncture. Scutellar shield narrowly rounded apically. Elytron opaque, with tracks of 3–4 variously broadly interrupted glabrous longitudinal carinae, including sutural one. Elytral punctures linear (elongate and narrow), incision-shaped, moderately deep. Intervening spaces densely microreticulate. Appressed to suberect seta rises from anterior margin of each incision, not surpassing length of corresponding incision (Fig. 343). Slightly longer setae present along remnants of longitudinal carinae. Male and female pygidium flattened dorsally, with large shallow dense irregularly circular punctures. Intervening spaces microreticulate, much smaller than punctures. Male and female pygidium flattened dorsally, opaque, with dense large and shallow annular punctures (Fig. 516). Setae of pygidium inconspicuous, short and suberect, in anterior slightly, in distal part distinctly surpassing length of corresponding punctures. Protibia slender, with three external teeth: two distal acute and rather large, basal one situated close to midlength of protibia very inconspicuous (Fig. 415). Male protibial terminal spur long and straight, female one longer and stouter. Tarsal claws with pulvilli. Aedeagus as in Figs 709–711.

Sexual dimorphism

Female generally more robust, with comparatively shorter antennal lamellae, longer protibial terminal spur and apically rounded (not pointed) metatibial terminal spurs.

Ecology

Occurs at altitudes of 1080–1520 m.

Distribution

Hitherto known from Finisterre Mountains and Central Cordillera (Eastern Highlands Province), East New Guinea.

Maechidius simplex Frey, 1969

Figs 84, 168

Type material

Holotype

INDONESIA • ♂; “WEST NEW GUINEA Star Mts. Sibil Val. 1245m, 18-X-8.XI-’61 [p]//S. Quate & L. Quate Collectors [p]//TYPE [p, red label]//Type *Maechidius simplex* n. sp. [h] det.G.Frey,1967/68 [p]”; BPBM. Studied from photographs.

Description

Body brown, antennae and legs reddish-castaneous. Male labroclypeus subtruncate, its lateral margins slightly sinuous in dorsal view. Anterolateral angles of labroclypeus broadly rounded, not protruding (Fig. 167). Canthus broadly rounded in dorsal view. Head punctures circular to irregularly ovoid, moderately deep, dense. Head setae short, scale-like, suberect, surpassing length of corresponding punctures. Pronotum broadly emarginate on anterior margin, basal margin slightly sinuous. Anterolateral angles rounded, slightly protruding. Lateral margin in dorsal view gradually widens towards obtuse postmedian angulation; constricted towards base from this point, delicately crenulate all along. Inconspicuous appressed scale-like seta present between every two crenulae. Pronotal punctures larger and deeper than those on head, in part annular. Intervening spaces subopaque, variably large, generally larger than punctures. Setation similar to on head, slightly longer. Scutellar shield narrowly rounded apically. Elytron with two rather broad flat glabrous longitudinal carinae and less distinct sutural carina. Preapical hump of elytron large but flat, somewhat Γ -shaped (Fig. 84). Elytral punctures sparse, moderately deep, irregularly ovoid. Intervening spaces subopaque, distinctly larger than punctures. Elytral setae inconspicuous, suberect; seta rises from anterior margin of each puncture, not or hardly surpassing its length. Male pygidium with long erect setae in apical part. Male protibia with nearly complete dorsal longitudinal furrow, with two large rounded distal teeth on external margin; distal tooth lobe-like prolonged anteriorly. Male terminal protibial spur straight, long and acute. Male meso- and metatibia with interrupted median transverse carina.

Sexual dimorphism

Female is unknown.

Remark

This species’ male genital organs were not studied.

Maechidius skalei sp. nov.

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Figs 83, 177, 253, 344, 416, 446, 517, 712–714

Differential diagnosis

Maechidius skalei sp. nov. is peculiar among its congeners from Sulawesi primarily due to the shape of the male aedeagus in combination with a widened and flattened male basal metatarsomere (also occurs in *M. legalovi* sp. nov. and *M. maleo* sp. nov.).

Etymology

Patronymic. The new species is named after its first collector, André Skale (Gera, Germany), a well-known coleopterist, respected colleague and my friend.

Type material

Holotype

INDONESIA • ♂; “INDONESIA C-Sulawesi ca. 20km NE Palu, ca. 3m [sic!] W Tawaeli, 170m S 0°43’56”, E 119°55’30”, 03.III.2009 leg. A. Skale river valley (020)//Coll. A. Skale Hof, Germany”; NME.

Paratypes (2 specimens)

INDONESIA • 1 ♂; same labels as for holotype; ASC • 1 ♂; “INDONESIA Sulawesi Puncak W Palopo 6.2000 Beneš”; NME.

Description

MEASUREMENTS. Male holotype, total body length 7.45 mm. Head 1.30 mm long, across eyes 1.70 mm wide. Pronotum 1.70 mm long, maximum width 2.80 mm. Elytral length 4.45 mm, maximum combined width 3.45 mm. Paratype from locus typicus is 7.30 mm, paratype from Palopo surroundings is 8.67 mm long.

Dorsum and venter uniformly black-brown with brown labroclypeus, antennae and legs. Head transverse, convex dorsally between eyes, subopaque dorsally and ventrally, with large not prominent eyes occupying less than half side of head. Male labroclypeus (Fig. 177) subtruncate on anterior margin, with lateral margins smooth, slightly sinuous in dorsal and nearly straight in lateral view. Anterolateral angles of labroclypeus not protruding anteriorly, strongly rounded. Head punctures irregularly ovoid, deep and dense, filled with dense microscopical velvety pubescence. Intervening spaces glossy, generally smaller than punctures, in part wrinkled. Head setae dirty yellowish, moderately long and suberect; each seta rises from anterior margin of corresponding puncture, surpassing its length. Labroclypeus laterally and frontally with more delicate long sparse setae. Three longest setae present near eyes. Male antenna 9-segmented, club 3-lamellate. Scape moderately large, bulbous dorsally in distal half, provided with few long erect setae on posterior and distal margins. Antennomere 2 short, slightly transverse. Pronotum transverse, subopaque dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margins of pronotum broadly rounded with maximum width posterior to midlength, crenulate all along (Fig. 253). Long curved erect scale-like seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Pronotal punctures ovoid, deep and dense. Intervening spaces glossy and glabrous, much smaller than punctures. Setae similar to those on head, stronger curved and in part clavate. Lateral and basal margins, antero- and posterolateral angles partly covered with microscopical velvety pubescence. Hypomeron smooth, sparsely covered by circular punctures, flange-like, with large emargination opposite to eye (to receive canthus separating compound eye) provided with long setae. Antennal pocket deep. Scutellar shield rounded apically. Elytra cylindrical, maximum width in median third, subopaque, with rounded humeri and slightly elevated omoplates. Indistinct tracks of three flat longitudinal carinae on each elytron, including sutural one. Disc and lateral sides of elytra irregularly densely punctured, punctures deep, of irregular size and shape (Fig. 344). Perimeter of each puncture covered with microscopical velvety pubescence (Fig. 344). Intervening spaces glossy, generally smaller than punctures. Setae of two kinds on elytral disc. Long erect, in part clavate setae arranged in irregular longitudinal rows on each elytron. Inconspicuous short setae rising from anterior margin of corresponding punctures and not surpassing their length, positioned between longitudinal rows of longer setae. Male pygidium flattened dorsally, with moderately deep punctures and microreticulate intervening spaces of variable size (Fig. 517). Setae of pygidium suberect, moderately long, sparse. Male protibia with two strong distal teeth on external margin (Fig. 416). Male lower meso- and metatibial terminal spur strongly curved. Distal margin of male metatibia with projection over basal metatarsomere. Male basal metatarsomere widened and dorso-ventrally flattened (Fig. 446). Tarsal claws with pulvilli (in males only?). Male aedeagus as in Figs 712–714.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in lowland rainforests.

Distribution

Hitherto known from Central and South Sulawesi.

Maechidius sougb sp. nov.

[urn:lsid:zoobank.org:act:C8545020-E5E7-4EAA-B78C-B68FC1CB885D](https://zoobank.org/act:C8545020-E5E7-4EAA-B78C-B68FC1CB885D)

Figs 85, 178, 255, 345, 417, 518, 715–717

Differential diagnosis

This is one of the largest *Maechidius* in the Papuan Region. It is distinguishable among all its Papuan congeners with an (almost) glabrous dorsum and bidentate protibiae primarily in the shape of the male genital organs, the 8-segmented antennae, the strongly protruding anterolateral angles of the male labroclypeus (which, in addition, is deeply emarginate anteriorly) in combination with rather delicate punctures on the pronotum and elytra. The most similar species, *M. obiensis* (Narakusumo & Balke, 2019) comb. nov., is generally smaller (body length under 7 mm), male metatibia thickened and somewhat curved on inner margin and with differently shaped aedeagus *Maechidius pedarioides* Arrow, 1941 (Raja Ampat Islands: Waigeo), has tridentate protibiae and stronger dorsal punctures, as well as less protruding anterolateral angles of the male labroclypeus.

Etymology

Named after Sougb, the local name of one of the main tribes and languages in the Anggi Lakes area of the Arfak Mountains. Sougb has the alternative names of Soug and Mantion, but is listed as Manikion by Simons & Fennig (2018). Noun in apposition.

Type material**Holotype**

INDONESIA • ♂; “INDONESIA E, W New Guinea, Doberai Peninsula, Arfak mts, Anggi Gigi Lake S env., Uper vill., 1°18'05”S, 133°54'24”E, 9-10 & 10-11.IX.2015, 2200 m, edge of primary mid montane rainforest, white light”; NME [tarsomeres 4–5 of right protarsus missing].

Paratype

INDONESIA • 1 ♂; same label as in holotype; DTC.

Description

MEASUREMENTS. Holotype, total body length 10.05 mm. Head 1.75 mm long, across eyes 2.07 mm wide. Pronotum 2.20 mm long, maximum width 3.10 mm. Elytral length 6.10 mm, maximum combined width 4.50 mm. Paratype 9.70 mm long.

Dorsum and venter uniformly dark castaneous with labroclypeus, mouthparts and legs somewhat paler reddish brown. Head transverse, glossy dorsally and ventrally, with large slightly prominent compound eyes occupying about half side of head. Male labroclypeus (Fig. 178) with deep and broad U-shaped emargination, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles large, acute angulate and raised up at angle of nearly 60–70° to axis of frons in lateral view. Anterior margin of labroclypeus smooth. Punctures of head irregularly circular, shallow, in part annular, larger in posterior part. Intervening spaces glossy, smaller than to as large as punctures. Pubescence yellowish, sparse,

generally appressed and directed posteriad; seta rises from anterior margin of each puncture, surpassing length of corresponding puncture. Setae between compound eyes distinctly longer than those on forehead. Male antenna 8-segmented, antennal club 3-segmented. Scape large, with bulbous denticle-like predistal projection on upper side, provided with few long erect setae on its posterior and two very long on distal margin. Antennomere 2 strongly widened distally but not transverse. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin of pronotum very broadly rounded. Lateral margin of pronotum almost straight in anterior half, gradually widened towards median part, rounded in basal half and shortly emarginate just in front of posterolateral angles (Fig. 255). All along with well-defined crenulae which becomes protruding and denticle-like near prebasal emargination. Long erect seta present between each pair of lateral crenulae. Lateral margin of pronotum straight in lateral view. Pronotal punctures irregularly circular, rather small and shallow. Intervening spaces glossy, generally as large as to twice as large as punctures. Pronotal setae inconspicuous and short; seta rises from anterior margin of each puncture, slightly surpassing its length (pronotum looks glabrous). Hypomeron nearly straight, separated from prosternum by low slightly arched carina, with long setae on its anterolateral margin. Antennal pocket shallow. Scutellar shield narrowly triangular, rounded apically. Elytra slightly rounded laterally, maximum width across median third, glossy and flattened dorsally, with rounded humeri. Inconspicuous obtuse hump on each elytron near apex. No tracks of longitudinal carinae and no sutural carinae present. Each elytron between suture and humerus with 5 paired rows of delicate circular shallow punctures (some rows partly confused). Lateral sides of elytra more confusedly punctate (Fig. 345). Intervening spaces between punctures in rows larger than punctures, between rows about 3–4 × as large as punctures. Elytral setae minute; seta rises from anterior margin of each puncture, reaches posterior margin or shortly surpassing its length. Lateral margin of elytra with moderately long suberect setae. Male pygidium (Fig. 518) and abdominal ventrites densely covered with large shallow annular punctures, each provided with suberect moderately long seta. Abdominal ventrites with no track of lateral longitudinal ridge. Legs long and slender, femora and tibiae covered with long erect setae arranged in 5 lines. Protibiae hardly sinuous on external margin. Protibiae with delicate carina on dorsal surface. Two large obtuse teeth on external margin of male protibia: distal one narrower, basal one broader and more obtuse (Fig. 417). Male protibial terminal spur absent. Tarsal claws with large pulvilli (in males only?). Male aedeagus as in Figs 715–717.

Sexual dimorphism

Female is unknown.

Ecology

Occurs in primary mid-montane rainforests at ~2200 m altitude. Possibly nocturnal.

Distribution

Hitherto only known from Arfak Mountains, Doberai Peninsula, western New Guinea.

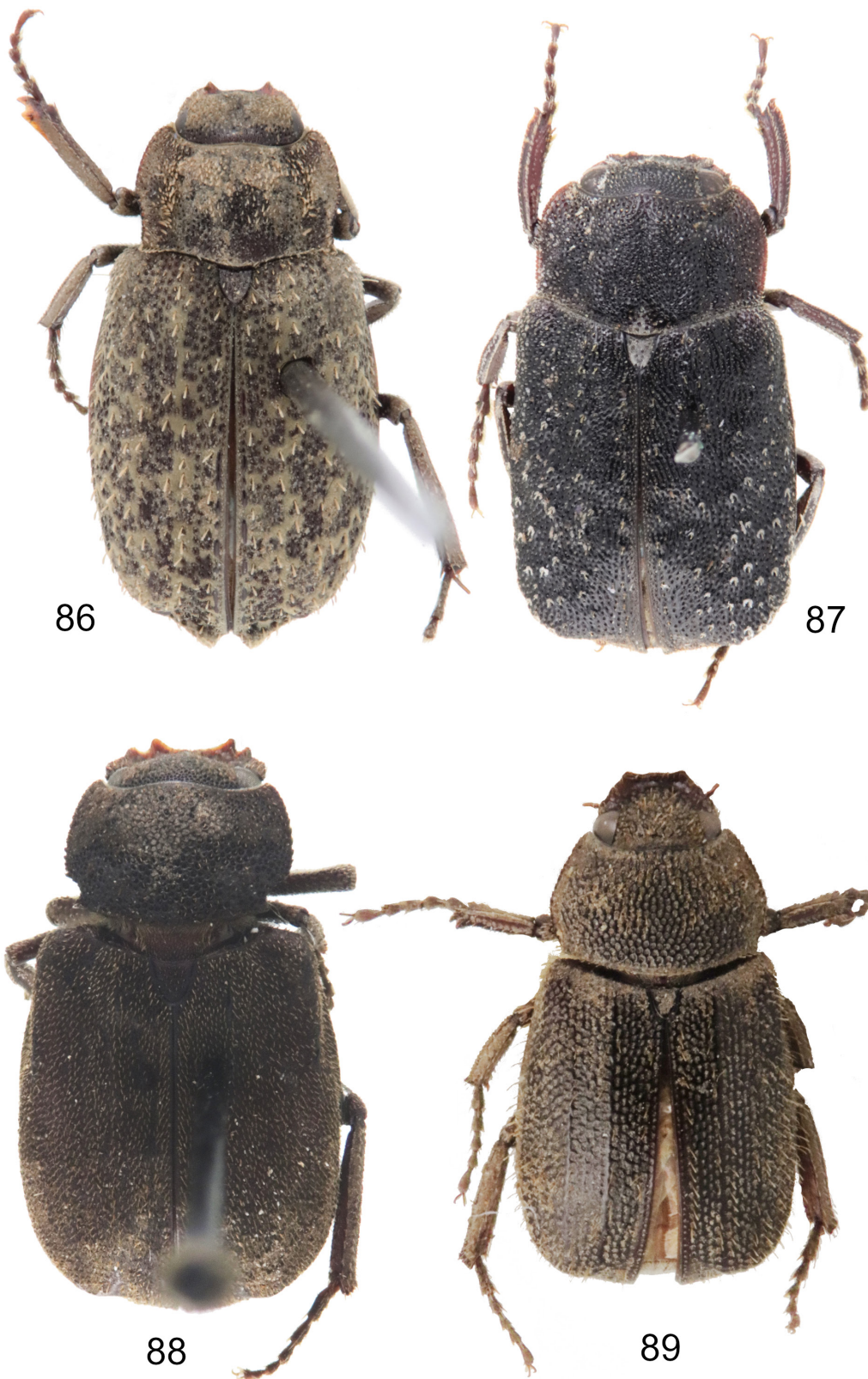
Maechidius speciosus (Frey, 1969) comb. nov.
Figs 86, 179–180, 256, 281, 346, 418, 519–521, 562, 718–720

Paramaechidius speciosus Frey, 1969: 507.

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Holotype [p, label circular, red frame]//NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x.1964 [p]//M.E. Bacchus. B.M. 1965-120 [p]//Stn. No. 51 [p]//TYPUS [p, red label]//TYPE *Paramaechidius speciosus* n. sp. [h] det.G.Frey,1967/68 [p]”; BMNH.



Figs 86–89. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **86.** *M. speciosus* (Frey, 1969) comb. nov., ♀ (BMNH). **87.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **88.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **89.** *M. suwawa* sp. nov., holotype, ♂ (BMNH). Not to scale.

New material

INDONESIA • 1 ♂; “W. NEW GUINEA: Mt. Nomo. S. of Mt. Bougainville. 700 ft. ii. 1936. // L.E. Cheesman. B.M. 1936-271.”; BMNH • 1 ♂; “♂ // DUTCH NEW GUINEA: Cyclops Mts., Mt. Lina. 3,500 ft. iii. 1936. L.E. Cheesman. B.M. 1936-271. // *pauxillus* det. G. Frey, 1967/68”; BMNH • 1 ♂; “DUTCH NEW GUINEA: Japen [sic!] I., Mt. Baduri. 100 ft., viii. 1938. L.E. Cheesman. B.M. 1938-596.”; BMNH • 1 ♂, 5 ♀♀; “Stn. No. 51. // NEW GUINEA: Madang Dist., Finisterre Mts. Budemu c. 4000 ft. 15-24.x. 1964 // M.E. Bacchus. B.M. 1965-120. // *Paramaechidius pauxillus* det. G. Frey, 1967/68.”; BMNH • 3 specimens; “Stn. No. 46. // NEW GUINEA: Madang Dist., Finisterre Mts. Damanti 3,550 ft. 2-11.x. 1964 // M.E. Bacchus. B.M. 1965-120.”; BMNH • 17 ♂♂, 26 ♀♀; “Collection Naturhistorisches Museum Basel // Papua New Guinea Madang Prov. L. Cizek lgt. // Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB.

Description

Dorsum and venter covered with microscopical velvety pubescence. Male labroclypeus (Fig. 179) broadly rounded on anterior margin, its anterolateral angles acute and protruding. Female labroclypeus (Fig. 180) with less acute anterolateral angles. Head punctures ovoid, rather deep and dense. Head setae scale-like, dense, suberect, moderately long, in part clavate. Some setae not surpassing length of corresponding punctures. Pronotum broadly emarginate on anterior margin with protruding anterolateral angles. Basal margin of pronotum slightly sinuous. Lateral margin of pronotum in dorsal view very broadly rounded in anterior half, shallowly emarginate postmedially towards base (Fig. 256). Hypomeron slightly emarginate and long setose on anterior margin which is flange-like protruding, shallowly emarginate and long setose opposite compound eye (Fig. 281). Antennal pocket deep. Pronotal punctures of irregular oblong shape, deep, intervening spaces generally larger than punctures. Pronotal setae scale-like, dense, suberect, in part minute and not surpassing length of corresponding punctures, in part (in particular, along lateral margins and on anterior margin opposing frons) long and clavate. Elytral punctures irregular in shape, deep, somewhat irregularly clustered (Fig. 346) and generally smaller than those on pronotum. Setae between puncture clusters longer, scale-like, stronger erect, arranged in several irregular longitudinal rows. Setae in puncture clusters minute, not surpassing length of corresponding punctures. Male and female pygidium with deep irregularly shaped punctures. Intervening spaces glossy, variably large. Male pygidium with two flat latero-median humps (humps very inconspicuous in some specimens), with group of large long dense scale-like setae (can be strongly reduced in some specimens) pointing obliquely to middle or posteriad (Figs 519–520). Female pygidium with two latero-median humps and transverse row of long scale-like whitish setae pointing obliquely medially (Fig. 521). Male and female protibia with two rather acute terminal teeth on external margin (Fig. 418). Male terminal protibial spur curved, female one straight and pointed. Spiculum gastrale as in Fig. 562. Male aedeagus as in Figs 718–720.

Sexual dimorphism

Lamellae of female antennal club shorter; apex of female elytron with conspicuous, long and rather acutely protruding in this species; female pygidium with a glossy flat median longitudinal area between two latero-median humps.

Maechidius sturnus Arrow, 1941

Figs 87, 181, 254, 347, 419, 433, 523, 563, 721–723

Type material

Holotype

INDONESIA • ♂; “Type [p, label circular, red frame] // DUTCH NEW GUINEA: Japen [sic!] I., R. Manai–Undei. 500 ft., x. 1938. L.E. Cheesman. B.M. 1938–593 [p] // *Maechidius sturnus*, type Arrow [h]”; BMNH.

Description

Dorsum and venter uniformly black, edges of labroclypeus, lateral margins of pronotum, legs and antennae brown. Male labroclypeus (Fig. 181) broadly emarginate on anterior margin, its lateral margins sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, slightly protruding. Canthus nearly straight in dorsal view. Head punctures irregularly hexagonal, dense, moderately deep. Intervening spaces glossy, in part wrinkled. At least areas around either compound eye covered with microscopical velvety pubescence. Head setae minute, rise from anterior margin of corresponding punctures, not surpassing its length. Pronotum sinuous on anterior margin, anterolateral angles slightly protruding. Basal margin of pronotum somewhat obtuse angulate medially. Lateral margin of pronotum in dorsal view broadly rounded, gradually constricted postmedially towards base, crenulate all along (Fig. 254). Inconspicuous appressed scale-like seta present between every two crenulae. Lateral margin of pronotum sinuous in lateral view. Hypomeron slightly emarginate and long setose on anterior margin which is flange-like protruding. Antennal pocket deep. Pronotal punctures irregularly ovoid, very deep, dense, arranged in different directions. Intervening spaces glossy, in part wrinkled, variably large. Lateral margins, antero- and posterolateral angles completely covered with delicate microscopical velvety pubescence. Pronotal setae similar to those on head. Elytra cylindrical, subopaque. Elytral punctures ovoid, deep and dense, arranged irregularly (Fig. 347). Intervening spaces in part subopaque, in part glossy, wrinkled, generally smaller than punctures. Elytral setae minute, rise from anterior margin of corresponding puncture, not surpassing its midlength. With few longer scale-like suberect clavate setae scattered over elytral disc; punctures bearing those longer setae partly or completely encircled with microscopical velvety pubescence (Fig. 347). Male abdominal sternites medially with somewhat longer and curved scale-like setae. Posterior margin of male abdominal sternites 2 and 3 each with bunch of three long setae on either side near middle (Fig. 433). Male pygidium with ovoid deep moderately large punctures (Fig. 523). Intervening spaces glossy to subopaque, generally larger than punctures. Setae of pygidium minute on anterior part (not surpassing length of corresponding punctures), longer on median and posterior parts (hardly surpassing length of corresponding punctures), becoming suberect and longer along distal margin. Surface of pygidium perimeter and narrow longitudinal midline covered with microscopical velvety pubescence. External margin of male protibia arched, with single acute distal tooth on external margin (Fig. 419). Spiculum gastrale as in Fig. 563. Aedeagus as in Figs 721–723.

Sexual dimorphism

Female is unknown.

Maechidius subcostatus Heller, 1895

Figs 88, 182–183, 257, 282, 348, 420, 434, 524, 724–725

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♂; “K.Wilhelm-Land, Bongu [p, blue label]//Typus [p, pink label]//10302 [h]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

Paralectotypes

PAPUA NEW GUINEA • 1 ♂; “*Maechidius subcostatus* Heller. [h] Determ.K.M.Heller. [p]//K.K. Wilhelm-Land, Bongu [p, bluish label]//Cotypus! [p, pink label]//SYNTYPE *Maechidius subcostatus* Heller, 1895 labelled by MFNB 2019 [p, red label]”; ZMHB • 1 ♀; “K.K. Wilhelm-Land, Bongu [p, bluish label]//Cotypus! [p, pink label]//SYNTYPE *Maechidius subcostatus* Heller, 1895 labelled by MFNB 2019 [p, red label]”; ZMHB • 1 ♀; “K.Wilhelm-Land, Bongu [p, blue label]//8186 [h]//Staatl. Museum für Tierkunde.Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 2 specs; “Bongu [h] K. Wilhelmland [p] 8186//Staatl. Museum für Tierkunde Dresden [p]”; SNSD • 1 spec.; “K. Wilhelm-Land, Bongu [p]//8186 [h]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD • 1 ♂; “PAPUA: Kokoda. 1,300 ft.ix.1933. L.E.Cheesman. B.M.1933-577.”; BMNH • 3 ♂♂; “PAPUA: Ishurava. 3,000 ft.vii. 1933. L.E.Cheesman. B.M.1933-577//*Maechidius hirtipes* det.G.Frey,1967/68.”; BMNH • 1 ♀; “coll. I.R.Sc.N.B. PAPUA NEW GUINEA Madang Province Canopy Mission Baiteta Light XO 25-IV-1996 Leg Olivier Missa”; IRSN • 1 ♀; “coll. I.R.Sc.N.B. PAPUA NEW GUINEA Madang Province Canopy Mission Baiteta Light AR41 30-IV-1996 Leg Olivier Missa”; IRSN • 1 ♂; “coll. I.R.Sc.N.B. PAPUA NEW GUINEA Madang Province Canopy Mission Baiteta Light AR41 01-V-1996 Leg Olivier Missa”; IRSN • 1 ♀; “coll. I.R.Sc.N.B. PAPUA NEW GUINEA Madang Province Canopy Mission Baiteta Light AR 8 16-VII-1996 Leg Olivier Missa”; IRSN • 6 specs; “Collection Naturhistorisches Museum Basel//Papua New Guinea Madang Prov. L. Cizek lgt.//Salemben village 145°24'E 4°42'S 16.XII.2000, 750 m”; NHMB • 1 spec.; same labels as for preceding; DTC • 2 ♂♂; “PNG, Madang, Baitabag vill., 50m a.s.l., 145°47'E, 5°08'S M. Janda coll., hand collecting 20.iii.2002//coll. IECA, České Budějovice Czech Republic”; IECA.

Remarks

Heller (1895: 1) based his description of *M. subcostatus* on an unstated number of specimens. The single SNSD specimen labelled “Typus” is herewith designated as the lectotype and the specimen with the identical locality label becomes a paralectotype. Two ZMHB syntypes also become paralectotypes. A lectotype is designated in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other syntypes are discovered in the future. Additional SNSD specimens with slightly different labels are not considered syntypes since they have different ID numbers from the lectotype.

Description

MEASUREMENTS. Total body length 7.70–9.00 (lectotype) to 9.70 (largest paralectotype) mm.

Dorsum uniformly black-brown, venter and appendages brown. Head convex dorsally between compound eyes, opaque dorsally and ventrally. Male labroclypeus (Fig. 182) broadly emarginate anteriorly, its lateral margins strongly sinuous in both dorsal and lateral views. Female labroclypeus similar to as in male (Fig. 183). Anterolateral angles rounded, moderately strongly protruding, raised up at angle of nearly 90° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse inconspicuous setae along anterior and lateral margins. Canthus broadly rounded to obtusely angulate in dorsal view. Punctures of frons irregularly hexagonal, large, dense and shallow. Intervening spaces smooth, much smaller than punctures. Head setae very short, appressed to suberect, not or hardly surpassing length of corresponding punctures. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, opaque dorsally and laterally. Anterior margin of pronotum broadly emarginate to slightly sinuous with protruding anterolateral angles, basal margin broadly rounded. Lateral margin of pronotum broadly rounded in dorsal view, deeply emarginate in basal fourth, crenulate in anterior half, denticulate at lateral emargination, smooth to slightly crenulate in emargination area (Fig. 257). Lateral margin of pronotum sinuous in lateral view. Inconspicuous erect seta present between every two crenulae or denticles. Punctures of pronotal disc large, horseshoe-shaped, deep and dense. Intervening spaces glossy, distinctly smaller than punctures. Pronotal setae inconspicuous, seta not surpassing length of median ‘bulb’ of horseshoe-like puncture. Hypomeron separated from prosternum by high nearly straight carina, its anterolateral margin slightly angulate medially, with long setae on anterolateral margin opposite to compound eye (Fig. 282). Antennal pocket moderately deep. Scutellar shield narrowly rounded apically. Elytron opaque, with vague tracks of four variously broadly interrupted glabrous longitudinal carinae, including sutural one. Elytral

punctures linear (elongate and narrow), incision-shaped, moderately deep. Intervening spaces densely microreticulate (Fig. 348). Appressed to suberect seta rises from anterior margin of each incision, not surpassing length of corresponding incision. Disc and lateral margins of elytra in part covered with microscopical velvety pubescence. Male abdomen with sparse clavate scale-like golden setae (Fig. 434). Male pygidium slightly convex dorsally, with large shallow dense annular punctures, female pygidium flattened dorsally. Intervening spaces microreticulate, distinctly smaller than punctures. Male and female pygidium flattened dorsally, opaque, with dense large and shallow annular punctures (Fig. 524). Setae of pygidium inconspicuous, short and suberect, in anterior part not, in distal part surpassing length of corresponding punctures. Male protibia slightly widened distally, with three external teeth: distal one largest and narrow, median broad and obtuse and basal much smaller, strongly obtuse (Fig. 420). Male protibial terminal spur short and straight, female one longer and stronger pointed. Male metatibial terminal spurs long, unequal, lower spur slightly curved, female one more strongly unequal and straight. Tarsal claws with pulvilli. Underside of male basal metatarsomere with a brush of long dense setae. Aedeagus as in Figs 724–725.

Sexual dimorphism

Female generally more robust, with flattened pygidium, comparatively shorter antennal lamellae and longer protibial terminal spur and more strongly unequal metatibial terminal spurs.

Maechidius suwawa sp. nov.

[urn:lsid:zoobank.org:act:1B489847-69C1-47B5-90F7-AC360EC1E7D2](https://zoobank.org/act:1B489847-69C1-47B5-90F7-AC360EC1E7D2)

Figs 89, 184–185, 258, 349, 421, 525, 564, 726–729

Differential diagnosis

The new species is most similar to *M. peregrinus* Lansberge, 1886, *M. babyrousa* sp. nov., *M. deltouri* sp. nov. and *M. legalovi* sp. nov. (all from Sulawesi). This new species readily differs from them and other congeners only in the shape of the male genital organs and the labroclypeus.

Etymology

The name derives from Suwawa, one of the native languages spoken in the Bogani Nani Wartabone National park, northern Sulawesi. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA : SULAWESI UTARA, Dumoga-Bone N.P. April 1985. // Rothamsted light trap, site 1, 200m. H.Barlow // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10//44.16 [light green label]”; BMNH.

Paratypes (4 specimens)

INDONESIA • 1 ♂; “INDONESIA : SULAWESI UTARA, Dumoga-Bone N.P. February 1985. // Site 9, 492 m. Tumpah Transect J.D.Holloway // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10”; BMNH • 1 ♂; “INDONESIA : SULAWESI UTARA, Dumoga-Bone N.P. // Site 8, 440 m. Tumpah Transect J.D.Holloway 12-13.ii.1985 // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10”; BMNH • 1 ♂; “INDONESIA : SULAWESI UTARA, Dumoga-Bone N.P. 7 February 1985. // Site 5, 300 m. Tumpah Transect J.D.Holloway 6.ii.1985 [sic!] // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10”; BMNH • 1 ♀; “INDONESIA : SULAWESI UTARA, Dumoga-Bone N.P. February 1985. // Site 5, 300 m. Tumpah Transect J.D.Holloway 6.ii.1985 // R.Ent.Soc.Lond. PROJECT WALLACE B.M. 1985-10”; BMNH.

Description

MEASUREMENTS (exposed abdominal ventrites not included). Male holotype, total body length 6.70 mm. Head 1.30 mm long, across eyes 1.60 mm wide. Pronotum 1.50 mm long, maximum width 2.60 mm. Elytral length 3.90 mm, maximum combined width 3.15 mm. Female paratype, total body length 6.70 mm. Head 1.20 mm long, across eyes 1.80 mm wide. Pronotum 1.80 mm long, maximum width 2.90 mm. Elytral length 4.70 mm, maximum combined width 3.50 mm.

Dorsum uniformly brown with castaneous labroclypeus, mouthparts, legs and venter. Head transverse, trapezoid, slightly convex on vertex in lateral view, glossy dorsally and ventrally, with large not prominent compound eyes occupying more than half side of head. Male labroclypeus (Fig. 184) almost straight anteriorly, its lateral margins smooth, slightly sinuous in both dorsal and lateral views. Anterolateral angles shortly protruding anteriorly, obtuse, bent up almost perpendicularly with regard to axis of frons (in lateral view). Female labroclypeus (Fig. 185) shallowly emarginate on anterior margin, with obtuse and not protruding anterolateral angles. Head punctures irregularly shaped, somewhat smaller in anterior, larger in posterior half. Intervening spaces glossy, smaller than punctures. Pubescence dirty yellow, rather long and erect but sparse, rising from each puncture. Setae somewhat hook-like curved apically, sparse, moderately long. Labroclypeus laterally and frontally with more delicate and shorter yellowish setae. Antenna 9-segmented. Scape large, widened on upper side in distal half, provided with few long erect setae on its posterior and distal margin. Antennomere 2 short and transverse. Club 3-lamellate. Pronotum transverse, glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (slightly) protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum evenly broadly rounded, delicately crenulate all along (Fig. 258), nearly straight in lateral view. Long erect seta present between each of lateral crenulae and all along basal margin. Pronotal punctures circular to ovoid, deep and coarse. Intervening spaces glossy, smaller than punctures, in part wrinkled. Pronotal setae long, suberect, clavate. Hypomeron smooth, sparse punctured with circular punctures, with large emargination opposite to compound eye (to receive canthus separating compound eye) covered with long setae. Antennal pocket deep. Scutellar shield triangular, pointed apically. Elytra cylindrical, maximum combined width across median third, glossy and slightly convex dorsally, with rounded humeri and elevated omoplates. Vague tracks of two flat longitudinal carinae on each elytron. Sutural carinae shortly indicated near apices. Rather large obtuse hump on each elytron near apex. Disc and lateral sides of elytra densely punctured; punctures ovoid, less coarse and shallower than those of pronotum, arranged in irregular longitudinal rows (Fig. 349). Intervening spaces glossy, generally smaller than punctures. An inconspicuous erect to suberect scale-like seta rises from anterior margin of each puncture, surpassing or not its length. Few longer stronger erect scale-like setae scattered over elytral disc and denser on lateral sides. Epipleuron with row or two (in broad anterior part) of suberect setae. Male and female pygidium with large shallow circular punctures (Fig. 525). Abdominal ventrites glossy, covered with small annular punctures, each provided with long suberect to erect seta. Legs long and slender, femora and tibiae covered with delicate yellowish setae. Outer margins of meso- and metatibiae densely denticulate. Two strong teeth on external margin of male protibia (Fig. 421). Male lower meso- and metatibial terminal spur strongly curved. Distal margin of metatibia in both sexes with projection over basal metatarsomere. Metatibial terminal spurs shorter than basal metatarsomere in male, nearly as long as it in female. Tarsal claws with pulvilli. Spiculum gastrale as in Fig. 564. Male aedeagus as in Figs 726–728.

