

Revision of the genus *Amarygmus* Dalman, 1823 and of related genera.
Part LXXII.
Amarygmini of the Papuan faunal region:
new subgenera of *Amarygmus*, new species of *Amarygmus*,
a new synonym

(Coleoptera, Tenebrionidae, Amarygmini)

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Two subgenera of *Amarygmus* Dalman, 1823 from the Papuan area are created: *Phaenogeton* subgen. nov. (type species *Amarygmus varicolor* Gebien, 1920) and *Cornugeton* subgen. nov. (type species *Amarygmus monilicornis* Gebien, 1920).

A second species of the subgenus *Phaenogeton* is described and illustrated: *Amarygmus (Phaenogeton) pan* spec. nov. (Papua New Guinea).

The following species and subspecies of *Amarygmus* are described and illustrated: *Amarygmus (Amarygmus) binarius* spec. nov. (Irian Jaya), *Amarygmus (Amarygmus) brunneotibialis* spec. nov. (Irian Jaya), *Amarygmus (Amarygmus) claviger* spec. nov. (Papua New Guinea), *Amarygmus (Amarygmus) expositus* spec. nov. (Papua New Guinea), *Amarygmus (Amarygmus) fakfakensis* spec. nov. (Irian Jaya), *Amarygmus fuliginosus* spec. nov. (Irian Jaya), *Amarygmus (Amarygmus) longicornis* spec. nov. (Irian Jaya), *Amarygmus (Amarygmus) mimarius* spec. nov. (Papua New Guinea), *Amarygmus (Amarygmus) novus* spec. nov. (Irian Jaya), *Amarygmus (Amarygmus) oculus* ssp. *kaimanaensis* subspec. nov. (Irian Jaya), *Amarygmus (Amarygmus) repellens* spec. nov. (Irian Jaya); *Amarygmus (Amarygmus) repellens* ssp. *repellentoides* subspec. nov. (Papua New Guinea).

Remarks and illustrations on *Amarygmus (Amarygmus) niger* Gebien, 1911 and *Amarygmus (Amarygmus) pilosiventris* Kaszab, 1939 are provided.

Amarygmus pilosiventris Kaszab, 1939 = *Amarygmus germari* Bremer, 2005 [syn. nov.].

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Introduction

Currently three genera of Amarygmini are known from the Papuan faunal area: *Amarygmus* Dalman, 1823, *Chalcopteroides* Strand, 1935 and *Spathulipezus* Gebien, 1920. While *Amarygmus* species are very numerous and probably will surpass 400 species in the Papuan area (of them currently 241 are validly

described), only three species of *Chalcopteroides* and one species of *Spathulipezus* are known to occur in this area (see Bremer & Lillig 2014).

The species presently assigned to *Amarygmus* are heterogenous by body shape, sexual characters and form of aedeagi, and by increasing knowledge it becomes more and more urgent to separate these species into species groups, subgenera or even different

genera. Usually, a new arrangement of species within a genus with very heterogenous elements should be performed when nearly all species are known. However, if the number of *Amarygmus* species is so enormous, in *Amarygmus* a critical description of all taxa will be unforeseeable in the nearby future. On the other hand a tentative arrangement will be inevitable if one wants to keep track on them. This could be intermediary to a final placement. I am currently favouring to create subgenera which later-on may be upgraded to genera when more knowledge about their molecular and anatomical states becomes available.

Concerning the Papuan area only one subgenus is assigned beside *Amarygmus* s. str.: *Hyperamarygmus* (Kaszab, 1964). Species of this subgenus present broadened antennomeres 3-5 in males, while the antennomeres of their females possess the normal tender shape. A revision of the species of this subgenus has been published recently (Bremer 2014b).

In several papers on Amarygmini of New Guinea I redescribed and illustrated formerly published species of *Amarygmus* and described new species (Bremer 2001b, 2002b, 2003, 2005, 2006a,b, 2007a, 2008a,b, 2011, 2013, 2014b). In the present paper 11 more new species, 2 subspecies and two new subgenera of *Amarygmus* are described and illustrated.

Morphometry

“Body length” represents the distance between the middle of anterior edge of pronotum and apices of elytra, “body width” the maximum width across the elytra; “length of elytra” the distance between the base of scutellum and apices of elytra; “length of pronotum” the distance between the middle of their anterior and posterior edges when both edges are on the same level.

Abbreviations

CA	Entomological Laboratory of Dr. Kiyoshi Ando, Osaka, Japan
CS	Private Collection of André Skale, Hof/Saale, Germany
BMH	Bishop Museum, Honolulu, Hawaii, U.S.A.
DEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany
HMNH	Hungarian Natural History Museum, Budapest, Hungary
MNHN	Muséum National d’Histoire Naturelle, Paris, France
NME	Naturkundemuseum Erfurt, Germany
NMHUB	Museum für Naturkunde, Berlin, Germany

SMND	Staatliches Museum für Naturkunde, Dresden, Germany
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany
ZMK	Zoologisk Museum, University of Copenhagen, Denmark
ZSM	Zoologische Staatssammlung, Munich, Germany

A. Subgenus *Phaenogeton* subgen. nov.

Type species: *Amarygmus varicolor* Gebien, 1920.

This subgenus currently contains two species of medium size, *Amarygmus varicolor* Gebien, 1920 (stat. nov.) and *Amarygmus pan* spec. nov. Both species display elongate elytra; their protibiae are markedly bent at 40 per cent basally in males and, concerning species of the genus *Amarygmus* Dalman, 1823, the form of aedeagus is very special with its broad apex and appendages at the apex. This very special form of aedeagus is not present in other species of the genus *Amarygmus* s. str. nor in species of other already described subgenera of *Amarygmus* (I studied the form of aedeagus in more than 700 different species of *Amarygmus*). The form of aedeagus resembles somewhat the form of aedeagus of species of the genus *Sylvanoplonyx* Bremer, 2010 (see Bremer 2010: 66). The body shape of females of *Amarygmus* (*Phaenogeton*) *varicolor* does not differ from the body shape of many species of *Amarygmus* s. str.

A very uncommon form of aedeagus is also found in *Amarygmus harpagon* Bremer, 2004d (from Sulawesi) and in *Amarygmus tetricus* Bremer, 2007b from Sumbawa (The Lesser Sunda Islands). However, the form of aedeagus of these two species is quite different from the form of aedeagus which *A. varicolor* and *A. pan* present. It has to be suggested to place these two species in another subgenus of *Amarygmus*.

Amarygmus (*Phaenogeton* subgen. nov.) *varicolor* Gebien, 1920

Fig. 1A-I

Amarygmus varicolor Gebien, 1920: 432-433. Some remarks: Bremer 2002a: 194 and 217.

Types. According to Gebien (1920) the description of this species is based on two male and two female syntypes from Papua New Guinea with the labels: Deutsch-Neu-Guinea, Kaiserin Augustafluss-Expedition, Bürgers leg., Etappenberg, 13.-16.XII.1912; 28.II.1913, Lordberg; 2.-4.XII.1912, and Hunsteinspitze 1.III.1913 (NMHUB).; another pair of syntypes bear only the label Deutsch-Neu-Guinea (SMND).

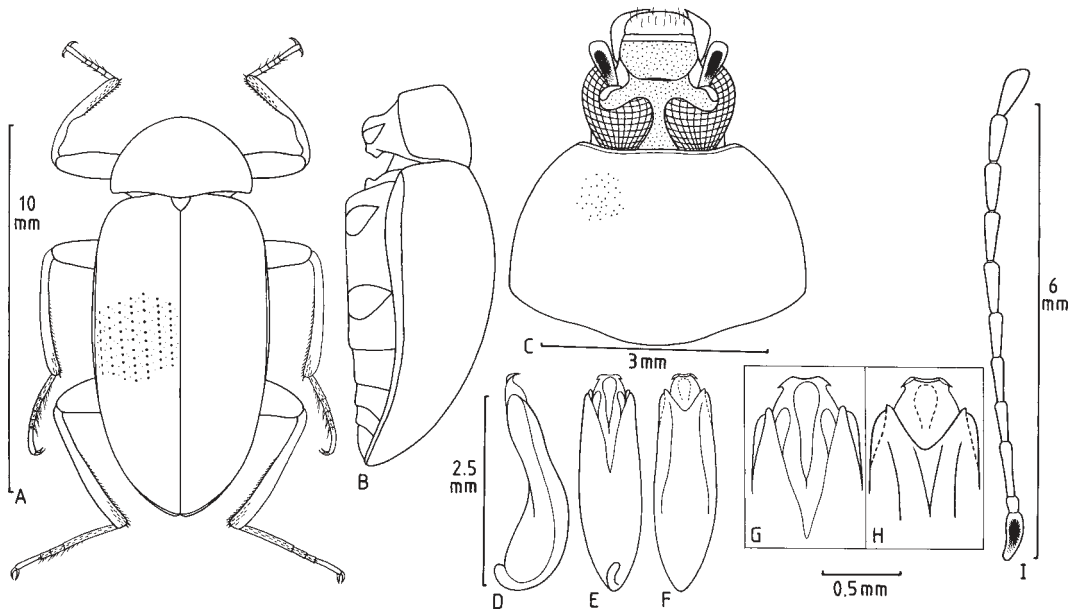


Fig. 1. *Amarygmus (Phaenogeton) varicolor* Gebien, 1920. A. Habitus (male); B. body, lateral view; C. head and pronotum; D. aedeagus, lateral view; E. aedeagus, ventral view; F. aedeagus, dorsal view; G-H. ventral and dorsal side of anterior part of aedeagus; I. antenna.

Annotations on syntypes. Gebien mentioned in his description: "ich bin mir nicht ganz sicher, ob beide (males and females) zu der gleichen Art gehören, die verschiedene Farbe richtet sich nicht nach dem Geschlecht, von der goldigen Form liegen mir ♂ und ♀ vor. Über die Umgrenzung der Art habe ich lange geschwankt. Die wichtigsten Merkmale liegen in der Skulptur, der Bildung der Vorderschienen, des Prosternums".

I was only able to trace one syntype of Gebien's syntypes, a male, from NMHUB, it is labeled: D. N. Guinea, 207, Etappenbg., 13.-16.XI.12. Kais. Augustaf. Exp., Bürgers S. G. Later on Kaszab added a paratype label to this syntype. This syntype elicits all characters of Gebien's description. I labeled this male and somewhat immature syntype as lectotype. I could not find out the whereabouts of other syntypes which are mentioned in Gebien's description. Because Gebien had some doubts whether males and females belong to the same species, a molecular genetic examination should check in future that the males and suspected females studied belong to the same taxon.

Annotations on *A. varicolor*. Of medium size; elongate oval body shape; long legs, in males with an abrupt bending inwards at 40 per cent basally in males, not so in females. The females have a somewhat wider frons, shorter antennae, somewhat

larger punctures of the elytral rows and partially straight mesotibiae.

Material seen. New Guinea, New Guinea (NE), Wum, Upper Jimmi V., 840 m, VII-18-'56, J. L. Gressitt Collector; *Amarygmus ledermanni* Geb., Dr. Z. Kaszab, 1975 (1 ♂ BMH) – New Guinea, Papua, Kokoda, Pitoki, 400 m, 23.III.1956 (1 ♂ ZSM) – New Guinea, NE, Torricelli Mts., Wantipi Vill., XI-30-XII-8-'58, W. W. Brandt Collector (1 ♀ BMH) – D. N. Guinea, Sattelberg (2 ♀ NMHUB, ZSM) – Bismarck Archipelago, New Britain, Yalom 1000 m, 22. May 1962, Noona Dan Exp. 61-62 (1 ♂ ZMK).

Remarks. There are several similar species in the Papuan faunal area with elongate elytra, relatively narrow frons, rows of elytral punctures and long antennae, however, all of them possess the usual form of aedeagus without the structural particularities of *A. (Phaenogeton) varicolor* Gebien and additionally no abruptly incurved protibiae in males: among them *Amarygmus ledermanni* Gebien, 1920 and *A. impressicollis* Gebien, 1920. Other species are still undescribed.

Another similar species is *A. comes* Bremer, 2008 which also possesses abruptly bent protibiae at 40 per cent basally, a similar size, elongate elytra with rows of punctures; however, the punctures of the rows are much larger than those of *A. varicolor*, the elytra of *A. comes* are less convex, and its elytra are longer than those of *A. varicolor*; the upper side of

A. comes is black; particularly different is the shape of aedeagus which in *A. comes* elicits a narrow tip and a form as it is usually found in *Amarygmus* s. str. (see Bremer 2008a: 30–31, Fig. p. 58).

Supplementary description of *A. varicolor*

Measurements. Body length: 9.87–12.0 mm. Body width: 5.13–5.53 mm.

Ratios. Pronotum: width/length 1.75–1.79; width hind corners/width front corners 1.89–1.97. Elytra: length/width 1.64–1.81; length elytra/length pronotum 3.52–3.75; maximum width elytra/maximum width pronotum 1.20–1.32.

Coloration. Lectotype greenish blue on upper side and lustrous; head black with a bluish tinge; under side black; femora yellowish red with a somewhat darker apical cap; tibiae, tarsi and antennae black. Other specimens present uniformly black legs; one specimen displays green elytra but within the first two intervals slightly purple; another specimen presents a golden pronotum and greenish elytra.

Head. Frons narrow, slightly wider than length of antennomere 2 (like 8:7). Genae somewhat lifted towards lateral margins, anteriorly terminating at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture scarcely incised. Upper side with minute, relatively widely separated punctures. Mandibles apically bifid.

Pronotum. Without shallow impressions near base (as they are present in *A. ledermanni* Gebien and *A. impressicollis* Gebien).

Elytra. Elongate oval. Markedly convex transversely, moderately convex longitudinally. Small to medium-sized punctures in rows, distances of punctures on disc in row 4 approximately equal to diameter of punctures; about 32 punctures in row 4. Intervals on disc wider than transverse diameter of punctures of rows, flat on disc, slightly convex laterally, with minute, distinct, widely separated punctures.

Sternites. Discs with fine, widely separated punctures and tiny hairs. Sternite 5 apico-median somewhat impressed in males, on each side with a few long hairs.

Antennae. Reaching nearly to the middle of elytra. Length/width ratio of antennomeres 1–11 equals in a male to 17:7 / 7:5 / 21:5 / 16:5 / 16:5 / 16:5 / 17:7 / 17:7 / 17:7 / 17:7 / 19:9.

Legs. Of medium length; shape in the male as illustrated in Fig. 2A; mesotibiae slightly bent. Lengths of protarsomeres 1–5 as 10:6:6:5:22; lengths of mesotarsomeres 1–5 as 23:10:7:5:23; lengths of metatarsomeres 1–5 as 31:11:7:17.

Amarygmus (Phaenogeton) pan spec. nov.

Fig. 2A–H

Holotype. ♂, BMH: New Guinea, NE, Torricelli Mts., Sugoitei Vill., 900 m, I-21-II-5-1959, W. W. Brandt Coll., BISHOP (right protibiae and protarsi, right mesotibia and mesotarsi, right metatarsi, and left protarsomeres 4+5 are missing).

Diagnosis. Of medium size; elongate body shape; elytra colourful; elytra with incised striae and relatively large, closely set punctures; frons relatively narrow; antennae of medium length and not so clearly segmented as in preceding species (see Fig. 2F); protibiae markedly bent at 40 per cent basally, and apical part thence straight (certainly only in males); also with a very special form of aedeagus.