Sexual dimorphism

Female is generally larger; protibial spur slightly curved distally in male, straight in female; metatibial spurs somewhat longer in female than in male; lower metatibial spur curved in male, straight in female; female pulvilli narrower and shorter than in male; female lower meso- and metatibial terminal spur slender, slightly curved apically.

Ecology

Occurs in lowland rainforests. Possibly nocturnal.

Distribution

Hitherto only known from North Sulawesi.

Maechidius tarsalis Arrow, 1941

Figs 90, 186, 259, 350, 422, 435, 437, 526, 565, 730–732

Type material

Lectotype (herewith designated)

PAPUA NEW GUINEA • 1 ♂; “Type [p, label circular, red frame]//SYNTYPE [p, label circular, blue frame] // ♂ [p]//PAPUA: Kokoda. 1,200ft.viii.1933. L.E.Cheesman. B.M.1933-577. [p]//*Maechidius tarsalis*, type Arrow [h]”; BMNH.

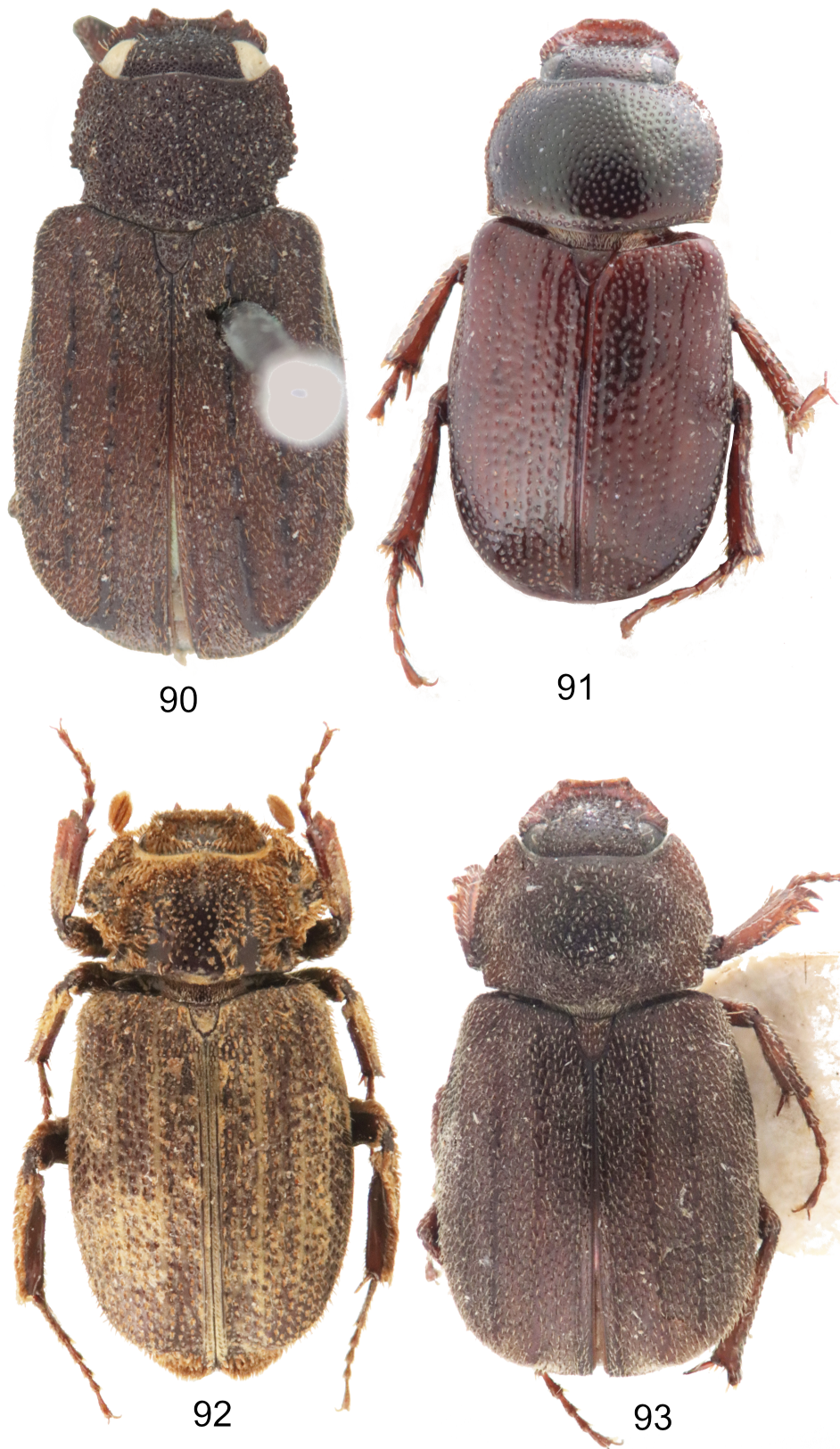
Paralectotype (herewith designated)

PAPUA NEW GUINEA • 1 ♂; “SYNTYPE [p, label circular, blue frame] // ♂ [p]//PAPUA: Kokoda. 1,200ft.viii.1933. L.E.Cheesman. B.M.1933-577. [p]//*Maechidius tarsalis*, co-type Arrow [h]”; BMNH.

Arrow (1941: 454) based his description of *M. aenescens* on a number of specimens, although not explicitly stated, and gives a range of sizes. The lectotype is designated in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other (non-conspecific) syntypes are discovered in the future.

Description

Dorsum and venter uniformly brown, margins of labroclypeus and legs somewhat paler. Head flattened dorsally, shallowly impressed at either anterolateral angle of labroclypeus. Male labroclypeus (Fig. 186) broadly shallowly emarginate on anterior margin, its lateral margins strongly sinuous in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, slightly protruding. Canthus broadly rounded in dorsal view. Head punctures irregularly hexagonal, horseshoe-shaped on frons and vertex, very deep and dense. Intervening spaces much smaller than punctures, glossy on forehead, in part microreticulate on frons. Head setae inconspicuous, suberect, slightly surpassing length of corresponding punctures. Pronotum strongly transverse, subopaque dorsally and laterally, with shallow circular dorsal impression on either lateral third. Anterior margin of pronotum slightly sinuous with anterolateral angles protruding. Basal margin of pronotum broadly rounded. Lateral margin of pronotum in dorsal view in anterior half nearly straight to slightly widened towards middle, strongly emarginate in prebasal third, strongly crenulate all along except in emargination area (Fig. 259); intervals between crenulae deep and rather large. Inconspicuous erect short seta present between every two crenulae. Lateral margin of pronotum arched in lateral view. Hypomeron separated from prosternum by moderately high nearly straight carina which is obtusely dentate medially, with long setae on anterolateral margin. Antennal pocket deep. Pronotal punctures irregularly hexagonal, very deep and dense, in part horseshoe-shaped. Intervening spaces much smaller than punctures, glossy to microreticulate. Pronotal setae inconspicuous, rise from anterior margin of each puncture; not or slightly surpassing length of corresponding puncture. Lateral and basal margins, antero- and posterolateral angles and hypomeron covered with microscopical velvety pubescence. Scutellar shield covered with microscopical velvety pubescence, narrowly rounded apically. Elytra slightly widened postmedially, opaque dorsally. Elytron with elevated and broadly interrupted tracks of four longitudinal carinae, including sutural one. Elytral punctures sinuous (elongate and narrow), incision-shaped, moderately deep and dense (Fig. 350). Intervening spaces densely microreticulate; reticulation somewhat less prominent on elevated parts, forming tracks of elytral



Figs 90–93. Papuan *Maechidius* Macleay, 1819, habitus, dorsal view. **90.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **91.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **92.** *M. ursus* sp. nov., holotype, ♀ (NME). **93.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). Not to scale.

carinae. Elytral setae inconspicuous, suberect; each seta rises from anterior margin of each incision, not or slightly surpassing its length. Stronger erect not much longer setae present in irregular longitudinal rows along remnants of carinae. Abdominal sternites medially each with bunch of erect golden setae (Fig. 435). Male pygidium flattened dorsally, with large dense shallow annular punctures (Fig. 526). Intervening spaces much smaller than punctures, densely microreticulate. Setae of pygidium sparse, suberect, surpassing length of corresponding punctures; each seta rises either from anterior margin or centre of corresponding puncture. Male protibia with three distal teeth on external margin, of which distal one prolonged and basal one inconspicuous and strongly obtuse (Fig. 422). Male basal metatarsomere leaf-like, flat and slightly convex dorsally, with brush of long dense setae on either lateroventral margin (Fig. 437). Spiculum gastrale as in Fig. 565. Aedeagus as in Figs 730–732.

Sexual dimorphism

Female is unknown.

Maechidius trivialis sp. nov.

[urn:lsid:zoobank.org:act:F2D2D566-54D2-4033-ADC1-2742DF86AA32](https://zoobank.org/act:F2D2D566-54D2-4033-ADC1-2742DF86AA32)

Figs 91, 187, 260, 283, 351, 423, 527, 566, 733–735

Differential diagnosis

Among congeners with a brown body, *Maechidius trivialis* sp. nov. is the only one with a truncate male labroclypeus with anterolateral margins not protruding anteriorly. The male aedeagus is different from that of any known congener.

Etymology

The specific name is derived from the Latin ‘*trivialis*’ (meaning ‘trivial’, ‘ordinary’).

Type material

Holotype

PAPUA NEW GUINEA • ♂; “Aquatic. [p]//Lower rain forest, 1,300 ft. [p]//PAPUA:Kokoda. †,200ft. viii.1933. L.E.Cheesman. B.M.1933-577. [p, corrected by hand]”; BMNH.

Description

MEASUREMENTS. Holotype, total body length 6.10 mm. Head 1.10 mm long, across eyes 1.30 mm wide. Pronotum 1.55 mm long, maximum width 2.25 mm. Elytral length 3.45 mm, maximum combined width 2.70 mm.

Dorsum and venter brown, forebody with inconspicuous green lustre. Frons flattened dorsally, head dorsum subopaque dorsally and ventrally. Male labroclypeus (Fig. 187) truncate anteriorly and bent up, its lateral margins slightly sinuous in both dorsal and lateral views, anterolateral angles obtuse and not protruding anteriorly. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with long setae along anterior and lateral margins. Compound eye moderately large, not globose. Canthus broadly rounded in dorsal view. Head punctures irregularly circular, shallow, moderately dense. Intervening spaces with very delicate microreticulation, variably large. Pubescence inconspicuous, appressed; seta rises from anterior margin of each puncture, hardly surpassing length of corresponding puncture. Canthus with several much longer and stronger erect setae. Male antenna 9-segmented, club 3-lamellate. Antennomere 2 bulbous, trapezoid, slightly transverse. Pronotum transverse, flattened dorsally, subopaque dorsally and laterally. Anterior margin of pronotum broadly emarginate with anterolateral angles slightly protruding anteriorly. Basal margin of pronotum very broadly rounded. Lateral margin of pronotum in dorsal view broadly rounded, crenulate all along; crenulae

becoming more delicate towards base (Fig. 260). Moderately long curved seta present between every two crenulae. Lateral margin of pronotum nearly straight in lateral view. Hypomeron separated from prosternum by low straight carina, with moderately long setae on its anterolateral margin opposite to compound eye (Fig. 283). Antennal pocket shallow. Pronotal disc with shallow rather sparse circular to ovoid punctures, intervening spaces delicately microreticulate, variably large. Setae generally shorter than those on head, appressed, not surpassing length of corresponding punctures. With row of longer suberect setae along basal margin of pronotum. Scutellar shield triangular, pointed apically. Elytron cylindrical, glossy, without tracks of longitudinal carinae except for raised, rather broad sutural carina. Punctures of elytral disc double. Ordinary punctures of disc shallow, of irregular shape. Each ordinary puncture supplemented with shallow linear (narrow and long) incision-shaped puncture (Fig. 351). Elytral setae inconspicuous, appressed; seta arises from anterior margin of each incision, not surpassing its length. Male pygidium flattened dorsally, with large dense shallow annular punctures (Fig. 527). Intervening spaces glossy, smaller than punctures. Setae of pygidium rise from either anterior margin or centre of each puncture, in anterior half appressed and generally not surpassing length of corresponding punctures, in apical half distinctly longer, suberect. Male protibia with three external teeth: two very large acute distal and one very inconspicuous strongly obtuse basal (Fig. 423). Male protibial terminal spur not present. Male metatibial terminal spurs long, pointed and somewhat curved apically. Tarsi long and slender, slightly shorter than corresponding tibiae. Tarsal claws with pulvilli (in males only?). Spiculum gastrale as in Fig. 566. Aedeagus as in Figs 733–735.

Sexual dimorphism

Female is unknown.

Ecology

Inhabits lowland rainforests.

Distribution

Papuan Peninsula of New Guinea.

Maechidius ursus sp. nov.

[urn:lsid:zoobank.org:act:395C3699-19FC-48D0-BAAD-689558BC2BF6](https://zoobank.org/act:395C3699-19FC-48D0-BAAD-689558BC2BF6)

Figs 92, 188, 261, 352, 358, 424, 444, 528

Differential diagnosis

This is a very distinctive species among all congeners primarily due to the strongly bigibbose frons, the flattened and enlarged lateral margins of the pronotum, the metatibia being smooth and glabrous on the inner surface but dense long setose on the external surface, the single long terminal spur of the metatibia, and the peculiar long fur-like setae. It is closest to *Maechidius opatroides* Arrow, 1941 comb. rest. from Waigeo Island (consider the new combination above), but in this species (of which only females are known) the clustered brush-like setae are much more slender, appressed and shorter, the lateral margin of the pronotum is evenly emarginate postmedially (not angulate), the sutural carina of the elytron is not indicated, the metatibia is less wide, the anterolateral angles of the labroclypeus are obtuse angulate and not protruding anteriorly and the labroclypeus is generally wider than in *M. ursus* sp. nov.

Etymology

The specific name is derived from the Latin *Ursus* (bear), indicating the robust body and peculiar, dense, mammal-fur-like pubescence. Noun in apposition.

Type material**Holotype**

INDONESIA • ♀; “INDONESIA E, Prov. Raja Ampat, Misool SW, distr. Misool Utara, Aduwey (Adua) vill. ~5 km NNE, valley of River Ifeylo, 01°58'41”S, 129°55'18”E, 28.III.2009, edge of primary lowland rainforest, white light”; NME.

Description

MEASUREMENTS. Holotype, total body length 8.60 mm. Head 1.70 mm long, across eyes 1.75 mm wide. Pronotum 1.80 mm long, maximum width 3.20 mm. Elytral length 5.10 mm, maximum combined width 3.70 mm.

Dorsum and venter covered with microscopical velvety pubescence, uniformly dark brown with reddish brown mouthparts, antennae and legs. Head slightly transverse, opaque dorsally and ventrally except for glossy labroclypeus, vaguely impressed on labroclypeus anterior to each compound eye and with paired strong obtuse hump between eyes. Compound eye large, occupying more than half side of head. Female labroclypeus (Fig. 188) broadly and moderately deep emarginate anteriorly, lateral margins nearly straight in dorsal, slightly sinuous in lateral view, anterolateral angles moderately protruding, acute in dorsal view, bent up at ~90° to frons in lateral view. Canthus straight in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head punctures circular, moderately deep, variably large. Intervening spaces microreticulate and glabrous, variably large. Conspicuous rather long appressed to suberect brush of clustered setae rises from each puncture (Fig. 358). Antenna 9-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 bulbous, subspherical, slightly longer than wide. Pronotum opaque dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (inconspicuously) protruding anteriorly. Basal margin of pronotum sinuous. Circular moderately deep impression on either side of pronotum opposite posterolateral angle. Lateral margin of pronotum strongly flattened and expanded laterally, bent up with regard to axis of pronotal disc, evenly widened towards midlength, strongly emarginate postmedially towards nearly posterolateral angles (Fig. 261). Crenulae of lateral margin large, long erect scale-like seta present between every two crenulae. Lateral margin of pronotum straight in lateral view. Pronotal punctures circular, moderately large and deep. Intervening spaces microreticulate and glabrous, generally larger than punctures, in part covered with microscopical velvety pubescence. Setae as conspicuous as on head (Fig. 358), shorter and sparser on disc, much longer and denser on anterior part and along lateral sides. Hypomeron slightly emarginate and very long setose on anterior margin, which is well-projected and flange-like. Antennal pocket moderately deep. Median anterior process of prosternum long, narrow, flange-like raised. Scutellar shield obtusely pointed apically. Elytra slightly widened in median part, maximum width across median third, opaque dorsally, with distinct humeri. Distinct obtuse triangular hump at apex of each elytron. Two flat longitudinal carinae on each elytron. Sutural carinae well developed, raised, nearly complete. Elytral disc with rather large deep cylindrical punctures which are irregular in apical half, becoming arranged in striae in apical third (Fig. 352). Intervening spaces microreticulate, covered with microscopical velvety pubescence, variably large but generally about as large as punctures. Setae inconspicuous, short and sparse, suberect seta rises from anterior part of each puncture. Epipleuron all along with conspicuous short brush-like setae. At apical margin with transverse brush of dense posteriad-directed brush-like setae, elytral apices therefore look flattened and slightly prolonged (Fig. 92). Female pygidium dorsally impressed, regularly circular punctured, antero-medially with a group of dense brush-like setae (Fig. 528). Venter covered with sparse shallow circular punctures, each provided with appressed conspicuous brush-like seta. Legs long and slender. Protibia nearly straight (crenulate) on external margin, with delicate incomplete dorsal carina. Female protibia with obtuse distal tooth and rudimentary predistal one (Fig. 424). Protibial

terminal spur long, nearly straight, obtuse. Female metatibia flattened and glabrous on inner margin (Fig. 444). Metatibial terminal spur single, long, obtuse. Tarsal claws without pulvilli (in female only?).

Sexual dimorphism

Male unknown.

Ecology

Attracted to white light in river valley surrounded by primary lowland rainforest.

Distribution

Hitherto only known from Misool, Raja Ampat Islands, Indonesia.

Maechidius vicinus Heller, 1914

Figs 93, 189–190, 262, 284, 353, 425, 529–530, 736–738

Type material

Lectotype [herewith designated]

COUNTRY UNKNOWN (Island of New Guinea) • ♀; “Gehr. W. Müller Vermächt. 1909 [p, blue label]//Typus! [p] *vicinus* Heller [h, red label]//N.Guinea [p, blue label]//Staatl. Museum für Tierkunde,Dresden [p]”; SNSD.

Paralectotype

COUNTRY UNKNOWN (Island of New Guinea) • 1 ♀; “N.Guinea [p, blue label]//Gehr. W. Müller Vermächt. 1909 [p, blue label]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 1 ♂, 3 ♀♀; “Deutsch N.Guinea [p, blue label]//Gehr. W. Müller Vermächt. 1909 [p, blue label]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

Heller (1914: 628) based his description of *M. vicinus* on an unstated number of specimens. At least two specimens with nearly identical labels are allocated in SNSD. The lectotype here designated is the only syntype with Heller’s original handwriting on a red label, which with some confidence may indicate this specimen was originally selected by the author as holotype. The lectotype is designated in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other (non-conspecific) syntypes are discovered in the future. Additional SNSD specimens with slightly different labels (see Checklist) are not considered syntypes since Heller (1914) in the original description questioned the origin of the available specimens: “Hab. Nova Guinea (Germanica? ...)” but additional specimens provided with labels exactly specifying that they coming from the former German New Guinea (“Deutsch N.Guinea”).

Description

MEASUREMENTS. Total body length 6.20 (lectotype) to 6.90 mm.

Dorsum uniformly brown, forebody dorsally with very vague green lustre, venter and appendages paler brown. Head slightly convex dorsally between compound eyes, glossy dorsally and ventrally. Male labroclypeus (Fig. 190) broadly V-shaped emarginate on anterior margin, female labroclypeus (Fig. 189) subtruncate to very broadly emarginate, its lateral margins slightly sinuous (in male) to nearly straight (in female) in both dorsal and lateral views. Anterolateral angles of labroclypeus obtuse, nearly right-angled and moderately strongly protruding anteriorly in male, rounded and not projecting in female,

raised up at angle of nearly 60-70° to frons in lateral view. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse inconspicuous setae along anterior and lateral margins. Canthus obtuse angulate in dorsal view. Punctures of frons moderately deep and large, annular. Intervening spaces glossy, generally smaller than punctures. Head setae inconspicuous, suberect; each seta rises from anterior margin or centre of corresponding puncture, surpassing its length. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy dorsally, subopaque laterally. Anterior margin of pronotum deeply emarginate with anterolateral angles protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum broadly rounded, delicately crenulate all along (intervals between crenulae narrow, crenulae nearly merged) (Fig. 262). Moderately long suberect curved seta present between every two crenulae. Lateral margin of pronotum slightly sinuous in lateral view. Hypomeron separated from prosternum by moderately low slightly curved carina, with long setae on its anterolateral margin opposite to compound eye (Fig. 284). Antennal pocket moderately deep. Pronotal punctures ovoid, annular, shallow. Intervening spaces variably large, generally smaller than punctures. Setation as on head but setae longer and curved. Scutellar shield pointed apically. Elytron opaque, with tracks of three-four flat almost entirely glabrous longitudinal carinae, including sutural one. Elytral punctures linear (elongate and narrow), incision-shaped, shallow (Fig. 353). Intervening spaces densely microreticulate. Appressed to suberect seta rises from anterior margin of each puncture, not surpassing length of corresponding incision. Disc and lateral margins of elytra in part covered with microscopical velvety pubescence. Male pygidium flattened dorsally, with large and shallow annular punctures (Fig. 530). Female pygidium flattened dorsally, with small median hump (Fig. 529). Intervening spaces generally much smaller than punctures, subopaque. Setae of pygidium suberect, sparse. Protibia widened distally, with three acute external teeth (Fig. 425). Male protibial terminal spur straight, narrow and pointed, female one short and somewhat thickened. Tarsal claws with pulvilli. Aedeagus as in Figs 736–738.

Sexual dimorphism

Female lamellae of antennal club shorter; female anterolateral angles of labroclypeus less strongly protruding anteriorly.

Maechidius weigeli sp. nov.

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Figs 6, 94, 191–192, 263, 354, 426, 531–532, 739–741

Differential diagnosis

Differs from all congeners in the shape of the aedeagus and in the setation and structure of the pygidium.

Etymology

Patronymic. This species is named after Andreas Weigel (Wernburg, Germany), a famous expert on old-world Cerambycidae and my good friend.

Type material

Holotype

INDONESIA • ♂; “INDONESIA or. Irian Jaya 170km S Nabire Epomani 1150m, 06.I.1996 leg. A. Weigel”; NME.

Paratypes (5 specimens)

INDONESIA • 1 ♂, 1 ♀; same label as for holotype; NME • 1 ♂; same label as for holotype; DTC • 2 ♂♂; “IRIAN JAYA:J.-Waropen Pr. Wapoga Riv., 100m, Kwadewa, loading [sic! logging] road, km 80 1-2.III.1999, leg. A.RIEDEL”; SMNS.

Description

MEASUREMENTS. Male holotype, total body length 6.60 mm. Head 1.40 mm long, across eyes 1.60 mm wide. Pronotum 1.40 mm long, maximum width 2.10 mm. Elytral length 3.80 mm, maximum combined width 2.90 mm. Selected paratypes 5.80–6.40 mm long.

With general features of the *pauillus* group. Dorsal surface opaque except on anterior margin of labroclypeus. Frons with paired hump. Male labroclypeus (Fig. 191) broadly rather deeply emarginate on anterior margin. Anterolateral angles of labroclypeus acute in male, strongly protruding, raised up at angle of nearly 90° to frons in lateral view (Fig. 6). Female labroclypeus with comparatively less acute anterolateral angles (Fig. 192). Lateral margins of labroclypeus slightly sinuous in dorsal, but strongly in lateral view. Head dorsum except on anterior margin of labroclypeus covered with microscopic velvety pubescence. Head punctures elongate, very deep, moderately dense. Head with moderately long, appressed scale-like setae. Setae becoming distinctly longer, suberect to erect and stronger clavate on humps of frons (Figs 191–192). Antenna 9-segmented, club 3-lamellate. Pronotum transverse, slightly sinuous on anterior margin with protruding anterolateral angles. Basal margin broadly rounded, posterolateral angles right-angled. Lateral margin of pronotum in dorsal view almost straight to gradually widened towards middle, moderately strongly emarginate postmedially, crenulate all along (Fig. 263). Lateral margin of pronotum sinuous in lateral view. Two flat humps on anterior margin opposite to those on frons (Fig. 263). Pronotal punctures ovoid, variably large, very deep, dense. Pronotal dorsum and hypomeron covered with microscopic velvety pubescence. Pronotal setae minute, rise from anterior margin of each puncture, generally not surpassing midlength of corresponding puncture. Few slightly longer scale-like setae scattered over pronotal disc, not surpassing length of corresponding punctures. Posterolateral angles of pronotum with moderately long scale-like clavate setae. Setae on pronotal humps also long, erect, scale-like and clavate. Small group of large appressed setae on either side of pronotum along postmedian emargination. Hypomeron flange-like produced, slightly emarginate and very long setose opposite to compound eye. Antennal pocket deep. Scutellar shield rounded apically. Elytron with glabrous elevated broadly interrupted track of sutural carina. Elytral punctures irregularly shaped, deep and dense (Fig. 354) and generally smaller than those on pronotum. Setae minute, arising from anterior margin of each puncture, not surpassing midlength of corresponding punctures. Much longer suberect scale-like clavate setae arranged in irregular longitudinal rows across elytra. Male pygidium flattened dorsally, slightly impressed in anterior third, dense and deep moderately large punctate (Fig. 531). Intervening spaces opaque, microreticulate, covered with microscopical velvety pubescence. Setae of pygidium minute, with paired group of scale-like clavate suberect pubescence in median part. Female pygidium with setae more regular in size and shape (Fig. 532). Protibia with inconspicuous longitudinal dorsal carina, with two inconspicuous distal teeth (Fig. 426). Male protibial terminal spur strongly curved, female one shorter and nearly straight. Male lower meso- and metatibial terminal spurs curved, rather short. Male aedeagus as in Figs 739–741.

Sexual dimorphism

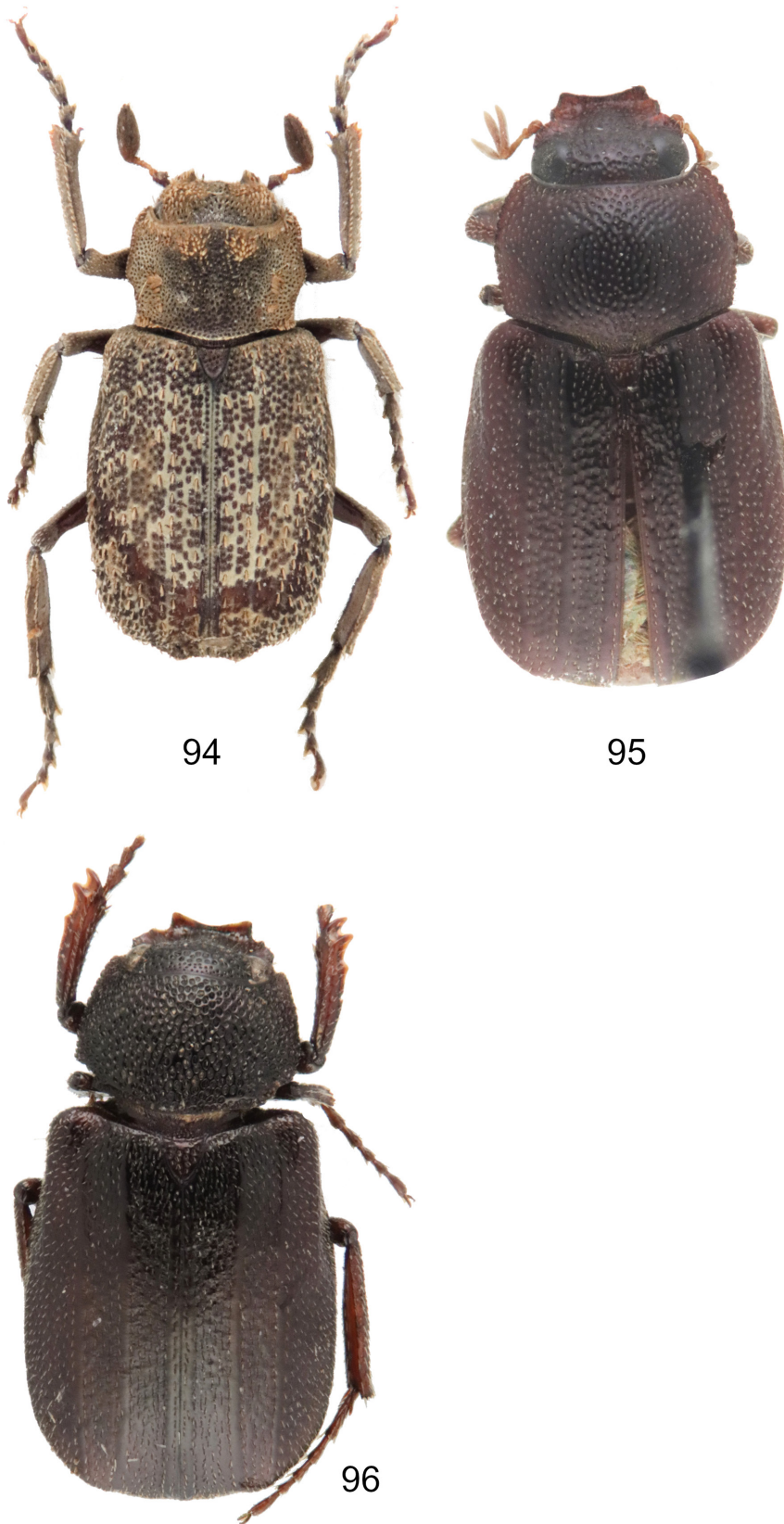
Female lamellae of antennal club shorter; anterior margin of labroclypeus nearly subtruncate, shallower (Fig. 192); tibial terminal spurs not curved.

Ecology

Occurs in lower montane rainforests at about 1150 m altitude.

Distribution

Hitherto known from the westernmost part of the Central Cordillera (Nabire surroundings; Wapoga River valley) of New Guinea.



Figs 94–96. Papuan and Wallacean *Maechidius* Macleay, 1819, habitus, dorsal view. **94.** *M. weigeli* sp. nov., holotype, ♂ (NME). **95.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **96.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). Not to scale.

Maechidius woodlarkianus Heller, 1914
Fig. 95, 193–194, 264, 285, 355, 427, 533, 742–744

Type material

Lectotype [herewith designated]

PAPUA NEW GUINEA • ♀; “Gehr. W. Müller Vermächt.1909 [p, blue label]//Woodlark, III. IV. 97. (A. S. Meek). [p]//Typus! [p] *woodlarkianus* [h]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

New material

PAPUA NEW GUINEA • 4 ♂♂; “Woodlark, III. IV. 97. (A. S. Meek). [p]//Coll. C. Felsche Kauf 20, 1918 [p, blue label]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

Remarks

Heller (1914: 628) likely based his description of *M. woodlarkianus* on a single specimen, although not explicitly stated. The single SNSD specimen labelled “Typus!” is herewith designated as lectotype in order to enhance the stability of nomenclature and fix the specimen I based my redescription on, in case other (non-conspecific) syntypes are discovered in the future. Four additional specimens with identical collecting data labels are allocated in SNSD (see Checklist). However, these specimens are not considered syntypes, because the original description of *M. woodlarkianus* was published in 1914, but the additional 4 specimens in question were acquired by SNSD in 1918, as their labels state (see Checklist).

Description

MEASUREMENTS. Total body length 7.10–7.20 (lectotype) to 7.60 mm.

Dorsum and venter uniformly brown, appendages and abdomen paler brown. Head flattened dorsally between compound eyes, glossy dorsally and ventrally. Male labroclypeus (Fig. 194) very broadly and shallowly emarginate anteriorly, its lateral margins nearly straight to slightly sinuous in dorsal, sinuous in lateral view, anterolateral angles of labroclypeus not projecting anteriorly, raised up at angle of nearly 70–80° to frons in lateral view. Female labroclypeus (Fig. 193) similar to that of male. Anterior and lateral margins of labroclypeus smooth. Upper- and underside of labroclypeus with sparse inconspicuous setae along anterior and lateral margins. Canthus very broadly rounded in dorsal view. Punctures of frons ovoid, moderately deep and large. Intervening spaces glossy, variably large, in part wrinkled. Inconspicuous appressed seta rises from anterior margin of each puncture, not or hardly surpassing length of corresponding puncture. Antenna 9-segmented, club 3-lamellate. Pronotum transverse, flattened dorsally, glossy dorsally and laterally. Anterior margin of pronotum broadly emarginate with anterolateral angles slightly protruding anteriorly. Basal margin of pronotum broadly rounded. Lateral margin of pronotum broadly rounded, crenulate all along (Fig. 264). Short suberect seta present between every two crenulae. Lateral margin of pronotum slightly arched in lateral view. Hypomerite separated from prosternum by low nearly straight carina, with long setae on anterolateral margin opposite to compound eye (Fig. 285). Antennal pocket shallow. Pronotal punctures ovoid to irregularly hexagonal, variably large and moderately deep. Intervening spaces glossy, generally larger than punctures. Setae of pronotal disc as those on head. Scutellar shield rounded apically. Elytron glossy, with tracks of four flat glabrous longitudinal carinae, including sutural one. Punctures linear (elongate and narrow), incision-shaped. Intervening spaces glossy, larger than punctures (Fig. 355). Appressed seta rises from anterior margin of each puncture, not surpassing length of corresponding incision. Male and female pygidium slightly convex dorsally, with large and shallow annular punctures (Fig. 533). Intervening spaces glossy, generally larger than punctures. Setae of pygidium inconspicuous, appressed; seta rises from anterior margin of each corresponding puncture, not surpassing its length. Longer suberect setae on apical margin of pygidium. Protibia hardly widened distally, in male with three external teeth, basal one of which

rudimentary (Fig. 427). Protibial terminal spur absent in both sexes. Male metatibial terminal spurs not equal, lower spur curved. Tarsal claws with pulvilli. Male aedeagus as in Figs 742–744.

Sexual dimorphism

Female lamellae of antennal club shorter.

Maechidius yamdena sp. nov.

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Figs 96, 195–196, 265, 356, 428, 441–442, 447–448, 534, 547, 745–747

Differential diagnosis

This species is peculiar due to the combination of the following characters: structure of labroclypeus, shape of lateral margins of pronotum, rugulose punctures of elytra, very short dorsal setae and shape of male aedeagus.

Etymology

Named after the Yamdena, the main tribe and language of the main island in the Tanimbar group. Noun in apposition.

Type material

Holotype

INDONESIA • ♂; “INDONESIA Tanimbar Islands Yamdena Is. January 2009 BMNH{E}2015-77”; BMNH.

Paratypes (28 specimens)

INDONESIA • 26 specs; same label as for holotype; BMNH • 1 ♂, 1 ♀; same label as for holotype; DTC.

Description

MEASUREMENTS. Holotype, total body length 8.05 mm. Head 1.45 mm long, across eyes 1.90 mm wide. Pronotum 1.80 mm long, maximum width 2.80 mm. Elytral length 4.80 mm, maximum combined width 3.80 mm. Paratypes up to 9.20 mm long.

Dorsum and venter uniformly black-brown with reddish brown labroclypeus, mouthparts, antennae, tibiae and tarsi. Head transverse, glossy dorsally and ventrally, somewhat convex between eyes and vaguely impressed on labroclypeus anterior to each compound eye. Compound eye large, occupying about half side of head. Male labroclypeus (Fig. 195) broadly and moderately deep emarginate anteriorly, its lateral margins sinuous in both dorsal and lateral views, anterolateral angles moderately protruding, to slightly acute in dorsal view, bent up at ~90° to frons in lateral view. Female labroclypeus (Fig. 196) somewhat shallower emarginate anteriorly, with anteriorly less protruding anterolateral angles. Upper- and underside of labroclypeus with sparse long setae along anterior and lateral margins. Canthus obtusely angulate in dorsal view. Anterior and lateral margins of labroclypeus smooth. Head punctures irregularly shaped, moderately deep, variably large. Intervening spaces glossy and glabrous, variably large, generally smaller than punctures. Moderately long suberect seta rises from anterior margin of each puncture, surpassing its length. Antenna 8-segmented, club 3-lamellate. Scape large, with bulbous predistal projection on dorsal side, provided with two very long setae near distal margin. Antennomere 2 bulbous, subspherical. Pronotum glossy dorsally and laterally. Anterior margin of pronotum slightly sinuous with anterolateral angles (stronger) and mesal portion (inconspicuously) protruding anteriorly. Basal margin of pronotum very broadly rounded. Lateral margin of pronotum evenly rounded, shallowly

emarginate in front of posterolateral angles (Fig. 265). Crenulae of lateral margin delicate, short seta present between every two crenulae. Lateral margin of pronotum slightly sinuous in lateral view. Pronotal punctures ovoid (more circular along lateral sides), horseshoe-shaped, variably large, deep. Intervening spaces glossy and glabrous, variably large but generally much smaller than punctures. Pronotal setae inconspicuous, suberect, shorter than those on head, not or hardly surpassing length of corresponding punctures, appressed to median (raised) part of corresponding horseshoe-shaped puncture. Hypomeron slightly curved and very long setose on anterior margin which is moderately raised. Antennal pocket moderately deep. Median anterior process of prosternum long brushy setose, broad, moderately raised. Scutellar shield rounded apically. Elytra slightly widened in posterior half, maximum width across apical third, slightly glossy dorsally, with distinct humeri. Inconspicuous obtuse transverse hump at apex of each elytron. Tracks of four to five inconspicuous flat glabrous longitudinal carinae on each elytron (including one sutural and two lateral). Elytral disc in part wrinkled, punctures sinuous (elongate and narrow), incision-shaped, moderately deep (Fig. 356). Elytral setae inconspicuous, appressed except on apices; seta rises from anterior margin of each puncture, not surpassing length of corresponding incision. Upper carina of epipleuron all along with short suberect setae. Male and female pygidium flat to slightly convex, with large irregularly shaped shallow annular punctures and short almost erect setae, which rise from centre of each puncture (Fig. 534). Venter covered with sparse large shallow annular punctures, each provided with short seta. Legs long and slender. Protibia nearly straight on external margin, with delicate dorsal carina. Three obtuse external teeth on protibia: distal narrower, median somewhat larger and broader, basal one less prominent (Fig. 428), nearly disappearing in some males. Basal protarsomere lengthened, asymmetrical, distinctly widened distally, concave ventrally, with short acute ventro-lateral denticle at inner distal margin which is larger in male than in female (Fig. 447). Protibial terminal spur short, straight, acute (Figs 447–448). Metatibial terminal spurs paired, acute in male (Fig. 442), rounded in female (Fig. 441). Tarsal claws in both sexes with large pulvilli. Spiculum gastrale as in Fig. 547. Male aedeagus as in Figs 745–747.

Sexual dimorphism

Poorly indicated. Female generally more robust than male, with comparatively smaller lamellae of antennal club, anterior margin of labroclypeus shallower emarginate, somewhat longer protibial terminal spur and dorsally flat pygidium. The ventro-lateral denticle of the basal protarsomere is larger in the male than in the female.

Ecology

No data available.

Distribution

Hitherto only known from Yamdena, the main island of the Tanimbar Islands, SE Moluccas, Indonesia.

Key to the Maechidiini from the Indo-Australian transition zone and Bali

This key is generally adapted for males and is mainly based on male features, including genital organs.

1. Punctures of elytral disc ordinary: circular, variably ovoid or hexagonal, annular or not but not elongate linear or sinusoid incision-shaped..... 31
– Punctures of elytral disc at least in part conspicuous: elongate linear or sinusoid, incision-shaped (cf. Figs 288, 290–291, 296, 303, 314, 317–320, 323, 328, 331, 339–340, 343, 348, 351, 353, 355, etc.) 2
2. Lateral margins of pronotum in dorsal view distinctly rounded (more or less distinctly constricted anteriorly and posteriorly), without or with prebasal emargination or constriction 6

- Lateral margins of pronotum in dorsal view slightly sinuous, somewhat widened from anterolateral angles towards base or nearly straight in basal half, not distinctly constricted both anteriorly and posteriorly (Figs 218, 226, 241) 3
- 3. Dorsal punctures of forebody comparatively large, distinctly annular; aedeagus not as in Figs 646–648 4
 - Dorsal punctures of forebody comparatively less large, not annular 5
- 4. Lateral margin of pronotum with about 20 flat crenulae; elytron without tracks of longitudinal carinae; intervening spaces of elytra not transversely wrinkled; aedeagus unknown *M. parallelicollis* Moser, 1920
 - Lateral margin of pronotum with about 19–20 flat crenulae; elytron with vague tracks of longitudinal carinae; intervening spaces of elytra transversely wrinkled; aedeagus as in Figs 646–648 *M. humeralis* Heller, 1914
 - Lateral margin of pronotum with about 24–25 crenulae; elytron with vague tracks of three longitudinal carinae; intervening spaces of elytra transversely wrinkled; aedeagus as in Narakusumo & Balke (2019: fig. 1e–f) *M. acutus* (Narakusumo & Balke, 2019) comb. nov.
- 5. Anterolateral angles of labroclypeus broadly obtuse, not or slightly produced anteriorly (Fig. 135); elytral setae very inconspicuous, strongly appressed; elytra without metallic shine; aedeagus as in Figs 646–648 *M. lineatopunctatus* Frey, 1969
 - Anterolateral angles of labroclypeus subacute, strongly produced anteriorly (Fig. 120); some elytral setae are longer and stouter than others, suberect, arranged in longitudinal rows; elytra with vague metallic shine; aedeagus not studied *M. gressitti* Frey, 1969
- 6. Lateral margins of pronotum crenulate (rarely crenulate-denticulate); male labroclypeus broadly emarginate to subtruncate on anterior margin 7
 - Lateral margins of pronotum distinctly denticulate (Fig. 199); anterior margin of male labroclypeus deeply U-shaped emarginate on anterior margin, its anterolateral angles strongly protruding anteriorly (Fig. 99) *M. alesbezdeki* sp. nov.
- 7. At least male metatibia distinctly thickened distally, not long and slender; all tarsi with short to moderately long tarsomeres; aedeagus not as in Figs 652–654 8
 - Male metatibia slender and hardly widened distally (Fig. 55); all tarsomeres slender and lengthened (Fig. 55); aedeagus as in Figs 652–654 *M. longipes* sp. nov.
- 8. Setae on lateral margins of pronotum and elytra shorter than length of compound eye (in older specimens setae often become broken and look shorter); aedeagus not as in Figs 614–616 or 703–705 10
 - Setae on lateral margins of pronotum and elytra in fresh specimens as long or longer than length of compound eye; aedeagus as in Figs 614–616 or 703–705 9
- 9. Hypomeron separated from prosternum by low straight carina; aedeagus as in Figs 614–616 *M. esau* Heller, 1914
 - Hypomeron almost fused to prosternum, carina at place of fusion not indicated or inconspicuous; aedeagus as in Figs 703–705 *M. rugicollis* Moser, 1920
- 10. Lateral margin of pronotum distinctly emarginate or strongly constricted prebasally 11
 - Lateral margin of pronotum not or hardly emarginate prebasally, evenly rounded all along or slightly constricted prebasally 16

11. Lateral margin of pronotum moderately strongly emarginate or constricted, upper angle of constriction not produced posteriad, either obtuse or completely rounded; aedeagus not as in Figs 601–603... 12
 – Lateral margin of pronotum very deeply emarginate prebasally, upper angle of emargination produced posteriad and acute (Fig. 206); lateral margin of pronotum in emargination area almost smooth, markedly less strongly crenulate than anterior part of it; aedeagus as in Figs 601–603 *M. brocki* sp. nov.
12. Underside/lateral margins of male basal metatarsomere with ordinary short or long setae, which are not arranged brush-like 14
 – Ventrolateral margins of male basal metatarsomere with a brush of long (sub)erect setae (cf. Figs 436–437) 13
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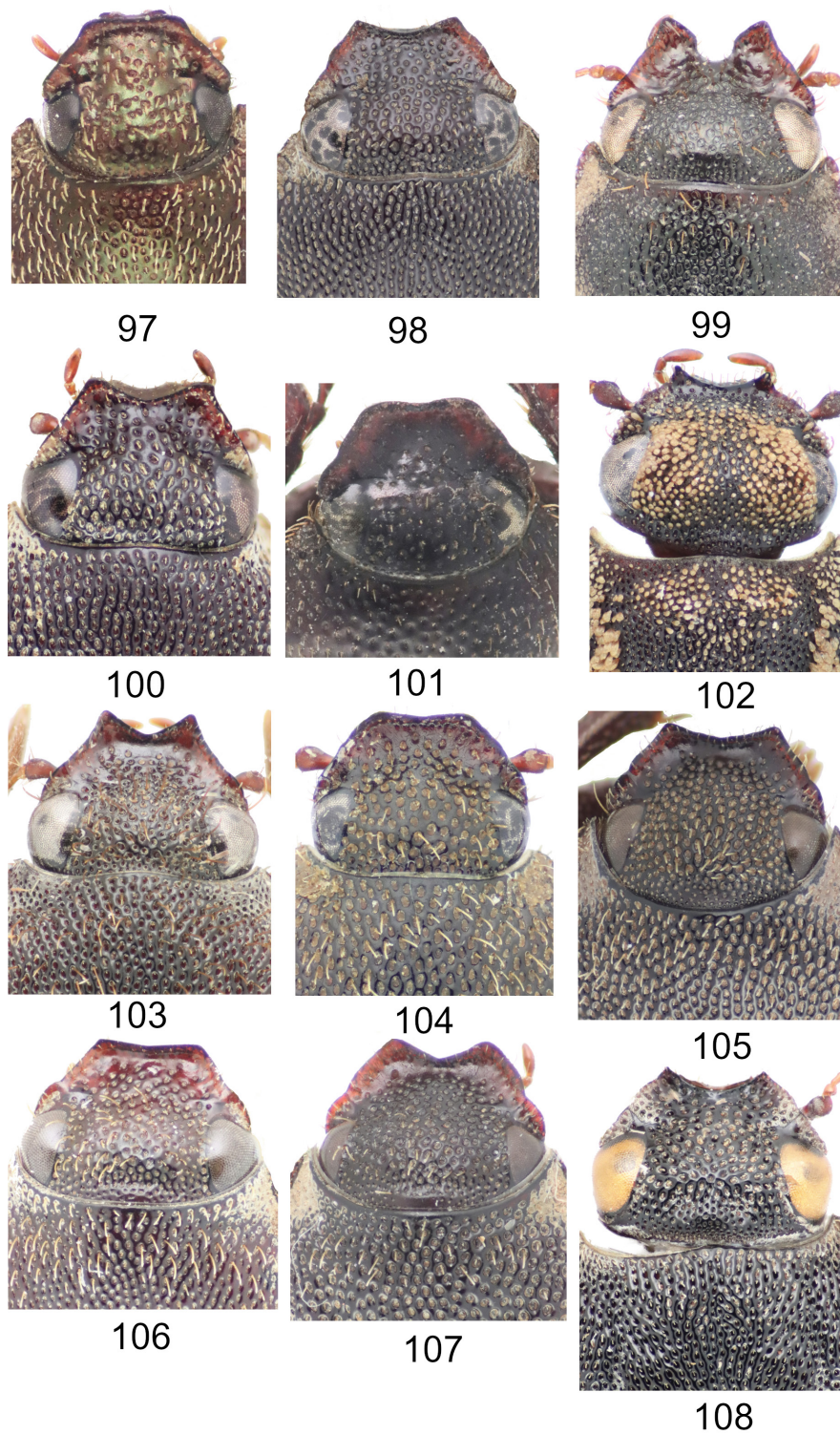
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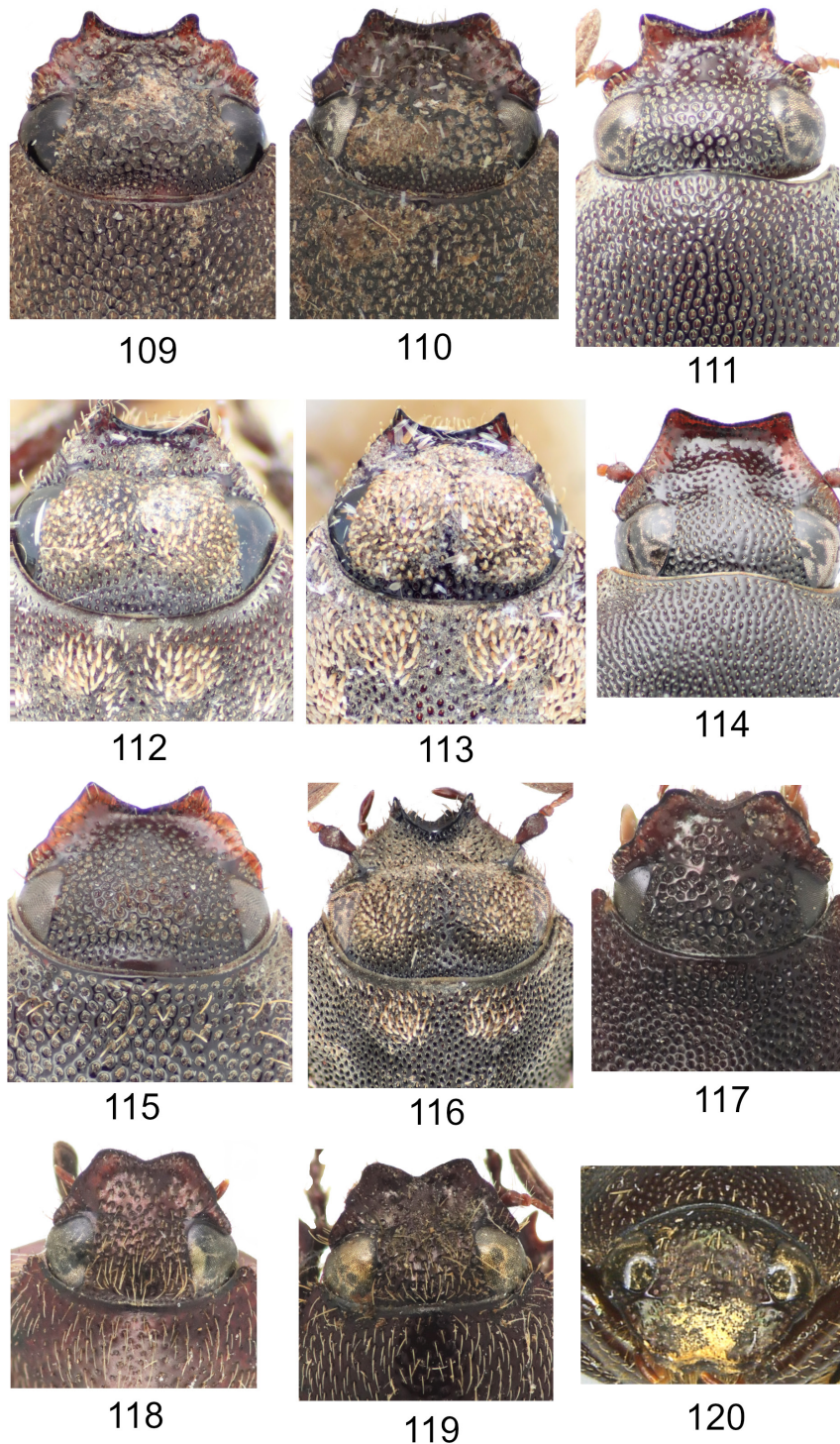
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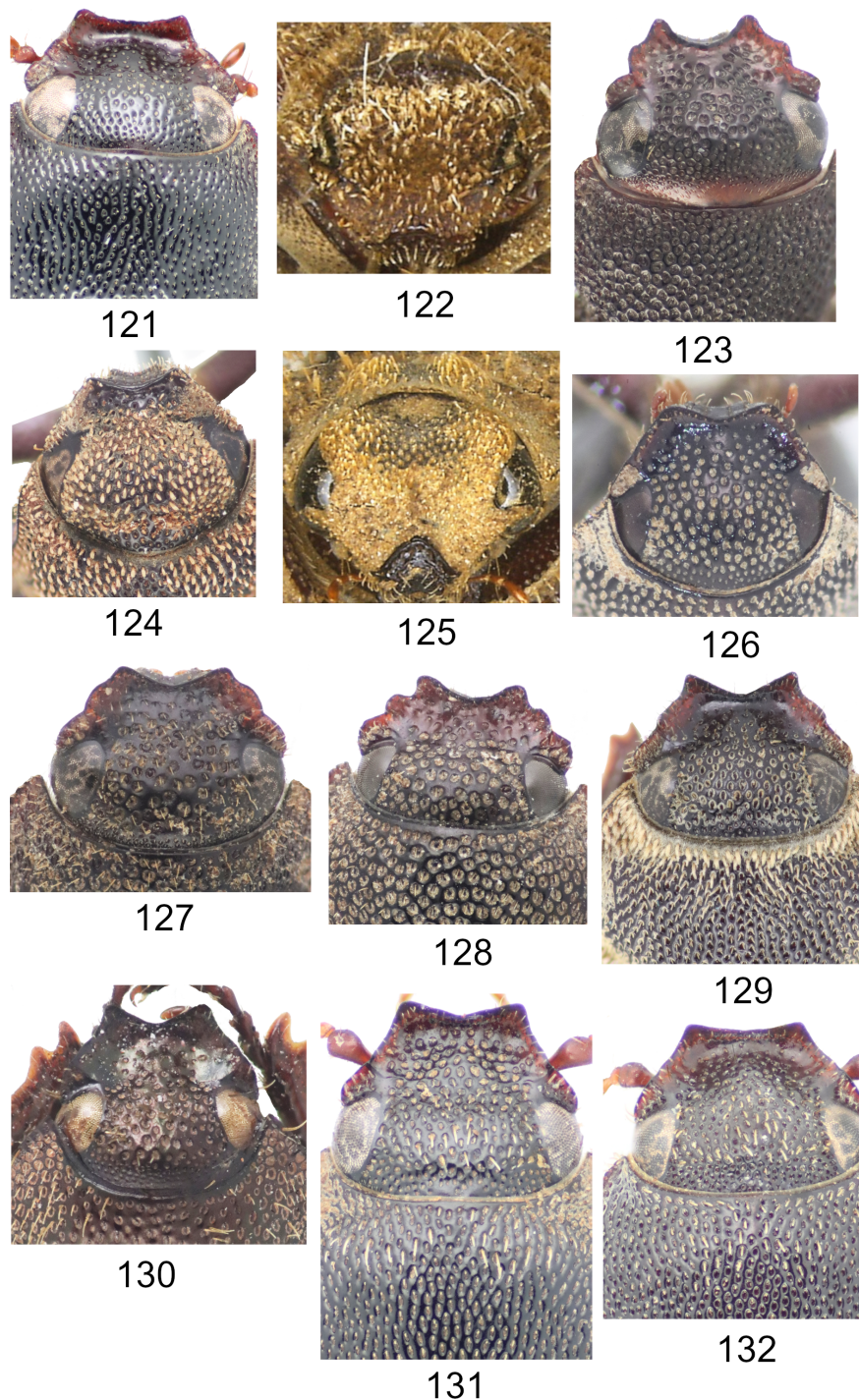
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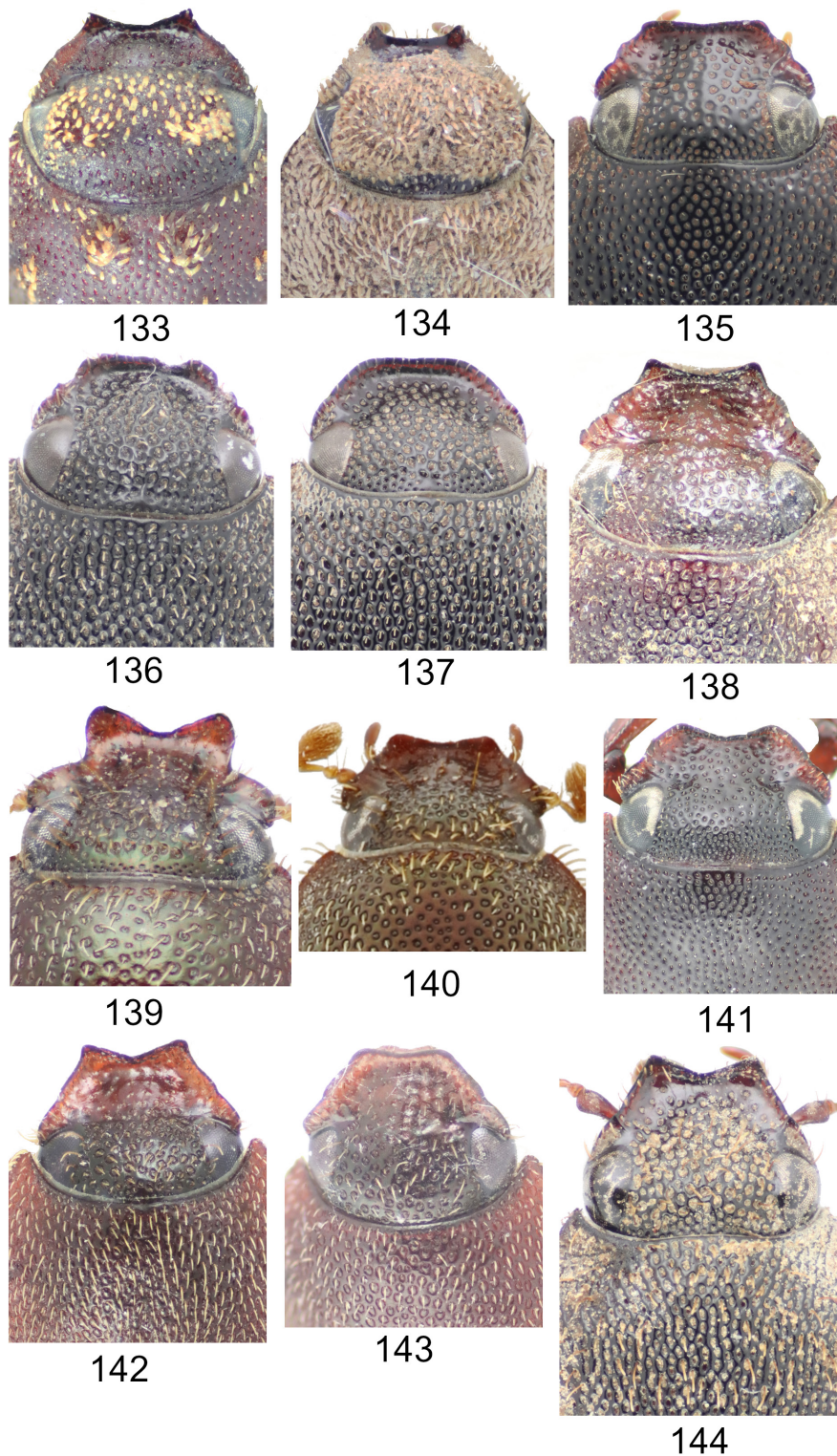
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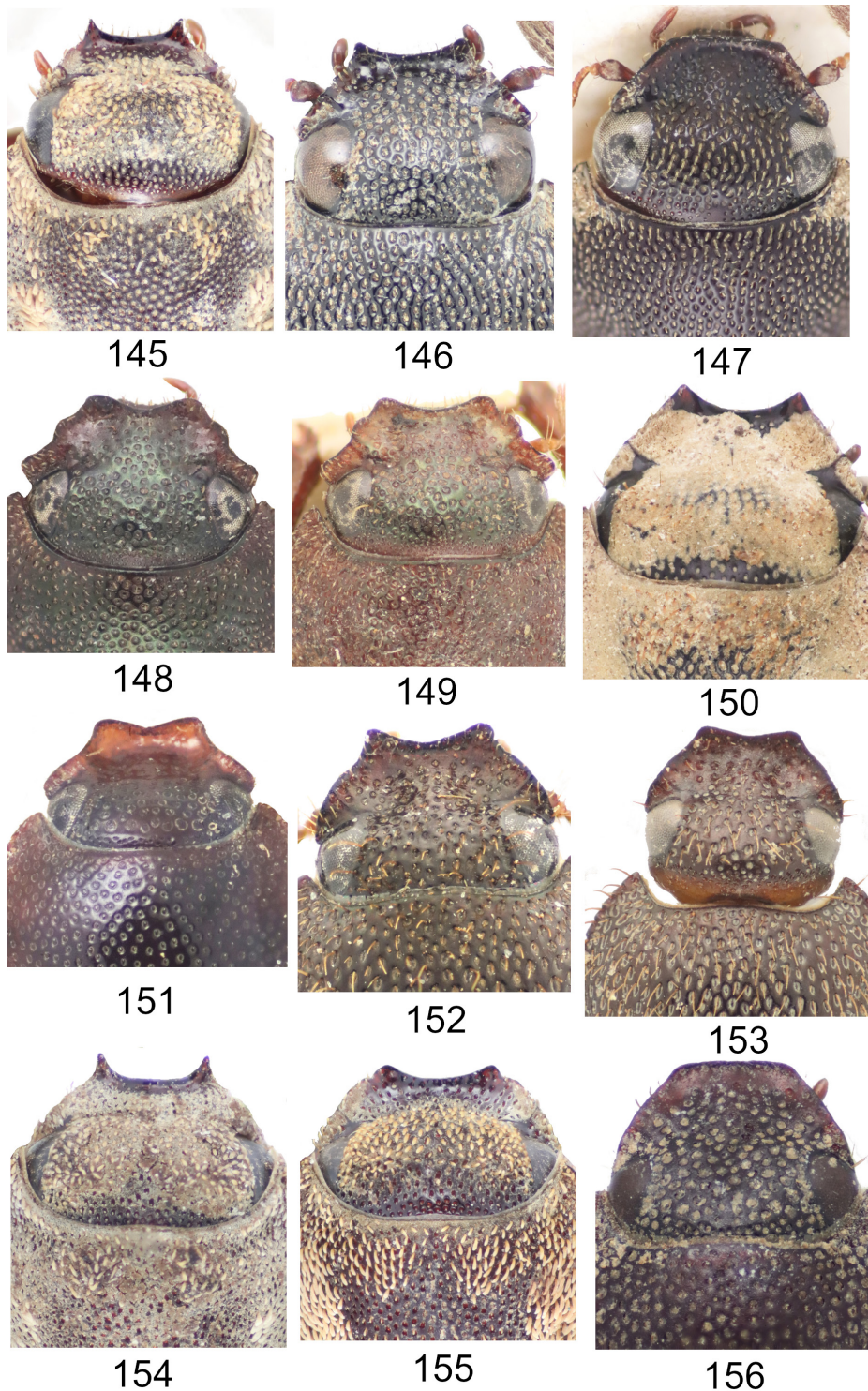
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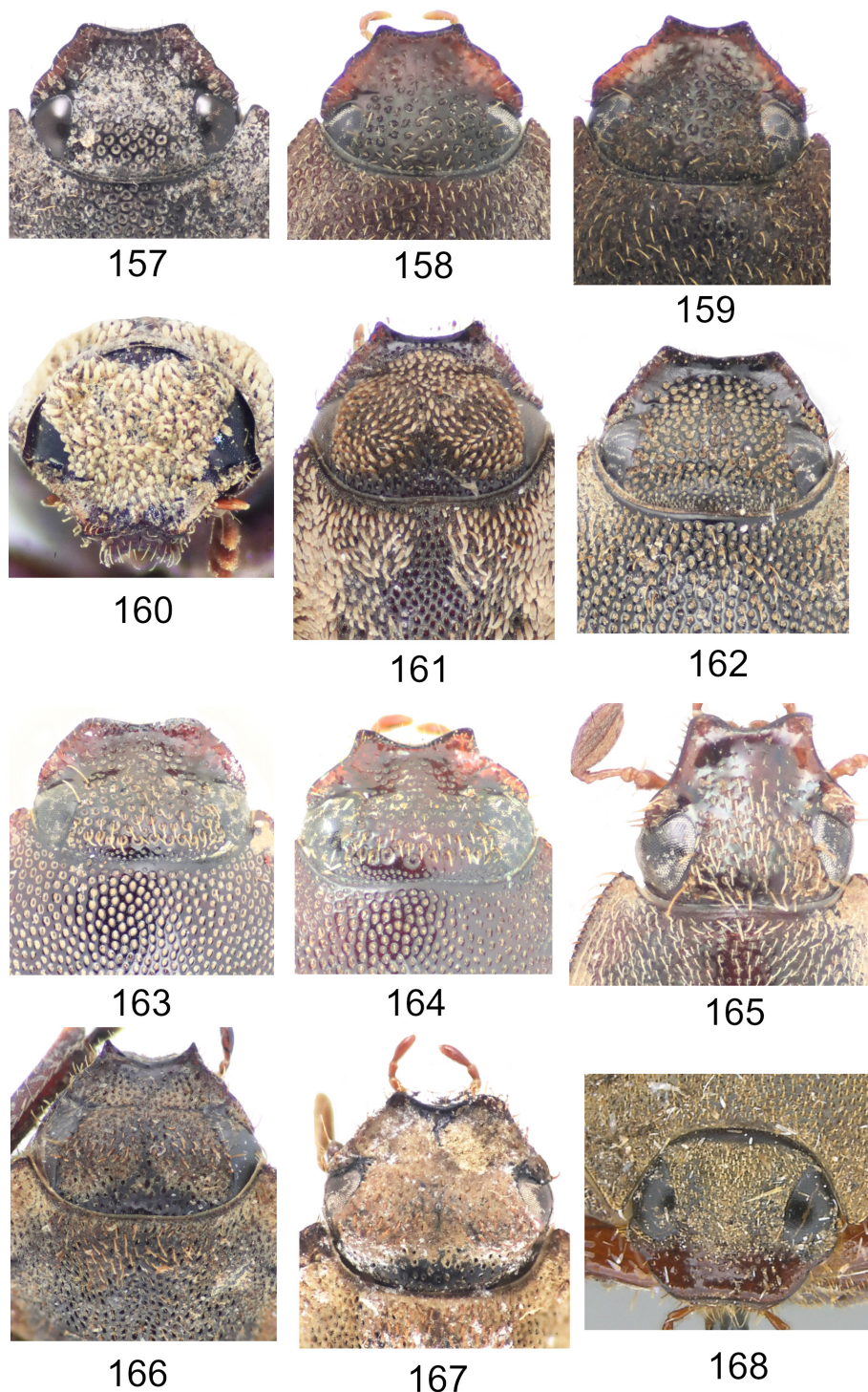
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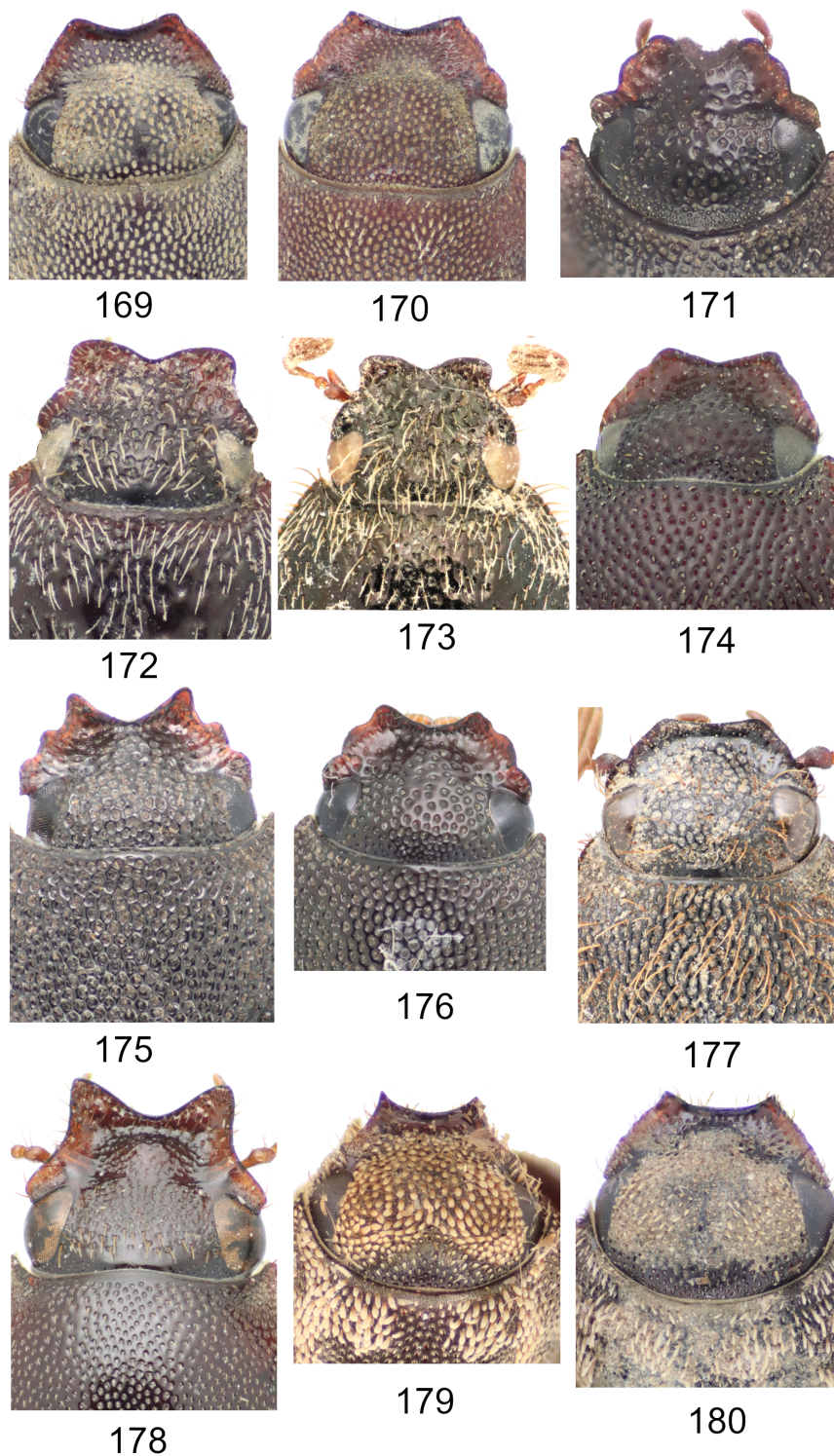
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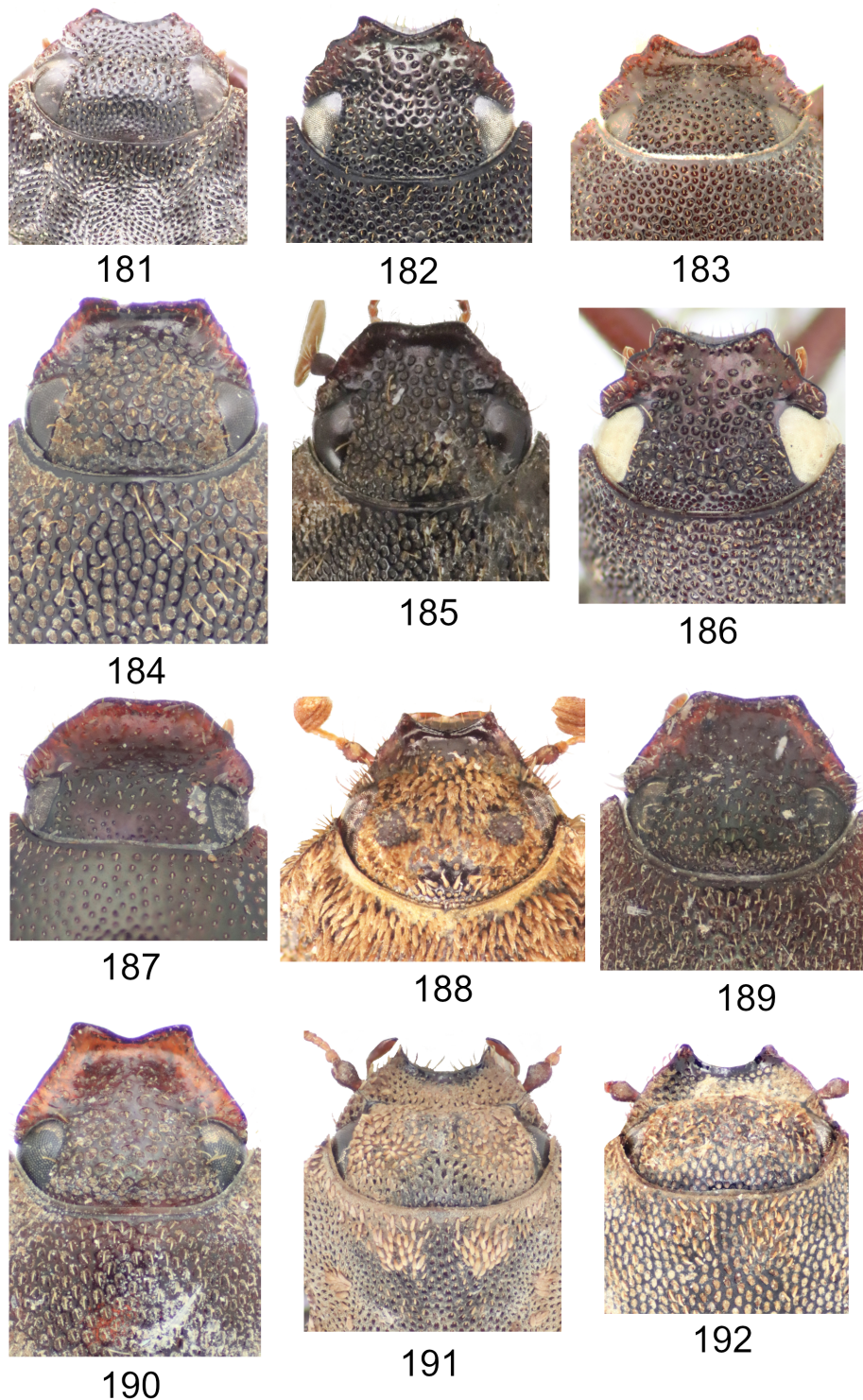
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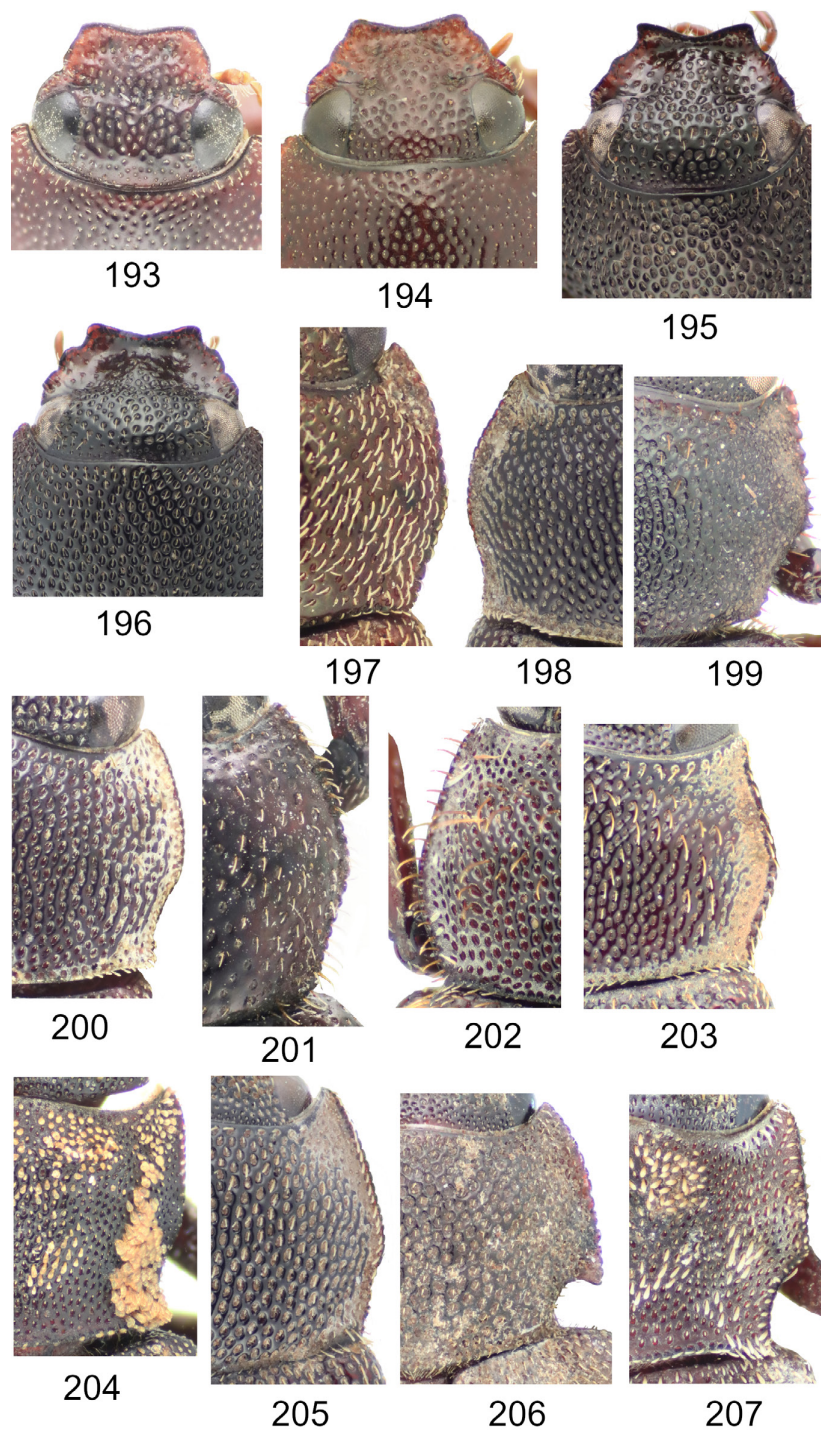
Figs 157–168. Papuan and Wallacean *Maechidius* Macleay, 1819, head, dorsal (157–159, 161–167) and frontal (160, 168) views. **157.** *M. parallelcollis* Moser, 1920, lectotype, ♂ (ZMHB). **158.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **159.** Same, ♂ (paratype of *M. arrowi* Frey, 1969) (BMNH). **160.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **161.** Same, ♀ (SNSD). **162.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **163.** *M. pedarioides* Arrow, 1941, syntype, ♀ (BMNH). **164.** Same, syntype, ♂ (BMNH). **165.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **166.** *M. perlatus* (Frey, 1969) comb. nov., holotype, ♂ (NHMB). **167.** Same, ♀ (NHMB). **168.** *M. simplex* Frey, 1969, holotype, ♂ (photograph courtesy BPBM) (BPBM). Not to scale.