The only other species with this form of protibiae in males and a similar shape of aedeagus is *Amarygmus (Phaenogeton) varicolor* Gebien (the preceding species): *A. varicolor* Gebien possesses rows of punctures on elytra and not striae as *A. pan* does; additionally *A. varicolor* displays more strongly segmented antennomeres 6–11.

I only know two species with a similar shape of antennae: *Amarygmus compressicornis* Gebien, 1920 from New Ireland (Bismarck Archipelago) and *Amarygmus timmi* Gebien, 1920 (from the Key Islands, The Moluccas). Both species are less colourful, more oval, the elytral intervals are less convex, the protibiae of males of *A. timmi* do not show the sudden bending which *A. pan* does (from *A. compressicornis* only the female holotype is known).

Description

Measurements. Body length: 9.71 mm. Body width: 4.86 mm.

Ratios. Pronotum: width/length 1.66; width hind corners/width front corners 1.96. Elytra: length/width 1.59; length elytra/length pronotum 3.35; maximum width elytra/maximum width pronotum 1.27.

Coloration. Upper side of head and pronotum green (genae black), very lustrous, elytra with longitudinal stripes, lustrous (intervals 1+2 golden green, intervals 3+4 violet, intervals 5–9 green); legs dark brown, antennomeres dark brown to black; under side dark brown.

Head. Frons relatively narrow (narrower than length of antennomere 3: like 8:12) with minute, closely set punctures. Genae small, distinctly lifted towards lateral margins, anteriorly terminating in front of the level of the median part of fronto-clypeal suture. Fronto-clypeal suture deeply incised in its middle part. Clypeus stretched forwards, somewhat convex transversely and longitudinally. Mentum api-

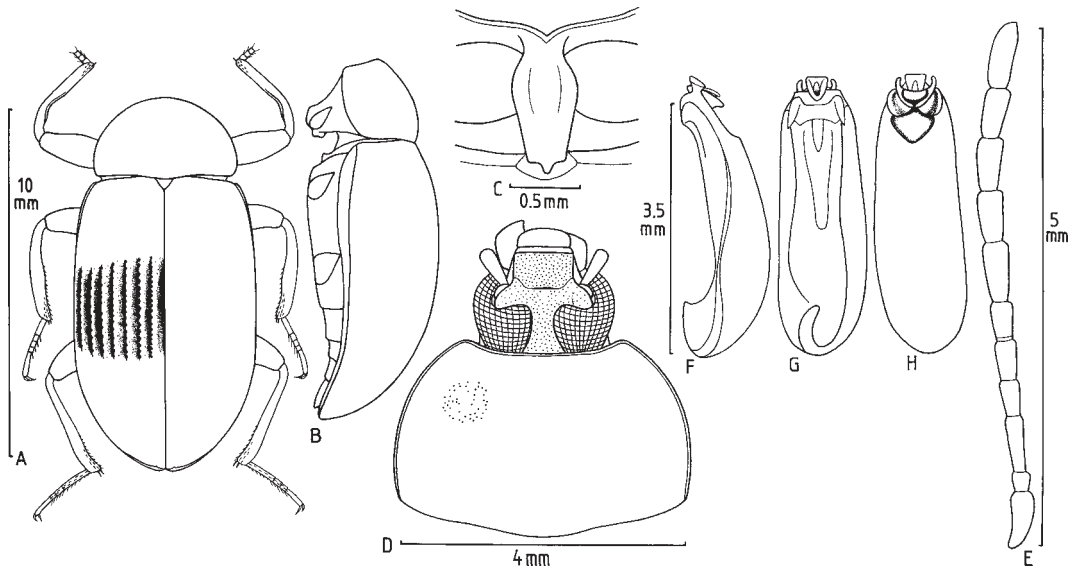


Fig. 2. *Amarygmus (Phaenogeton) pan* spec. nov. A. Habitus (male); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antenna; F. aedeagus, lateral view; G. aedeagus, ventral view; H. aedeagus, dorsal view.

cally widened, with a rounded transition between lateral margins and base. Under side of neck with closely set punctures of medium size. Mandibles on outer surface with a longitudinal sulcus, apically bifid.

Pronotum. Distinctly convex transversely and longitudinally. Lateral margins bent and slightly narrowing between greatest width slightly behind middle and hind corners. Hind corners angular, very obtuse. Front corners narrowly rounded and slightly projecting anteriorly. Anterior margin emarginated; lateral and anterior margins narrowly bordered. Lateral borders in dorsal view visible in their whole length. Front and hind corners in lateral view narrowly rounded and obtuse. Surface with small punctures which are moderately closely set.

Scutellum. Triangular; with a few tiny punctures.

Elytra. Elongate; with subparallel sides. Maximum of height nearly in the middle; relatively flat longitudinally except in the apical third. Shoulders somewhat accentuated, rounded. Apices of elytra mutually rounded. Lateral edges in dorsal view narrowly visible. Surface with incised striae and medium-sized, closely set strial punctures which become more and more inconspicuous in the apical region, their distances on disc in row 4 equal about to $\frac{1}{2}$ -1 time their diameters, about 34 punctures in row 4. Intervals moderately convex on disc, conspicuously convex laterally, with tiny, clearly separated punctures.

Prosternum. Anterior margin continuously

and narrowly bent upwards, somewhat retracted towards apophysis in the middle. Prosternal apophysis distinctly raised longitudinally between base and level along procoxae, widened along procoxae, in between there with a shallow median groove, posterior to procoxae apophysis is only slightly descending, apically with a protruding median cone.

Mesososternum. Surface of hind part smooth, its anterior margin excavated in the middle.

Metasternum. Disc of metasternum with tiny, widely separated punctures and hairs, lateral parts nearly impunctate, median line slightly impressed in the hind half.

Sternites. Sternites 1+2 conspicuously microreticulated and with small, relatively closely set punctures; sternites 3-5 only laterally with a few indistinct punctures and not microreticulated.

Antennae. Of medium length, reaching to one third of elytra; length/width ratio of antennomeres 1-11 equals to 14:6 / 4 $\frac{1}{2}$:4 / 12:4 / 9:4 $\frac{1}{2}$ / 9:4 $\frac{1}{2}$ / 9:4 $\frac{1}{2}$ / 13:6 / 12:5 $\frac{1}{2}$ / 12:5 $\frac{1}{2}$ / 11:5 / 15:4.

Legs. Short. Femora clearly widened club-like towards second thirds. In males protibiae within basal quarter straight on outer side, slightly bulged on inner side, thence abruptly bent, apically of this bending straight. Mesotibiae moderately bent. Metatibiae straight (on outer side allusively concave). Protarsomeres 1-3 not widened in males. Lengths of protarsomeres 1-3 as 4:4:4:--; lengths of mesotarsomeres 1-5 as 12:6:4:4:16; lengths of metatarsomeres 1-4 as 22:6:4:15.

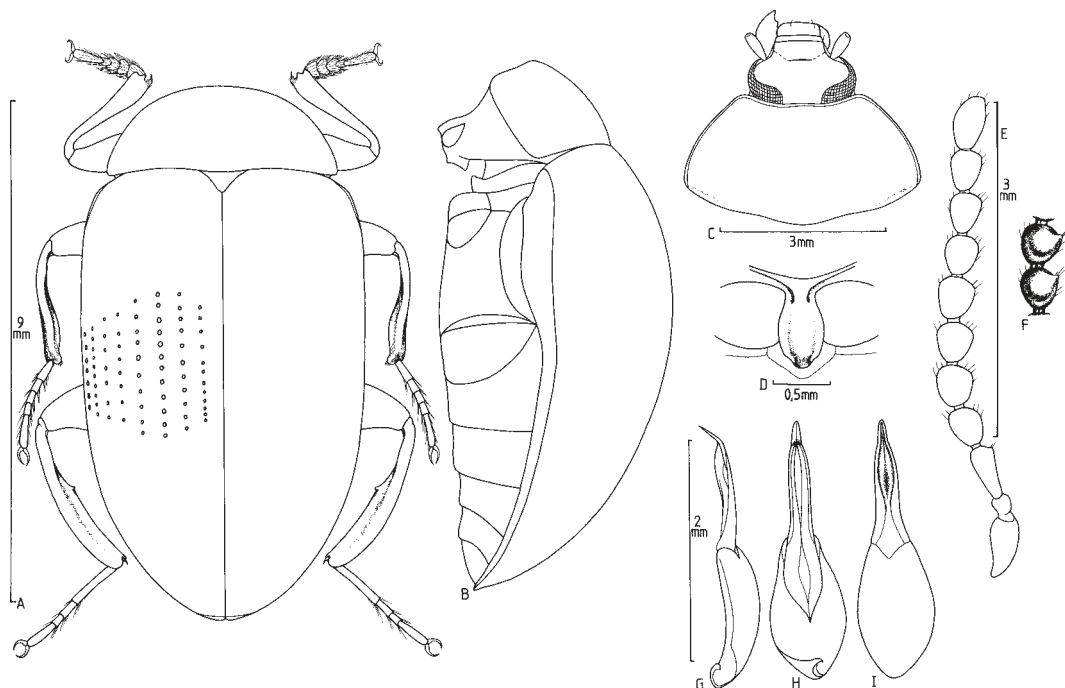


Fig. 3. *Amarygmus (Cornugeton) monilicornis* Gebien, 1920. A. Habitus (male); B. body, lateral view; C. head and pronotum; D. prosternal apophysis; E. antennomeres 1-11; F. antennomeres 6+7, oblique view from behind; G. aedeagus, lateral view; H. aedeagus, ventral view; I. aedeagus, dorsal view (reproduction from Bremer 2006a: 138).

Etymology. Πάύ (Greek mythology) = god of fields and forests.

B. Subgenus *Cornugeton* subgen. nov.

Type species: *Platolenes monilicornis* Gebien, 1920 (= *Amarygmus monilicornis* (Gebien, 1920)).

Gebien (1920) placed this species in the genus *Platolenes* Gebien, 1913. I synonymized *Platolenes* Gebien, 1913 with *Amarygmus* Dalman, 1823 (Bremer 2001a: 57). This species is unique within the genus *Amarygmus* Dalman by structure of antennae, a special form of metatibiae in males, widened protarsomeres 1-3 in males and by the shape of aedeagus.

Antennae: The pearl-like shape of antennomeres 4-10 is very uncommon in species of *Amarygmus*. I do not know any other species of *Amarygmus* with pearl-like antennomeres 4-10, and highly probably this is not a special sexual character. The only other species with a few pearl-like antennomeres (only

antennomeres 8-10) is *Amarygmus cornuguttatus* Bremer, 2004 (from Peninsular Malaysia), but *A. cornuguttatus* presents the usual structure of aedeagus as other *Amarygmus* do, and also different sexual characters on legs in males.

Special form of metatibiae in males: A similar form of metatibiae in males as in *A. monilicornis* is found in *Amarygmus mayri* Bremer, 2004(b) and in *Amarygmus brandti* Bremer, 2011 (both from New Guinea), however, beside the metatibiae in males there are no other congruent characters.

Aedeagus: The anterior part is as long as the basal part (usually the basal part is distinctly longer than the anterior part), the basal part is balloon-like widened, however, the base of aedeagus is asymmetric as in all taxa of Amarygmini. A balloon-like widening of the basal part is also present in some species from Sulawesi and New Guinea (species affine *Amarygmus viridilineatus* Gebien, 1935 and *A. reficiens* Bremer, 2005). However, these species do not have a prolonged apical part of aedeagus.

Amarygmus (Cornugeton) monilicornis
(Gebien, 1920)

Fig. 3A-I

Platolenes monilicornis Gebien, 1920: 406-405.

Amarygmus monilicornis (Gebien, 1920) [comb. nov.]:
Bremer 2001a: 57.

Further annotations on this species are communicated by Bremer 2006a: 137-138.

C. New species of *Amarygmus* Dalman s. str.

Amarygmus (Amarygmus) binarius spec. nov.

Fig. 4A-E

Holotype. ♀, BMH: New Guinea, NW, Wisselmeren, Enarotadi, 1850-2050 m, 5-6.VIII.62, J. Sedlacek Collector, BISHOP.

Paratype. Ditto (1 ♀ ZSM).

Diagnosis. Of medium size; elongate. Elytra oblong, with subparallel sides, with rows of large, conspicuous punctures. Sides of pronotum are narrowing from hind to front corners, on pronotum there are no impressions near base. Frons relatively narrow. Antennae long, tender. Legs long, metatibiae wavy on inner side, on outer side shallowly concave; metatarsomere 1 as long as metatarsomeres 2-4 jointly. Upper side green, brilliant; femora brown; tibiae, tarsi, antennae black.

Related to *Amarygmus wisseli* Bremer, 2013. *A. wisseli* occurs at the same location as *A. binarius*. It is somewhat smaller (body length 8.3-9.4 mm); both species have an oblong body, rows of elytral punctures, a similar shape of metatibiae and length of antennae. In contrast to *A. binarius*, *A. wisseli* presents oval elytra (*A. binarius* subparallel elytra), much smaller punctures in the elytral rows and a coppery coloration of upper side.

Shape of elytra and rows of elytral punctures of *A. binarius* are also similar to *Amarygmus montivagus* (Gebien, 1920); this species also presents large punctures in the elytral rows and subparallel elytra, but, in contrast to *A. binarius*, *A. montivagus* has subparallel sides of the pronotum in the hind half and distinct impressions on pronotum near base, furthermore, its metatibiae are straight, and it does not present a green coloration of upper side (body length 7.17-8.36 mm).

Amarygmus assumptus Bremer, 2003 from the Eastern Highlands of Papua New Guinea (body length 8.80-9.20 mm) displays a similar shape of elytra with rows of large punctures. The hind half of pronotum is subparallel; the metatibiae are slightly but regularly bent.

Amarygmus comes Bremer, 2008(a), also from the Eastern Highlands of Papua New Guinea (body length 8.92-10.9 mm) has a similar shape of elytra and similarly large punctures of the elytral rows; the colour of the tibiae and femora is uniformly dark brown to black, but no wavy shape is present on inner sides of metatibiae; its colour of upper side is dark green.

Amarygmus tapiniensis Bremer, 2011 from South-eastern Papua New Guinea has a similar shape and rows of large elytral punctures, long antennae, a similar width of frons and anteriorly uniformly narrowing sides of pronotum; the femora are also brown as in *A. binarius*, but it is somewhat smaller (body length 8.92 mm), the colour of upper side is coppery, and the inner sides of metatibiae are not wavy.

Description

Measurements. Body length: 9.71-9.95 mm. Body width: 5.20-5.25 mm.

Ratios. Pronotum: width/length 1.85-1.88; width hind corners/width front corners 1.81-1.85. Elytra: length/width 1.56-1.68; length elytra/length pronotum 3.96-4.10; maximum width elytra/maximum width pronotum 1.38-1.40.

Coloration. Pronotum, elytra and frons dark green, conspicuously lustrous; genae and clypeus dark brown. Femora brown, tibiae clearly darker brown than femora or black; under side black, contrasting with the auburn femora.