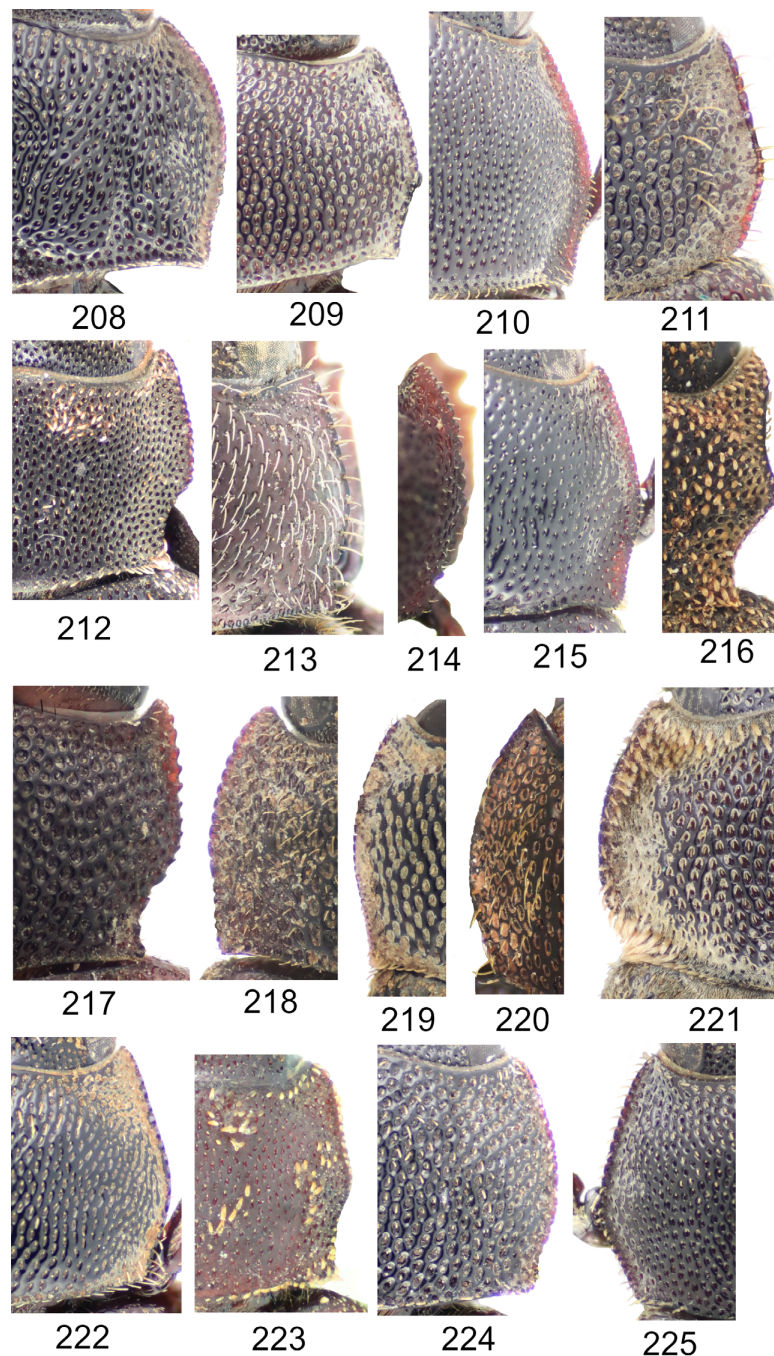
Figs 169–180. Papuan and Wallacean *Maechidius* Macleay, 1819, head, dorsal view. **169.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **170.** Same, paratype, ♂ (BMNH). **171.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **172.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **173.** Same, ♂ (ZMHB). **174.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). **175.** *M. similis* sp. nov., paratype, ♂ (BMNH). **176.** Same, paratype, ♀ (BMNH). **177.** *M. skalei* sp. nov., paratype, ♂ (NME). **178.** *M. sougb* sp. nov., holotype, ♂ (NME). **179.** *M. speciosus* (Frey, 1969) comb. nov., ♂ (NHMB). **180.** Same, ♀ (BMNH). Not to scale.



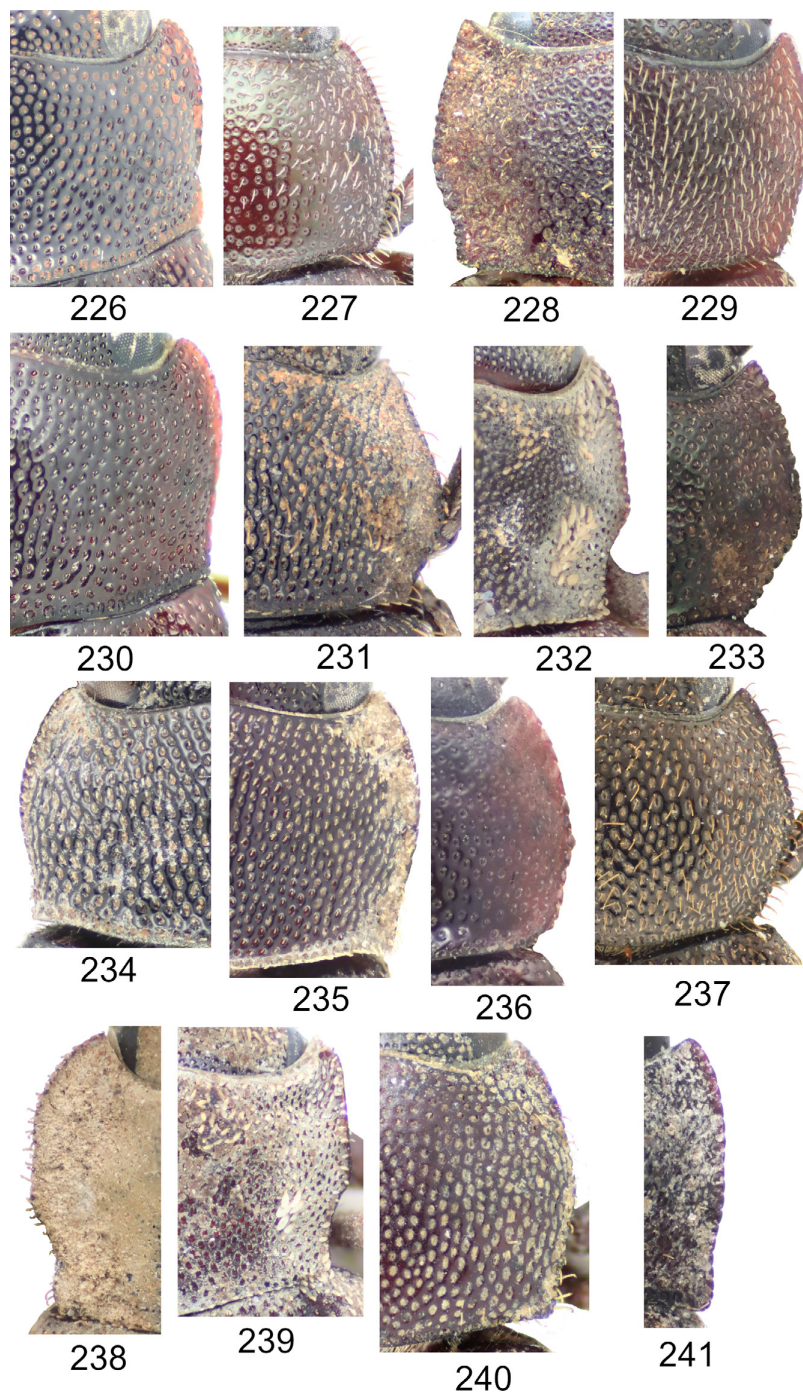
Figs 181–192. Papuan and Wallacean *Maechidius* Macleay, 1819, head, dorsal view. **181.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **182.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **183.** Same, ♀ (SNSD). **184.** *M. suwawa* sp. nov., holotype, ♂ (BMNH). **185.** Same, paratype, ♀ (BMNH). **186.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **187.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **188.** *M. ursus* sp. nov., holotype, ♀ (NME). **189.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **190.** Same, ♂ (SNSD). **191.** *M. weigeli* sp. nov., holotype, ♂ (NME). **192.** Same, paratype, ♀ (NME). Not to scale.



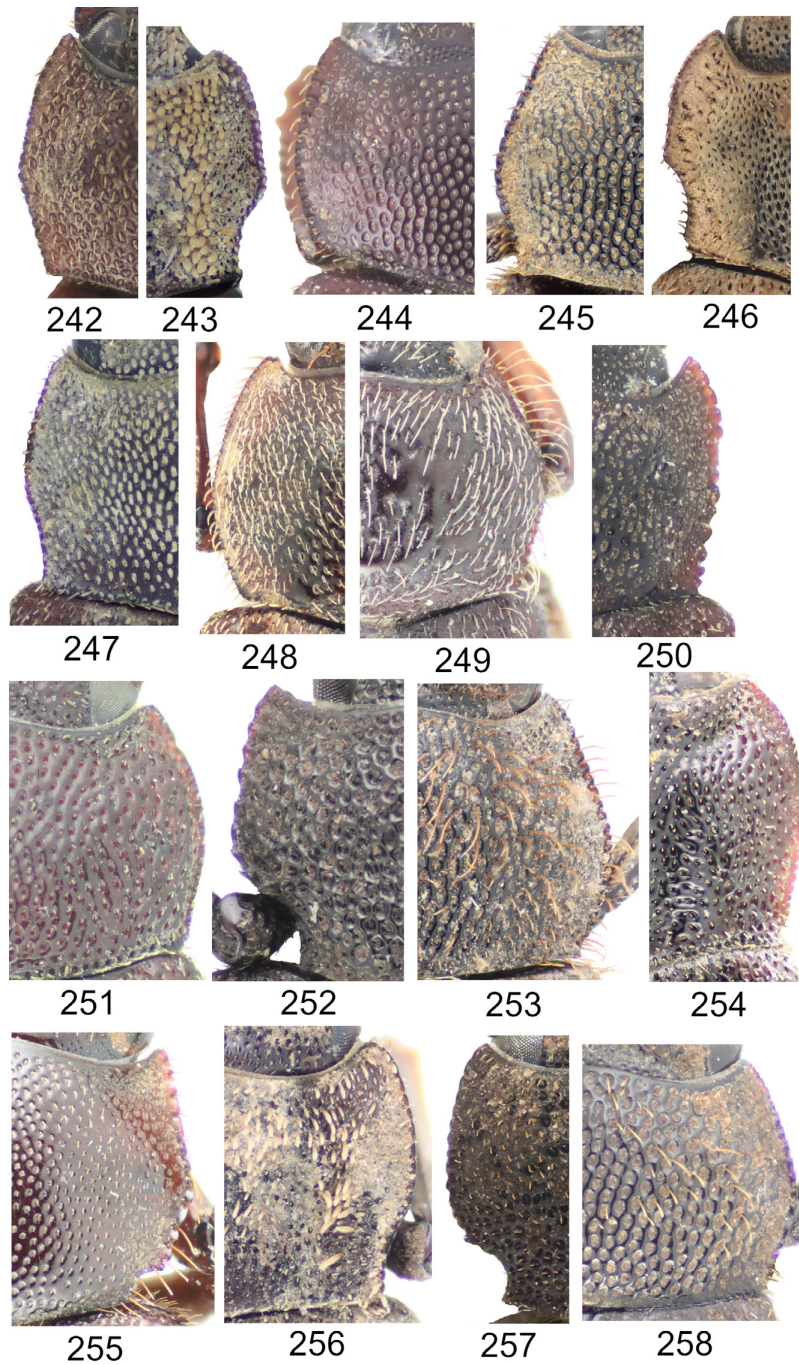
Figs 193–207. Papuan and Wallacean *Maechidius* Macleay, 1819, head (193–196) and pronotum (197–207), dorsal view. **193.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **194.** Same, ♂ (SNSD). **195.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **196.** Same, paratype, ♀ (BMNH). **197.** *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). **198.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **199.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **200.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **201.** *M. aroae* Heller, 1914, lectotype, ♀ (SNSD). **202.** *M. awu* sp. nov., holotype, ♂ (IECA). **203.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). **204.** *M. bintang* sp. nov., holotype, ♂ (NME). **205.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **206.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **207.** *M. crypticus* sp. nov., paratype, ♀ (BMNH). Not to scale.



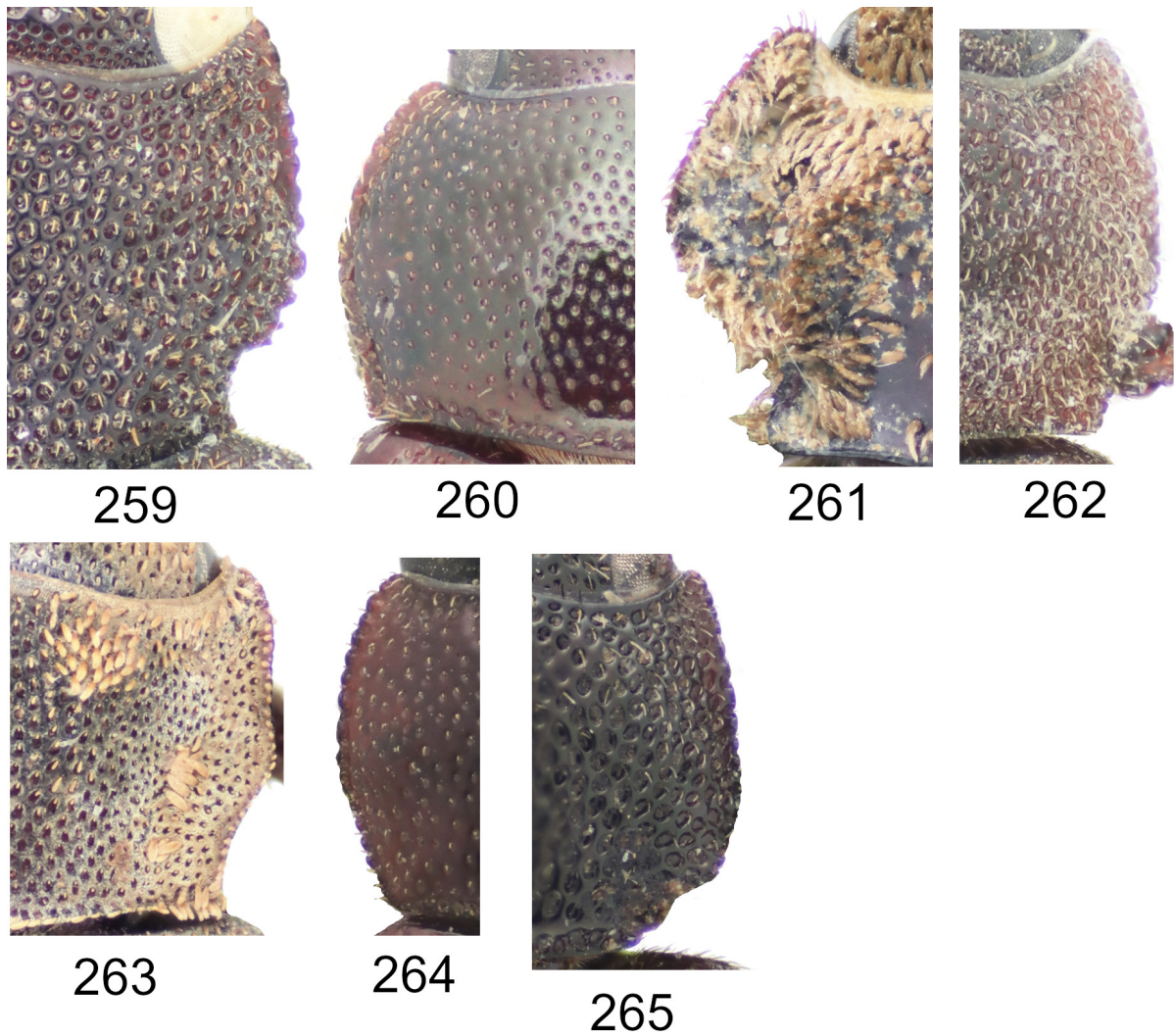
Figs 208–225. Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, pronotum, dorsal view. **208.** *M. caperatus* sp. nov., holotype, ♂ (NME). **209.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **210.** *M. dani* sp. nov., holotype, ♂ (IECA). **211.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). **212.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **213.** *M. esau* Heller, 1914 (lectotype, ♂ of *M. setosus* Moser, 1920) (ZMHB). **214.** *M. fraterculus* Moser, 1920, lectotype, ♀ (ZMHB). **215.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **216.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **217.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **218.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **219.** *M. interruptocarinulatus* Heller, 1914, holotype, ♀ (SNSD). **220.** *M. jobiensis* Moser, 1920, lectotype, ♂ (ZMHB). **221.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **222.** *M. konjo* sp. nov., holotype, ♂ (NMPC). **223.** *M. lapsus* sp. nov., holotype, ♂ (BMNH). **224.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **225.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). Not to scale.



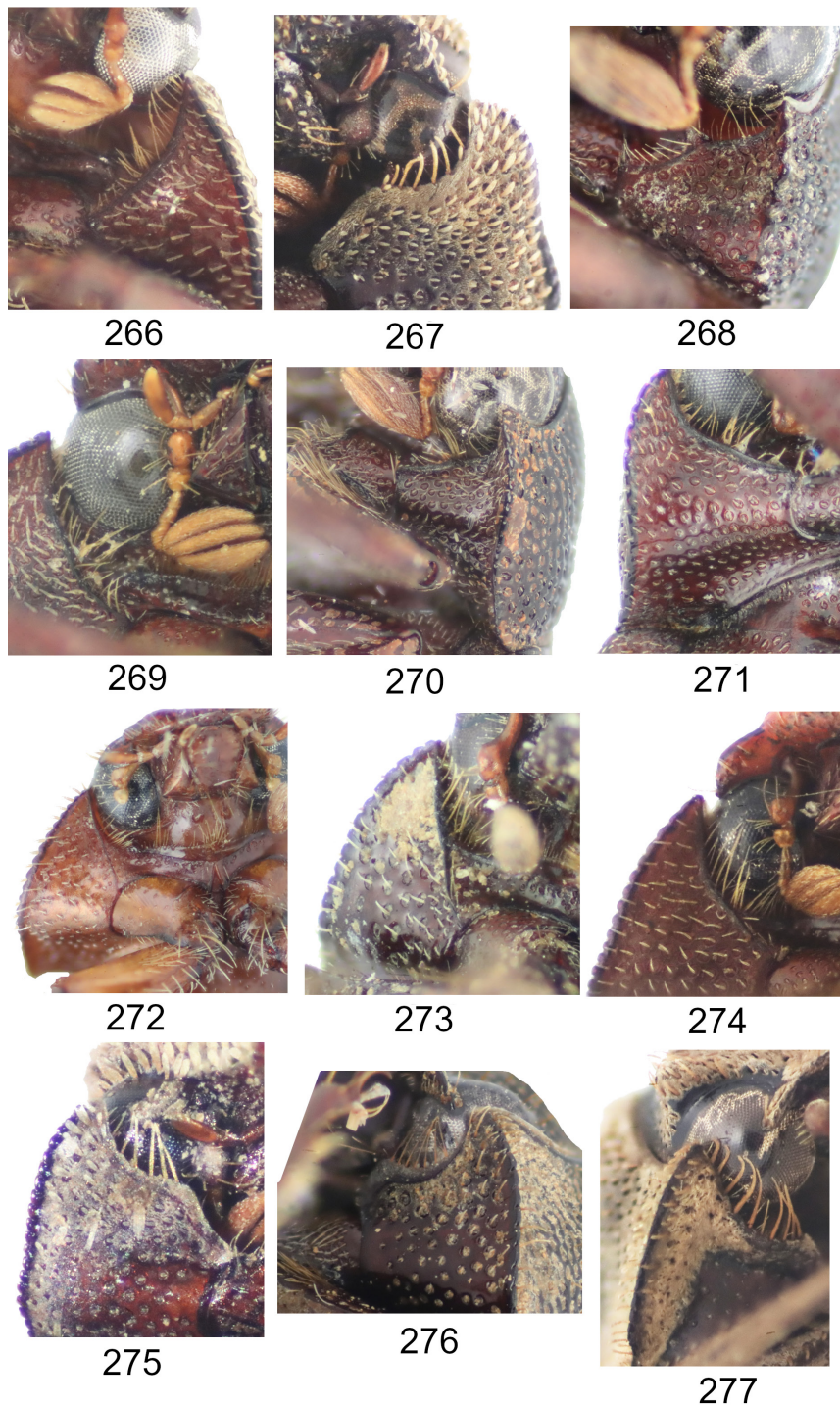
Figs 226–241. Papuan and Wallacean *Maechidius* Macleay, 1819, pronotum, dorsal view. **226.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). **227.** *M. lobaticeps* Frey, 1969, ♂ (DTC). **228.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **229.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **230.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **231.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **232.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). **233.** *M. milneanus* Heller, 1914, lectotype, ♀ (SNSD). **234.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **235.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **236.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **237.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). **238.** *M. opatroides* Arrow, 1941 comb. rest., lectotype, ♀ (BMNH). **239.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **240.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **241.** *M. parallelicollis* Moser, 1920, lectotype, ♂ (ZMHB). Not to scale.



Figs 242–258. Papuan and Wallacean *Maechidius* Macleay, 1819, pronotum, dorsal view. **242.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **243.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **244.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **245.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **246.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). **247.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **248.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **249.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **250.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **251.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). **252.** *M. similis* sp. nov., paratype, ♂ (BMNH). **253.** *M. skalei* sp. nov., paratype, ♂ (NME). **254.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **255.** *M. sougb* sp. nov., holotype, ♂ (NME). **256.** *M. speciosus* (Frey, 1969) comb. nov., ♀ (BMNH). **257.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **258.** *M. suwawa* sp. nov., holotype, ♂ (BMNH). Not to scale.



Figs 259–265. Papuan and Wallacean *Maechidius* Macleay, 1819, pronotum, dorsal view. **259.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **260.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **261.** *M. ursus* sp. nov., holotype, ♀ (NME). **262.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **263.** *M. weigeli* sp. nov., holotype, ♂ (NME). **264.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **265.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). Not to scale.



Figs 266–277. Papuan and Wallacean *Maechidius* Macleay, 1819, pronotal hypomeron, ventro-lateral view. **266.** *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). **267.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **268.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **269.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **270.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). **271.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **272.** *M. lobaticeps* Frey, 1969, ♂ (BMNH). **273.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **274.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **275.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **276.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **277.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). Not to scale.



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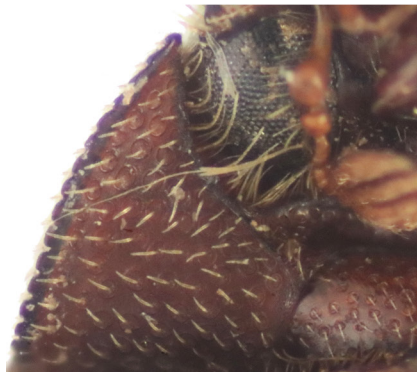
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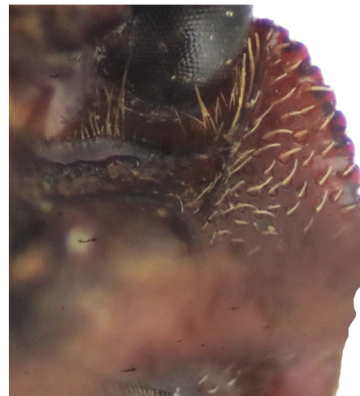
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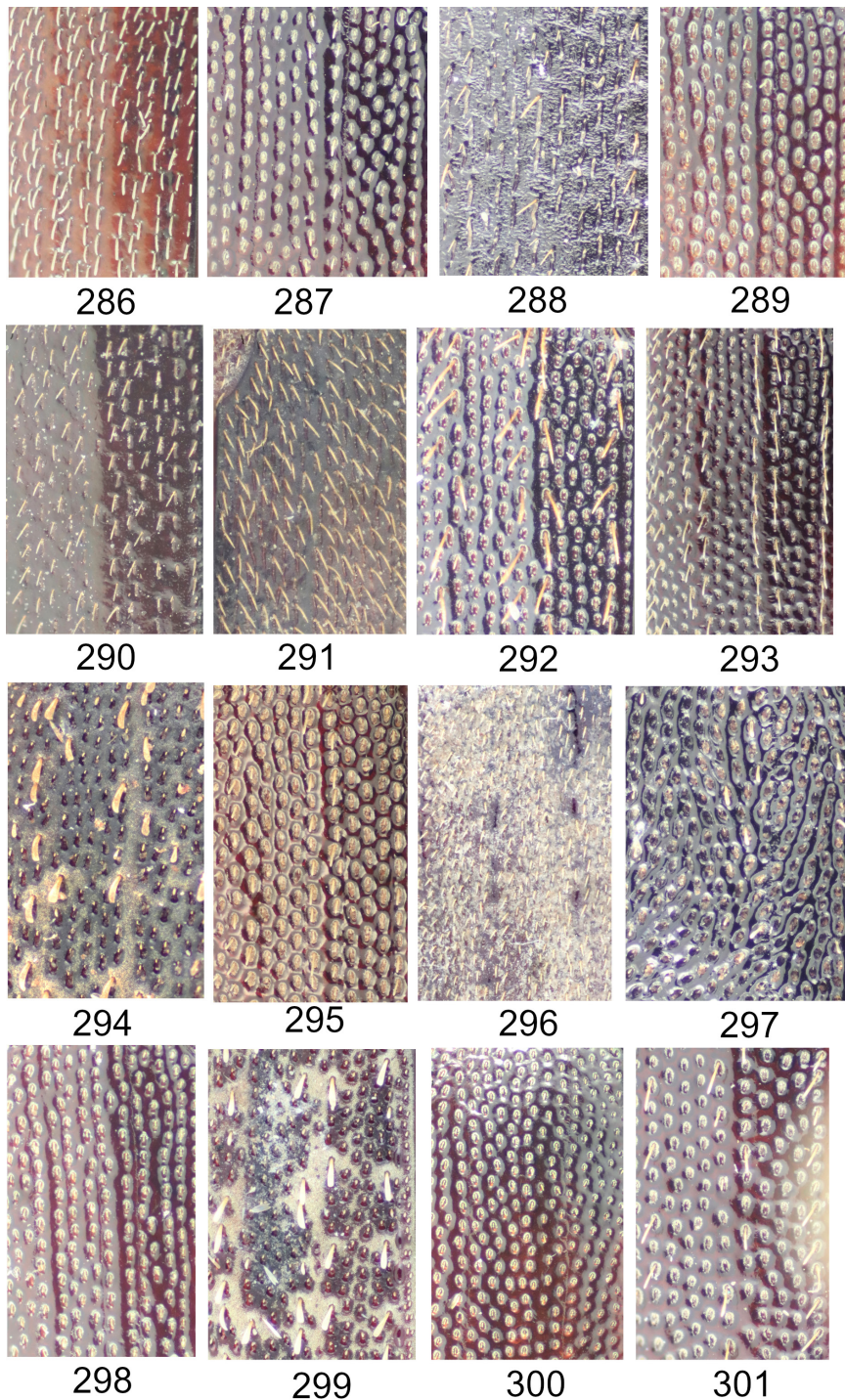


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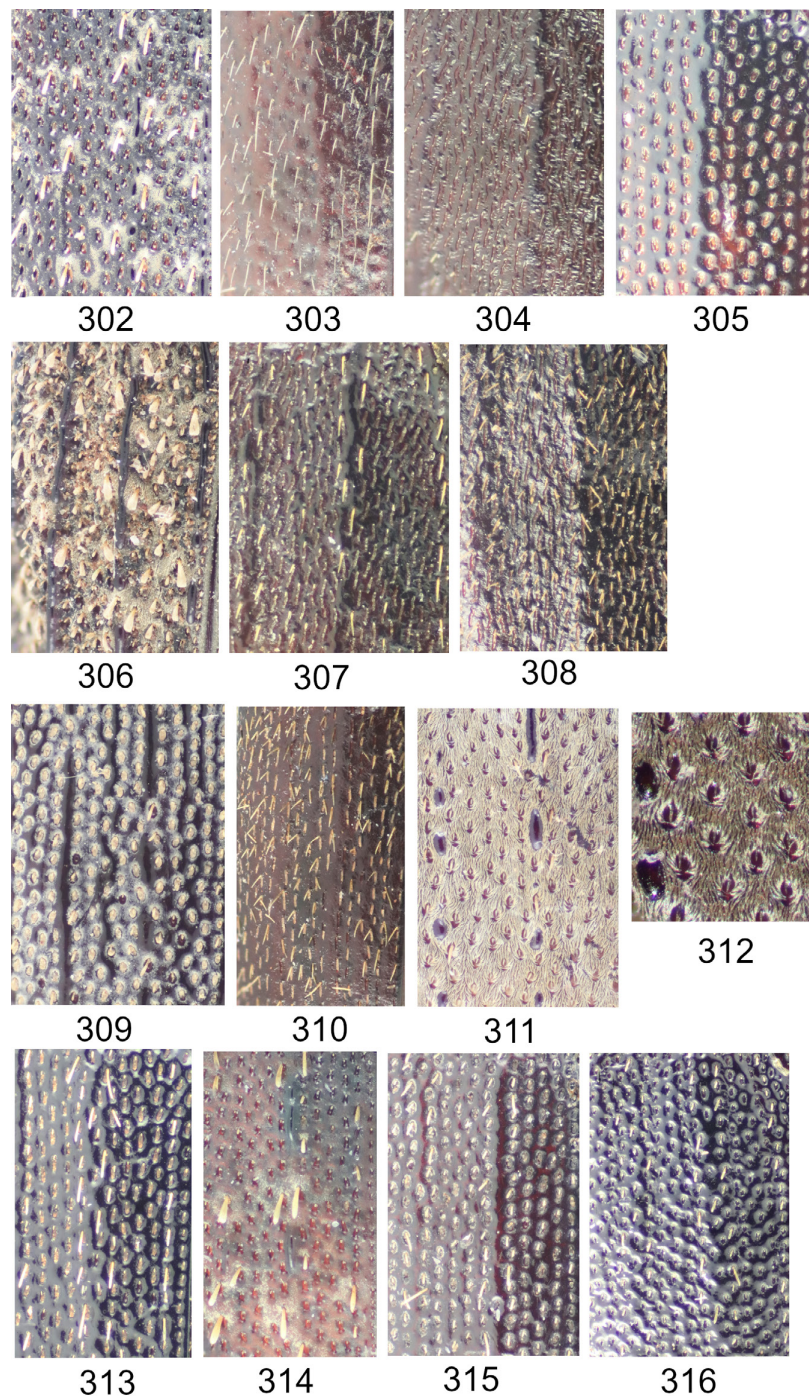


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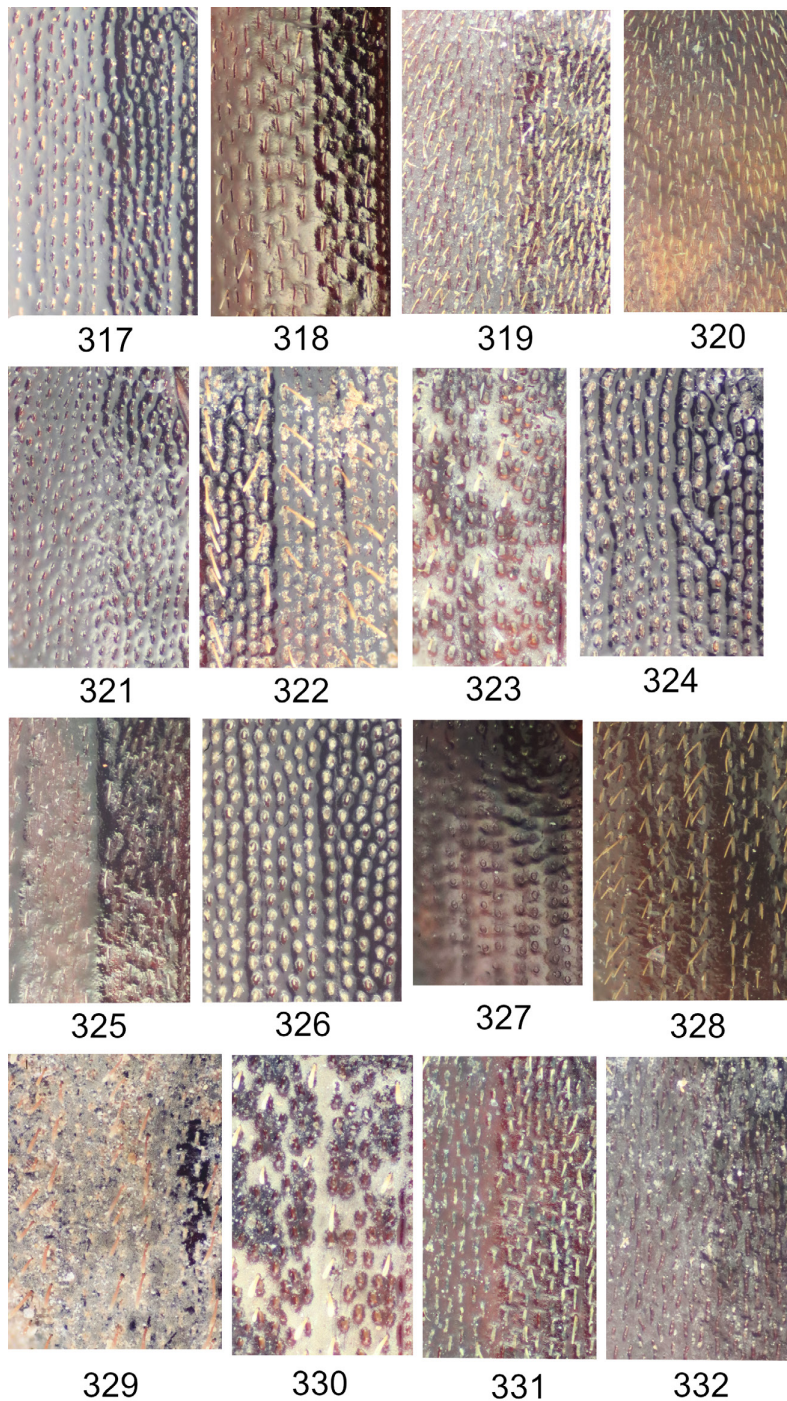
Figs 278–285. Papuan and Wallacean *Maechidius* Macleay, 1819, pronotal hypomeron, ventro-lateral view. **278.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **279.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **280.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (SNSD). **281.** *M. speciosus* (Frey, 1969) comb. nov., ♀ (BMNH). **282.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **283.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **284.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **285.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). Not to scale.



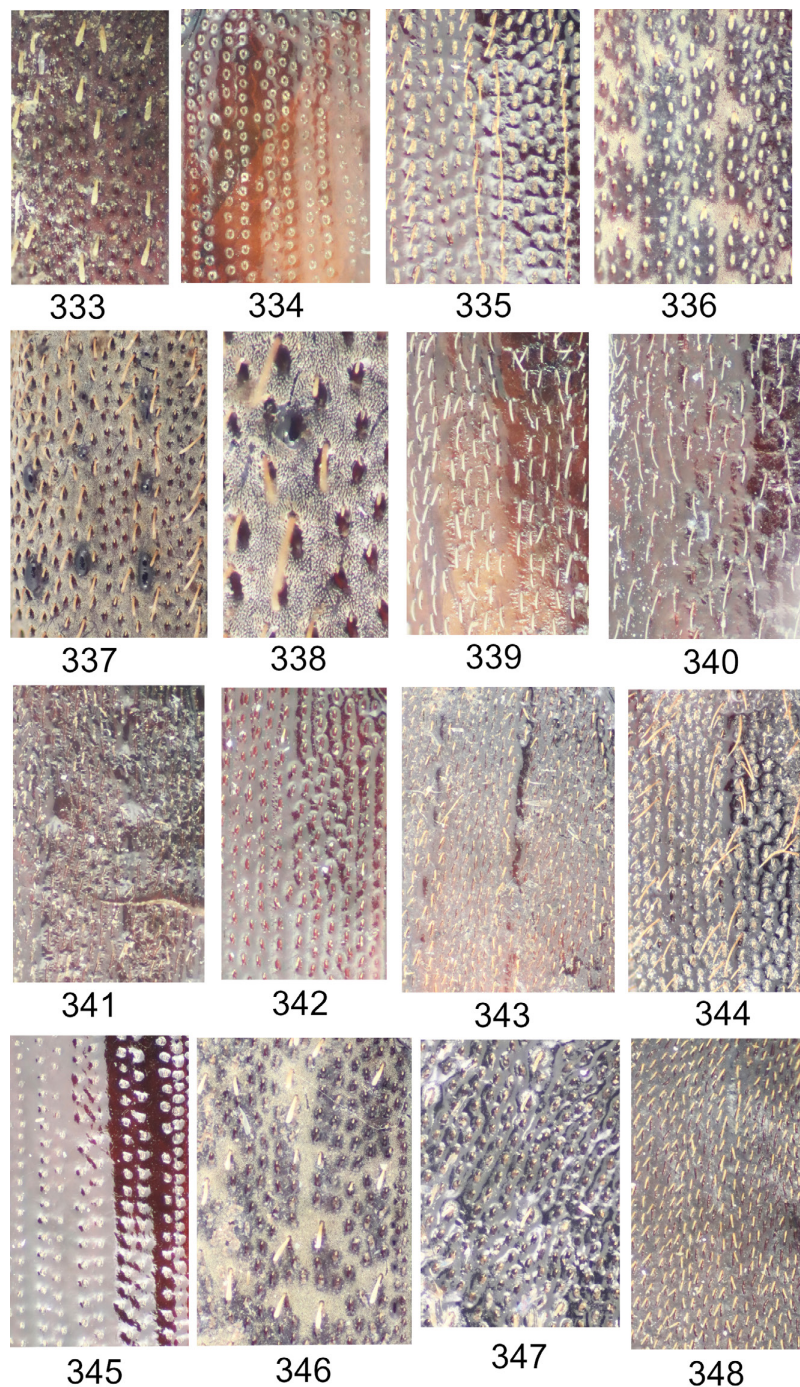
Figs 286–301. Papuan and Wallacean *Maechidius* Macleay, 1819, elytron, dorsal view. **286.** *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). **287.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **288.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **289.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **290.** *M. aroae* Heller, 1914, lectotype, ♀ (SNSD). **291.** *M. paupianus* Heller, 1910, ♂ (BMNH). **292.** *M. awu* sp. nov., holotype, ♂ (IECA). **293.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). **294.** *M. bintang* sp. nov., holotype, ♂ (NME). **295.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **296.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **297.** *M. caperatus* sp. nov., holotype, ♂ (NME). **298.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **299.** *M. crypticus* sp. nov., paratype, ♀ (BMNH). **300.** *M. dani* sp. nov., holotype, ♂ (IECA). **301.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). Not to scale.



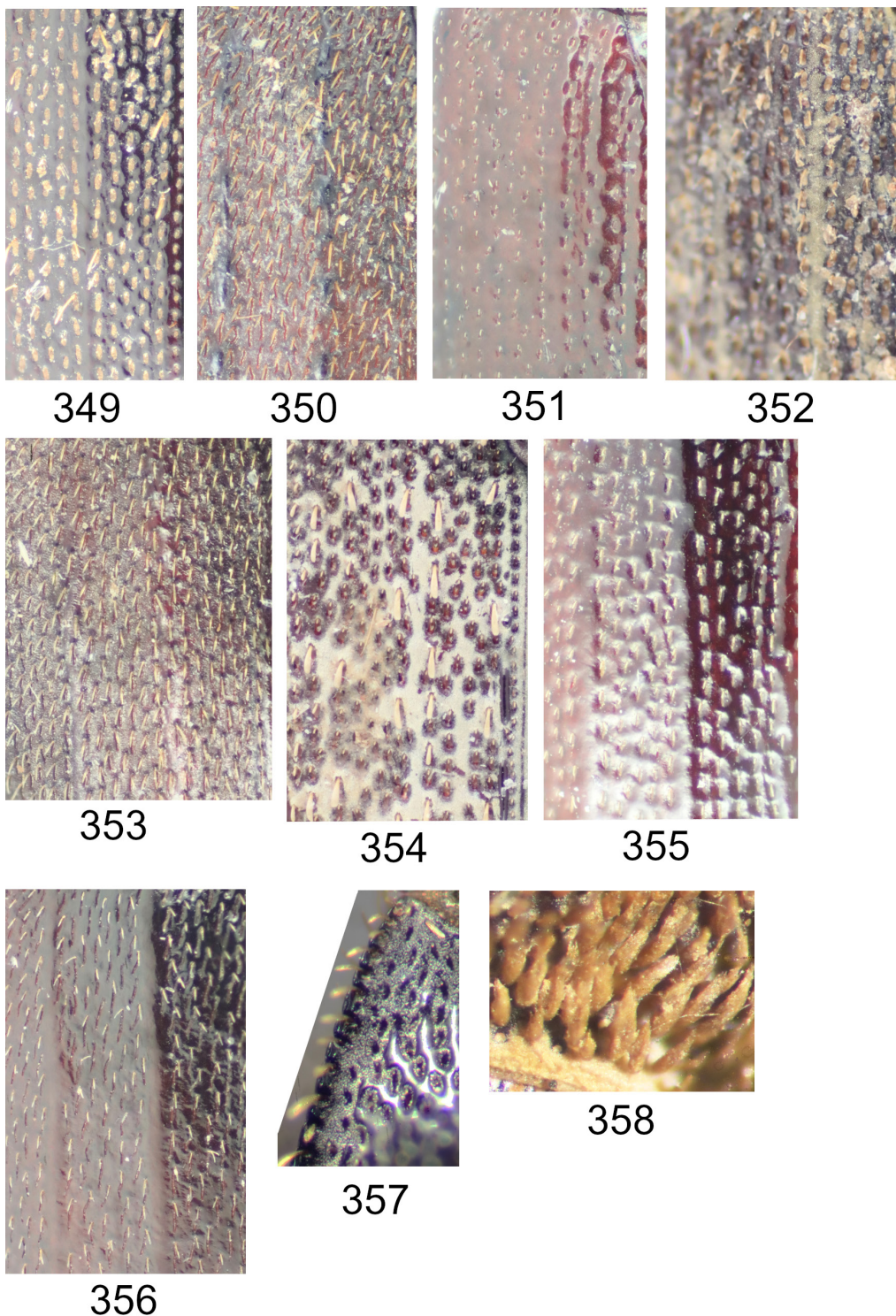
Figs 302–316. Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, elytron, dorsal view. **302.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **303.** *M. esau* Heller, 1914, lectotype, ♂ (SNSD). **304.** *M. fraterculus* Moser, 1920, lectotype, ♀ (ZMHB). **305.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **306.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **307.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **308.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **309.** *M. interruptocarinulatus* Heller, 1914, holotype, ♀ (SNSD). **310.** *M. jobiensis* Moser, 1920, lectotype, ♂ (ZMHB). **311.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **312.** Same, enlarged. **313.** *M. konjo* sp. nov., holotype, ♂ (NMPC). **314.** *M. lapsus* sp. nov., holotype, ♂ (BMNH). **315.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **316.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). Not to scale.



Figs 317–332. Papuan and Wallacean *Maechidius* Macleay, 1819, elytron, dorsal view. **317.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). **318.** *M. lobaticeps* Frey, 1969, ♂ (DTC). **319.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **320.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **321.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **322.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **323.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). **324.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **325.** *M. milneanus* Heller, 1914, lectotype, ♀ (SNSD). **326.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **327.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **328.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). **329.** *M. opatroides* Arrow, 1941 comb. rest., lectotype, ♀ (BMNH). **330.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **331.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **332.** *M. parallelicollis* Moser, 1920, lectotype, ♂ (ZMHB). Not to scale.



Figs 333–348. Papuan and Wallacean *Maechidius* Macleay, 1819, elytron, dorsal view. **333.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **334.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **335.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **336.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **337.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). **338.** Same, enlarged (SMNS). **339.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **340.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **341.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **342.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). **343.** *M. similis* sp. nov., paratype, ♂ (BMNH). **344.** *M. skalei* sp. nov., paratype, ♂ (NME). **345.** *M. sougb* sp. nov., holotype, ♂ (NME). **346.** *M. speciosus* (Frey, 1969) comb. nov., ♀ (BMNH). **347.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **348.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). Not to scale.



Figs 349–358. Papuan and Wallacean *Maechidius* Macleay, 1819, elytron (349–356) and pronotal setation (357–358), dorsal view. **349.** *M. suwawa* sp. nov., paratype, ♀ (BMNH). **350.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **351.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **352.** *M. ursus* sp. nov., holotype, ♀ (NME). **353.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **354.** *M. weigeli* sp. nov., holotype, ♂ (NME). **355.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **356.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **357.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). **358.** *M. ursus* sp. nov., holotype, ♀ (NME). Not to scale.

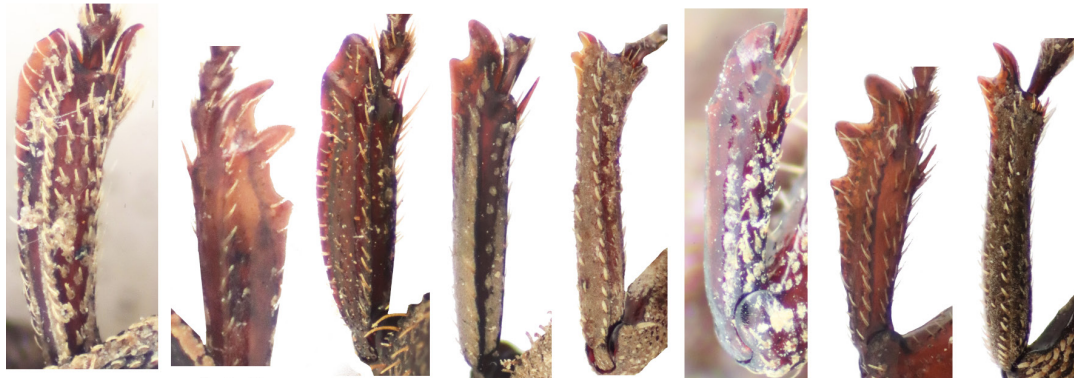
Figs 359–390 (opposite page). Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, protibia, dorsal view (359–372, 374–378, 380–390) and protarsus (373, 379), lateral view. **359.** *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). **360.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **361.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **362.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **363.** *M. aroae* Heller, 1914, lectotype, ♀ (SNSD). **364.** *M. awu* sp. nov., holotype, ♂ (IECA). **365.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). **366.** *M. bintang* sp. nov., holotype, ♂ (NME). **367.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **368.** *M. brocki* sp. nov., paratype, ♀ (BMNH). **369.** *M. caperatus* sp. nov., holotype, ♂ (NME). **370.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **371.** *M. crypticus* sp. nov., paratype, ♀ (BMNH). **372.** *M. dani* sp. nov., holotype, ♂ (IECA). **373.** Same, male protarsomeres 1–4 (IECA). **374.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). **375.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **376.** *M. esau* Heller, 1914, ♂ (NMPC). **377.** *M. fraterculus* Moser, 1920, lectotype, ♀ (ZMHB). **378.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **379.** Same, male protarsomeres 1–4 (IECA). **380.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **381.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **382.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **383.** *M. interruptocarinulatus* Heller, 1914, holotype, ♀ (SNSD). **384.** *M. jobiensis* Moser, 1920, lectotype, ♂ (ZMHB). **385.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **386.** *M. konjo* sp. nov., holotype, ♂ (NMPC). **387.** *M. lapsus* sp. nov., paratype, ♀ (BMNH). **388.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **389.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). **390.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). Not to scale.



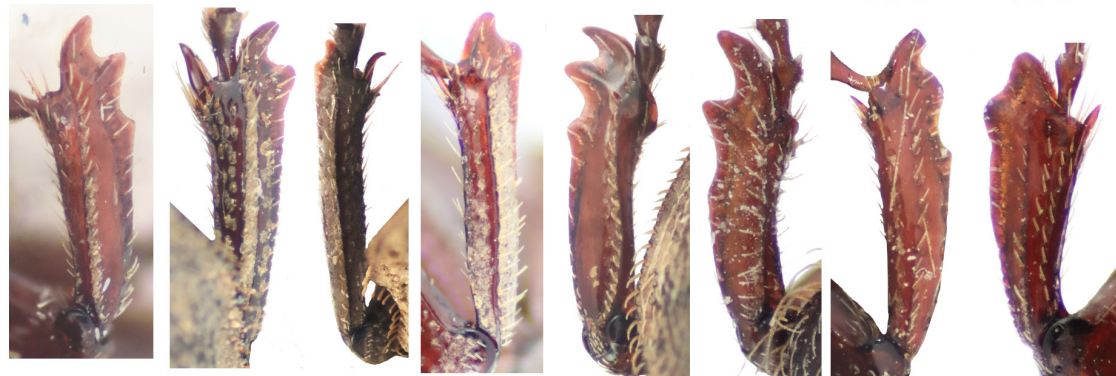
Figs 391–423 (opposite page). Papuan and Wallacean *Maechidius* Macleay, 1819, protibia, dorsal view. **391.** *M. lobaticeps* Frey, 1969, ♂ (DTC). **392.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **393.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **394.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **395.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **396.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). **397.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **398.** *M. milneanus* Heller, 1914, lectotype, ♀ (SNSD). **399.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **400.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **401.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). **402.** *M. opatroides* Arrow, 1941 comb. rest., lectotype, ♀ (BMNH). **403.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **404.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **405.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **406.** *M. pauxillus* Heller, 1910 comb. rest., ♀ (BMNH). **407.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **408.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **409.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). **410.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **411.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **412.** *M. rugicollis* Moser, 1920, lectotype, ♀ (ZMHB). **413.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **414.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). **415.** *M. similis* sp. nov., paratype, ♂ (BMNH). **416.** *M. skalei* sp. nov., paratype, ♂ (NME). **417.** *M. sougb* sp. nov., holotype, ♂ (NME). **418.** *M. speciosus* (Frey, 1969) comb. nov., ♀ (BMNH). **419.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **420.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **421.** *M. suwawa* sp. nov., paratype, ♂ (BMNH). **422.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **423.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). Not to scale.



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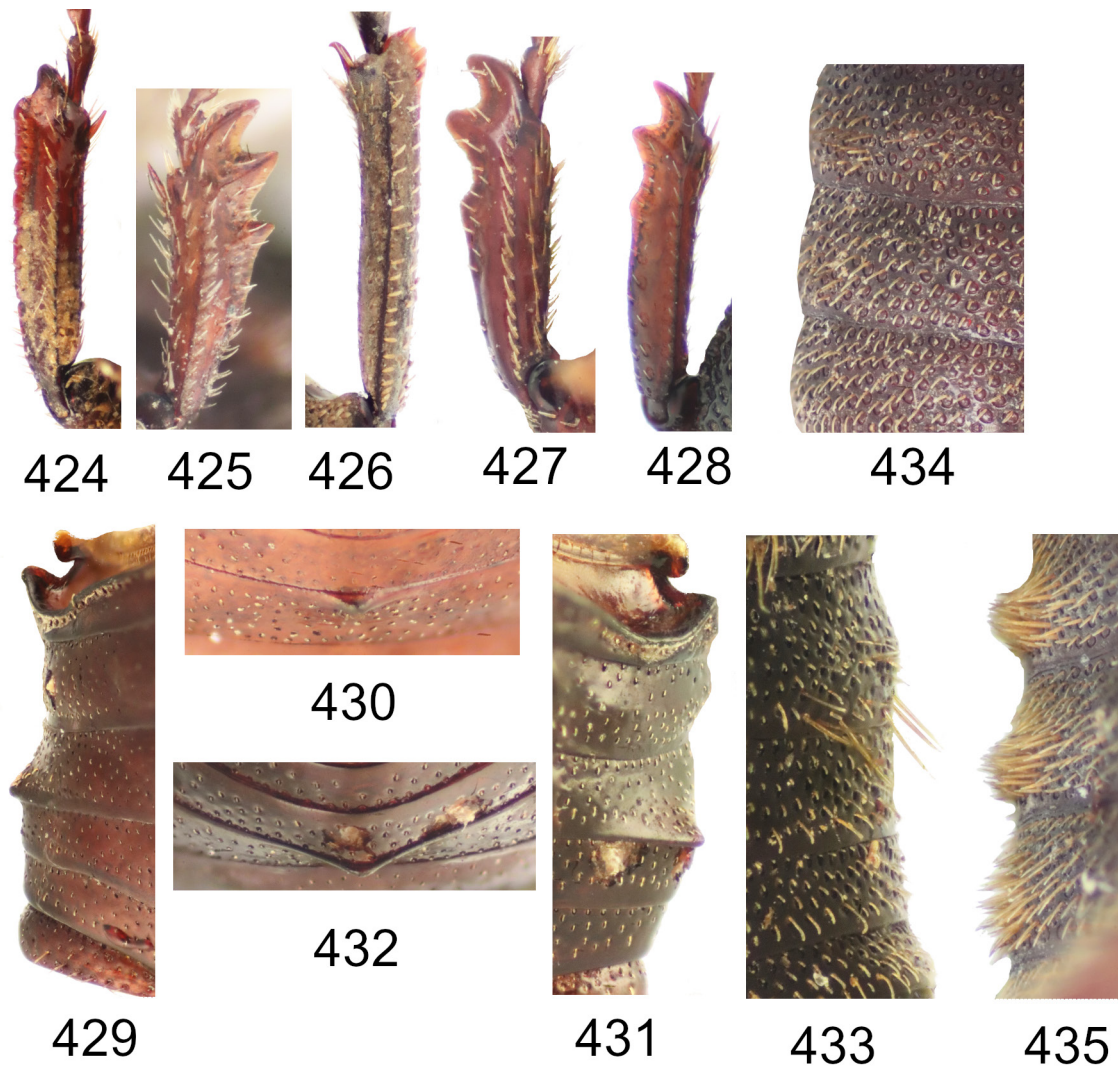
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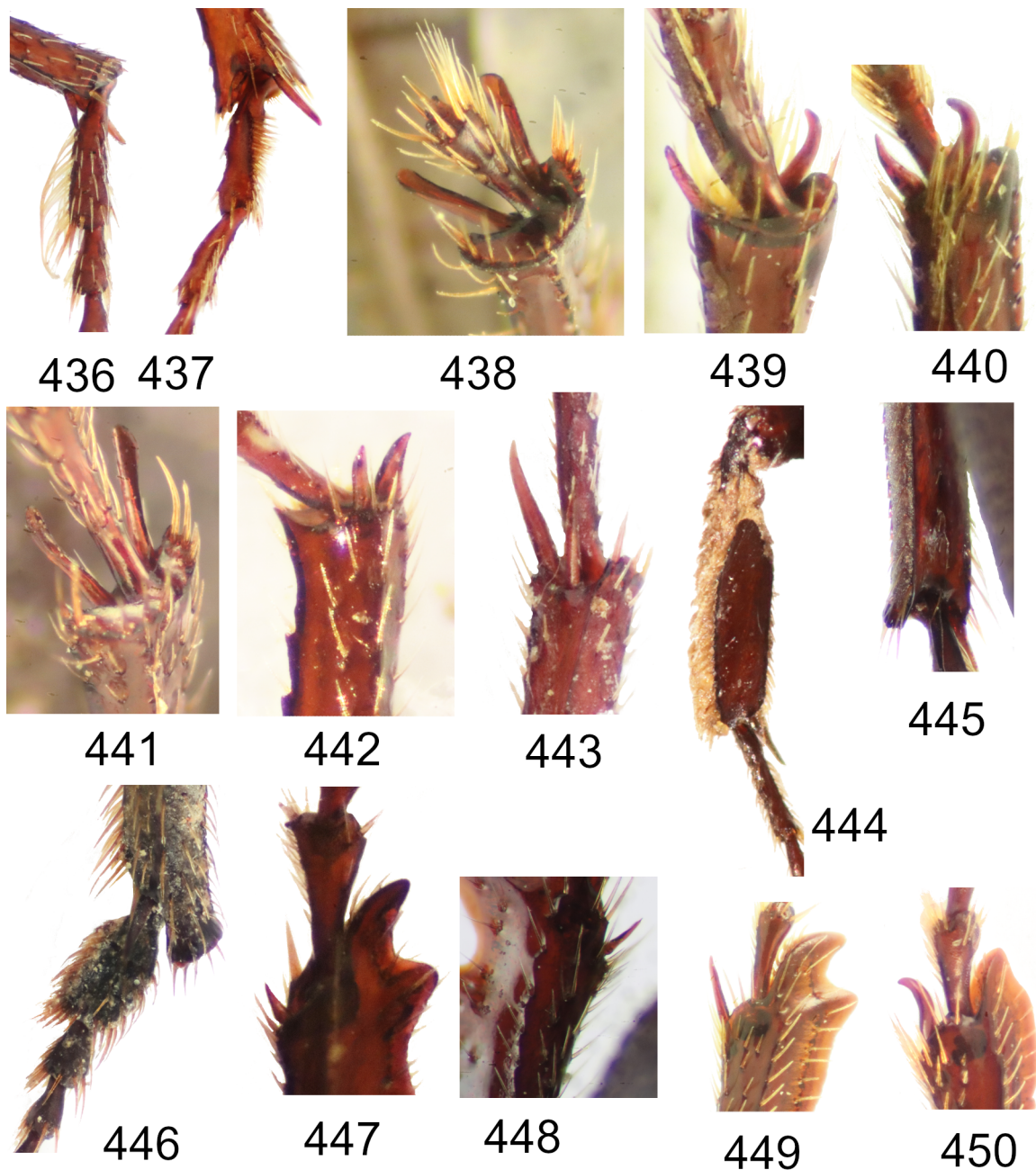
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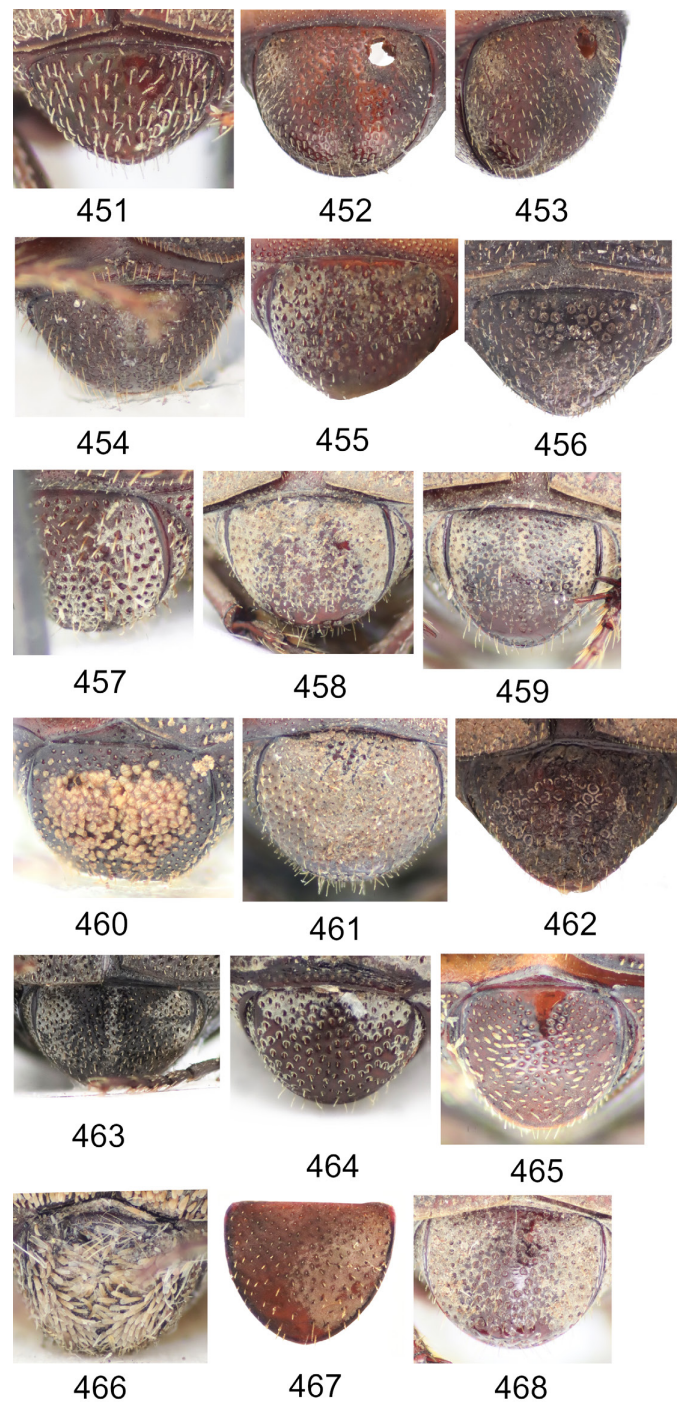
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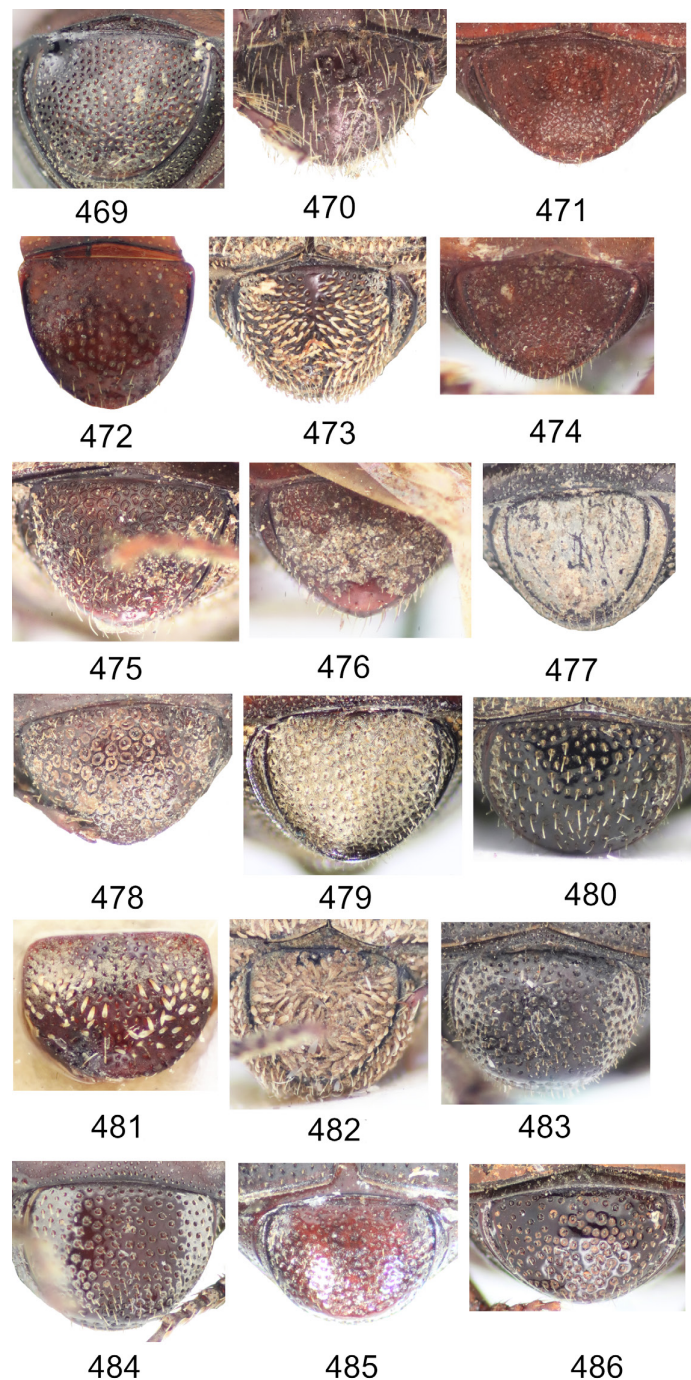
Figs 424–435. Papuan and Wallacean *Maechidius* Macleay, 1819, protibia, dorsal view (424–428), and abdominal ventrites (429–435), ventral and lateral views. **424.** *M. ursus* sp. nov., holotype, ♀ (NME). **425.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **426.** *M. weigeli* sp. nov., holotype, ♂ (NME). **427.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **428.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **429.** *M. dani* sp. nov., holotype, ♂ (IECA). **430.** Same, different aspect (IECA). **431.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **432.** Same, different aspect (IECA). **433.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **434.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **435.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). Not to scale.