Head. Except genae upper side of head is nearly flat. Frons not very wide, with minute, not too closely set punctures. Genae towards lateral margins moderately lifted; anteriorly terminating approximately at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture only in the middle slightly incised. Clypeus stretched forwards, slightly convex transversely, with small punctures. Mentum widened anteriorly; lateral margins flat, space in between convex transversely. Under side of neck with small, closely set, partially fusing punctures. Mandibles on outer surface with a longitudinal sulcus, apically bifid.

Pronotum. Short; convex transversely, less convex longitudinally. Widest at base; narrowing and bent towards front corners. Hind corners angular, angle about 100° in dorsal and lateral view, front corners in dorsal and lateral view narrowly rounded, obtuse. Anterior margin slightly excavated. Lateral and anterior margins bordered. Lateral borders in dorsal view narrowly visible in their whole length. Surface with small, irregularly and mostly closely set punctures.

Scutellum. Triangular, with a few tiny punctures.

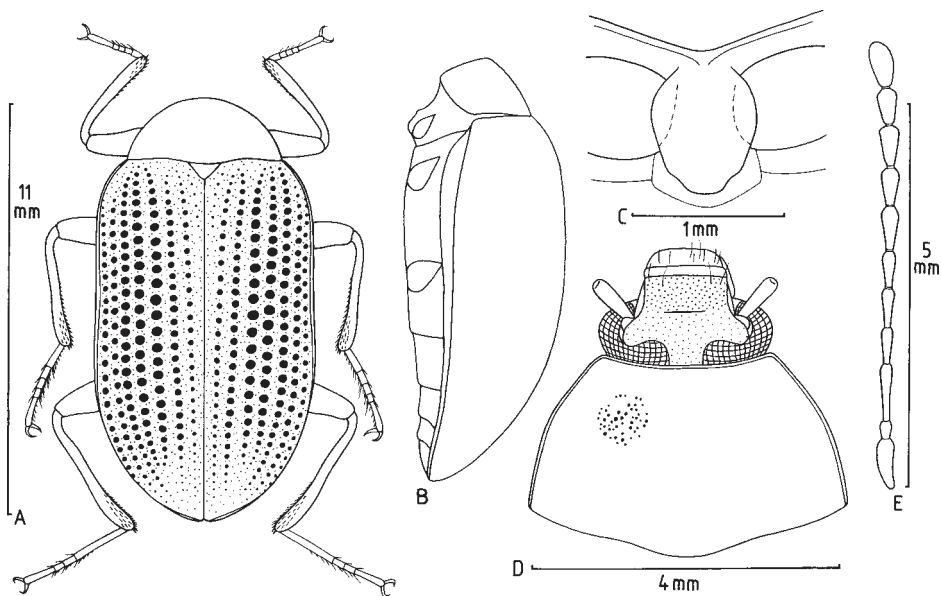


Fig. 4. *Amarygmus binarius* spec. nov. A. Habitus (female); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antenna.

Elytra. Long, subparallel. Convex transversely, moderately convex longitudinally. Maximum of height approximately in the middle. Shoulders rounded, obtuse. Apices of elytra mutually rounded. Lateral edges narrowly visible. Surface with rows of large punctures which are so large that the intervals between the rows are narrowed; distances between punctures on disc in row 4 equal to $\frac{1}{2}$ –1 time the diameter of a puncture; approximately 24 punctures in row 4. Intervals narrow, with a few tiny, widely separated punctures.

Prosternum. Anterior margin narrowly bent upwards, slightly retracted towards apophysis in the middle. Apophysis relatively flat, nearly oval, lateral margins along procoxae only slightly lifted, median groove in between shallow, wide; apex rounded.

Mesosternum. Hind part flat, smooth; its anterior margin excavated in the middle, hind part is vertically and straightly descending to the depressed anterior part of mesosternum.

Metasternum. Anterior margin between mesocoxae rounded, bordered. Disc microreticulated, with a few minute punctures. Median line somewhat incised over the whole length.

Sternites. Anterior margin between metacoxae ogive, bordered. Discs of sternites microreticulated, relatively uneven because of irregular micro ridges, with a few widely separated, tiny punctures.

Antennae. Tender, reaching to the middle of elytra. Length/width ratio of antennomeres 1–11 equals to

13:5 / 5:5 / 6:3 $\frac{1}{2}$ / 11:3 $\frac{1}{2}$ / 12:4 / 12:4 / 12:4 $\frac{1}{2}$ / 11:5 / 12:5 / 14:5.

Legs. Relatively long. Femora somewhat broadened towards second thirds. Protibiae slightly bent; mesotibiae straight; metatibiae on outer side slightly concave, on inner side slightly wavy. Lengths of protarsomeres 1–5 as 6:5:5:5:17; lengths of mesotarsomeres 1–5 as 15:6:5:5:17; lengths of metatarsomeres 1–4 as 32:9:5:18.

Etymology. Binarius (Lat.) = containing two [in this case two specimens].

Amarygmus (Amarygmus) brunneotibialis spec. nov.

Fig. 5A–H

Holotype. ♂, ZSM: Irian Jaya, Biak Isl., Korim, Workar-Wari, 50–100 m, 14.XII.2000, leg. A. Riedel.

Paratypes. Irian Jaya, Biak Isl., Korim, Nernu, 100–150 m, 12.–14.XII.2000, leg. A. Riedel (right antennomeres 7–11 and left antennomere 11 missing) (1 ♀ ZSM) – ditto, but 1.–4.II.2001, leg. A. Riedel (1 ♂, 1 ♀ ZSM) – Irian Jaya, Biak Isl., Sepse, 3.X.1990, leg. A. Riedel (2 ♀ SMNS) – Irian Jaya, Biak Isl., Korim, Roidifu, 100 m, 2.II.2001, leg. A. Riedel (1 ♀ ZSM).

Diagnosis. Of medium size, with oval, transversely convex elytra. Elytra with slightly incised striae, but in the rows 1+2 the punctures are not connected

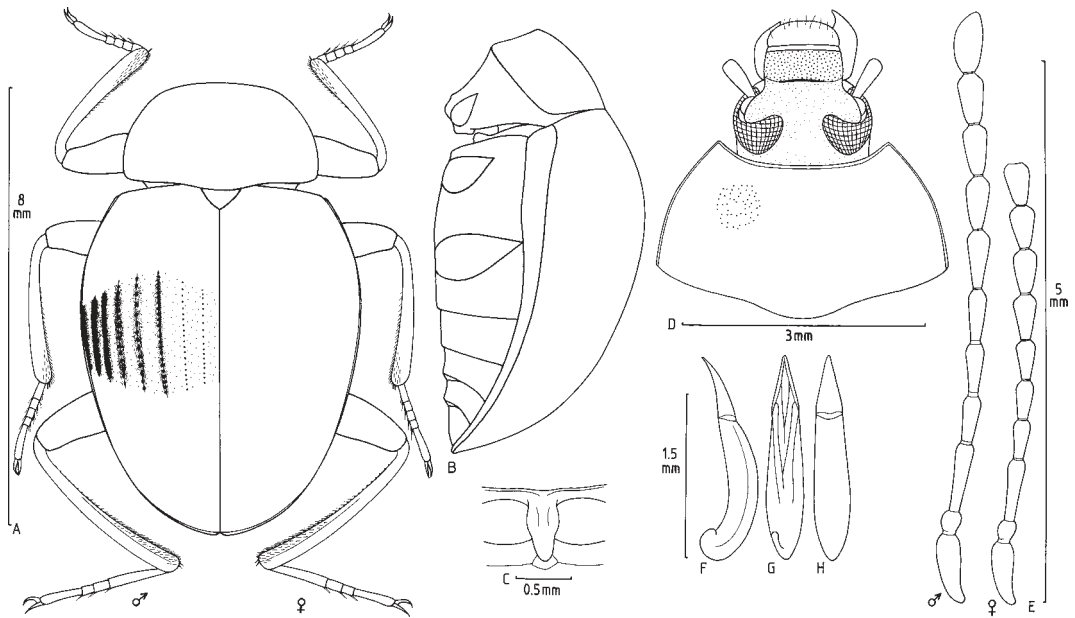


Fig. 5. *Amarygmus brunneotibialis* spec. nov. A. Habitus (male); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antennae, male and female; F. aedeagus, lateral view; G. aedeagus, ventral view; H. aedeagus, dorsal view.

by lines; elytral intervals 1–3 flat, the following allusively convex, latero-apically the intervals are moderately convex, with tiny punctures; maximum of width and height of elytra at the end of first third. Pronotum narrow and distinctly convex. Frons of medium width; upper side of head closely punctured with small punctures. Antennae relatively long.

Concerning body shape, size and coloration resembling *A. orientalis* (Fairmaire, 1883) (redescription and illustration: Bremer 2007a: 23–26; Fig. p. 45) and *A. fakfakensis* spec. nov., but in *A. orientalis* the punctures of the elytral rows 1+2 are connected by lines, the pronotum of *A. orientalis* is wider and less convex transversely; differences between both species are especially discernible in the lengths of antennomeres 4–10 (they are clearly shorter in *A. orientalis*); the greatest width of elytra is at the end of first third in *A. brunneotibialis*, it is distinctly more behind in *A. orientalis*.

The antennomeres 4–10 of *A. fakfakensis* are also shorter than those of *A. brunneotibialis*. *A. fakfakensis* additionally possesses stronger incised elytral striae and a metatarsomere 1 which is as long as metatarsomere 4; this is in contrast to the length of metatarsomere 1 in *A. brunneotibialis*. This species has a longer metatarsomere 1 than the metatarsomere 4.

Amarygmus mimeticus Gebien, 1920 from D. N. Guinea (Bongu) is also similar by body shape, shape

of elytra, maximum width and height of elytra; but *A. mimeticus* is stouter, especially the legs, the hind half of the pronotal margins are subparallel in *A. mimeticus*, it is widening posteriorly towards hind corners in *A. brunneotibialis*. The legs are uniformly reddish yellow in *A. mimeticus*, in *A. brunneotibialis* the femora are dark brown, and the tibiae are brown, but not reddish yellow. Frons of similar width in both species. Antennae of *A. mimeticus* are missing in the only existing specimen (the holotype). Measurements of *A. mimeticus*: Body length: 8.44 mm. Body width: 5.02 mm. Pronotum: width/length 1.85; width hind corners/width front corners 1.71. Elytra: length/width 1.33; length elytra/length pronotum 3.23; maximum width elytra/maximum width pronotum 1.31.

Description

Measurements. Body length: 7.01–7.80 mm. Body width: 4.18–4.54 mm.

Ratios. Pronotum: width/length 1.69–1.85; width hind corners/width front corners 1.62–1.70. Elytra: length/width 1.29–1.33; length elytra/length pronotum 3.04–3.42; greatest width elytra/greatest width pronotum 1.34–1.35.

Coloration. Upper side coppery, lustrous; femora dark brown, tibiae and tarsi brown. Under side dark brown to black, mostly opaque.

Head. Frons of medium width, about as wide as antennomere 3 long, of equal width in both sexes, with minute, closely set punctures. Genae moderately lifted towards lateral margins, anteriorly terminating about at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture arched, slightly incised across the head. Clypeus stretched forwards, lateral parts slightly descending, with small, closely set punctures. Mentum widened anteriorly with somewhat bent sides; lateral margins flat, lustrous, in between somewhat convex transversely. Under side of neck with a strong microreticulation and with tiny punctures. Mandibles apically bifid.

Pronotum. Moderately wide, uniformly convex transversely, moderately convex longitudinally. Widest at base, narrowing and bent towards front corners. Hind corners angular, obtuse; front corners acutely and pointedly protruding. Anterior margin emarginated. Lateral and anterior margins narrowly bordered. Lateral borders in dorsal view narrowly visible except a small part behind the front corners. Front corners in lateral view with an angle of about 85°, hind corners obtuse. Surface with minute, indistinct, not very closely set punctures.

Scutellum. Triangular, with a few tiny punctures.

Elytra. Oval; convex transversely and longitudinally. Maximum of width and height at the end of first third. Shoulders with an obtuse angle between lateral margins and base. Apices of elytra slightly retracted towards median suture. Lateral edges in dorsal view narrowly visible in their whole length. Surface with slightly incised striae with closely set small punctures (in rows 1+2 the punctures are mostly not connected by faint lines); laterally the striae are more incised than on disc. Intervals 1-3 flat, the following allusively convex, the lateral ones distinctly convex, with tiny, widely separated punctures.

Prosternum. Anterior margin narrowly bent upwards except in the middle. Apophysis relatively short and narrow, only slightly widened along procoxae and there with a shallow median groove; posterior to procoxae somewhat narrowing; apex rounded.

Mesosternum. Hind part with a few short hairs; its anterior margin emarginated in the middle.

Metasternum. Anterior margin between meso-coxae rounded, bordered. Disc with blond, recumbent hairs of short to medium-length in the male. Median line neither impressed nor incised.

Sternites. Anterior margin between metacoxae ogive, bordered. Discs with minute punctures and short, recumbent hairs.

Antennae. Reaching nearly to middle of elytra. Antennae of males only slightly longer than antennae of females. Length/width ratio of antennomeres

1-11 of a male equals to $14:5\frac{1}{2} / 5:4 / 14:4\frac{1}{4} / 10:4\frac{1}{4} / 11:4\frac{1}{4} / 11:4\frac{1}{4} / 13:5 / 12:5\frac{1}{2} / 12:5\frac{1}{2} / 11:5\frac{1}{2} / 14:6$.

Legs. Femora club-like broadened to second thirds. Protibiae slightly bent, with short, closely set bristles in apical half on inner side in males. Mesotibiae slightly bent in basal half, nearly straight in apical half, with short, closely set bristles on inner side in males. Metatibiae distinctly broadened apically, slightly bent in basal half, moderately bent in apical half, with short, semi-erect bristles on inner side in both sexes. Protarsomeres 1-3 not widened in males. Lengths of protarsomeres 1-5 as $4:4:3\frac{1}{2}:3\frac{1}{2}:16$; lengths of mesotarsomeres 1-5 as $9:5:5:5:17$; lengths of metatarsomeres 1-4 as $20:7:5:17$.

Etymology. Brunneus (Lat.) = brown, tibialis = adj. of tibia.

Amarygmus (Amarygmus) claviger spec. nov.

Fig. 6A-C

Holotype. ♀, BMH: New Guinea, NE, Torricelli Mts., Mokai Vill., 750 m, I-1-23-1959, W. W. Brandt Collector, BISHOP.

Diagnosis. Of medium size, elongate oval. Distinctly convex transversely, somewhat convex longitudinally. Elytra with rows of small punctures and flat intervals. Frons of medium width. Antennae short, with the five ultimate antennomeres markedly enlarged. Upper side including frons brilliantly blue; antennae black; legs dark brown.

Concerning body shape and coloration *Amarygmus claviger* is very similar to *A. caeruleus* Bremer, 2013a and to *A. mimarius* spec. nov., but the antennae of these species are longer and the ultimate antennomeres are not club-like formed as in *A. claviger*. The protibiae are straight in *A. caeruleus*, those of *A. claviger* are moderately bent; see also *A. mimarius* spec. nov.

Description

Measurement. Body length: 5.97 mm. Body width: 3.19 mm.

Ratios. Pronotum: width/length 1.91; width hind corners/width front corners 1.91. Elytra: length/width 1.54; length elytra/length pronotum 3.60; maximum width elytra/maximum width pronotum 1.22.

Coloration. Upper side, see "Diagnosis". Under side auburn.

Head. Frons flat, of medium width, with indistinct, minute, relatively widely separated punctures. Genae only slightly raised upwards towards lateral

margins; anteriorly they terminate somewhat in front of the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture markedly incised in the middle. Clypeus moderately stretched forwards, slightly convex anteriorly, its punctures slightly larger and more distinct than those on frons. Mentum reversely trapezoidal; lateral margins flat, lustrous; space in between wide, slightly convex transversely. Under side of neck with relatively closely set punctures. Mandibles with a longitudinal sulcus on outer surface, apically bifid.

Pronotum. Convex transversely and longitudinally. Widest at base; bent and narrowed towards front corners. Hind corners angular, very obtuse; front corners slightly protruding but not pointed. Anterior margin somewhat emarginated. Lateral and anterior margins bordered. Lateral borders in dorsal view very narrowly visible. Front corners in lateral view angular, very obtuse; hind corners rounded and obtuse. Surface with small punctures.

Scutellum. Triangular; impunctate.

Elytra. Elongate oval. Convex transversely, moderately convex longitudinally. Maximum of width and height nearly in the middle. Shoulders angular, obtuse. Apices of elytra mutually rounded. Lateral edges in dorsal view very narrowly visible. Surface with rows of small punctures which become evanescent near apex; their distances on disc in row 4 equal to 1 to 2 times the diameter of a puncture; about 25 punctures in row 4. Intervals flat, with tiny, well separated punctures.

Prosternum. Anterior margin narrowly bent upwards, somewhat retracted towards apophysis in the middle. Apophysis relatively wide, along procoxae more widened, and the lateral margins are lifted; space in between with a wide, shallow groove; behind procoxae the apophysis is somewhat prolonged caudad, the sides are subparallel, the margins are lifted; the apex is broadly pointed apically (see Fig. 6C).

Mesosternum. Hind part short, smooth; anterior margin excavated in the middle.

Metasternum. Anterior margin between mesocoxae rounded, bordered. Disc vaulted, with minute, widely separated punctures. Median line neither incised nor impressed.

Sternites. Anterior margin between metacoxae ogive, bordered. Sternites 1-3 with small, superficial punctures, sternites 4-5 with tiny punctures.

Antennae. Reaching over one tenth of elytra. Length/width ratio of antennomeres 1-11 equals to 11:6 / 5:5 / 10:5 / 8:5½ / 7:7 / 7:8½ / 7:12 / 8:14 / 8:15 / 9:15 / 15:14.

Legs. Short. Femora towards second thirds broadened. Protibiae moderately bent; meso- and metatibiae distinctly bent. Lengths of protarsomeres

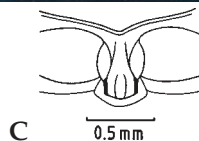


Fig. 6. *Amarygmus claviger* spec. nov. A. Photo of habitus (female); B. photo of head and frontal part of pronotum; C. prosternal apophysis.

1-5 as 5:4:4:4:18; lengths of mesotarsomeres 1-5 as 10:5:4:4:18; lengths of metatarsomeres 1-4 as 35:10:6:17.

Etymology. Clavus (Lat.) = club; ger = suffix in the meaning of a bearer of a special character.

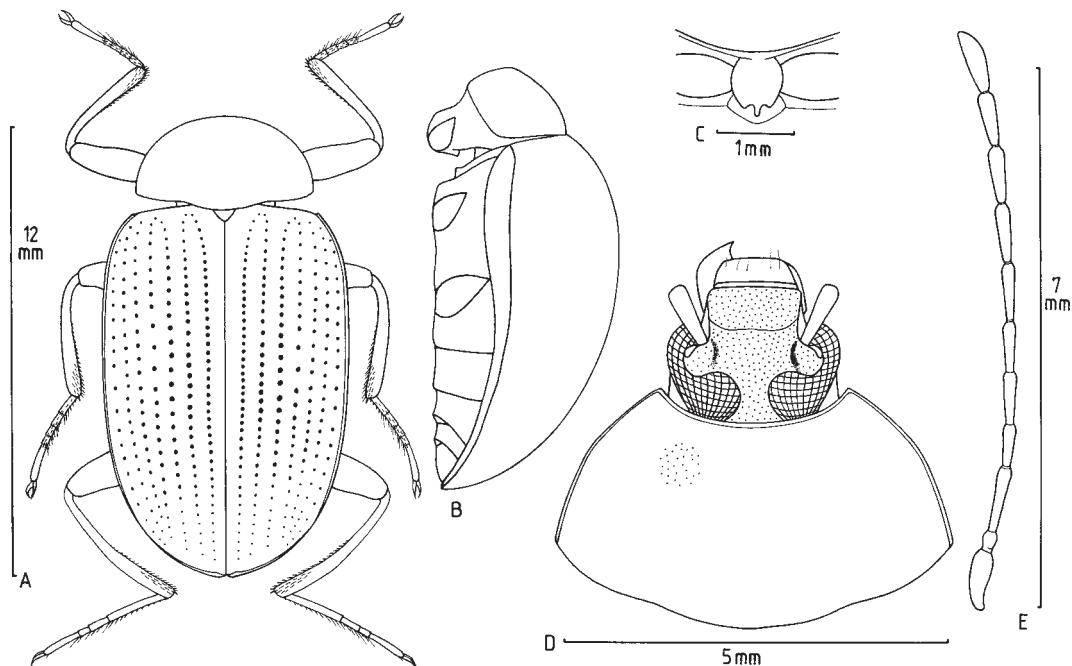


Fig. 7. *Amarygmus expositus* spec. nov. A. Habitus (female); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antenna.

Amarygmus (Amarygmus) expositus spec. nov.

Fig. 7A-E

Holotype. ♀, ZSM: Papua New Guinea, Morobe Prov., Asaki, Oiwa, 1600–1700 m, 22.II.1998, leg. A. Riedel.

Diagnosis. Large. Elytra long, oval, convex, with rows of large, well separated punctures. Pronotum less convex transversely. Frons narrow. Antennae long, filiform. Pronotum reddish golden, elytra coppery, both lustrous; femora black, tibiae and tarsi brown.

Similar in size and shape to *A. pilosiventris* Kaszab, 1939. This species has a violet upper side; the punctures of the elytral rows are smaller, closer set, and they are partially connected by faint lines.

Description

Measurements. Body length: 13.3 mm. Body width: 6.2 mm.

Ratios. Pronotum: width/length 1.90; width hind corners/width front corners 2.00. Elytra: length/width 1.52; length elytra/length pronotum 4.10; maximum width elytra/maximum width pronotum 1.42.

Coloration. See “Diagnosis”. Under side black, lustrous.

Head. Frons narrow, less wide than length of antennomere 4 (like 9:11), with small, moderately closely set punctures. Genae somewhat raised towards lateral margins, anteriorly terminating approximately at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture slightly incised in the middle. Clypeus markedly stretched forwards, nearly flat, punctured as on frons. Mentum reversely trapezoidal. Mandibles apically bifid.

Pronotum. Relatively short when compared with length of elytra of other *Amarygmus* s. str. Moderately convex transversely and longitudinally. Widest at base, narrowing and bent towards front corners. Hind corners angular, obtuse; front corners sharply angled, nearly rectangular. Anterior margin distinctly emarginated. Lateral and anterior margins narrowly bordered; lateral borders visible in dorsal view. In lateral view front and hind corners are angular, the hind ones obtuse, the front ones about rectangular. Surface with minute, not too closely set punctures.

Scutellum. Triangular; impunctate.

Elytra. Elongate oval. Conspicuously convex transversely, moderately convex longitudinally; maximum of height nearly in the middle. Shoulders rounded, somewhat bossing. Apices of elytra mutually rounded. Lateral edges in dorsal view narrowly

visible from shoulders to the hind third. Surface with rows of large punctures which become less impressed in the hind quarter; distances between punctures on disc in row 4 equal to approximately three times the diameter of a puncture; about 21 punctures in row 4. Intervals flat, nearly impunctate (at 12-fold magnification).

Prosternum. Anterior margin narrowly bent upwards, except in the middle, where this border is interrupted. Prosternal apophysis apically tripartite.

Mesosternum. Hind part at corners of median emargination is directly descending to the frontal part. Hind part with minute punctures.

Metasternum. Anterior margin along mesocoxae rounded, bordered. Disc flat, with tiny, widely separated punctures from which tiny hairs originate. Median suture slightly incised in the hind half.

Sternites. Anterior margin among metacoxae ogive, bordered. Discs of sternites 1–5 with tiny, widely separated punctures and tiny hairs.

Antennae. Long, filiform, reaching to the middle of elytra. Length/width ratio of antennomeres 1–11 equals to 18:8 / 6:5 / 20:4½ / 11:4½ / 15:4½ / 14:4½ / 19:5 / 18:5 / 19:5 / 17:5 / 20:5½. Antennomere 11 spindle-like.

Legs. Of medium length. Femora broadened biceps-like at approximately two thirds. Pro- and mesotibiae nearly straight in basal half, slightly bent in apical half; metatibiae straight in basal half, somewhat incurved in apical half. Lengths of protarsomeres 1–5 (in a female) as 8:8:6:4:23; lengths of mesotarsomeres 1–5 as 11:10:7:6:24; lengths of metatarsomeres 1–4 as 35:11:7:22.

Etymology. *Expositus* (Lat.) = solitary.

Amarygmus (Amarygmus) fakfakensis spec. nov.

Fig. 8A–I

Holotype. ♂, SMNS: Irian Jaya, 4 km östl. Fakfak, 7.VII.1996, leg. Schüle/Stüben.

Paratypes. Irian Jaya, 5 km westl. Fakfak, 8.VII.1996, leg. Schüle/Stüben (1♂ ZSM, 1♀ SMNS) – Irian Jaya, Fakfak, 2 km östl. Flughafen, 16.–18.VII.1996, leg. Schüle/Stüben (1♂, 2♀ SMNS) – Irian Jaya, Wandammen Bay, Wondiwoi Mts., Wasior, 250–600 m, 4.I.2001, leg. A. Riedel (1♂ ZSM) – Batanta Island, Yenenas, 5.II.1996, leg. A. Riedel (1♂ ZSM, 1♂ HMNH) – Indonesia, Batanta Island, Valley of Waridor, 30–40 m, S0°50'30" E 130°31'30", 18.I.2014, leg. T. Kovács, P. Juhász and R. Horváth (1♂, 2♀ HMNH).

Diagnosis. Species of medium size, oval. Elytra not very long, with incised striae and small, narrow punctures; intervals slightly convex on disc and with tiny punctures. Pronotum little convex transversely,

with subparallel sides in hind half. Anterior margin moderately emarginated. Front corners slightly projecting forwards. Surface with minute, distinct punctures. Head with a close punctation. Frons of medium size. Antennae reaching nearly to middle of elytra. In males legs with a moderate bending in basal third; protibiae with a moderate bending in basal third and flattened from under side (only in males), metatarsomere 1 as long as metatarsomere 4.

In a former paper (Bremer 2004c: 121–123) I wrongly determined some specimens of this taxon as *A. niger* Gebien, 1911.

May be mistaken with *Amarygmus orientalis* (Fairmaire, 1883) by body shape, size and coloration, a frequently collected species in the Papuan area; this species presents a longer metatarsomere 1 than metatarsomere 4, and it lacks the sexual characters on protibiae which *A. fakfakensis* presents.

Similar also to *A. niger* Gebien, 1911; this species also has distinctly incised elytral striae, but the punctures of the striae are larger and, in males, the protibiae are distinctly and abruptly bent inwards in the middle, not so in males of *A. fakfakensis*. Particularly the females of both taxa are difficult to separate; *A. fakfakensis* presents a black upper side, while the black colour of upper side of *A. niger* always shows a distinct reddish tinge; this may be a first link to differentiate.

Amarygmus fakfakensis is also near to some other species with a congruent elytral shape, coloration and the same length of metatarsomere 1 as metatarsomere 4; these are *Amarygmus montisellae* Bremer, 2011 and *A. contractus* Bremer, 2011, in contrast to *A. fakfakensis*, these species have coarse strial punctures, and they are somewhat larger.

Description

Measurements. Body length: 6.69–8.20 mm. Body width: 4.14–4.78 mm.

Ratios. Pronotum: width/length 1.58–1.83, width hind corners/width front corners 1.62–1.78. Elytra: length/width 1.33–1.42, length elytra/length pronotum 3.25–3.45, maximum width elytra/maximum width pronotum 1.42–1.48.

Coloration. Pronotum, elytra black, lustrous; upper side of head black and with a reduced luster because of the close punctation; femora black, tibiae dark brown, tarsi brown. Under side black. Antennomeres 1–7 brown, lustrous, 8–11 black, opaque.

Head. Frons of medium width, as wide as antennomere 3 long; closely punctured, punctures small; males and females show the same width of frons. Genae raised upwards towards lateral margins, anteriorly terminating about at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture

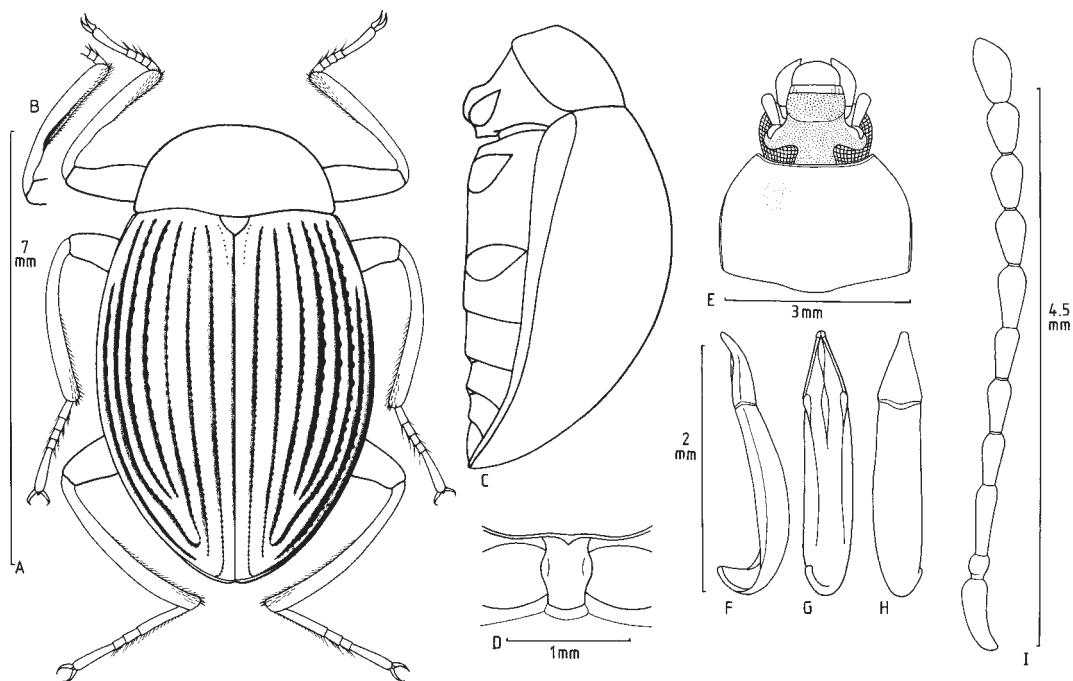


Fig. 8. *Amarygmus fakfakensis* spec. nov. A. Habitus (male); B. protibia, oblique view between inner and ventral side; C. body lateral; D. prosternal apophysis; E. head and pronotum; F. aedeagus, lateral view; G. aedeagus, ventral view; H. aedeagus, dorsal view; I. antenna.

scarcely incised, but it is well discernible because of a missing punctation. Clypeus stretched forwards, anteriorly and transversely somewhat convex, punctured as on frons. Under side of neck with a few tiny punctures. Mentum inversely trapezoidal, with lustrous, flat lateral margins, in between convex. Mandibles with a longitudinal sulcus on outer surface, apically bifid.