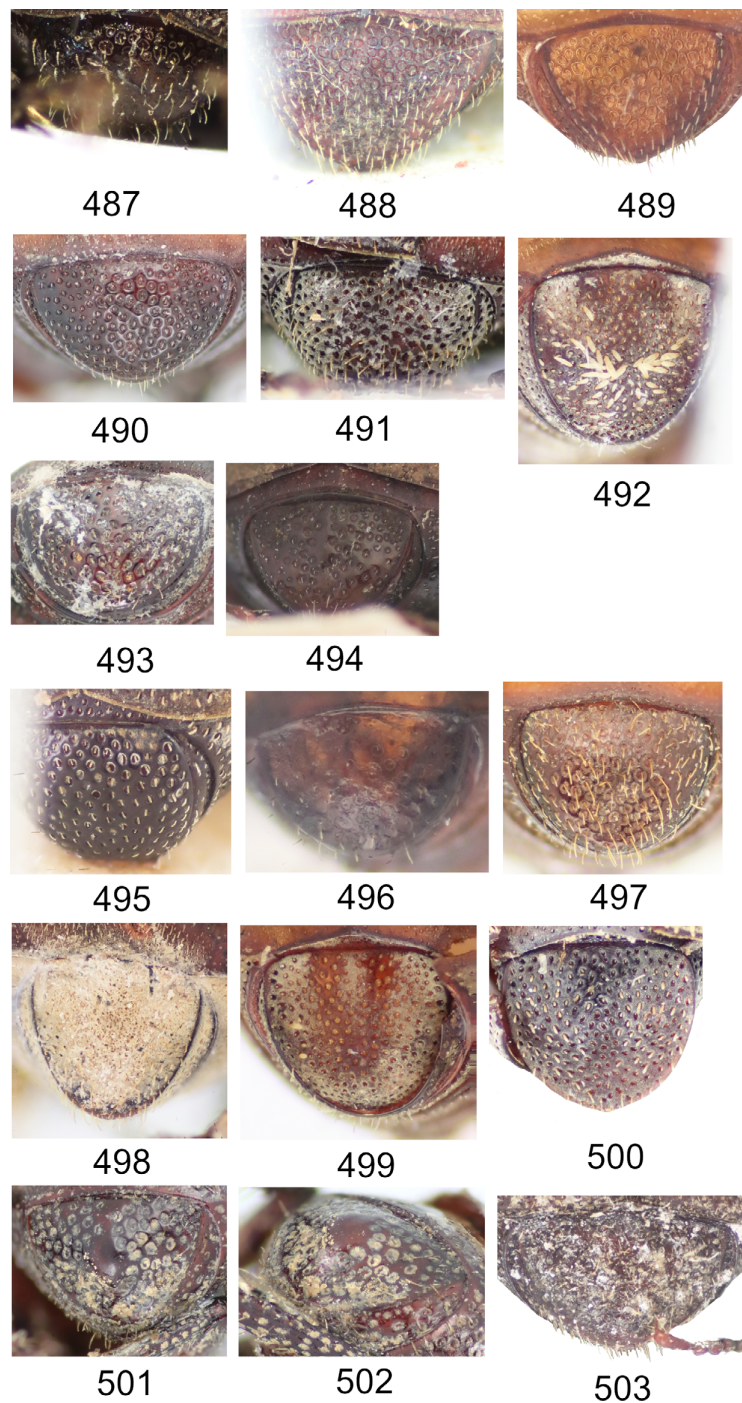
Figs 436–450. Papuan and Wallacean *Maechidius* Macleay, 1819, legs, various views. **436.** *M. hirtipes* Arrow, 1941, lectotype, ♂, basal metatarsomere (BMNH). **437.** *M. tarsalis* Arrow, 1941, lectotype, ♂, basal metatarsomere (BMNH). **438.** *M. babyrousa* sp. nov., paratype, ♀, metatibial terminal spurs (BMNH). **439.** Same, paratype, ♂ (BMNH). **440.** Same, different aspect (BMNH). **441.** *M. yamdена* sp. nov., paratype, ♀, metatibial terminal spurs (BMNH). **442.** Same, paratype, ♂ (BMNH). **443.** *M. longipes* sp. nov., holotype, ♂, metatibial terminal spurs (BMNH). **444.** *M. ursus* sp. nov., holotype, ♀, left metatibia and basal metatarsomere (NME). **445.** *M. dani* sp. nov., holotype, ♂, apical portion of metatibia (IECA). **446.** *M. skalei* sp. nov., holotype, ♂, apical portion of metatibia and basal metatarsomere (NME). **447.** *M. yamdена* sp. nov., paratype, ♂, protibial terminal spur (BMNH). **448.** Same, paratype, ♀ (BMNH). **449.** *M. babyrousa* sp. nov., paratype, ♀, protibial terminal spur (BMNH). **450.** Same, paratype, ♂ (BMNH). Not to scale.



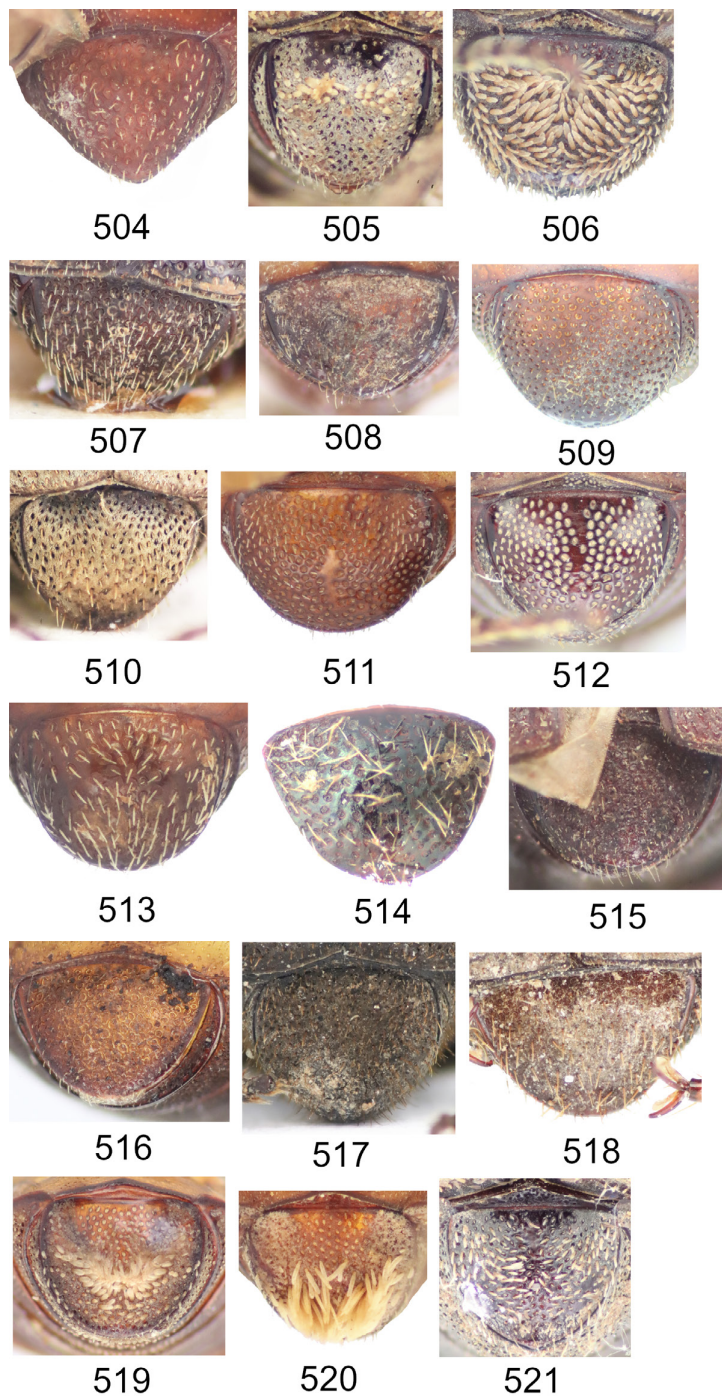
Figs 451–468. Papuan and Wallacean *Maechidius* Macleay, 1819, pygidium, dorsal view. **451.** *M. aenescens* Heller, 1910, lectotype, ♀ (SNSD). **452.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **453.** Same, different aspect (BMNH). **454.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **455.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **456.** *M. aroae* Heller, 1914, lectotype, ♀ (SNSD). **457.** *M. awu* sp. nov., holotype, ♂ (IECA). **458.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). **459.** Same, paratype, ♀ (BMNH). **460.** *M. bintang* sp. nov., holotype, ♂ (NME). **461.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **462.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **463.** *M. caperatus* sp. nov., holotype, ♂ (NME). **464.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **465.** *M. crypticus* sp. nov., paratype, ♂ (BMNH). **466.** Same, paratype, ♀ (BMNH). **467.** *M. dani* sp. nov., holotype, ♂ (IECA). **468.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). Not to scale.



Figs 469–486. Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, pygidium, dorsal view. **469.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **470.** *M. esau* Heller, 1914, ♂ (BMNH). **471.** *M. fraterculus* Moser, 1920, lectotype, ♀ (ZMHB). **472.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **473.** *M. heterosquamosus* Heller, 1910 comb. rest., lectotype, ♀ (SNSD). **474.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **475.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **476.** Same, paralectotype, ♀ (SNSD). **477.** *M. interruptocarunculatus* Heller, 1914, holotype, ♀ (SNSD). **478.** *M. jobiensis* Moser, 1920, lectotype, ♂ (ZMHB). **479.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **480.** *M. konjo* sp. nov., holotype, ♂ (NMPC). **481.** *M. lapsus* sp. nov., holotype, ♂ (BMNH). **482.** Same, paratype, ♀ (BMNH). **483.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **484.** Same, paratype, ♀ (BMNH). **485.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). **486.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). Not to scale.

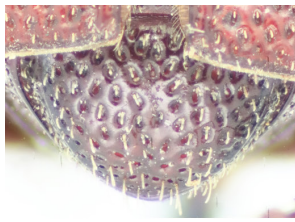


Figs 487–503. Papuan and Wallacean *Maechidius* Macleay, 1819, pygidium, dorsal view. **487.** *M. lobaticeps* Frey, 1969, ♂ (DTC). **488.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **489.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **490.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **491.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **492.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). **493.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **494.** *M. milneanus* Heller, 1914, lectotype, ♀ (SNSD). **495.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **496.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **497.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). **498.** *M. opatroides* Arrow, 1941 comb. rest., lectotype, ♀ (BMNH). **499.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **500.** Same, paratype, ♀ (BMNH). **501.** *M. papuanus* Moser, 1926, lectotype, ♀ (ZMHB). **502.** Same, different aspect. **503.** *M. parallelicollis* Moser, 1920, lectotype, ♂ (ZMHB). Not to scale.



Figs 504–521. Papuan and Wallacean *Maechidius* Macleay, 1819, pygidium, dorsal view. **504.** *M. paupianus* Heller, 1910, lectotype, ♀ (SNSD). **505.** *M. pauxillus* Heller, 1910 comb. rest., lectotype, ♂ (SNSD). **506.** Same, ♀ (BMNH). **507.** *M. pedarioides* Arrow, 1941, syntype, ♀ (BMNH). **508.** Same, syntype, ♂ (BMNH). **509.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **510.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). **511.** *M. popei* (Frey, 1969) comb. nov., holotype, ♀ (BMNH). **512.** Same, paratype, ♂ (BMNH). **513.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **514.** *M. rugicollis* Moser, 1920, ♂ (BMNH). **515.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **516.** *M. similis* sp. nov., paratype, ♂ (BMNH). **517.** *M. skalei* sp. nov., paratype, ♂ (NME). **518.** *M. sougb* sp. nov., holotype, ♂ (NME). **519.** *M. speciosus* (Frey, 1969) comb. nov., ♂ (BMNH). **520.** Same, different ♂ (BMNH). **521.** Same, ♀ (BMNH). Not to scale.

Figs 522–544 (opposite page). Papuan and Wallacean *Maechidius* Macleay, 1819, pygidium, dorsal view (522–534) and spiculum gastrale (535–544). **522.** *M. seriepunctatus* Moser, 1920, lectotype, ♂ (ZMHB). **523.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **524.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). **525.** *M. suwawa* sp. nov., paratype, ♂ (BMNH). **526.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **527.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **528.** *M. ursus* sp. nov., holotype, ♀ (NME). **529.** *M. vicinus* Heller, 1914, lectotype, ♀ (SNSD). **530.** Same, ♂ (SNSD). **531.** *M. weigeli* sp. nov., holotype, ♂ (NME). **532.** Same, paratype, ♀ (NME). **533.** *M. woodlarkianus* Heller, 1914, lectotype, ♀ (SNSD). **534.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **535.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **536.** *M. paupianus* Heller, 1910, ♂ (BMNH). **537.** *M. awu* sp. nov., holotype, ♂ (IECA). **538.** *M. babyrousa* sp. nov., paratype, ♂ (BMNH). **539.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **540.** *M. caperatus* sp. nov., holotype, ♂ (NME). **541.** *M. crypticus* sp. nov., holotype, ♂ (BMNH). **542.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). **543.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **544.** *M. hamatus* sp. nov., holotype, ♂ (IECA). Not to scale.



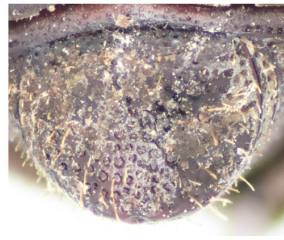
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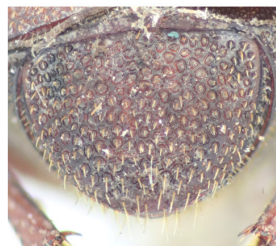
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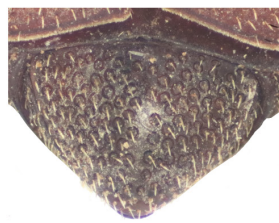
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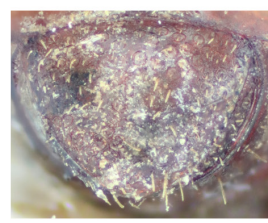
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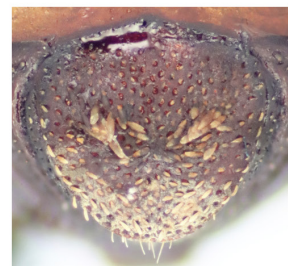
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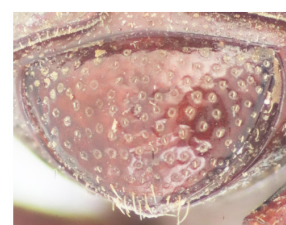
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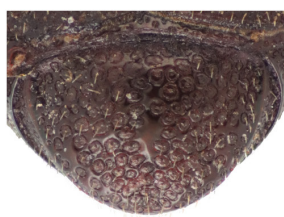
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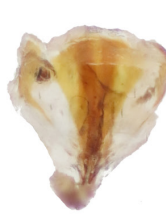
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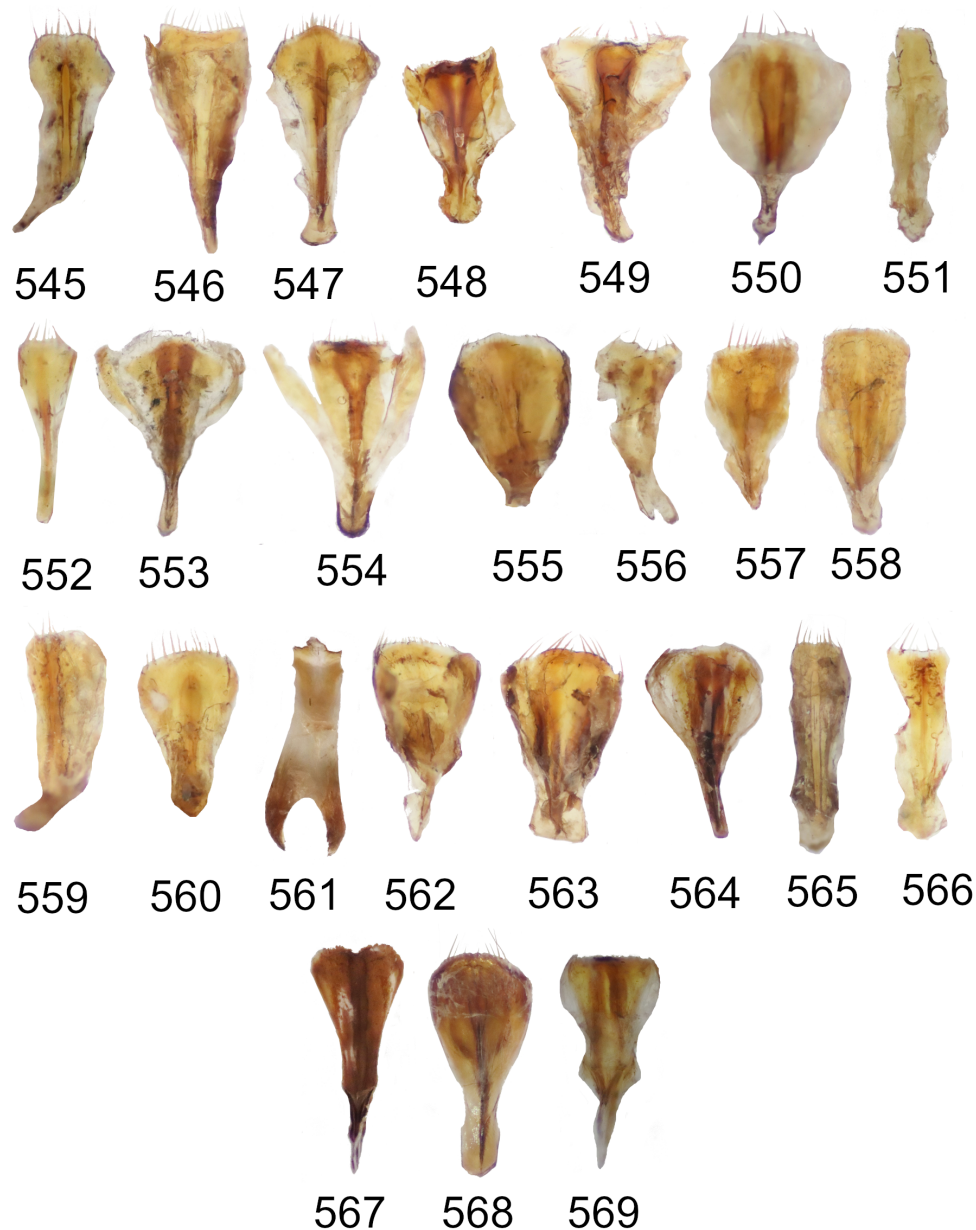
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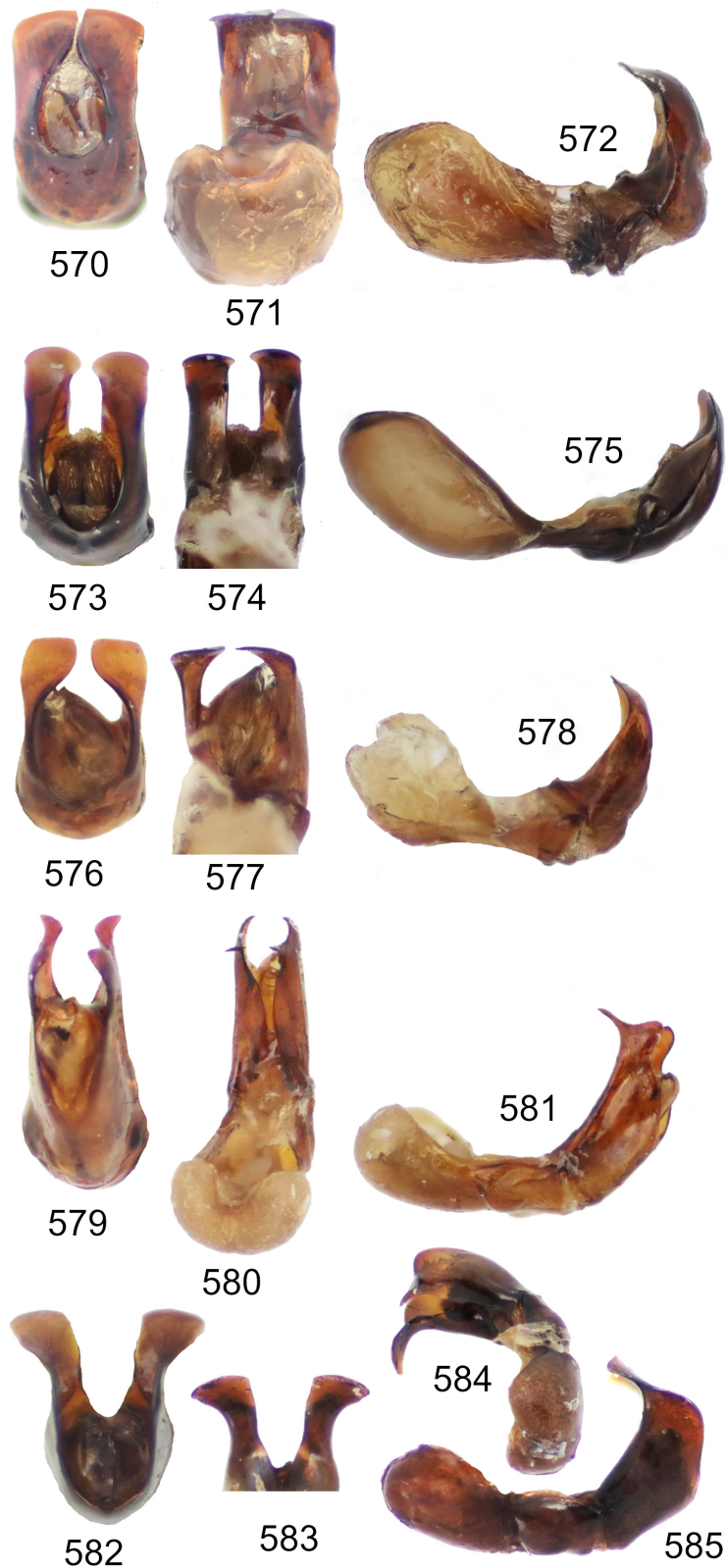
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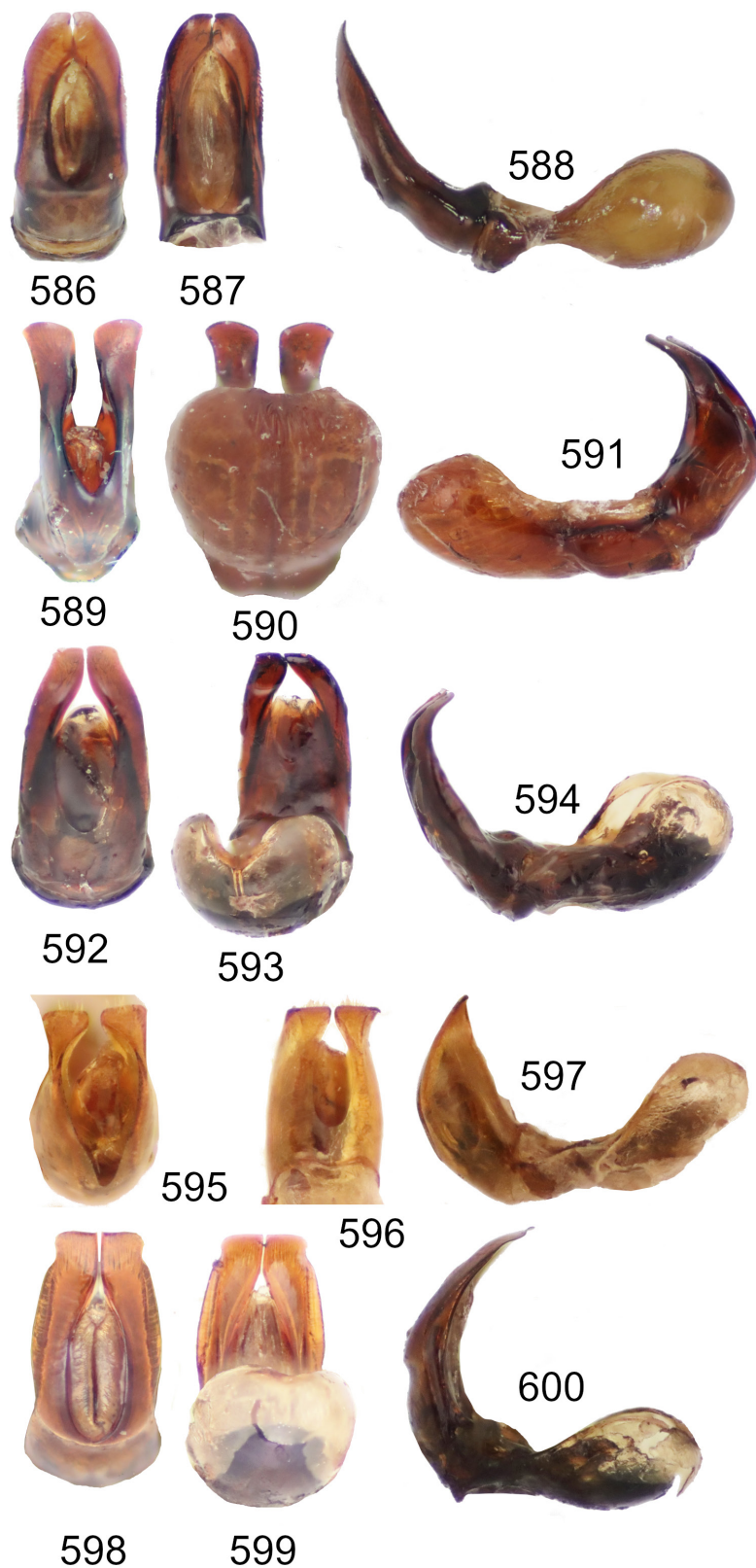
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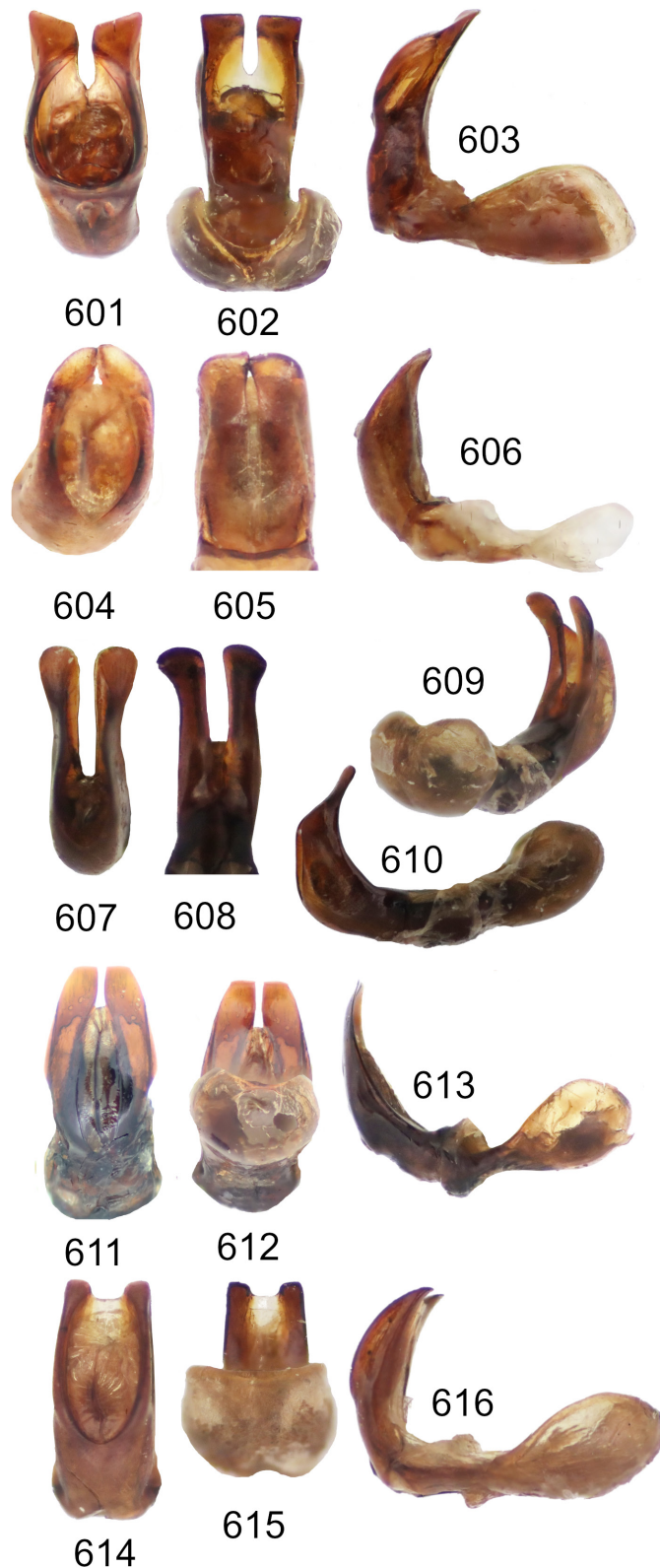
Figs 545–569. Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, spiculum gastrale. **545.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **546.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **547.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **548.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **549.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **550.** *M. leucopsar* sp. nov., holotype, ♂ (IECA). **551.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **552.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **553.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **554.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **555.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **556.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **557.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). **558.** *M. popei* (Frey, 1969) comb. nov., paratype, ♂ (BMNH). **559.** *M. rugicollis* Moser, 1920, ♂ (BMNH). **560.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **561.** *M. esau* Heller, 1914, ♂ (BMNH). **562.** *M. speciosus* (Frey, 1969) comb. nov., ♂. **563.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **564.** *M. suwawa* sp. nov., paratype, ♂ (BMNH). **565.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **566.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **567.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **568.** *M. bintang* sp. nov., holotype, ♂ (NME). **569.** *M. lobaticeps* Frey, 1969, ♂ (DTC). Not to scale.



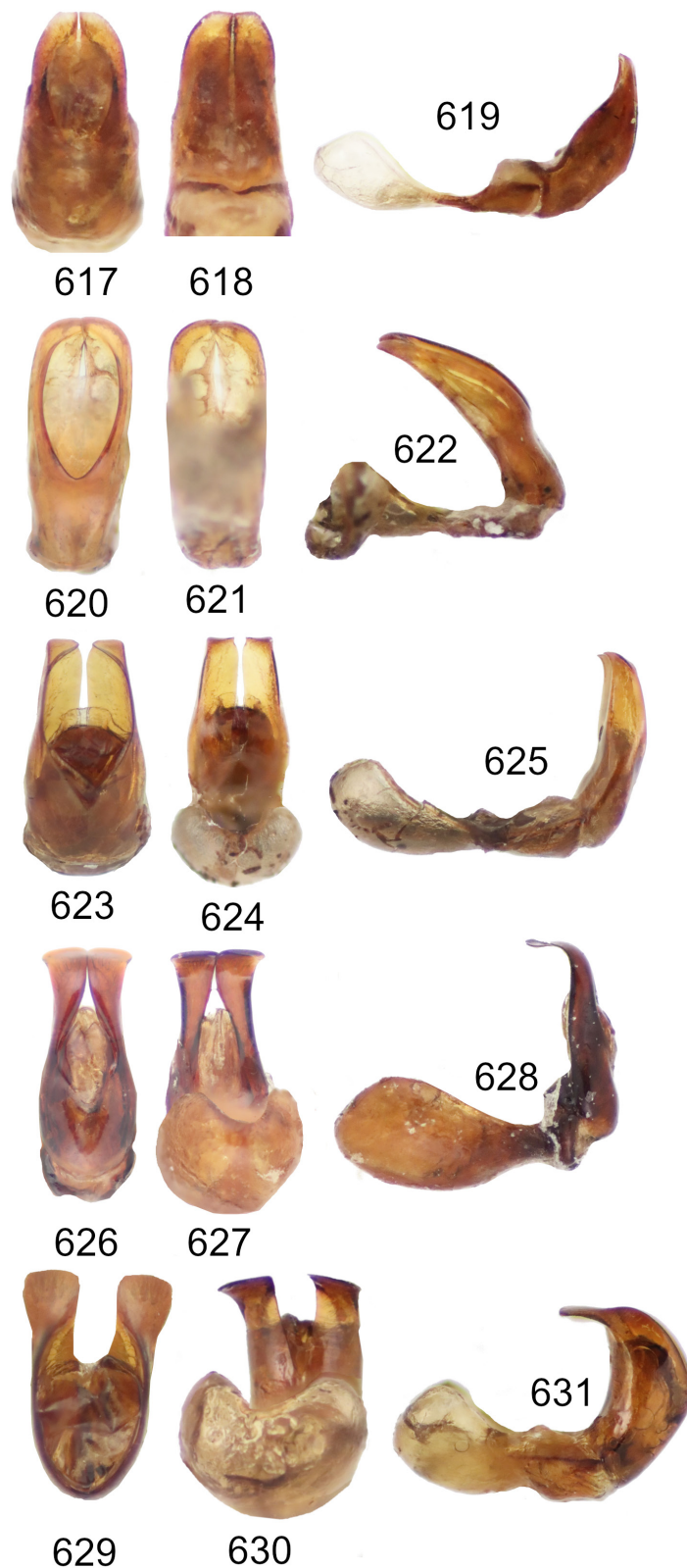
Figs 570–585. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **570–572.** *M. aiyura* sp. nov., holotype, ♂ (BMNH). **573–575.** *M. alesbezdeki* sp. nov., holotype, ♂ (NME). **576–578.** *M. angusticeps* Arrow, 1941, holotype, ♂ (BMNH). **579–581.** *M. awu* sp. nov., holotype, ♂ (IECA). **582–585.** *M. babyrousa* sp. nov., holotype, ♂ (BMNH). Not to scale.