Pronotum. Relatively narrow, convex transversely and longitudinally. Sides of hind half subparallel, anteriorly thence narrowing towards the somewhat projecting, rectangular front corners. Anterior margin somewhat emarginated, bordered. Lateral borders narrow and visible in their whole length in dorsal view. In lateral view front and hind corners angular, front ones rectangular, hind ones obtuse. Surface with minute, distinct punctures.

Scutellum. Triangular, impunctate.

Elytra. Oval; greatest width and height slightly in front of middle; distinctly convex transversely and longitudinally. Shoulders angular, obtuse. Apices of elytra mutually rounded. Lateral edges narrowly visible in dorsal view. Surface with incised striae and small, narrow strial punctures, towards the lateral edges the striae are more and more incised. Intervals slightly convex on disc, markedly convex

laterally, with tiny, widely separated punctures.

Prosternum. Anterior margin bent upwards, this border is interrupted in front of prosternal apophysis. Prosternal apophysis narrow transversely, slightly widened along procoxae, in between there with a narrow median groove, posteriorly it is clearly narrower than between procoxae, and its margins are slightly narrowing towards the apex; apex narrowly rounded.

Mesosternum. Hind part of mesosternum excavated in the middle on its anterior margin; surface flat and microreticulated.

Metasternum. Anterior margin rounded between mesocoxae, broadly bordered, on inner rim with coarse punctures. Surface microreticulated, with tiny, widely separated punctures. Median line slightly incised.

Sternites. Microreticulated. Anterior margin between metacoxae ogive, bordered. Sternites nearly impunctate. Sternite 5 without structural peculiarities in males, with a few tiny, widely separated punctures.

Antennae. Reaching nearly to middle of elytra. Length/width ratio of antennomeres 1-11 equals to 13:6 / 4:4 / 13:4¹/₂ / 10:4¹/₂ / 11:4¹/₂ / 9¹/₂:4¹/₂ / 11:6 / 11:6 / 10:6 / 9¹/₂:6 / 13:7.

Legs. Of medium length. Femora towards second thirds club-like broadened. In males protibiae with a moderate bending in basal third and from under side compressed and flattened, anteriorly thence straight and slightly broadened on inner side; mesotibiae slightly bent; metatibiae moderately bent. Protarsomeres 1–3 not widened in male. Lengths of protarsomeres 1–5 as 3:3:3:3:15; lengths of mesotarsomeres as 7:5:5:4½:16; lengths of metatarsomeres 1–4 as 18:6:4½:18.

Etymology. Fakfakensis, from Fakfak, the Province of Irian Jaya, where some of the type specimens had been collected.

Amarygmus fuliginosus spec. nov.

Fig. 9

Holotype. ♀, ZSM: Irian Jaya, Manokwari, Gn. Meja, 200 m, 30.XII.2001, leg. A. Riedel.

Diagnosis. Elytra elongate, subparallel, with tiny punctures in impressed striae. Pronotum short, maximum of width somewhat behind middle. Scutellum with bent side. Frons of medium width. Antennae short. Legs short; metatarsomere 1 shorter than metatarsomere 4; frontal side of profemora with small, closely punctures of medium size and tiny bristles. Upper side soot black; femora and tibiae dark brown to black, tarsi brown; antennomeres 1–4 dark brown, 5–11 black; pronotum and elytra with tiny, widely separated hairs (just visible at 50-fold magnification).

Of the Papuan faunal area this is the only *Amarygmus* known with elongate elytra, a soot black surface, an about triangular scutellum with bent sides (the scutellum of species of *Amarygmus* s. str. is distinctly triangular, with straight sides), furthermore, the frontal side of profemora displays small, closely set bristles (the frontal side of *Amarygmus* s. str. is smooth) (in males a few *Amarygmus* s. str. possess long hairs on the frontal side but no small, closely set bristles in females). Because of these characters it is probable that *A. fuliginosus* does not belong to *Amarygmus* s. str.; however, for a placement to a special subgenus, for creating a new subgenus or even a genus one should await the study of a male specimen.

Amarygmus fuliginosus displays a certain similarity with *Pontianacus rubricrus* Fairmaire, 1898 from Borneo by body shape and coloration of upper side, but the monotypic species of the genus *Pontianacus* possesses a small tooth on the frontal side of profemora as other genera related to *Plesiophthalmus* also have. For more details on *Pontianacus rubricrus* see Bremer 2014a: 18.



Fig. 9. *Amarygmus fuliginosus* spec. nov. Photo of habitus (female).

Description

Measurements. Body length: 9.87 mm. Body width: 5.02 mm.

Ratios. Pronotum: width/length 1.66; width hind corners/width front corners 1.68. Elytra: length/width 1.59; length elytra/length pronotum 3.45; maximum width elytra/maximum width pronotum 1.26.

Coloration. Upper side, see “Diagnosis”. Under side brown, somewhat lustrous.

Head. Frons of medium width, opaque, the anterior part of frons with small, scarred, closely set punctures, posterior part of frons with indistinct, tiny, well separated punctures. Genae markedly lifted upwards towards lateral margins, lustrous, anteriorly terminating at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture slightly impressed, not really incised. Clypeus shortly stretched forwards, partially with inconspicuous, small punctures and with some relatively long, anteriorly projecting hairs. Mentum reversely trapezoidal, with flat, lustrous lateral margins, space in between convex transversely, with a few long hairs. Last segment of maxillary palpes triangular. Under side of neck with small, closely set punctures.

Mandibles with a deep longitudinal groove on outer surface, apically bifid.

Pronotum. Short, regularly convex transversely, somewhat less convex longitudinally; widest somewhat behind middle, distinctly narrowing towards hind and front corners. Hind corners obtuse, front corners about rectangular and somewhat protruding. Anterior margin excavated. Lateral and anterior margins relatively broadly bordered. Lateral borders in dorsal view visible in their whole length. Front and hind corners in lateral view distinct, the front ones rectangular, the hind ones obtuse. Surface impunctate.

Scutellum. Approximately triangular, with bent sides; impunctate.

Elytra. Elongate; sides subparallel; convex transversely, less convex longitudinally; maximum of height approximately in the middle. The lateral edges are slightly protruding anteriorly at shoulders. Apices of elytra slightly retracted towards median suture. Lateral edges in dorsal view narrowly visible in their whole length. Surface with distinctly incised striae and small, inconspicuous punctures at their bottom. Elytral intervals conspicuously convex, impunctate.

Prosternum. Much shorter than pronotum. Anterior margin distinctly bent upwards and conspicuously retracted towards apophysis in the middle. Apophysis narrow and long, posterior to procoxae somewhat descending; along procoxae the lateral margins somewhat widened and lifted, space in between with a distinct median groove; posterior to procoxae the apophysis is narrow, and the median part is higher situated than the lateral parts; apically with a slightly lifted nose; surface of apophysis with long, somewhat projecting hairs.

Mesosternum. Hind part long and narrowing towards base, with a deep excavation on its anterior margin in the middle; with many long hairs.

Metasternum. Anterior margin between mesocoxae rounded, bordered. Surface with minute, well separated punctures and small, tender, partially projecting, partially recumbent hairs. Median line impressed in the hind quarter.

Sternites. Anterior margin between metacoxae ogive, bordered. Sternites with minute, relatively closely set punctures and tender hairs of medium length.

Antennae. Short, reaching over one tenth of elytra. Length/width ratio of antennomeres 1-11 equals to 12:6 / 5:5 / 10:5½ / 9:6 / 9:7 / 10:8 / 10:8 / 10:8 / 10:8 / 14:8.

Legs. Short. Profemora on the frontal side broadened towards second thirds and subparallel in the apical tenths, the frontal sides with an area of closely set punctures of medium size and tiny bristles (visible

at 50-fold magnification); all femora and tibiae with small, closely set punctures and tiny, almost recumbent hairs; protibiae straight and broadened apically, with large, closely set punctures from which tiny to small hairs originate. Lengths of protarsomeres 1-5 as 4:3:3:3:18; lengths of mesotarsomeres 1-5 as 9:6:5:4:18; lengths of metatarsomeres 1-4 as 14:6:5:18.

Etymology. Fuliginosus (Lat.) = soot black.

Amarygmus (Amarygmus) longicornis spec. nov.

Fig. 10A-H

Holotype. ♂, CA: Irian Jaya, Mubrimanis nr. Manokwari, 15.VIII.1996, N. Ohbayashi leg.

Paratypes. Ditto (1 ♂, 1 ♀ ZSM; 2 ♀ CA) – Indonesia, W-Papua, vic. Kaimana, road 18 km NE, S 3°31'11" E 133°40'15", 50-80 m, 21.-25.II.2011, leg. A. Skale (1 ♂ ZSM) – W-Papua, Manokwari Pr., 6 km N Manokwari, Desa Pami, 0°48'34"S 134°03'15"E, 9.III.2007, leg. A. Weigel, plantage (3 ♂ NME; 2 ♂, 1 ♀ ZSM).

Diagnosis. Of medium size; somewhat elongate oval; elytra with rows of medium-sized punctures and flat, impunctate intervals; frons not very wide; antennae very long, tender, reaching over 60 per cent of elytra; protarsomeres 1-3 in males not widened; protibiae nearly straight, mesotibiae moderately bent, metatibiae in basal 60 percent straight, in apical 40 percent slightly incurved. Back sides of meso- and metafemora with long, recumbent hairs in males and with long, recumbent hairs in the median part of sternite 1. Upper side dark brown, somewhat metallic, pronotum slightly darker than elytra, and with a greenish tinge (if specimens are wet this greenish tinge is better discernible); femora and tibiae dark brown, tarsi brown; antennomeres 1-6 brown, 7-11 dark brown to black.

Concerning body size, colour, length of antennae similar to *A. wisseli* Bremer, 2013, but *A. wisseli* is narrower, its males present sexual dimorphic alterations on protibiae and metatibiae which males of *A. longicornis* do not show.

Description

Measurements. Body length: 8.26-8.44 mm. Body width: 4.30-4.70 mm.

Ratios. Pronotum: width/length 1.75-1.86; width hind corners/width front corners 1.75-1.90. Elytra: length/width 1.47-1.55; length elytra/length pronotum 3.40-3.68; maximum width elytra/maximum width pronotum 1.25-1.30.

Coloration. Upper side and legs, see "Diagnosis". Under side brown, lustrous.

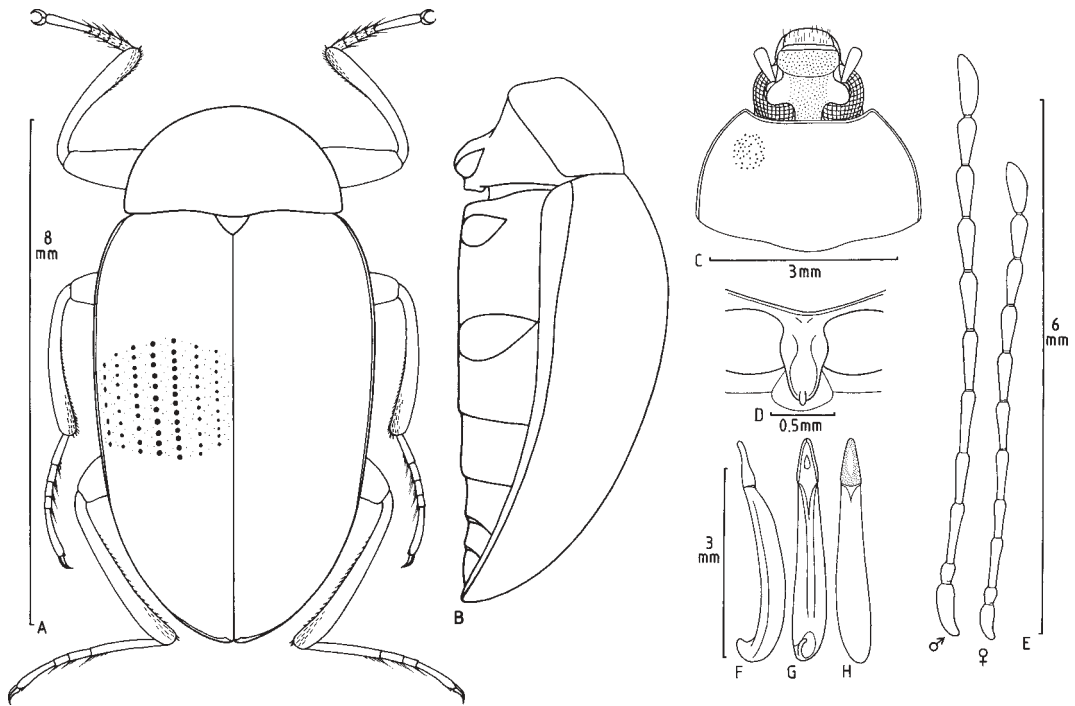


Fig. 10. *Amarygmus longicornis* spec. nov. A. Habitus (male); B. body, lateral view; C. head and pronotum; D. pro-sternal apophysis; E. antennae, male and female; F. aedeagus, lateral view; G. aedeagus, ventral view; H. aedeagus, dorsal view.

Head. Frons not very wide and with the same width in both sexes, approximately as wide as antennomere 4 long; with small, inconspicuous, relatively closely set punctures. Genae moderately lifted towards lateral margins, anteriorly terminating approximately at the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture moderately impressed, scarcely incised. Clypeus stretched forwards, slightly convex longitudinally; its punctures small, closely set, relatively conspicuous. Mentum reversely trapezoidal, uniformly lustrous, with flat lateral margins, space in between moderately convex transversely. Under side of neck with small, closely set puncture. Mandibles with a sulcus on outer surface, apically bifid.

Pronotum. Convex transversely, less so longitudinally. Widest at apex; narrowing and bent towards front corners. Hind corners angular, obtuse; front corners nearly rectangular in dorsal view. Anterior margin slightly emarginated. Lateral and anterior margins narrowly bordered. Lateral borders in dorsal view visible in the hind half. Front corners in lateral view rectangular, hind corners angular, obtuse. Surface with small, irregularly and not very closely set punctures.

Scutellum. Triangular; impunctate.

Elytra. Ovate, distinctly convex transversely, moderately convex longitudinally. Maximum of width and height at the end of first third. Shoulders rounded, slightly accentuated. Apices of elytra mutually rounded. Lateral edges narrowly visible at shoulders. Surface with rows of medium-sized punctures which are relatively closely set, their distances on disc in row 4 equal to the diameter of a puncture; about 40 punctures in row 4. Elytral intervals impunctate.

Prosternum. Anterior margin continuously and narrowly bent upwards, slightly retracted towards apophysis in the middle. Apophysis slightly ascending between anterior margin and level along procoxae, and moderately descending between procoxae and the posteriorly somewhat protruding apex; lateral margins moderately widened and lifted along procoxae and somewhat lifted, space in between as a shallow, moderately wide median groove; lateral margins posterior to procoxae narrowing and slightly bent; apex with a somewhat lifted and protruding median "nose".

Mesosternum. Hind part not lifted ventrad; its anterior margin excavated in the middle, the margins

of excavation raised and its edges vertically and straightly descending to the depressed anterior part of mesosternum.

Metasternum. Anterior margin between mesocoxae rounded, bordered. Lateral parts of rim posterior to mesocoxae indistinctly punctured. Disc of metasternum with small, widely separated punctures. Median line slightly incised over the whole length.

Sternites. Anterior margin between metacoxae ogive, bordered, inner rim and also the rims posterior to metacoxae punctured. In males central part of sternite 1 with very closely set punctures of medium size, from which long, posteriorly directed, recumbent hairs are originating; in females the sternites 1 and 2 with minute, relatively widely separated punctures without hairs; lateral parts of sternite 1 and uniformly sternite 2 with small, shallow, indistinct, closely set punctures. Sternites 3–5 with tiny, very widely separated punctures and a few tiny hairs. Sternite 5 with a shallow postero-median depression in the male, in which the punctures are somewhat larger.

Antennae. Very long and thin, longer in males than in females; antennomeres 11 spindle-like. Length/width ratio in a male equals to 14:4½ / 5:3 / 15:3 / 12:3 / 14:3 / 13:3½ / 15:4 / 11:4 / 13:4 / 12:4 / 17:4.

Legs. Of medium length. Femora towards second thirds moderately club-like widened; on the back of meso- and metafemora in males with long, totally recumbent hairs, which may easily be overlooked. Tibiae, see “Diagnosis”. Lengths of protarsomeres 1–5 as 4½:4:4:3½:18; lengths of mesotarsomeres 1–5 as 9:5:5:4½:18; lengths of metatarsomeres 1–4 as 26:8:6:16.

Etymology. Longus (Lat.) = long; cornu (Lat.) = horn (in insects also used for antennae).

Amarygmus (Amarygmus) mimarius spec. nov.

Fig. 11A–C

Holotype. ♀, BMH: New Guinea, NE, Torricelli Mts., Mokai Vill., 750 m, I-1-23-1959, W. W. Brandt Collector, BISHOP (right middle leg missing).

Diagnosis. Of medium size, oval. Elytra with rows of medium-sized punctured; intervals flat. Frons of medium width, the genae are anteriorly terminating in front of the level of the medium part of fronto-clypeal suture. Genae form together with parts of clypeus a low, bent rise (see Fig. 11B). Antennae short; ultimate antennomeres not widened. Tibiae moderately bent. Upper side blue, lustrous, tibiae and tarsi brown.

Very similar to *A. claviger* spec. nov. concerning shape and coloration, and *A. mimarius* being collected at the same location as *A. claviger*; however, the punctures of the elytral rows are less impressed in *A. claviger*, the antennae of both species are very different (the antennomeres of *A. mimarius* are not club-like formed as in *A. claviger*). The width of frons and the form of legs are similar in both species. Legs of *A. claviger* dark brown.

Two more species with elongate elytra, medium-sized punctures in elytral rows and with a blue coloration of upper side are similar: *Amarygmus caeruleus* Bremer, 2013 and *A. letho* Bremer, 2013.

Amarygmus caeruleus is from Waigeo Isl. of Irian Jaya. Its legs are deeply black, the tibiae are straighter and less compressed than those of *A. mimarius*, the metatarsomeres, especially the metatarsomere 1, are shorter and stouter; the antennomeres 7–11 are shorter and stouter than those of *A. mimarius*; the fronto-clypeal suture of *A. caeruleus* is slightly impressed across head (that of *A. mimarius* is only slightly incised in its middle part); the genae of *A. caeruleus* are clearly shorter than those of *A. mimarius* and anteriorly they do not surpass the level of the middle part of fronto-clypeal suture anteriorly; the hind corners and front corners of pronotum are clearly angulate in dorsal view (in *A. mimarius* they are rounded); the shape of prosternal apophysis of *A. caeruleus* is quite different from that of *A. mimarius* (see Bremer 2013: 24–26).

Amarygmus letho from Manokwari Prov. of Irian Jaya and the area around Fly River is somewhat smaller (body length 4.9–5.8 mm) than *A. mimarius*, its elytra are shorter (length/width ratio 1.41–1.48:1); frons of *A. letho* is narrower, fronto-clypeal suture is more incised in its middle part; protibiae are less bent; the shape of prosternal apophysis of *A. letho* is quite different from that of *A. mimarius* (see Bremer 2013: 42–44).

Description

Measurements. Body length: 6.60 mm. Body width: 3.34 mm.

Ratios. Pronotum: width/length 1.65; width hind corners/width front corners 1.69. Elytra: length/width 1.59; length elytra/length pronotum 3.35; maximum width elytra/maximum width pronotum 1.27.

Coloration. Upper side blue, elytra and pronotum lustrous, frons somewhat opaque; femora dark brown, nearly black, tibiae and tarsi brown; antennomeres 1–6 brown, lustrous, 7–11 opaque and more and more dark; under side dark brown, opaque.

Head. Frons of medium width, slightly narrower than length of antennomere 3 (like 11:13), with tiny, widely separated punctures; genae scarcely lifted upwards towards lateral margins, anteriorly terminating in front of the level of the middle part of fronto-clypeal suture; genae form together with parts of clypeus a low, bent rise (see Fig. 11B). Fronto-clypeal suture incised only in its middle part. Clypeus stretched forwards, with minute, widely separated punctures. Mandibles on outer surface with a longitudinal sulcus, apically bifid.

Pronotum. Convex transversely, moderately convex longitudinally; widest at base, narrowing and bent towards front corners. Hind corners obtuse and rounded, front corners in dorsal view slightly projecting anteriorly and rounded. Anterior margin somewhat emarginated. Lateral and anterior margins bordered. Lateral borders in dorsal view narrowly visible. In lateral view front corners angular, with an angle of about 100°, hind corners very obtuse and nearly rounded. Surface with small, well separated punctures.

Scutellum. Triangular, impunctate.

Elytra. Elongate oval; maximum of height and width somewhat in front of middle, very convex transversely, moderately convex longitudinally. Shoulders slightly bossing and rounded. Apices of elytra mutually rounded. Lateral edges in dorsal view very narrowly visible in frontal two thirds. Surface with rows of medium-sized punctures which become smaller and nearly evanescent in the apical region; distances of punctures on disc in row 4 equal to diameter of a punctures, about 34 punctures in row 4. Intervals on disc and laterally flat, only apical-lateral allusively convex; with minute, widely separated punctures.

Prosternum. Anterior margin continuously bent upwards, retracted towards apophysis in the middle and there with a rectangular angle. Prosternal apophysis relatively wide, along procoxae button-like widened and somewhat lifted, in between there with a wide, shallow median groove; posterior to procoxae the lateral margins are widening posteriorly, apex widely rounded (see Fig. 11C).

Mesosternum. Hind part short, smooth, anterior margin excavated in the middle.

Metasternum. Anterior margin between meso-coxae rounded, bordered. Disc vaulted, with minute, widely separated punctures. Median line neither incised nor impunctate.

Sternites. Anterior margin between metacoxae ogive, bordered. Sternites 1-3 with small, superficial punctures. Sternites 4-5 with tiny punctures.

Antennae. Short. Reaching with two antennomeres beyond elytral base. Antennomeres 7-11 elongate triangular. Length/width ratio of anten-

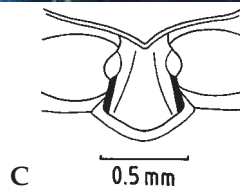


Fig. 11. *Amarygmus mimarius* spec. nov. **A.** Photo of habitus (female); **B.** photo of head and frontal part of pronotum; **C.** prosternal apophysis.

nomeres 1-11 equals to 13:6 / 6:5 / 13:4½ / 10:4½ / 8½:5 / 10:6½ / 11:7 / 12:8 / 12:8 / 11:8 / 17:8½.

Legs. Short. Femora towards second thirds bulge-like broadened. Pro-, meso- and metatibiae moderately bent and somewhat compressed. Lengths

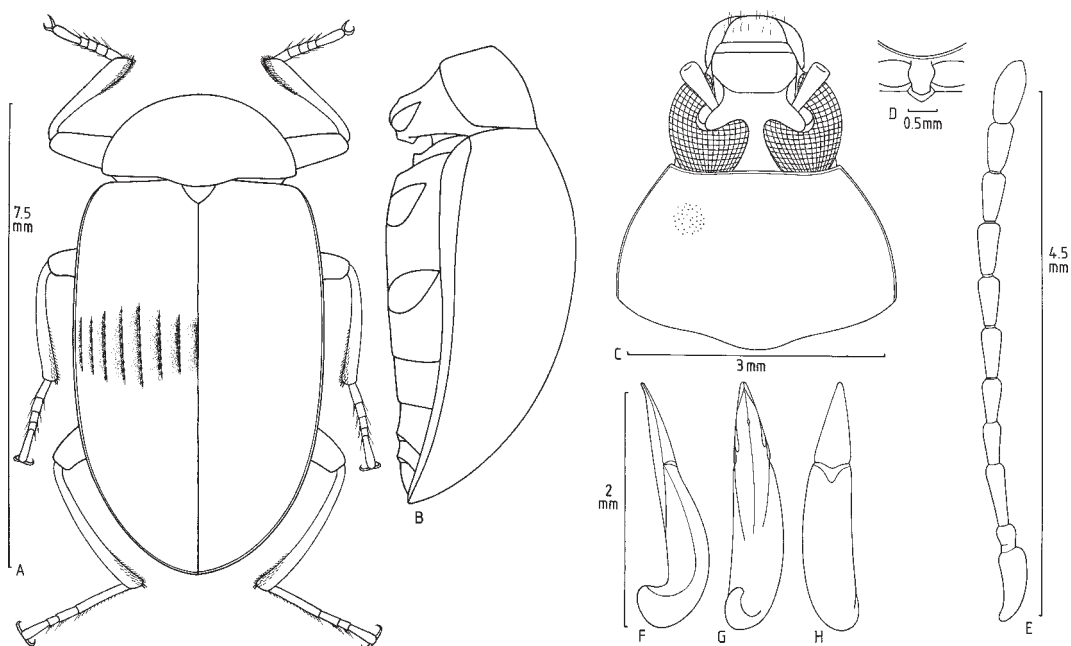


Fig. 12. *Amarygmus novus* spec. nov. **A.** Habitus (male); **B.** body, lateral view; **C.** head and pronotum; **D.** prosteronapophysis; **E.** antenna; **F.** aedeagus, lateral view; **G.** aedeagus, ventral view; **H.** aedeagus, dorsal view.

of protarsomeres 1–5 as 6:5:5:4½:19; lengths of mesotarsomeres 1–5 as 16:8:7:4:19; lengths of metatarsomeres 1–4 as 38:11:7:19.

Etymology. *Mimarius* (Lat.) = mimic.

Amarygmus (Amarygmus) novus spec. nov.

Fig. 12A–H

Holotype. ♂, ZSM: Irian Jaya, Japen Isl., Kontiunai, road to Ambaidiru, 600–700 m, 23.–26.XI.2000, leg. A. Riedel.

Paratype. Indonesia, West Papua, Yapen Island, near Serui (H=40 m), S01°50'24.5", E136°13'52.5", 23.–30.V. 2010, leg. Bretschneider (1 ♂ ZSM).

Diagnosis. Of medium size, elongate oval. Elytra with slightly incised striae on disc, with small, elongate strial punctures and slightly convex intervals. Frons narrow. Antennae of medium length. Legs short and without male sexual dimorphisms. Pronotum coppery, elytra coppery with a strong reddish violet tinge.

Related to *A. mayri* Bremer, 2004(b) concerning body size and shape, but without the male sexual characters on legs which are typical for *A. mayri*. The colour of upper side of *A. mayri* is greenish bronze, that of *A. novus* is clearly reddish.

Description

Measurements. Body length: 7.40–7.48 mm. Body width 3.80–3.90 mm.

Ratios. Pronotum: width/length 1.73–1.81; width hind corners/width front corners 1.57–1.62. Elytra: length/width 1.59; length elytra/length pronotum 3.71–3.80; maximum width elytra/maximum width pronotum 1.29–1.35.

Coloration. Upper side, see above; elytra with a weak iridescence; under side auburn; femora, tibiae, antennae black, tarsi brown.

Head. Frons narrow, somewhat wider than length of antennomere 2, with minute, relatively closely set punctures. Genae narrow and short, only slightly lifted towards lateral margins, anteriorly terminating behind the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture slightly incised and impressed. Clypeus stretched forwards, only a little convex transversely and longitudinally, with small, closely set punctures. Mentum reversely trapezoidal. Mandibles with a longitudinal sulcus on outer side, apically bifid.

Pronotum. Relatively narrow; regularly convex transversely and longitudinally; widest at base, anteriorly narrowing and bent. Hind corners angular, obtuse, front corners somewhat depressed ventrad and narrowly rounded in dorsal view, in view from

the front rectangular. Anterior margin nearly straight in dorsal view. Lateral and frontal margins bordered. Lateral borders narrowly visible in the hind 70 per cent in dorsal view. In lateral view front corners angular and with an angle of about 100°, hind corners rounded. Surface with minute, relatively closely set punctures.

Scutellum. Triangular, with a few tiny punctures.

Elytra. Elongate oval, greatest width and height slightly in front of middle; distinctly convex transversely, moderately convex longitudinally. Shoulders rounded and slightly bossing. Apices of elytra mutually rounded. Lateral edges very narrowly visible in dorsal view. Surface with slightly incised striae on disc, striae are more incised laterally; within striae small, somewhat elongate punctures, their distances on disc in row 4 are approximately equal to their diameters, about 38 punctures in row 4. Elytral intervals a little convex on disc, moderately convex laterally, with tiny punctures.

Prosternum. Anterior margin continuously and narrowly bent upwards. Apophysis relatively narrow, horizontal, somewhat protruding caudad; along procoxae with a deep median groove.

Mesosternum. Anterior margin of hind part deeply excavated in the middle.

Metasternum. Anterior margin between meso-coxae rounded, bordered. Disc somewhat vaulted transversely, with some short to medium-sized, recumbent hairs (probably only in males); median line neither incised nor impressed.

Sternites. Disc of sternites with minute, not very closely set punctures and short hairs. Apex of sternite 5 inconspicuously impressed (certainly only in males).

Antennae. Reaching nearly to the middle of elytra. Length/width ratio of antennomeres 1-11 equals to 12:5½ / 4:4 / 12:4 / 9:4¼ / 9½:4½ / 9½:4½ / 10:5 / 10:5½ / 10:5½ / 10:5½ / 13:5½. Antennomeres cylindrical.

Legs. Short. Femora club-like broadened towards second thirds. Protibiae in basal half slim, in apical half anteriorly broadening on inner side (probably only in males), nearly straight on outer side. Mesotibiae broadening anteriorly, nearly straight on inner side, slightly bent on outer side. Metatibiae moderately bent apically. Protarsomeres 1-3 not widened in males. Lengths of protarsomeres 1-5 as 5:4:4:4:12; lengths of mesotarsomeres 1-5 as 9:5:4:3½:12; lengths of metatarsomeres 1-4 as 23:9:4:12.