Figs 586–600. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **586–588.** *M. bintang* sp. nov., holotype, ♂ (NME). **589–591.** *M. boessnecki* sp. nov., holotype, ♂ (SNSD). **592–594.** *M. caperatus* sp. nov., holotype, ♂ (NME). **595–597.** *M. ciliatus* sp. nov., holotype, ♂ (IECA). **598–600.** *M. crypticus* sp. nov., holotype, ♂ (BMNH). Not to scale.



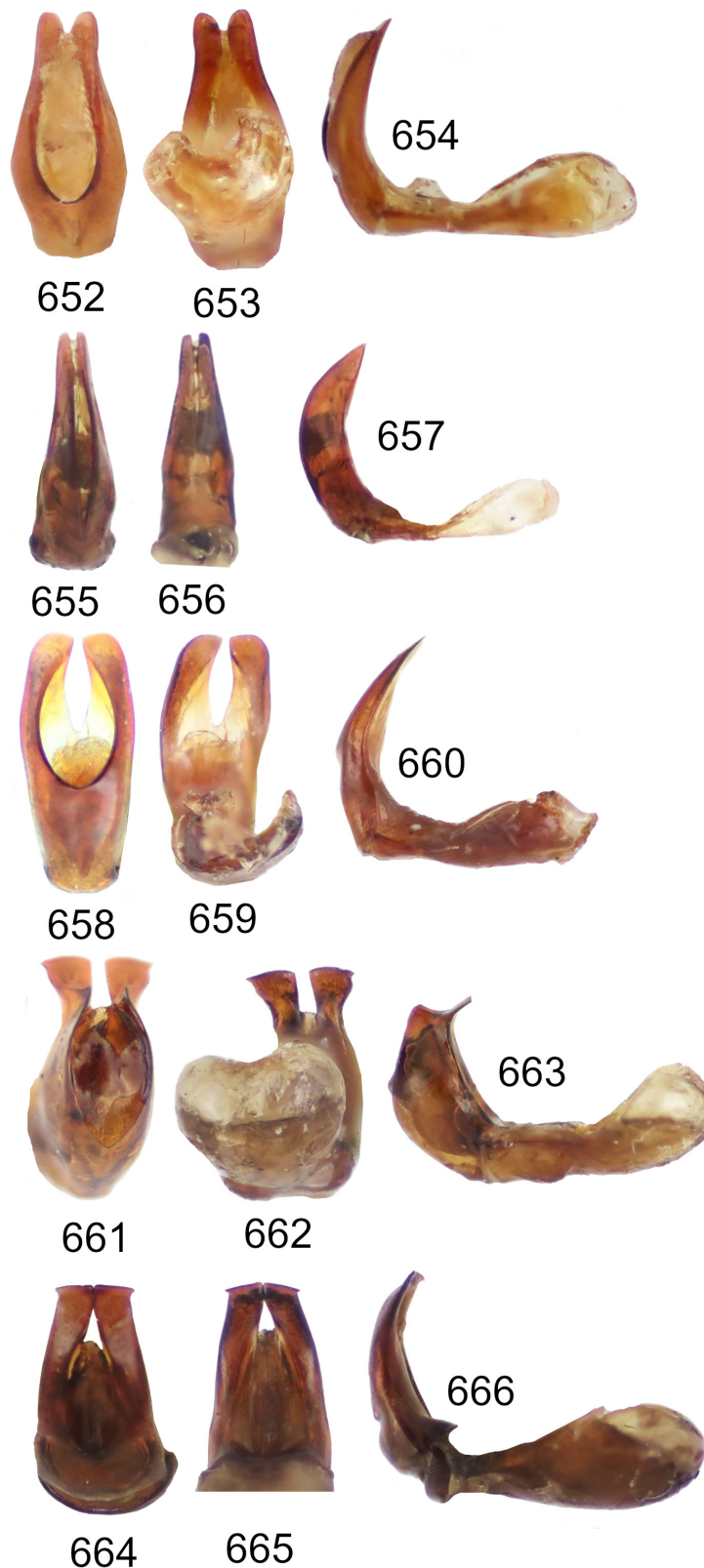
Figs 601–616. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **601–603.** *M. brocki* sp. nov., holotype, ♂ (BMNH). **604–606.** *M. dani* sp. nov., holotype, ♂ (IECA). **607–610.** *M. deltouri* sp. nov., holotype, ♂ (BMNH). **611–613.** *M. dendrolagus* sp. nov., holotype, ♂ (NHMB). **614–616.** *M. esau* Heller, 1914, ♂ (BMNH). Not to scale.



Figs 617–631. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **617–619.** *M. hamatus* sp. nov., holotype, ♂ (IECA). **620–622.** *M. hirtipes* Arrow, 1941, lectotype, ♂ (BMNH). **623–625.** *M. humeralis* Heller, 1914, lectotype, ♂ (SNSD). **626–628.** *M. kazantsevi* sp. nov., holotype, ♂ (BMNH). **629–631.** *M. konjo* sp. nov., holotype, ♂ (NMPC). Not to scale.



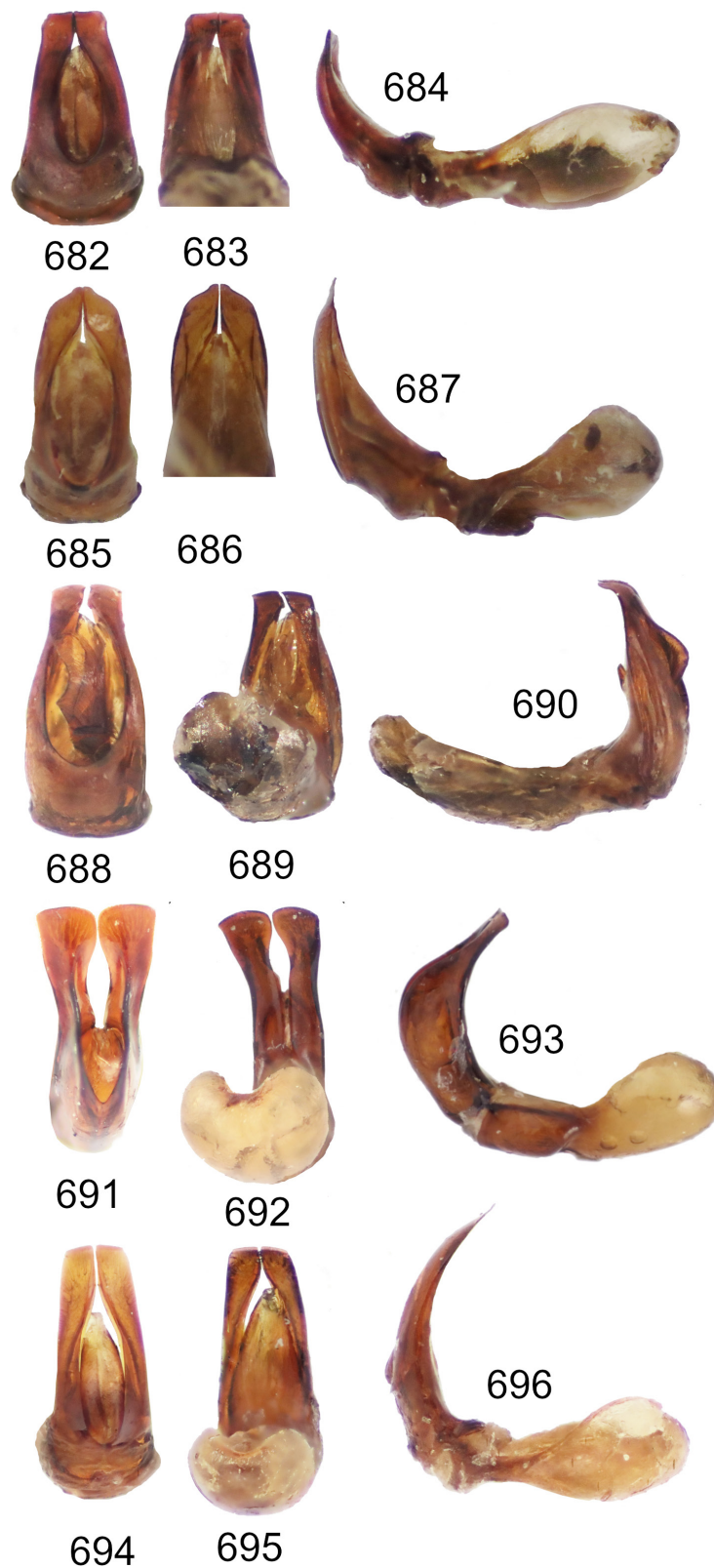
Figs 632–651. Papuan, Wallacean and Oriental *Maechidius* Macleay, 1819, aedeagus, different aspects. **632–634.** *M. lapsus* sp. nov., paratype, ♂, from Cyclops Mts. (BMNH). **635–637.** Same, paratype, ♂, from Yapen Island (BMNH). **638–639.** Same, paratype, ♂, from Waigeo Island (BMNH). **640–642.** *M. legalovi* sp. nov., holotype, ♂ (BMNH). **643–645.** *M. leucopsar* sp. nov., paratype, ♂ (IECA). **646–648.** *M. lineatopunctatus* Frey, 1969, holotype, ♂ (NHMB). **649–651.** *M. lobaticeps* Frey, 1969, ♂ (BMNH). Not to scale.



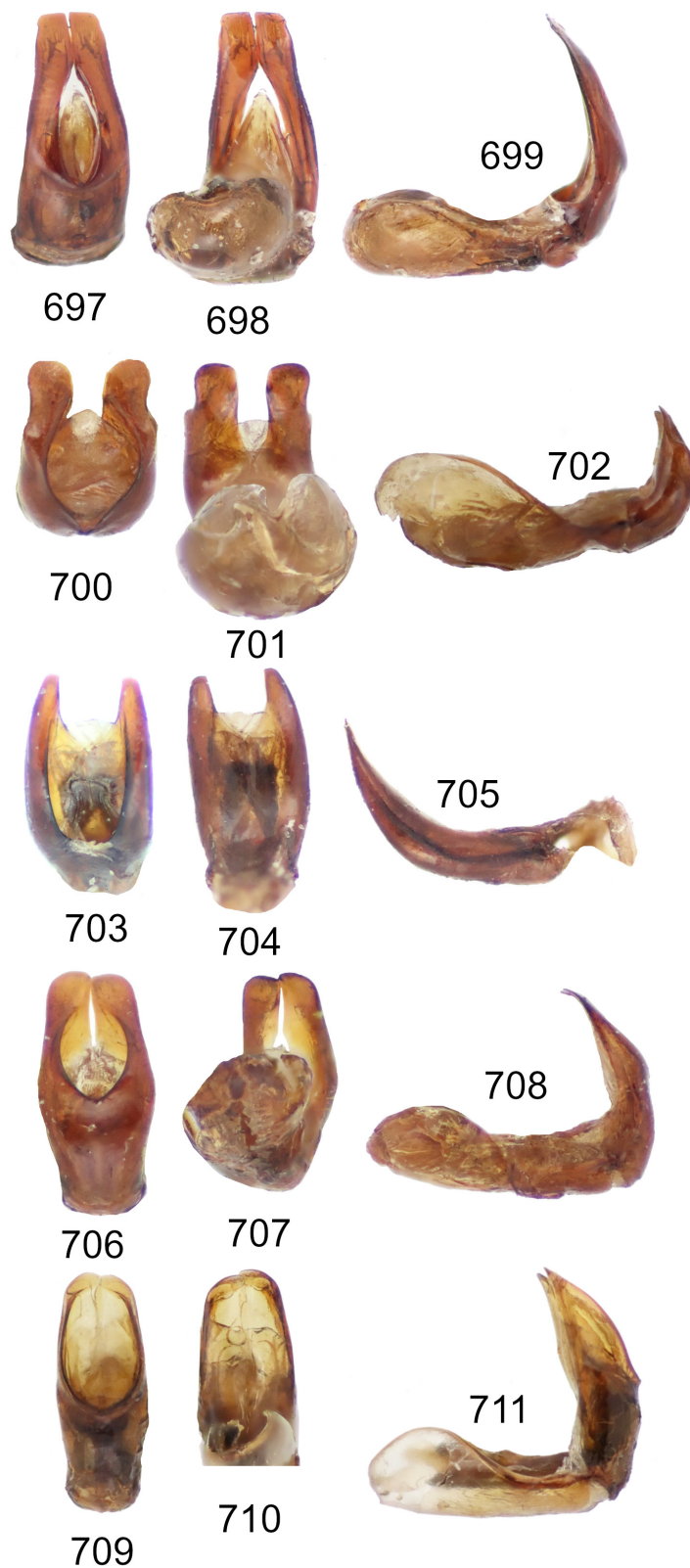
Figs 652–666. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **652–654.** *M. longipes* sp. nov., holotype, ♂ (BMNH). **655–657.** *M. luniceps* Fairmaire, 1883, ♂ (BMNH). **658–660.** *M. mailu* sp. nov., holotype, ♂ (NHMB). **661–663.** *M. maleo* sp. nov., holotype, ♂ (IRSN). **664–666.** *M. merdeka* sp. nov., holotype, ♂ (BMNH). Not to scale.



Figs 667–681. Papuan *Maechidius* Macleay, 1819, aedeagus, different aspects. **667–669.** *M. miklouhomaclayi* sp. nov., holotype, ♂ (NHMB). **670–672.** *M. milneanus* Heller, 1914, ♂ (SNSD). **673–675.** *M. muticus* Arrow, 1941, syntype, ♂ (BMNH). **676–678.** *M. nanus* Arrow, 1941, syntype, ♂ (BMNH). **679–681.** *M. nepenthephilus* sp. nov., holotype, ♂ (NME). Not to scale.



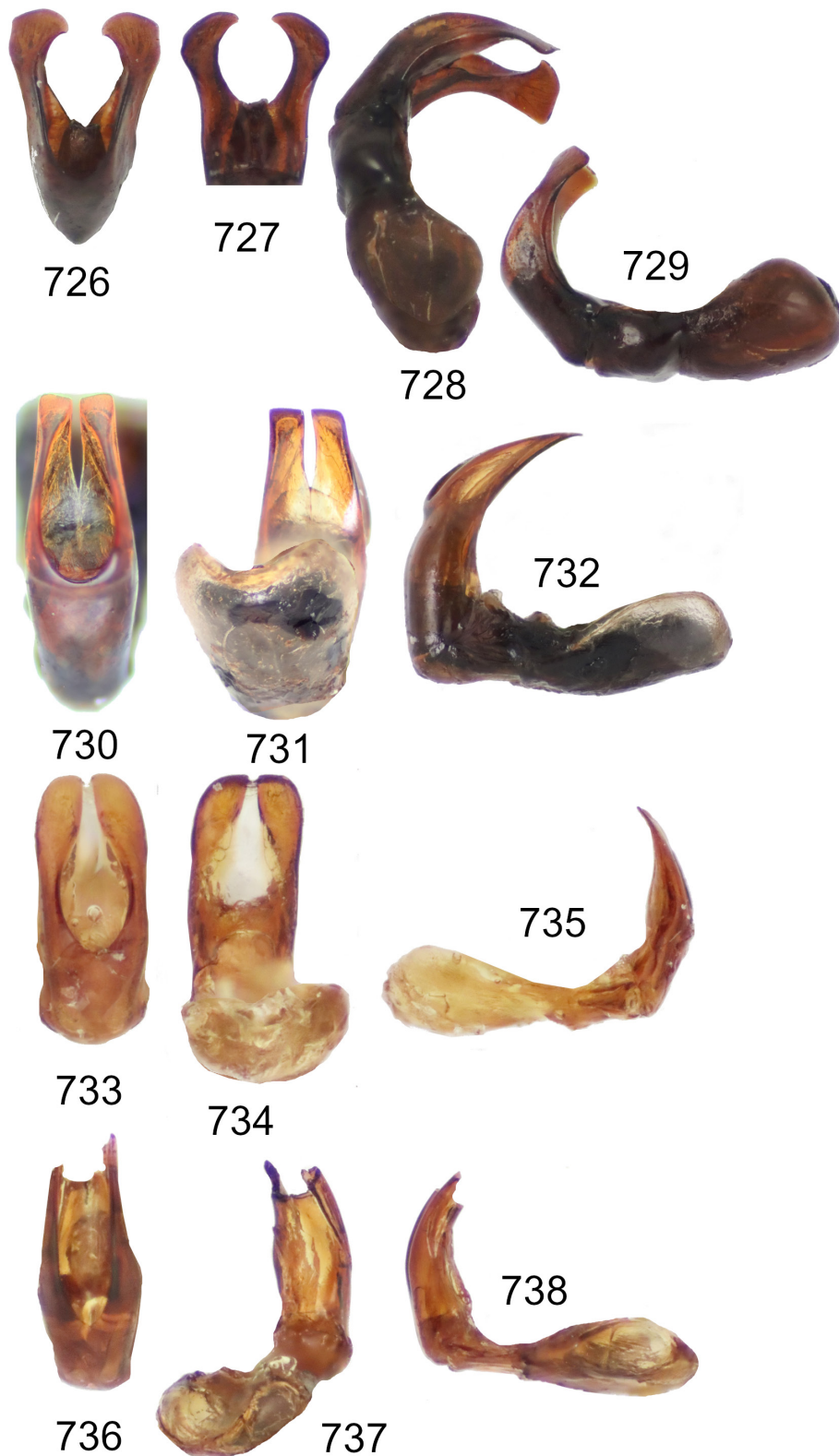
Figs 682–696. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **682–684.** *M. owenstanleyi* sp. nov., holotype, ♂ (BMNH). **685–687.** *M. pauxillus* Heller, 1910 comb. rest., ♂ (BMNH). **688–690.** *M. pedarioides* Arrow, 1941, syntype, ♂ (BMNH). **691–693.** *M. peregrinus* Lansberge, 1886, ♂ (DTC). **694–696.** *M. perlatus* (Frey, 1969) comb. nov., ♂ (SMNS). Not to scale.



Figs 697–711. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **697–699.** *M. popei* (Frey, 1969) comb. nov., paratype, ♂ (BMNH?). **700–702.** *M. riedeli* sp. nov., holotype, ♂ (SMNS). **703–705.** *M. rugicollis* Moser, 1920, ♂ (NHMB). **706–708.** *M. seriegranosus* Heller, 1914, lectotype, ♂ (SNSD). **709–711.** *M. similis* sp. nov., paratype, ♂ (BMNH). Not to scale.



Figs 712–725. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **712–714.** *M. skalei* sp. nov., holotype, ♂ (NME). **715–717.** *M. sougb* sp. nov., holotype, ♂ (NME). **718–720.** *M. speciosus* (Frey, 1969) comb. nov., ♂ (BMNH). **721–723.** *M. sturnus* Arrow, 1941, holotype, ♂ (BMNH). **724–725.** *M. subcostatus* Heller, 1895, lectotype, ♂ (SNSD). Not to scale.



Figs 726–738. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **726–729.** *M. suwawa* sp. nov., holotype, ♂ (BMNH). **730–732.** *M. tarsalis* Arrow, 1941, lectotype, ♂ (BMNH). **733–735.** *M. trivialis* sp. nov., holotype, ♂ (BMNH). **736–738.** *M. vicinus* Heller, 1914, ♂ (apex of parameres broken) (SNSD). Not to scale.



Figs 739–750. Papuan and Wallacean *Maechidius* Macleay, 1819, aedeagus, different aspects. **739–741.** *M. weigeli* sp. nov., paratype, ♂ (NME). **742–744.** *M. woodlarkianus* Heller, 1914, ♂ (SNSD). **745–747.** *M. yamdena* sp. nov., paratype, ♂ (BMNH). **748–750.** *M. paupianus* Heller, 1910 (paratype ♂ of *M. arrowi* Frey, 1969) (BMNH). Not to scale.



Figs 751–753. Dry nutrient-poor semi-dry slopes in eucalypt stands near Doyo Lama village, Sentani env., North New Guinea. Numerous *Maechidius lobaticeps* Frey, 1969 and the type series of *M. nepenthephilus* sp. nov. were sampled from flowers and pitchers of *Nepenthes* sp. in this area.

Annotated checklist of *Maechidiini* from the Indo-Australian transition zone and Bali

***Maechidiini* Burmeister, 1855**

Maechidiini Burmeister, 1855: 208.

***Maechidius* Macleay, 1819**

Maechidius Macleay, 1819: 14. Type species: *Maechidius spurius* Macleay, 1819 (monotypy).
Epholcis Waterhouse, 1875: 192. Type species: *Epholcis divergens* Waterhouse, 1875 (monotypy).
Paramaechidius Frey, 1969: 503. Type species *Maechidius pauxillus* Heller, 1910 (original designation).

***Maechidius acutus* (Narakusumo & Balke, 2019) comb. nov.**

Epholcis acutus Narakusumo & Balke, 2019: 37 (original description), 46 (key).

Type material

MZB (holotype, paratypes).

Distribution

North Moluccas (Halmahera, Ternate).

***Maechidius aenescens* Heller, 1910**

Maechidius aenescens Heller, 1910: 22 (original description).

Maechidius aenescens – Heller 1914: 626 (key). — Frey 1969: 498 (key).

Type material

SNSD (♀ lectotype, 4 paralectotypes).

Distribution

North and NE New Guinea.

***Maechidius agnellus* (Prokofiev, 2018) comb. nov.**

Paramaechidius agnellus Prokofiev, 2018: 160 (original description), 162 (key).

Type material

APC (♂ holotype and 1 ♀ paratype).

New material

INDONESIA • 1 ♀; “♀//INDONESIA, C. Moluccas W. SERAM, 400 m a.s.l., Sahulau env., 5.-17.V.2013, local collector”; IECA.

Distribution

Central Moluccas (western part of Seram).

Maechidius aiyura sp. nov.

Described above.

Type material

BMNH (♂ holotype).

Distribution

Aiyura Valley (Central Cordillera, Eastern Highlands Province), New Guinea.

Maechidius alesbezdeki sp. nov.

Described above.

Type material

NME (♂ holotype).

Distribution

Doberai Peninsula (Arfak Mts.) of New Guinea.

Maechidius angusticeps Arrow, 1941

Maechidius angusticeps Arrow, 1941: 452 (original description), 456 (key).

Maechidius angusticeps – Frey 1969: 499 (key).

Type material

BMNH (♂ holotype).

Distribution

North New Guinea (Bewani Mts.).

Maechidius arcuatus (Narakusumo & Balke, 2019) comb. nov.

Epholcis arcuatus Narakusumo & Balke, 2019: 39 (original description), 46 (key).

Type material

MZB (holotype, paratypes), NMNL (paratypes).

Distribution

North (Halmahera, Obi) and Central Moluccas (Ambon, Seram).

Maechidius aroae Heller, 1914

Maechidius aroae Heller, 1914: 626 key, 627 (original description).

Maechidius aroae – Frey 1969: 494 (key).

Type material

SNSD (♀ lectotype).

Distribution

Papuan Peninsula of New Guinea.

Maechidius awu sp. nov.

Described above.

Type material

IECA (♂ holotype, 1 ♂, 2 ♀♀ paratypes), DTC (1 ♀ paratype).

Distribution

Sangihe Islands (the northernmost record of the Maechidiini).

Maechidius babyrousa sp. nov.

Described above.

Type material

BMNH (♂ holotype, 12 paratypes).

Distribution

North Sulawesi.

Maechidius bintang sp. nov.

Described above.

Type material

NME (♂ holotype).

Distribution

Central Cordillera (Star Mts.) of New Guinea.

Maechidius boessnecki sp. nov.

Described above.

Type material

SNSD (♂ holotype).

Distribution

North Sulawesi.

Maechidius brocki sp. nov.

Described above.

Type material

BMNH (♂ holotype, 8 paratypes).

Distribution

Papuan Peninsula of New Guinea.

Maechidius cakalele (Narakusumo & Balke, 2019) comb. nov.

Epholcis cakalele Narakusumo & Balke, 2019: 41 (original description), 46 (key).

Type material

MZB (holotype, paratypes), NMNL (paratypes).

Distribution

North Moluccas (Halmahera, Obi, Ternate).

Maechidius caperatus sp. nov.

Described above.

Type material

NME (♂ holotype).

Distribution

Bird's Neck Isthmus of New Guinea.

Maechidius ciliatus sp. nov.

Described above.

Type material

IECA (♂ holotype).

Distribution

East New Guinea (Madang Province).

Maechidius crypticus sp. nov.

Described above.

Type material

BMNH (♂ holotype, 7 paratypes).

Distribution

East New Guinea (Herzog Mts).

Maechidius dani sp. nov.

Described above.

Type material

IECA (♂ holotype, 1 ♂ paratype).

Distribution

Central Cordillera (Baliem Valley) of New Guinea.

Maechidius deltouri sp. nov.

Described above.

Type material

BMNH (♂ holotype).

Distribution

North Sulawesi.

Maechidius dendrolagus sp. nov.

Described above.

Type material

NHMB (♂ holotype, 1 ♂ paratype).

Distribution

Madang Province, East New Guinea.

Maechidius esau Heller, 1914

Maechidius esau Heller, 1914: 626 key, 627 (original description).

Maechidius setosus Moser, 1920: 17 (original description).

Maechidius setosellus Frey, 1969: 496 key, 500 (original description).

Maechidius esau – Frey 1969: 495 (key).

Maechidius setosus – Frey 1969: 495 (key).

Type material

Maechidius esau: SNSD (♂ lectotype).

Maechidius setosus: ZMHB (♂ lectotype).

Maechidius setosellus: BMNH (♂ holotype and 1 paratype), NHMB (1 ♂ paratype).

Distribution

North (East Sepik Province) and East New Guinea (Finisterre Mts).

Maechidius fraterculus Moser, 1920

Maechidius fraterculus Moser, 1920: 15 (original description).

Maechidius fraterculus – Frey 1969: 498 (key).

Type material

ZMHB (♀ lectotype).

Distribution

New Guinea (without further details). Frey (1969) additionally gives “Gr. O.-N.-Guinea” [German East New Guinea] with no further explanation.

Maechidius gressitti Frey, 1969

Maechidius gressitti Frey, 1969: 498 key, 503 (original description).

Type material

BPBM (♂ holotype, 2 paratypes), NHMB (2 paratypes).

Distribution

Southern lowlands of New Guinea (Fly River basin). One paratype specimen from Morobe Province, E Papua New Guinea, is probably misidentified or mislabelled and does not belong to the type series (see above).

Maechidius hamatus sp. nov.

Described above.

Type material

IECA (♂ holotype, 4 ♂♂ paratypes).

Distribution

Central Cordillera (Baliem Valley) of New Guinea.

Maechidius helleri (Frey, 1969) comb. nov.

Paramaechidius helleri Frey, 1969: 504 key, 506 (original description).

Type material

BPBM (♀ holotype), NHMB (♀ paratype).

Distribution

New Britain of Bismarck Archipelago. Frey (1969) gives “S. E. Bismarck Range Tipu, 6000 ft.” in the key [Central Cordillera of New Guinea, Bismarck Range], but “New Britain Sio. N. Coast” in the original description. Moreover, Sio is a settlement on the northern coast of New Guinea’s Huon Peninsula and not on New Britain.

Maechidius heterosquamosus Heller, 1910 comb. rest.

Maechidius heterosquamosus Heller, 1910: 23, (original description).

Paramaechidius clypeatus Frey, 1969: 505 (key and new combination).

Maechidius heterosquamosus – Heller 1914: 625 (key).

Type material

Maechidius heterosquamosus: SNSD (♀ lectotype).

Paramaechidius clypeatus: BPBM (♂ holotype).

Distribution

North New Guinea (Torricelli Mts.).

Remarks

The male paratype from NHMB belongs to *Maechidius lapsus* sp. nov.

Maechidius hirtipes Arrow, 1941

Maechidius hirtipes Arrow, 1941: 453 (original description), 456 (key).

Maechidius hirtipes – Frey 1969: 496 (key).

Type material

BMNH (1♂ lectotype) [there should be 2 syntypes in BMNH according to the original description, but only one was located. Instead, there is note from M. Bacchus dated December 1969: “second syntype missing”].

Distribution

East New Guinea (Papuan Peninsula).

Remarks

The hypomeron is moderately raised on the anterolateral margin, medially acute and dentate.

Maechidius humeralis Heller, 1914

Maechidius humeralis Heller, 1914: 626 (key), 628 (original description).

Maechidius humeralis – Frey 1969: 498 (key).

Type material

SNSD (♂ lectotype, 2 ♀♀ paralectotypes).

Distribution

North New Guinea (Torricelli Mts).

Maechidius interruptocarinulatus Heller, 1914

Maechidius interrupto-carinulatus Heller, 1914: 624 (original description), 626 (key).

Maechidius interruptocarinulatus – Frey 1969: 498 (key).

Type material

SNSD (holotype ♀).

Distribution

West New Guinea (Bird’s Neck Isthmus), North New Guinea (Cyclops Mts), Raja Ampat Islands (Waigeo).

Maechidius jobiensis Moser, 1920

Maechidius jobiensis Moser, 1920: 18 (original description).

Maechidius jobiensis – Arrow 1941: 448 (general comment).

Type material

ZMHB (♂ lectotype).

Distribution

Cenderawasih Bay Islands (Yapen) and North New Guinea (Jayapura surroundings).

Maechidius kazantsevi sp. nov.

Described above.

Type material

BMNH (♂ holotype).

Distribution

North New Guinea (Humboldt Bay).

Maechidius konjo sp. nov.

Described above.

Type material

NMPC (♂ holotype, 1 ♂ paratype).

Distribution

South Sulawesi.

Maechidius lapsus sp. nov.

Described above. Prokofiev (2018: 61) figured aedeagus of this species misidentified as “*Paramaechidius pauxillus*” (see also below).

Type material

BMNH (♂ holotype, 6 paratypes).

Distribution

Entire northern New Guinea (from Nabire to Madang), Cenderawasih Bay Islands (Yapen), Raja Ampat Islands (Waigeo).

Maechidius legalovi sp. nov.

Described above.

Type material

BMNH (♂ holotype, 2 paratypes).

Distribution

Central Sulawesi.

Maechidius leucopsar sp. nov.

Described above.

Type material

IECA (♂ holotype, 1 ♂ paratype).

Distribution

Bali of Lesser Sunda Islands (the westernmost record of the *Maechidiini*).

Maechidius lineatopunctatus Frey, 1969

Maechidius lineatopunctatus Frey, 1969: 497 (key), 502 (original description).

Type material

NHMB (♂ holotype, 1 ♀ paratype), ANIC (16 ♂♀ paratypes).

Distribution

Papuan Peninsula of New Guinea.

Maechidius lobaticeps Frey, 1969

Maechidius lobaticeps Frey, 1969: 494 (key), 499 (original description).

Type material

BMNH (♂ holotype, 108 paratypes), SNSD (1 ♀ paratype), BPBM and NHMB (unspecified number of paratypes).

Distribution

According to Frey (1969: 499): most of New Guinea from Doberai Peninsula through Bird's Neck Isthmus, North (Cyclops Mts) through Central Cordillera (Baliem Valley) towards the East (Finisterre Mts. & Papuan Peninsula), also Cenderawasih Bay Islands (Yapen). The occurrence of this species as specified by Frey (1969) is not impossible but needs further confirmation since I have not seen specimens from the Doberai Peninsula, Baliem Valley or Yapen.

Maechidius longipes sp. nov.

Described above.

Type material

BMNH (♂ holotype, 1 paratype).

Distribution

New Guinea (exact locality unknown).

Maechidius luniceps Fairmaire, 1883

Maechidius luniceps Fairmaire, 1883: 8 (original description).

Type material

ZMUH (syntype). Gebien (1907: 206) states that the "Type!" is in the ZMUH collection. However, Weidner (1976, 1979) does not list this species among the types stored in ZMUH. It remains unclear whether *M. luniceps* was omitted by Weidner or the type was lost in WWII.

Distribution

New Britain of Bismarck Archipelago.

Maechidius mailu sp. nov.

Described above.

Type material

NHMB (♂ holotype).

Distribution

Papuan Peninsula, East New Guinea.

Maechidius maleo sp. nov.

Described above.

Type material

IRSN (♂ holotype).

Distribution

North Sulawesi.

Maechidius merdeka sp. nov.

Described above.

Type material

BMNH (♂ holotype, 1 paratype).

Distribution

New Guinea, “Doron” (this locality cannot be traced).

Maechidius mikloughomaclayi sp. nov.

Described above.

Type material

NHMB (♂ holotype).

Distribution

Madang Province, East New Guinea.

Maechidius milneanus Heller, 1914

Maechidius milneanus Heller, 1914: 626 (key), 628 (original description).

Maechidius milneanus – Frey 1969: 495 (key).

Type material

SNSD (♀ lectotype, 1 ♀ paralectotype).

Distribution

Milne Bay, SE tip of Papuan Peninsula, New Guinea.

Maechidius moluccanus Moser, 1920 comb. rest.

Maechidius moluccanus Moser, 1920: 16 (original description).

Maechidius moluccanus – Prokofiev 2018: 162 (key).

Epholcis moluccanus – Narakusumo & Balke 2019: 43 new combination, lectotype designation and redescription, 46 (key).

Type material

ZMHB (lectotype).

Distribution

Central Moluccas (Seram, Gorom?).

Maechidius muticus Arrow, 1941

Maechidius muticus Arrow, 1941: 451 (original description), 455 (key).

Maechidius muticus – Frey 1969: 497 (key).

Type material

BMNH (4 syntypes).

Distribution

North New Guinea (Bewani Mts).

Maechidius nanus Arrow, 1941

Maechidius nanus Arrow, 1941: 449 (original description), 455 (key).

Maechidius nanus – Frey 1969: 496 (key).

Type material

BMNH (21 syntypes).

Distribution

Waigeo of Raja Ampat Islands.

Maechidius nepenthephilus sp. nov.

Described above.

Type material

NME (♂ holotype), DTC (1 ♀ paratype).

Distribution

New Guinea, Sentani area.

Maechidius obiensis (Narakusumo & Balke, 2019) comb. nov.

Epholcis obiensis Narakusumo & Balke, 2019: 45 original description as, 46 (key).

Type material

MZB (holotype, paratypes).

Distribution

North Moluccas (Halmahera, Obi).

Maechidius opatroides Arrow, 1941 comb. rest.

Maechidius opatroides Arrow, 1941: 454 (original description), 456 (key).

Paramaechidius opatroides – Frey 1969: 504 (key and new combination).

Type material

BMNH (♀ lectotype, 3 ♀♀ paralectotypes).

Distribution

Waigeo of Raja Ampat Islands.

Maechidius owenstanleyi sp. nov.

Described above.

Type material

BMNH (♂ holotype, 7 paratypes).

Distribution

Papuan Peninsula of New Guinea.

Maechidius papuanus Moser, 1926

Maechidius papuanus Moser, 1926: 200 (original description).

Maechidius papuanus – Frey 1969: 498 (key).

Type material

ZMHB (♀ lectotype).

Distribution

Bird's Neck Isthmus of New Guinea.

Maechidius parallelcollis Moser, 1920

Maechidius parallelcollis Moser, 1920: 15 (original description).

Type material

ZMHB (♂ lectotype).

Distribution

Cenderawasih Bay Islands (Roon).

***Maechidius paupianus* Heller, 1910**

Maechidius paupianus Heller, 1910: 23 (original description).

Maechidius arrowi Frey, 1969: 497 (key), 501 (original description).

Maechidius paupianus – Heller 1914: 626 (key). — Frey 1969: 497 key, as *M. paupiensis* [sic!].

Type material

Maechidius paupianus: SNSD (♀ lectotype).

Maechidius arrowi: BMNH (♂ holotype, 22 paratypes), NHMB (unknown number of paratypes).

Distribution

North and East New Guinea.

***Maechidius pauxillus* Heller, 1910 comb. rest.**

Maechidius pauxillus Heller, 1910: 24 (original description).

Maechidius pauxillus – Heller 1914: 625 (key). — Prokofiev 2018: 161, figure of male aedeagus refers to *Maechidius lapsus* sp. nov.

Paramaechidius pauxillus – Frey 1969: 504, 506 (new combination and key).

Type material

SNSD (♂ lectotype).

Distribution

East New Guinea (Finisterre Mts).

***Maechidius pedarioides* Arrow, 1941**

Maechidius pedarioides Arrow, 1941: 451 (original description), 456 (key).

Type material

BMNH (5 syntypes).

Distribution

Waigeo of Raja Ampat Islands.

***Maechidius peregrinus* Lansberge, 1886**

Maechidius peregrinus Lansberge, 1886: 136.

Maechidius peregrinus – Prokofiev 2018: 162 (key).

Type material

NMNL (♀ syntype).

Distribution

South Sulawesi.

Maechidius perlatus (Frey, 1969) comb. nov.

Paramaechidius perlatus Frey, 1969: 504 (key), 507 (original description).

Type material

NHMB (♂ holotype).

Distribution

New Guinea (Bismarck Range, Wondiwoi Mts), Yapen Island of Cenderawasih Bay Islands.

Maechidius popei (Frey, 1969) comb. nov.

Paramaechidius popei Frey, 1969: 505 key, 508 (original description).

Type material

BMNH (♀ holotype, 1 ♂ paratype), NHMB (1 paratype).

Distribution

Bismarck Range of Central New Guinea and Papuan Peninsula (East new Guinea). Frey (1969) erroneously gives “New Britain N. coast” [Bismarck Archipelago] in the key, but “S. E. Bismarck Range Topu [sic!], 6000 ft.” in the original description, and does not mention any paratype from Boneno.

Maechidius riedeli sp. nov.

Described above.

Type material

SMNS (♂ holotype).

Distribution

Yapen of Cenderawasih Bay Islands.

Maechidius rugicollis Moser, 1920

Maechidius rugicollis Moser, 1920: 17 (original description).

Maechidius rugicollis – Frey 1969: 495 (key).

Type material

ZMHB (♀ lectotype, 1 ♀ paralectotype).

Distribution

East and North (Cyclops Mts) New Guinea.

Maechidius seriegranosus Heller, 1914

Maechidius seriegranosus Heller, 1914: 626 (key), 628 (original description).

Maechidius seriegranosus – Frey 1969: 498 (key).

Type material

SNSD (♂ lectotype).

Distribution

Papuan Peninsula and Central Cordillera of New Guinea.

Maechidius seriepunctatus Moser, 1920

Maechidius seriepunctatus Moser, 1920: 16 (original description).

Maechidius seriepunctatus – Frey 1969: 499 (key).

Type material

ZMHB (♂ lectotype).

Distribution

Mioko (Duke of York Island) of Bismarck Archipelago.

Maechidius similis sp. nov.

Described above.

Type material

BMNH (♂ holotype, 13 paratypes).

Distribution

North Sulawesi.

Maechidius simplex Frey, 1969

Maechidius simplex Frey, 1969: 495 (key), 500 (original description).

Type material

BPBM (♂ holotype).

Distribution

Central Cordillera of New Guinea (Star Mts).

Maechidius skalei sp. nov.

Described above.

Type material

NME (♂ holotype, 1 ♂ paratype).

Distribution

Central part of Sulawesi (Central & South administrative provinces).

Maechidius sougb sp. nov.

Described above.

Type material

NME (♂ holotype).

Distribution

Doberai Peninsula (Arfak Mts), W New Guinea.

Maechidius speciosus (Frey, 1969) comb. nov.

Paramaechidius speciosus Frey, 1969: 506 (key), 507 (original description).

Paramaechidius speciosus – Prokofiev 2018: 161.

Type material

BMNH (♂ holotype), NHMB (♂ paratype).

Distribution

East New Guinea (Finisterre Mts), North New Guinea (Mount Nomo & Cyclops Mts), Cenderawasih Bay Islands (Yapen).

Maechidius sturnus Arrow, 1941

Maechidius sturnus Arrow, 1941: 450 (original description), 455 (key).

Type material

BMNH (♂ holotype).

Distribution

Cenderawasih Bay Islands (Yapen).

Maechidius subcostatus Heller, 1895

Maechidius subcostatus Heller, 1895: 1 (original description).

Maechidius subcostatus – Heller 1914: 625 (key). — Frey 1969: 496 (key).

Type material

SNSD (♂ lectotype, 1 ♂ paralectotype), ZMHB (2 paralectotypes).

Distribution

East New Guinea (Finisterre Mts).

Maechidius suwawa sp. nov.

Described above.

Type material

BMNH (♂ holotype and 4 ♂♂, 1 ♀ paratypes).

Distribution

North Sulawesi.

Maechidius tarsalis Arrow, 1941

Maechidius tarsalis Arrow, 1941: 454 (original description), 456 (key).

Maechidius tarsalis – Frey 1969: 497 (key).

Type material

BMNH (♂ lectotype, 1 ♂ paralectotype).

Distribution

Papuan Peninsula of New Guinea.

Maechidius trivialis sp. nov.

Described above.

Type material

BMNH (♂ holotype).

Distribution

Papuan Peninsula of New Guinea.

Maechidius ursus sp. nov.

Described above.

Type material

NME (♀ holotype).

Distribution

Misool of Raja Ampat Islands.

Maechidius vicinus Heller, 1914

Maechidius vicinus Heller, 1914: 626 (key), 628 (original description).

Maechidius vicinus – Frey 1969: 497 (key).

Type material

SNSD (♀ lectotype, 1 ♀ paralectotype).

Distribution

New Guinea (no exact locality known).

Maechidius weigeli sp. nov.

Described above.

Type material

NME (♂ holotype, 4 paratypes), DTC (1 paratype).

Distribution

W part of Central Cordillera of New Guinea.

Maechidius woodlarkianus Heller, 1914

Maechidius woodlarkianus Heller, 1914: 626 (key), 627 (original description).

Type material

SNSD (♀ lectotype).

Distribution

Woodlark of Woodlark Islands (the easternmost record of the Maechidiini in the Papuan Region).

Maechidius yamdena sp. nov.

Described above.

Type material

BMNH (♂ holotype, 28 paratypes).

Distribution

Yamdena of Tanimbar Islands.

Maechidius spp.

INDONESIA • 3 ♀♀; “[sp.2]: INDONESIA, N-Molukken Bacan Labuha, Hotel “Buana Lipu” 0°39’0”N [sic! Labuha is in Southern Hemisphere], 127°29’6”E, 12.I.2006 leg. A. Skale LF hotel + plantage”; ASC. This species is close to *M. arcuatus* comb. nov., *M. cakalele* comb. nov. and *M. obiensis* comb. nov. but specifically different.

PAPUA NEW GUINEA • 12 ♀♀; “TERR. PAPUA & NEW GUINEA: Maprik. 28.x.1957. J.Smart. // Brit. Mus. 1957-693. [p]”, BMNH. This species is undoubtedly related to *M. esau* but the pronotum is more strongly constricted anteriorly in all studied females.

PAPUA NEW GUINEA • 1 ♀; “[sp.9]: Stn. No. 46.//NEW GUINEA: Madang Distr., Finisterre Mts. Damanti 3,550 ft. 2-11.x.1964//M.E. Bacchus. B.M. 1965-120//*Maechidius opatroides* Arr. det.G.Frey,1967/68”; BMNH. This species is close to *M. heterosquamosus* Heller, 1910 but specifically different.

PAPUA NEW GUINEA • 1 ♀; “Stn. No. 46.//NEW GUINEA: Madang Distr., Finisterre Mts. Damanti 3,550 ft. 2-11.x.1964//M.E. Bacchus. B.M. 1965-120//20 prope *M. Arrowi* det.G.frey,1967/68”; BMNH. Close to *M. paupianus* but specifically different.

INDONESIA • 1 ♀; “[sp.6]: N.DUTCH NEW GUINEA: Waigeu. Mt. Nok. Camp 2. (Buffelhorn) vi.1938. L.E.Cheesman. B.M.1938-593”; BMNH. Close to *M. angusticeps* and *M. muticus*, impossible to identify.

INDONESIA • 1 ♀; “DUTCH NEW GUINEA: Humboldt Bay Dist. Bewani Mts. ix.1937.//W.Stüber. B.M. 1938-177”; BMNH. Close to *M. interruptocarinulatus*.

PAPUA NEW GUINEA • 6 ♀♀; “N.E.NEW GUINEA: Saiko, 5,500-6,000 ft. Bubu River (Upper Waria River.) Sept.-Oct. 1936.//F.Shaw-Mayer. B.M.1937-350”; BMNH. Close to *M. fraterculus* and *M. seriegranosus* but larger and specifically different.

PAPUA NEW GUINEA • 4 ♀♀; “[sp.10]: PAPUA: Kokoda. 1,200ft. viii.1933. L.E.Cheesman. B.M.1933-577”; BMNH. Same as previous lot.

PAPUA NEW GUINEA • 1 ♀; “[sp.11]: Papua N.Guinea Central Prov. Yule Island.// 10 Jan 1978 at black light Coll. Ento. Staff//29312//C.I.E. COLL. A10223”; BMNH. Similar to *M. seriegranosus* but larger and specifically different.

PAPUA NEW GUINEA • 1 ♀; “[sp.15]: Stn. No. 137.//NEW GUINEA: Morobe Dist., Herzog Mts., Vagau, C.4,000 ft. 4-17.i.1965.//M.E. Bacchus. B.M. 1965-120”; BMNH.

INDONESIA • 1 ♀; “[sp.4]: INDONESIA E, New Guinea, Papua Prov., Star Mountains, Oksibil 23 km SSE, Beringin vill., 05°05’01”S, 140°43’27”E, 310 m, 12.III.2018, secondary lowland rainforest, MV light, leg. D.Telnov”; DTC. Member of the *M. pauxillus* group, but not a female of any species reviewed in current paper.

INDONESIA • 1 ♀; “[sp.1]: Indonesia, N. MOLUCCAS, BACAN ISL., 500-700 M alt., SE slopes of MT. SIBELA 5 km SE of MAKIAN vill., 2.-15.5.2008, St. Jakl lgt”; IECA. This is peculiar species with no externally close relatives.

INDONESIA • 1 ♀; “[sp.5]: Indonesia, West Papua, ARFAK Mts., 1190 m alt., DUEBEI env., 21.1.-8.2.2008, cca 20 km S of Wamere, Manokwari distr., S. Jakl lgt”; IECA. This species is close to *M. sougb* sp. nov. but specifically different.

PAPUA NEW GUINEA • 1 ♀; “[sp.7]: Muruk N^{le} Bretagne 1.98 P. de Coninck//Expe speleo N^{le} Guinee FFSI11.1198//New Britain Nakanai Mts. Nuruk cave”; IECA. This is a peculiar species close to *M. caperatus* sp. nov.

INDONESIA • 1 ♀; “[sp.12]: INDONESIA, Papua: Jayapura Distr.; 5 km NE of Sentani S slopes of Cycloops [sic!] Mts., Gn. Ifar 02°32.8’S, 140°33.2’E, 315 m J.Hájek & J.Šumpich leg., 30.i.2015//coll. general National Museum Prague, Czech Republic”; IECA. Close to *M. paupianus* and *M. vicinus* but specifically different.

INDONESIA • 1 ♀; “[sp.13]: Coll. I.R.Sc.N.B. SULAWESI Utara Ice Station Zebra (1570m) 03.XI.1985, station : 081 Leg. J. Van Stalle”; IRSN. Similar to Sulawesi congeners but specifically different.

INDONESIA • 1 ♀; “[sp.16]: INDONESIA E, W New Guinea, Doberai Peninsula, Arfak mts, Anggi Gigi Lake S env., Uper vill. & surroundings, 1°18’10”S, 133°54’03”E, 08-09.IX.2015, 1985 m, primary mid montane rainforest, white light, leg. D.Telnov”; DTC. Similar to *M. interruptocarinulatus* but specifically different.

INDONESIA • 1 ♀; “[sp.4]: INDONESIA E, New Guinea, Papua Prov., Star Mountains, Oksibil, 4°54’17”S, 140°38’09”E, 1320 m, 09.III.2018, white light, leg. D.Telnov”; DTC. This is a peculiar species with no externally close relatives.

INDONESIA • 1 ♀; “INDONESIA, West Papua prov. [sic! Misool Island belongs to Raja Ampat administrative province] E.Moluccas [sic! Misool Island is not a part of the Moluccan Islands administrative area], Misool I. XI.2016, 0-500 m alt. local collector leg.”; IECA. Member of the *M. pauxillus* group, not possible to identify.

INDONESIA • 1 ♀; “INDONESIA Irian Jaya Nabire,S, km 120-150 Unipo-Ebomani [sic!] 09.I.1997 leg.A.Weigel”; NME. Species of the *M. pauxillus* group.

INDONESIA • 1 ♀; “[sp.8]: IRIAN JAYA, Japen [sic!] Isl. (north coast), Tindaret 50-100 m, 21.XII.2000, leg. A. RIEDEL”; SMNS.

PAPUA NEW GUINEA • 1 ♀; “D.Neuguinea Rawinnson Geb. [p, blue label]//1914 [p] 16 [h]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

PAPUA NEW GUINEA • 1 ♀; „[sp.14]: Fergusson I. ix. x. xii. xii. 98, (A. S. Mee). [p]//Coll. C. Felsche Kauf 20, 1918 [p, blue label]//Staatl. Museum für Tierkunde Dresden [p]”; SNSD.

Discussion

Biogeography

Three genera of Maechidiini in the concept of former authors were reported from the Papuan Region and Wallacea (cf. Lansberge 1886; Frey 1969; Narakusumo & Balke 2019), all of which are synonymized above with *Maechidius* Macleay, 1819. Historically, the westernmost record of Maechidiini was from South Sulawesi (Lansberge 1886), from where the single species *M. peregrinus* was reported. The northernmost records were known from Waigeo northwest of New Guinea’s Doberai Peninsula (Arrow 1941).

As a result of the present study, the distribution of Maechidiini now covers the whole of Wallacea north to the Sangihe Islands and west to Bali (which is west of Wallace’s Line and therefore outside of zoogeographical Wallacea).

Still, no Maechidiini are known from the Admiralty, Aru, Banda, Kei or Sula Islands, most of the Lesser Sunda Islands (except Bali in the far west), the islands of Biak and Buru. Surprisingly, there are also no records from the Solomon Islands (and Bougainville) or from Vanuatu – a gap in our knowledge which will surely be resolved by more comprehensive sampling in the future. The easternmost record of the tribe as hitherto known is from Woodlark Island east of mainland New Guinea.

Geographically, most of the known species are restricted to New Guinea, the region’s largest island (49 species or 63%) (Table 1; table also includes distinctive but yet unnamed species, which are, however, not assessed below). Of these, only five species are shared with Yapen Island (Cenderawasih Bay Islands), which in the geological past was connected with the Waropen area of New Guinea, and one of these five species also occurs on Waigeo, Raja Ampat Islands (which was never connected with mainland New Guinea but lies close offshore). Another species is shared between New Guinea and Waigeo, but not Yapen.

Further 43 species (55%) are considered endemics of New Guinea as presently known. Of these species, only two (*M. lobaticeps* and *M. perlatus* comb. nov.) have hitherto been reported from most of New Guinea, while other species are much more restricted in distribution. No Maechidiini are hitherto known from the lowlands of Doberai Peninsula, but two species are reported from the Arfak Mts. The limestone anticlines of Bird’s Neck Isthmus are home to 4 species, two of which also occur in other parts of New Guinea. The north coast ranges (Adelbert, Bewani, Cyclops, Torricelli etc.) and lowlands are home to 18 species, of which 6 also occur on other ranges of New Guinea. Only one species, not locally endemic, is

Table 1 (continued on next two pages). Distribution of Wallacean and Papuan Maechidiini.

Species	Distribution <i>sensu stricto</i>	Distribution <i>sensu lato</i>
<i>M. acutus</i> comb. nov.	Halmahera, Ternate	North Moluccas
<i>M. aenescens</i>	North New Guinea; East New Guinea	New Guinea
<i>M. agnellus</i> comb. nov.	Seram	Central Moluccas
<i>M. aiyura</i> sp. nov.	Aiyura Valley, Central Cordillera	New Guinea
<i>M. alesbezdeki</i> sp. nov.	Arfak Mts., Doberai Peninsula, West New Guinea	New Guinea
<i>M. angusticeps</i>	North New Guinea	New Guinea
<i>M. arcuatus</i> comb. nov.	Ambon, Halmahera, Obira, Seram	North and Central Moluccas
<i>M. aroae</i>	Papuan Peninsula, East New Guinea	New Guinea
<i>M. awu</i> sp. nov.	Sangir	Sangihe Islands
<i>M. babyrousa</i> sp. nov.	North Sulawesi	Sulawesi
<i>M. bintang</i> sp. nov.	Star Mts., Central Cordillera	New Guinea
<i>M. boessnecki</i> sp. nov.	North Sulawesi	Sulawesi
<i>M. brocki</i> sp. nov.	Papuan Peninsula, East New Guinea	New Guinea
<i>M. cakalele</i> comb. nov.	Halmahera, Obira, Ternate	North Moluccas
<i>M. caperatus</i> sp. nov.	Bird's Neck Isthmus, West New Guinea	New Guinea
<i>M. ciliatus</i> sp. nov.	Madang Province, East New Guinea	New Guinea
<i>M. crypticus</i> sp. nov.	Herzog Mts., East New Guinea	New Guinea
<i>M. dani</i> sp. nov.	Baliem Valley, Central Cordillera	New Guinea
<i>M. deltouri</i> sp. nov.	North Sulawesi	Sulawesi
<i>M. dendrolagus</i> sp. nov.	Madang Province, East New Guinea	New Guinea
<i>M. esau</i> (= <i>setosellus</i> , <i>setosus</i>)	East Sepik, North New Guinea; Finisterre Mts., East New Guinea	New Guinea
<i>M. fraterculus</i>	unknown	New Guinea
<i>M. gressitti</i>	South New Guinea	New Guinea
<i>M. hamatus</i> sp. nov.	Baliem Valley, Central Cordillera	New Guinea
<i>M. helleri</i> comb. nov.	New Britain	Bismarck Archipelago
<i>M. heterosquamosus</i> (= <i>clypeatus</i>) comb. rest.	Torricelli Mts., North New Guinea	New Guinea
<i>M. hirtipes</i>	Papuan Peninsula, East New Guinea	New Guinea
<i>M. humeralis</i>	Torricelli Mts., North New Guinea	New Guinea
<i>M. interruptocarinulatus</i>	Bird's Neck Isthmus, West New Guinea; Cyclops Mts., North New Guinea; Waigeo	New Guinea and Raja Ampat Islands
<i>M. jobiensis</i>	Yapen; North New Guinea	New Guinea and Cenderawasih Bay islands
<i>M. kazantsevi</i> sp. nov.	North New Guinea	New Guinea
<i>M. konjo</i> sp. nov.	South Sulawesi	Sulawesi
<i>M. lapsus</i> sp. nov.	Cyclops Mts., North New Guinea; Yapen; Waigeo	New Guinea, Cenderawasih Bay and Raja Ampat islands
<i>M. legalovi</i> sp. nov.	Central Sulawesi	Sulawesi
<i>M. leucopsar</i> sp. nov.	Bali	Lesser Sunda Islands
<i>M. lineatopunctatus</i>	Papuan Peninsula, East New Guinea	New Guinea

Table 1 (continued). Distribution of Wallacean and Papuan Maechidiini.

Species	Distribution <i>sensu stricto</i>	Distribution <i>sensu lato</i>
<i>M. lobaticeps</i>	Doberai Peninsula and Bird's Neck Isthmus, West New Guinea; Cyclops Mts., North New Guinea; Baliem Valley, Central Cordillera; Finisterre Mts. and Papuan Peninsula, East New Guinea; Yapen	New Guinea and Cenderawasih Bay islands
<i>M. longipes</i> sp. nov.	unknown	New Guinea
<i>M. luniceps</i>	New Britain	Bismarck Archipelago
<i>M. mailu</i> sp. nov.	Papuan Peninsula, East New Guinea	New Guinea
<i>M. maleo</i> sp. nov.	North Sulawesi	Sulawesi
<i>M. merdeka</i> sp. nov.	Doron (locality name cannot be traced)	New Guinea
<i>M. milneanus</i>	Milne Bay, South-East New Guinea	New Guinea
<i>M. miklouhomaclayi</i> sp. nov.	Madang Province, East New Guinea	New Guinea
<i>M. moluccanus</i> comb. rest.	Gorom (?), Seram	Central Moluccas
<i>M. muticus</i>	Bewani Mts., North New Guinea	New Guinea
<i>M. nanus</i>	Waigeo	Raja Ampat Islands
<i>M. nepenthephilus</i> sp. nov.	North New Guinea	New Guinea
<i>M. obiensis</i> comb. nov.	Halmahera, Obira	North Moluccas
<i>M. opatroides</i> comb. rest.	Waigeo	Raja Ampat Islands
<i>M. owenstanleyi</i> sp. nov.	Papuan Peninsula, East New Guinea	New Guinea
<i>M. papuanus</i>	Bird's Neck Isthmus, West New Guinea	New Guinea
<i>M. parallelicollis</i>	Roon	Cenderawasih Bay islands
<i>M. paupianus</i> (= <i>arrowi</i>)	North New Guinea; Papuan Peninsula, East New Guinea	New Guinea
<i>M. pauxillus</i> comb. rest.	Finisterre Mts., East New Guinea	New Guinea
<i>M. pedarioides</i>	Waigeo	Raja Ampat Islands
<i>M. peregrinus</i>	South Sulawesi	Sulawesi
<i>M. perlatus</i> comb. nov.	Bismarck Range, East New Guinea; Wondiwoi Mts., Wandammen Peninsula, West New Guinea; Yapen	New Guinea and Cenderawasih Bay islands
<i>M. popei</i> comb. nov.	Central Cordillera; Papuan Peninsula, East New Guinea	New Guinea
<i>M. riedeli</i> sp. nov.	Yapen	Cenderawasih Bay islands
<i>M. rugicollis</i>	Cyclops Mts., North New Guinea; Madang Province, East New Guinea	New Guinea
<i>M. seriegranosus</i>	Central Cordillera; Papuan Peninsula, East New Guinea	New Guinea
<i>M. seriepunctatus</i>	Mioko (Duke of York)	Bismarck Archipelago
<i>M. similis</i> sp. nov.	Finisterre Mts. and Central Cordillera, East New Guinea	New Guinea
<i>M. simplex</i>	Star Mts., Central Cordillera	New Guinea
<i>M. skalei</i> sp. nov.	Central Sulawesi	Sulawesi

Table 1 (continued). Distribution of Wallacean and Papuan *Maechidiini*.

Species	Distribution <i>sensu stricto</i>	Distribution <i>sensu lato</i>
<i>M. sougb</i> sp. nov.	Arfak Mts., Doberai Peninsula, West New Guinea	New Guinea
<i>M. speciosus</i> comb. nov.	Finisterre Mts., East New Guinea; Mt. Nomo and Cyclops Mts., North New Guinea; Yapen	New Guinea and Cenderawasih Bay islands
<i>M. sturnus</i>	Yapen	Cenderawasih Bay islands
<i>M. subcostatus</i>	Finisterre Mts., East New Guinea	New Guinea
<i>M. suwawa</i> sp. nov.	North Sulawesi	Sulawesi
<i>M. tarsalis</i>	Papuan Peninsula, East New Guinea	New Guinea
<i>M. trivialis</i> sp. nov.	Papuan Peninsula, East New Guinea	New Guinea
<i>M. ursus</i> sp. nov.	Misool	Raja Ampat Islands
<i>M. vicinus</i>	unknown	New Guinea
<i>M. weigeli</i> sp. nov.	Central Cordillera	New Guinea
<i>M. woodlarkianus</i>	Woodlark	Woodlark Islands
<i>M. yamdena</i> sp. nov.	Yamdena	Tanimbar Islands
<i>M. sp.1</i>	Bacan	North Moluccas
<i>M. sp.2</i>	Bacan	North Moluccas
<i>M. sp.3</i>	Arfak Mts., Doberai Peninsula, West New Guinea	New Guinea
<i>M. sp.4</i>	Star Mts., Central Cordillera	New Guinea
<i>M. sp.5</i>	Star Mts., Central Cordillera	New Guinea
<i>M. sp.6</i>	Waigeo	Raja Ampat
<i>M. sp.7</i>	New Britain	Bismarck Archipelago
<i>M. sp.8</i>	Yapen	Cenderawasih Bay islands
<i>M. sp.9</i>	Finisterre Mts., East New Guinea	New Guinea
<i>M. sp.10</i>	Papuan Peninsula, East New Guinea	New Guinea
<i>M. sp.11</i>	Yule Island offshore SE New Guinea	New Guinea
<i>M. sp.12</i>	Cyclops Mts., North New Guinea	New Guinea
<i>M. sp.13</i>	North Sulawesi	Sulawesi
<i>M. sp.14</i>	Fergusson	Fergusson Islands
<i>M. sp.15</i>	Herzog Mts., East New Guinea	New Guinea
<i>M. sp.16</i>	Arfak Mts., Doberai Peninsula, West New Guinea	New Guinea

known from the Wandammen Peninsula (Wondiwoi Mts.). Six species occur in the Finisterre Mountains, but four of them are also recorded from the north ranges or the Papuan Peninsula. The Central Cordillera (including Herzog, Star Mts. and Baliem Valley), New Guinea's longest and highest range, is home to 11 species of *Maechidius*, three of which are shared with another geographical unit. The Papuan Peninsula, a geological continuation of the Central Cordillera, now houses 14 species of which six are also reported from other parts of the Central Cordillera or other ranges. Only *M. gressitti* is hitherto known from the vast Southern lowlands of New Guinea.

The smaller islands and island groups off the east coast of New Guinea (e.g., Woodlark, Yule) are inhabited by two (presumably endemic) species.

From the Bismarck Archipelago, three endemic species (one for Mioko, two for New Britain) are known. No records are yet known from Manus (Admiralty Islands), New Ireland or other islands.

From the Raja Ampat Islands, five species are known from Waigeo (two of them shared with mainland New Guinea or Yapen) and one from Misool. No records are yet available from Batanta, Kofiau or Salawati.

One species is known from Yamdena, Tanimbar Islands.

The North Moluccas have four species of *Maechidius*, of which *M. arcuatus* comb. nov. is shared with the Central Moluccas. The Central Moluccas additionally have two endemic species.

The Sulawesi fauna is divided by the island's peninsulas, reflecting its geological past. Of a total of nine species of *Maechidius* present, five are limited to the northern peninsula, two appear in the central part of the island and the other two on the southern peninsula.

One species occurs on the Sangihe Islands, which is the northernmost record of *Maechidiini*.

To summarise, the fauna of the *Maechidiini* of the Papuan Region and Wallacea, with 78 named and at least 16 unnamed species (Table 1), proves to be already richer than the known Australian fauna (68–71 species, see section *Maechidiini* taxonomy, morphology and history of study). Considering the number of new taxa in this paper, which should not be considered final, there could easily be 350–400 species of *Maechidiini* in the Indo-Australian transition zone.

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References

- Arrow G.E. 1941. XXIX.—Some undescribed species of melolonthid Coleoptera from Western New Guinea and the adjacent islands of Waigeu and Japen. *Annals and Magazine of Natural History, Series 11* 7 (41): 448–464. <https://doi.org/10.1080/03745481.1941.9727945>
- Beehler B.M., Pratt T.K. & Zimmerman D.A. 1986. *Birds of New Guinea. Handbook No. 9 of the Wau Ecology Institute*. Princeton University Press, Princeton, NJ.
- Bouchard P., Bousquet Y., Davies A.E., Alonso-Zarazaga M.A., Lawrence J.F., Lyal C.H.C., Newton A.E., Reid C.A.M., Schmitt M., Ślipiński S.A. & Smith A.B.T. 2011. Family-group names in Coleoptera (Insecta). *ZooKeys* 88: 1–972. <https://doi.org/10.3897/zookeys.88.807>

- Britton E.B. 1957. *A Revision of Australian Chafers (Coleoptera: Scarabaeidae: Melolonthinae)*. Volume I. Printed by order [of] the trustees of the British Museum, London.
- Britton E.B. 1959. Australian Melolonthinae (Coleoptera: Scarabaeidae) in the Frey Museum. *Entomologische Arbeiten aus dem Museum G.Frey* 10: 276–301.
- Britton E.B. 1963. A new species of *Maechidius* (Coleoptera: Melolonthinae) from North Queensland. *Entomologische Arbeiten aus dem Museum G. Frey* 14: 126–127.
- Burmeister H. 1855. *Handbuch der Entomologie. Band 4. Besondere Entomologie, Fortsetzung. Zweite Abtheilung. Coleoptera Lamellicornia Phyllophaga Chaenochela*. T.C.F. Enslin, Berlin.
- Dodd A.P. 1921. Related cane beetles and their allies. In: Illingworth J.J. & Dodd A.P. (eds) *Australian Sugar-cane Beetles and their Allies*: 52–73. Bulletin 16, Bureau of Sugar Experiment Stations, Division of Entomology Brisbane.
- Fairmaire M.L. 1877. Diagnoses de coléoptères australiens et mélanésiens. *Petites nouvelles entomologiques* 2: 166–167.
- Fairmaire M.L. 1883. Essai sur les coléoptères de l'Archipel de la Nouvelle Bretagne. *Annales de la Société entomologique de Belgique* 27: 1–58.
- Frey G. 1969. Revision der *Maechidius*-Arten Neu-Guineas (Col., Melolonth.). *Entomologische Arbeiten aus dem Museum G. Frey* 20: 494–509.
- Gebien H. 1907. Verzeichnis der im Naturhistorischen Museum zu Hamburg vorhandenen Typen von Coleopteren. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 24: 195–228.
- Gressitt J.L. 1982. General introduction. In: Gressitt J.L. (ed.) *Monographiae biologicae 42, Biogeography and Ecology of New Guinea*: 3–13. Dr. W. Junk/Springer Publishers, the Hague.
<https://doi.org/10.1007/978-94-009-8632-9>
- Heller K.M. 1895. Erster Beitrag zur Papuanischen [sic!] Käferfauna. *Abhandlungen und Berichte des Königlichen Zoologischen und Anthropologisch-Ethnographischen Museums zu Dresden* 1894/1895 (16): 1–17.
- Heller K.M. 1910. Fünfter Beitrag zur Papuanischen Käferfauna hauptsächlich auf Grund der Ausbeute von Dr. Schlaginhaufen. *Abhandlungen und Berichte des Königlichen Zoologischen und Anthropologisch-Ethnographischen Museums zu Dresden* 13 (3): 1–42.
- Heller K.M. 1914. Coleoptera. *Nova Guinea. Résultats de l'Expédition scientifique néerlandaise à la Nouvelle-Guinée en 1907 et 1909 sous les auspices du Dr. H. A. Lorentz. Zoologie* 9: 615–666.
- Lansberge J.W. van 1886. Description des quelques scarabaeidés des Indes néerlandaises, appartenant au Musée du Leyde. *Notes from the Leyden Museum* 8: 131–137.
- Lawrence J.F. & Ślipiński S.A. 2013. *Australian Beetles. Volume 1. Morphology, Classification and Keys*. CSIRO Publishing, Collingwood.
- Macleay W.S. 1819. *Horæ Entomologicae: or Essays on the Annulose Animals. Volume I, Part I. Containing General Observations on the Geography, Manners, and the Affinities of the Insects which compose the Genus Scarabæus of Linnaeus; to which are added a few incidental Remarks on the Genera Lucanus and Hister of the same Author. With Appendix and Plates*. R. and A. Taylor, London.
- Moser J. 1920. Beitrag zur Kenntnis der Melolonthiden XI. *Stettiner Entomologische Zeitung* 81: 3–28.
- Moser J. 1926. Neue Melolonthiden und Cetoniden aus dem Süden von Holländisch Neu-Guinea. *Nova Guinea: a Journal of Botany, Zoology, Anthropology, Ethnography, Geology and Palaeontology of the Papuan Region. Zoology* 15 (2): 196–203.

- Narakusumo R.P. & Balke M. 2019. Four new species of *Epholcis* Waterhouse, 1875 (Coleoptera: Scarabaeidae: Melolonthinae: Maechidiini) from the Moluccas, Indonesia. *Treubia* 46: 35–50.
<https://doi.org/10.14203/treubia.v46i0.3791>
- Northern Territory Government 2011. Primary Industries Annual Extension Report 2010. Northern Territory Department of Resources. *Technical Bulletin No. 339*: 1–52.
- Prokofiev A.M. 2018. First finding of the genus *Paramaechidius* Frey, 1969 from the Indonesian province Maluku (Coleoptera: Scarabaeidae: Melolonthinae). *Baltic Journal of Coleopterology* 18 (2): 159–163.
- Riedel A. 2002. *Taxonomy, Phylogeny, and Zoogeography of the Weevil Genus Euops (Insecta: Coleoptera: Curculionoidea) in the Papuan Region*. PhD Thesis, Faculty of Biology, Ludwig-Maximilians-University, Munich.
- Simons G.F. & Fennig C.D. (eds) 2018. *Ethnologue: Languages of the World*. 21st Edition. SIL International, Dallas, Texas. Available from <http://www.ethnologue.com> [accessed 6 Jan. 2019].
- Smith A.B.T. 2006. A review of the family-group names for the superfamily Scarabaeoidea (Coleoptera) with corrections to nomenclature and a current classification. *Coleopterists Society Monograph* 5: 144–204.
- Telnov D. 2011. Taxonomische Revision der Gattung *Macratria* Newman, 1838 (Coleoptera: Anthicidae, Macratriinae) aus Wallacea, Neuguinea und den Salomonen. In: Telnov D. (ed.) *Biodiversity, Biogeography and Nature Conservation in Wallacea and New Guinea*. Volume I.: 97–285. The Entomological Society of Latvia, Rīga.
- Waterhouse C.O. 1875. Descriptions of new Coleoptera from Australia. *Transactions of the Entomological Society of London* 1875: 191–206.
- Weidner H. 1976. Die Entomologischen Sammlungen des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg, IX. Teil, Insecta VI. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 73: 87–264.
- Weidner H. 1979. Die Entomologischen Sammlungen des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg, Nachtrag zum IX. Teil, Insecta VI. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut* 76: 395–468.
- Weir T.A., Lawrence J.F., Lemann C. & Gunter N.L. 2019. 31. Scarabaeidae: Melolonthinae Leach, 1819. In: Ślipiński A. & Lawrence J.F. (eds) *Australian Beetles. Archostemata, Myxophaga, Adepaga, Polyphaga (part)*. Volume II: 467–507. CSIRO Publishing, Clayton South.
- Williams G. 2002. A taxonomic and biogeographic review of the invertebrates of the Central Eastern Rainforest Reserves of Australia (CERRA) World Heritage Area, and adjacent regions. *Technical Reports of the Australian Museum* 16: 1–208.

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