Etymology. Novus (Lat.) = new.

Amarygmus (Amarygmus) oculus subsp. *kaimanaensis* subsp. nov.

Fig. 13A-H

Holotype. ♂, ZSM: Indonesia, W-Papua, 130 km SE Kaimana, Omba (Yamor) river, 10-20 km from coast, 4°05'49" S 134°54'09" E, 10-20 m altitude, 9.-11.II.2011, leg. A. Skale (right antennomeres 10+11 missing, left antennomeres 3-11 missing).

Paratype. Indonesia, W-Papua, vic. Kaimana, road 10 km NE, 3°34'42" S 133°42'41" E, 40 m altitude, 1.II.2011, leg. A. Skale (1 ♀ CS).

Diagnosis. Of medium size, elongate oval. Elytra with short subparallel sides within the second third, with somewhat impressed rows of medium-sized, closely set punctures which are connected by faint lines. Pronotum with narrowly rounded, slightly projecting front corners. Surface closely punctured. Frons relatively narrow, genae short and only slightly lifted towards lateral margins. Upper side of head closely punctured. Antennae very long and tender. In males protibiae broadened in apical half on inner side. Upper side green bronze.

Belongs to the *Amarygmus oculus* MacLeay-group of species concerning size, shape, and sexual dimorphisms of protibiae. *A. oculus kaimanaensis* is especially near to *Amarygmus oculus* subsp. *oculus* Macleay, 1887 from the area near Kolff River of Jayawijaya Prov. of Irian Jaya and to *A. oculus* subsp. *edictus* Bremer, 2007 from the Japen Island and Arfak Mts. of Irian Jaya.

In the subsp. *oculus* the main part of shafts of femora is brown and only the apical cap is black, in the subsp. *kaimanaensis* only the basal third is brown and the apical two thirds are black, the broadened part of protibiae of subsp. *oculus* in males is longer than in subsp. *kaimanaensis*, and, in males of specimens of the subsp. *oculus*, mesotibiae are broadened on inner side in the apical two third (not broadened in subsp. *kaimanaensis*).

The subsp. *edictus* of *A. oculus* presents a violet coloration of the upper side (in contrast to the green bronze coloration of the subsp. *kaimanaensis*), the shape of elytra, pronotum, width of frons, length of antennae and shape of protibiae and mesotibiae in males are similar in both subspecies.

Description

Measurements. Body length: 8.60-8.84 mm. Body width: 4.58-4.62 mm.

Ratios. Pronotum: width/length 1.74-1.75; width hind corners/width front corners 1.77-1.78. Elytra: length/width 1.53-1.55; length elytra/length pronotum 3.38-3.40; maximum width elytra/maximum width pronotum 1.26-1.28.

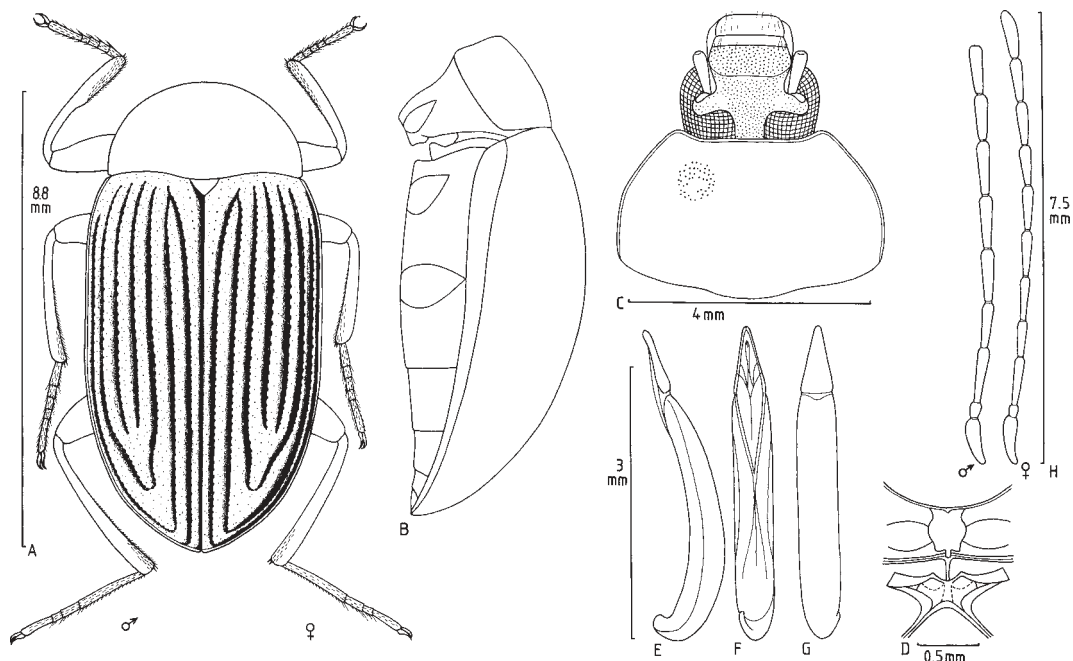


Fig. 13. *Amarygmus oculus* ssp. *kaimanaensis* subsp. nov. A. Habitus, left side legs of a male, right side legs of a female; B. body lateral; C. head and pronotum; D. prosternal apophysis and mesosternum; E. aedeagus, lateral view; F. aedeagus, ventral view; G. aedeagus, dorsal view; H. antennae, male and female.

Coloration. Upper side green bronze, with somewhat reduced luster, especially on the strongly microreticulated pronotum. The basal third of femora is brown, the apical two thirds as well as tibiae and tarsi are black. Antennae black. Prosternum, mesosternum, metasternum and sternite 1 are brown, sternites 2-5 black.

Head. Frons relatively narrow, corresponding about to length of antennomere 2 (like 9:7), with small, distinct punctures and with a nearly impunctate median area. Genae short, only slightly lifted towards lateral margins, anteriorly terminating behind the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture slightly impressed. Clypeus stretched forwards, slightly convex transversely and longitudinally; its punctures are so closely set that the surface looks scarred. Mentum reversely trapezoidal, with broad, flat lateral margins, in between convex transversely. Mandibles with a longitudinal sulcus on outer surface, apically bifid.

Pronotum. Moderately convex transversely and longitudinally. Widest at base; subparallel in hind half, anteriorly thence narrowing and bent. Hind corners angular and slightly obtuse; front corners narrowly rounded and slightly anteriorly projecting in dorsal view. Anterior margin moderately emargin-

ated. Lateral and anterior margins bordered. Lateral borders narrowly visible in dorsal view. In lateral view front corners rectangular, hind corners obtuse. Surface with small, distinct, closely set punctures.

Scutellum. Triangular; with a few minute punctures.

Elytra. Elongate oval with short subparallel sides. Moderately convex transversely and longitudinally, greatest height at the beginning of second third. Shoulders broadly obtuse. Apices of elytra mutually rounded. Lateral edges in dorsal view narrowly visible. Surface with slightly impressed rows of medium-sized punctures which become smaller in apical region, the punctures are connected with faint lines; distances between punctures on disc in row 4 equal to about the diameter of a puncture, about 30 punctures in row 4. Intervals on disc slightly convex, laterally more convex, with tiny, distinct, well separated punctures.

Prosternum. Anterior margin continuously bent upwards. Prosternal apophysis oval, widest between procoxae, apically with a protruding cone.

Mesosternum. Anterior margin of hind part excavated in the middle; hind part laterally very broadly bordered.

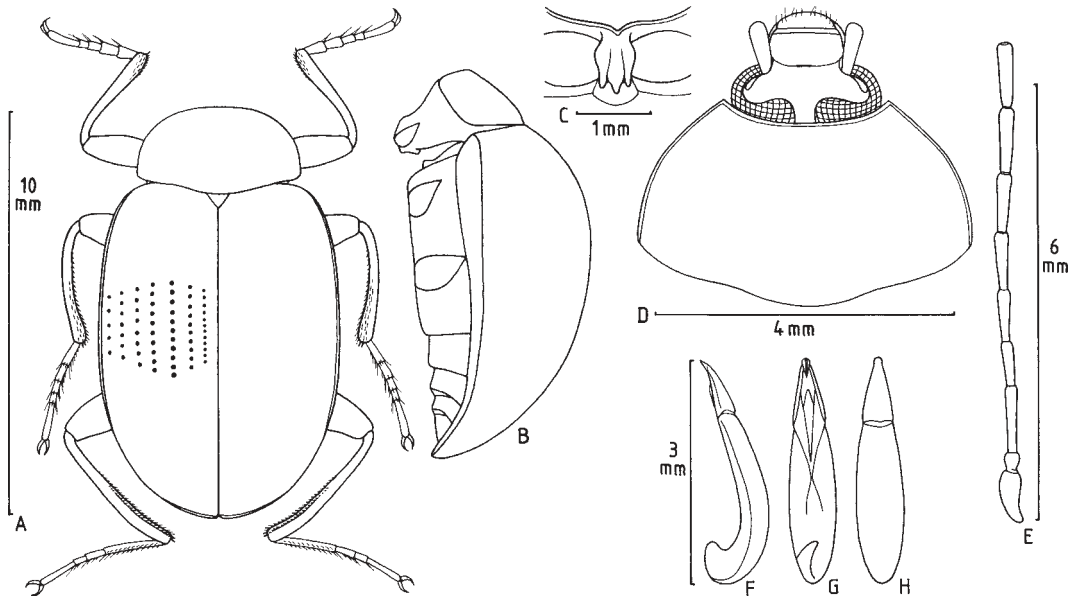


Fig. 14. *Amarygmus repellens* spec. nov. A. Habitus (male); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antennomeres 1-9; F. aedeagus, lateral view; G. aedeagus, ventral view; H. aedeagus, dorsal view.

Metasternum. Anterior margin between mesocoxae rounded, bordered; surface with a few widely separated, tiny punctures and very short hairs. Median line only translucent.

Sternites. Sternites 1+2 narrowly striolated, sternites 3-5 with minute, indistinct punctures.

Antennae. Very long and tender; reaching to the hind third of elytra; length/width ratio of antennomeres 1-9 equals in a male to 16:6 / 7:4 / 20:4½ / 17:4½ / 20:4½ / 18:4½ / 18:5 / 6:5 / 18:5, of antennomeres 1-11 in the female to 15:5 / 6:3½ / 19:4 / 13:4 / 16:4 / 17½:4 / 17:4 / 16:4 / 16:4 / 16:4 / 18:5.

Legs. Of medium length. Femora towards second thirds club-like broadened. In the male the protibiae are slightly bent on outer side, on inner side moderately broadened in apical half, in the female the protibiae are only moderately bent. Mesotibiae in both sexes slightly to moderately bent. Metatibiae in both sexes nearly straight in basal half, slightly incurved in apical half. Protarsomeres 1-3 not widened in males. Lengths of protarsomeres 1-5 as 5:4:4:3:17, lengths of mesotarsomeres 1-5 as 10:6:5:4½:16, lengths of metatarsomeres 1-4 as 31:10:5:16.

Etymology. Kaimanaensis, from Kaimana, the location where the type specimens had been collected.

Amarygmus (Amarygmus) repellens spec. nov.
Fig. 14A-H

Holotype. ♂, ZSM: Irian Jaya, Jayawijaya Prov., Borne, 1000-1300 m, 12.-18.VIII.1992, leg. A. Riedel (right antennomeres 10+11 and left antennomeres 9-11 missing).

Diagnosis. Large; elytra wide, oval and convex, with rows of medium sized punctures. Frons relatively narrow. Antennae long, filiform. In males with an area of recumbent hairs on the back side of mesofemora. Upper side coppery, lustrous, legs brown.

Very similar to *Amarygmus dalmani* Bremer, 2008(a) concerning shape, punctuation of elytra, length and shape of antennae, however, the area near to front corners of pronotum is somewhat depressed in *A. dalmani* (transversely uniformly convex in *A. repellens*); pronotum is somewhat narrower in *A. dalmani* than in *A. repellens* (1.82:1 vs. 2.10:1). Clypeus less convex in *A. repellens* than in *A. dalmani*. The main difference between both species is discernible in males: In *A. dalmani* the protarsomeres 1-3 are very wide, and in *A. repellens* they are only slightly widened (therefore, I considered first that this taxon is the currently unknown female of *A. dalmani*). Both species possess an area of recumbent hairs on the back side of mesotibiae in males.

Amarygmus discedens Bremer, 2008(a) (from NE Papua New Guinea, vic. Wau) is also similar

concerning shape, and it also possesses an area of recumbent hairs on the back side of mesofemora in males, but it is somewhat smaller (body length 8.3–9.3 mm), the pronotum is more closely and distinctly punctured, the shape of prosternal apophysis is different, and the protarsomeres 1–3 are wider in males of *A. discedens*.

Somewhat similar is *Amarygmus pilosiventris* Kaszab, 1939 (see also p. 245 of this paper and Fig. 16A–C). This species has longer elytra (length/width 1.52–1.65); the rows of elytral punctures (which are smaller and more elongate than those of *A. repellens*) are mostly connected by faint lines; its upper side is dark bluish violet. Additionally, in males the metasternum of *A. pilosiventris* is closely haired (the metasternum of males of *A. repellens* not haired), hairs on the back of mesofemora are missing in *A. pilosiventris*.

Description

Measurements. Body length: 9.87 mm. Body width: 6.13 mm.

Ratios. Pronotum: width/length 2.10; width hind corners/width front corners 1.96. Elytra: length/width 1.36; length elytra/length pronotum 4.11; maximum width elytra/maximum width pronotum 1.48.

Coloration. Upper side coppery, lustrous. Under side dark brown, metasternum slightly lustrous, sternites opaque. Femora, tibiae, tarsi auburn.

Head. Frons relatively narrow. Genae short, moderately raised towards lateral margins, anteriorly terminating somewhat behind the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture allusively incised in its middle part. Clypeus stretched forwards, frons and clypeus with tiny, very widely separated punctures. Mandibles with a longitudinal sulcus on outer surface, apically bifid.

Pronotum. Short, relatively wide; moderately and uniformly convex transversely except the area behind the front corners which are depressed ventrad, pronotum slightly convex longitudinally. Widest at base, anteriorly narrowing and bent. Anterior margin distinctly emarginated. Front corners rectangular and somewhat protruding anteriorly. Lateral and anterior margins bordered. Lateral borders in dorsal view narrowly visible in their whole length. Front and hind corners angular in lateral view, front ones rectangular, hind ones obtuse. Surface with minute, well separated punctures.

Scutellum. Triangular, impunctate.

Elytra. Wide and relatively short, markedly

convex, greatest height somewhat in front of middle. Shoulders rounded. Apices of elytra mutually rounded. Lateral edges in dorsal view narrowly visible. Surface with rows of medium-sized punctures, their distances on disc in row 4 equal to 1 to 1½ times the diameter of a puncture; approximately 34 punctures in row 4. Intervals flat, impunctate.

Prosternum. Anterior margin continuously and narrowly bent upwards, retracted towards apophysis in the middle and there with an acute angle. Apophysis relatively short, ascending between anterior margin and level along procoxae, descending between level along procoxae and apex; apex pointed with a median cone and laterally with a pointed cone on every side.

Mesosternum. Hind part is straightly descending towards the depressed frontal part (without hooks on the front as in *A. ruficrurus* Blanchard, 1853); hind part slightly raised ventrad against metasternum; anterior margin distinctly emarginated in the middle.

Metasternum. Anterior margin between mesocoxae rounded, bordered. Lateral parts of disc with small, not too closely set punctures; along median line with minute, widely separated punctures. Median line slightly incised.

Sternites. Anterior margin between metacoxae ogive, bordered. Sternite 1 with small, longitudinal folds; sternites 2–5 width tiny, widely separated punctures; sternite 5 apically somewhat emarginated and depressed in the middle (certainly only in males).

Antennae. Long, filiform. Length/width ratio of antennomeres 1–9 equals to 16:6 / 6:4½ / 23:4 / 15:4 / 17:4 / 17:4½ / 19:5 / 21:5 / 20:5.

Legs. Of medium length. Femora towards second thirds club-like broadened; mesofemora with long, recumbent hairs on their back sides. Protibiae moderately bent in basal quarter, thence straight towards apex, with a short area of short, recumbent, closely set hairs on inner side near apex (certainly only in males); mesotibiae somewhat bent in basal half, thence straight, also with a small area of closely set, almost recumbent hairs (certainly only in males); metatibiae almost straight in apical half, slightly incurved in apical half. Protarsomeres 1–3 slightly widened and prolonged in males. Lengths of protarsomeres 1–5 as 11:11:8:5:26; lengths of mesotarsomeres 1–5 as 13:10:9:6:27; lengths of metatarsomeres 1–4 as 35:12:7:26.

Etymology. *Repellens* (Lat.), from *repello*, *reppuli* = disdaining.

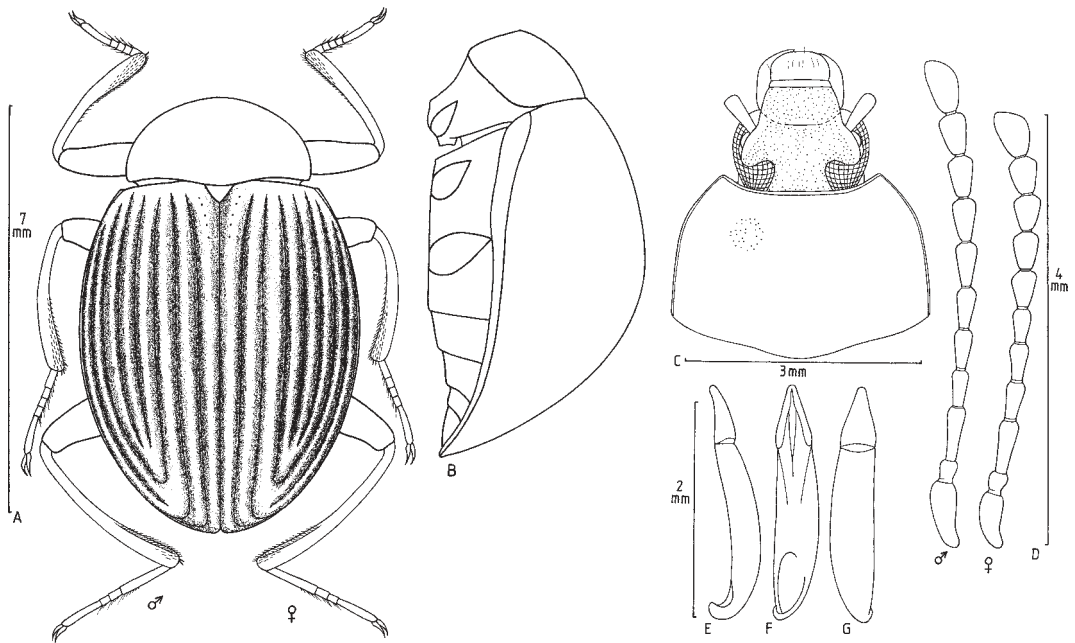


Fig. 15. *Amarygmus niger* Gebien, 1911. A. Habitus, left side legs of a male, right side legs of a female; B. body, lateral view; C. head and pronotum; D. antennae, male and female; E. aedeagus, lateral view; F. aedeagus, ventral view; G. aedeagus, dorsal view.

Amarygmus (Amarygmus) repellens
subspec. *repellentoides* subsp. nov.

Holotype. ♀, HMNH: P. N. Guinea, Asiki, 1000 m, II.74, P. Sedlacek.

Paratypes. New Guinea, NE, Finisterre Range, Saidor, Funyende, 1200 m, IX-24-1958, W. W. Brandt Collector BISHOP (1 ♂ BMH) – New Guinea, NE, 13 km SE Okapa, 1650–1870 m, 26.VIII.1964, J. & M. Sedlacek Collectors (1 ♂ ZSM) – NE New Guinea, Morobe Prov., Kilolo Cr., 1070 m, 7 km W. Wau, 12.–21.I.1969, J. Sedlacek Collector (1 ♀ ZSM) – New Guinea, NE, Watut R., X-69, 900–1100 m, A. B. Mirza Collector BISHOP (1 ♀ BMH).

Diagnosis. Body shape, coloration, shape and lengths of antennae, legs, prosternal apophysis, aedeagus as in *A. repellens* spec. nov. However, the pronotum is covered with small, closely set, superficial punctures (*A. repellens* s. str. displays tiny, widely separated punctures on pronotum).

Measurements of *A. repellens* ssp. *repellentoides*: Body length: 8.92–9.47 mm. Body width: 4.94–5.37 mm. Ratios. Pronotum: width/length 1.92–2.00; width hind corners/width front corners 1.87–2.00. Elytra: length/width 1.39–1.47; length elytra/length pronotum 3.58–3.87.

D. Annotations on *Amarygmus niger* Gebien, 1911

Amarygmus (Amarygmus) niger Gebien, 1911
Fig. 15A–G

Amarygmus convexiusculus MacLeay, 1887: 156 [nom. praeocc.].

Amarygmus niger Gebien, 1911: 578 [nom. nov.].

Amarygmus compactus Gebien, 1920: 422–423; [syn.] Bremer 2004c: 121–123.

Lectotype. ♂, NMHUB: D. Neu-Guinea, Sattelberg, XII.08, Prof. Neuhaus S.

Paralectotypes. Ditto (1 ♀ NMHUB) Kais. Wilhelm-land, Torricelli Gebirge, Dr. Schlaginhaufen (1 ♀ SMND).

Material. Nova Guinea, Sattelberg (1 ♂ HMNH) – Nov. Guin., Amberlaki (1 ♂ NMHUB) – New Guinea/ NE/, Wau, 8.IX.1968, leg. Dr. I. Loksa (2 ♂ HMNH) – Ditto, but 18.VIII.1969, leg. Dr. J. Balogh (1 ♂ HMNH) – Ditto, but 2.VI.1962, J. Sedlacek leg. (1 ♂ BMH) – New Guinea, NE, Wau, Mt. Missim, 1600 m, 8.III.1963, J. & M. Sedlacek leg. (1 ♂ BMH) – Nouvelle Guinée, Baiyer River, Mai 1969, P. Jolivet leg. (1 ♂, 1 ♀ MNHN) – New Guinea, NE, Swart Val., Karubaka, 1300 m, 7.XI.1958, J. L. Gressitt leg. (1 ♂ BMH) – New Guinea, NE, Karimui, 1080 m, 11.–12.VII.1963, J. Sedlacek leg. (1 ♂ BMH) – Ditto, but 1.–7.V.1969, H. Ohlmus leg. (1 ♂ BMH) – New Guinea /

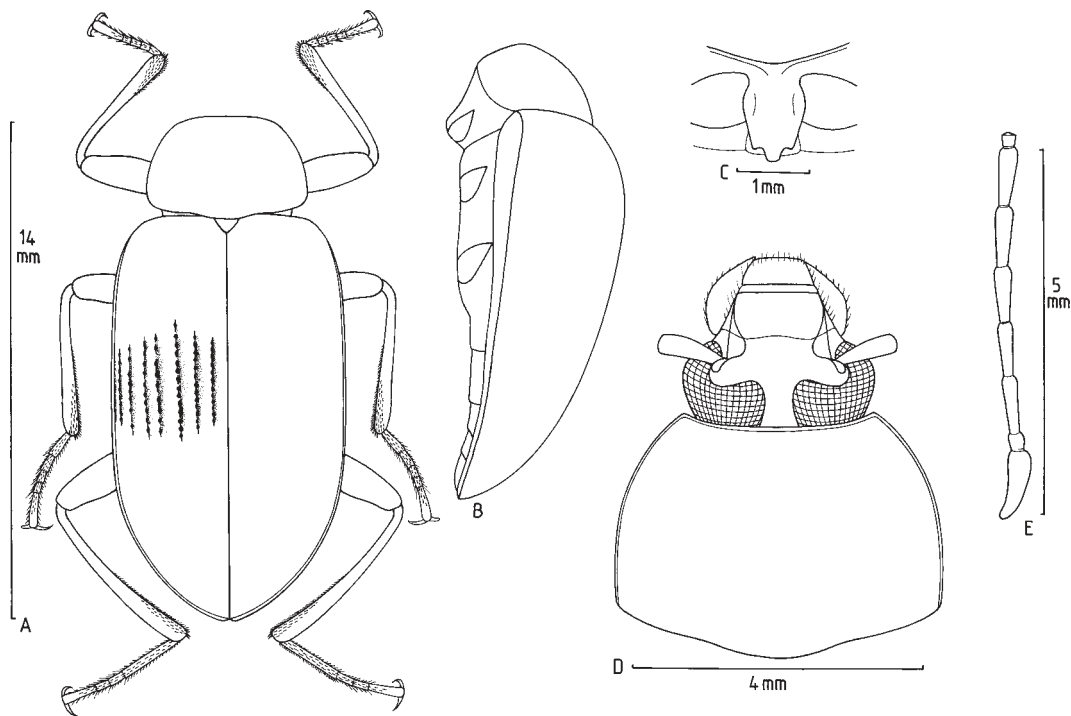


Fig. 16. *Amarygmus pilosiventris* Kaszab, 1939 (based on holotype). A. Holotype (male); B. body, lateral view; C. prosternal apophysis; D. head and pronotum; E. antennomeres 1-7.

SE / Kiunga, 23.VII.1969, leg. Dr. J. Balogh (1 ♂ HMNH) – Irian Jaya, Japen Isl., Kontiunai, road to Ambaidiru, 600–700 m, 23.–25.XII.2000, leg. A. Riedel (1 ♂, 1 ♀ ZSM) – Irian Jaya, Sorong Prov., Kec. Salawatti, Kalobo, Walir Is., ca. 0–20 m, 20.X.1996, leg. A. Riedel (1 ♀ ZSM) – New Guinea, Neth., Vogelkopf, Bomberi, 700–900 m, 5.VI.1959 (1 ♂ ZSM).

Diagnosis. Of medium length. Winged. Elytra widely oval, with markedly incised striae, elytral punctures of medium size and with strongly convex intervals. Pronotum moderately convex transversely and longitudinally. Frons of medium width, with minute, widely separated punctures. Antennae of medium length, somewhat shorter in females than in males. In males protibiae bent inwards in the middle. Metatarsomere 1 longer than metatarsomere 4. Upper side black, with a strong violet tinge.

May easily be mistaken with *A. fakfakensis* spec. nov.; concerning differentiation of both species, see *A. fakfakensis* spec. nov.

Annotations

Measurements. Body length: 6.69–6.85 mm. Body width: 4.22–4.54 mm.

Ratios. Pronotum: width/length 1.59–1.82, width hind corners/width front corners 1.71–1.73. Elytra: length/width 1.23–1.30; length elytra/length pronotum 3.14–3.30, maximum width elytra/maximum width pronotum 1.48–1.51.

Coloration. Upper side black, in mature specimens with a reddish to violet tinge, in immature specimens generally dark red; femora dark brown, tibiae brown, tarsi light brown; antennomeres 1–6 brown, 7–11 dark brown.

Head. Frons of medium width, wider than length of antennomere 3 (like 15:12); with a few minute punctures. Genae raised towards their lateral margins, terminating anteriorly somewhat in front of the level of the middle part of fronto-clypeal suture. Fronto-clypeal suture somewhat impressed. Clypeus stretched forwards, moderately convex transversely, slightly convex longitudinally, with minute punctures which are more closely set than on frons.

Antennae. Somewhat longer in males than in females; in males reaching to one third of elytra. Length/width ratio of antennomeres 1–11 equals in a male to 12:5 / 4:3½ / 12:4½ / 9:4½ / 9½:4½ / 9:4½ / 10½:5 / 10:5 / 10:5 / 9:6 / 9:6 / 13:6½, in a female to 11:5 / 4:4 / 12:4¼ / 8½:

4¹/₄ / 8¹/₂:4¹/₄ / 8:5¹/₂ / 8¹/₂:5¹/₂ / 8:5¹/₂ / 8:6 / 12:6¹/₂.

Legs. Protibiae bent inwards in the middle in males, slightly and uniformly bent in female; mesotibiae bent; metatibiae bent. Lengths of pro-tarsomeres 1–5 as 2¹/₂:2¹/₂:2¹/₂:2¹/₂:15; lengths of mesotarsomeres 1–5 as 6:4¹/₂:4¹/₂:4:16; lengths of metatarsomeres 1–4 as 19:6:5:16.

E. New synonym

Amarygmus pilosiventris Kaszab, 1939

Fig. 16A–E

Amarygmus pilosiventris Kaszab, 1939: 252.

Amarygmus fastuosus Bremer, 2002(b): 167–169 [nec *Amarygmus fastuosus* Germar, 1848 = *Chalcopteroides fastuosus* (Germar, 1848)].

Amarygmus germari Bremer, 2005: 212 [nom. nov.].

Amarygmus pilosiventris Kaszab, 1939 = *Amarygmus germari* Bremer, 2005 [syn. nov.].

Annotation. When I was describing *A. fastuosus* Bremer, 2002 I did not know the holotype of *A. pilosiventris* Kaszab, and Kaszab's description did not obviously lead to suspect a synonymy. The holotype of *A. pilosiventris* is deposited in DEI. It is squashed and therefore does not show the real shape of this species, additionally it is very immature and therefore without the deeply violet coloration which mature specimens of *A. germari* show. However, after comparing the holotype of *A. pilosiventris* with several specimens of *A. germari* I came to the conclusion that both taxa are synonymous. Because some nearby species exist it is necessary to give a new illustration which is based on the somewhat reconstructed holotype (because the normal shape was not clearly discernible because of its squashed state). One similar species is described in this paper: *Amarygmus expositus* spec. nov.

Measurements. Body length: 12.1–13.2 mm. Body width: 6.6–6.8 mm.

Ratios. Pronotum: width/length 1.66–1.75; width hind corners/width front corners 1.87–2.02. Elytra: length/width 1.52–1.65; length elytra/length pronotum 3.52–3.65; maximum width elytra/maximum width pronotum 1.32–1.36.

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terial, additionally the DEI for the loan of the holotype of *Amarygmus pilosiventris* Kaszab, 1939. The holotype of *Amarygmus oculus* subsp. *kaimanaensis* subsp. nov. has been kindly donated by André Skale to the Zoologische Staatssammlung, Munich, which is warmly appreciated.

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