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Revision of the Genus *Amarygmus* DALMAN, 1823 and Related Genera. LXXV.
The *Amarygmus* of Borneo, Sumatra, Java and Peninsula Malaysia and of Neighbouring Islands. Determination keys. Part II.
(Coleoptera: Tenebrionidae)

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Abstract

This Part 2 of the determination keys of *Amarygmus* DALMAN, 1823 of the Greater Sunda Islands and Peninsular Malaysia continues the determination keys which had already been published in Part 1 (Sections I-VI) (BREMER 2021, pp.45-96). It provides determination keys of the *Amarygmus* species which had been grouped to Sections VII – XI in Part 1 (pp.51-52).

Two new species are additionally described and illustrated: ***Amarygmus nevenae* sp. n.** from Java and ***Amarygmus telnovi* sp. n.** from Peninsular Malaysia.

Amarygmus hilaratus BREMER, 2007 = *Amarygmus commodus* BREMER, 2014 [**syn. n.**].

Introduction

In Part 1 of this paper (BREMER 2021, pp.45-96) the 285 described *Amarygmus* species of the Greater Sunda-Islands (including the *Amarygmus* species of Peninsular Malaysia) have been listed. In order to facilitate their determinations they had been arranged in different Sections according to mutual characters. In Part 1 of the first paper Section I groups the five most frequently collected species around human settlements. Section II supplies a key of all Section created. Section III supplies a key of the species with maculae. Section IV supplies a key of the species with a violet or blue ground of elytral punctures, Section V supplies a key for tiny species with a yellow coloration of elytra and a darker coloration of pronotum, and part 1 terminated with Section VI (species with a blue coloration of the lateral parts of elytra).

In the present Part 2 it was tried to add a stack photo to each species mentioned in the keys. It is intended to make the drawings and the stack images of the *Amarygmus* species of the Oriental area available to the scientific public via Internet (see References).

The keys start with Section VII for species with very long elytra; it continues with Section VIII for large species (length >12 mm) with very long legs, with Section IX for species with uniformly white, yellow or brown antennomeres 11 (but without maculae on pronotum or elytra), with Section X for species which possess short, closely set bristles on the lateral and dorsal sides of metatibiae, and it terminates with Section XI for species with short hairs on elytra.

Two new species with long elytra are described and illustrated.

Key for species and species groups ("Sections") of *Amarygmus* species of Borneo, Sumatra, Java, Peninsular Malaysia and neighbourly islands

Section VII: Species with very long and narrow elytra (length/width ratio >1.55:1); the sides of elytra are either subparallel, they slightly converge posteriorly, or the sides are elongate oval 60

Section VIII: Very large species (length >12 mm) with long legs; the profemora elicit a bulging on frontal side towards their second thirds, but not, as the similarly looking *Plesiophthalmus* species, a tooth or a sharp, step-like interruption of their anterior outline. Metatarsomere 1 is shorter than metatarsomere 4 or of equal length. The sides of elytra are mostly subparallel, the femora do not present a red ring around them (subgenus *Pyanirygmus* PIC) or they have markedly bent protibiae and a red ring around femora (subgenus *Varogeton* BREMER)... 83

Section IX: Species with uniformly white, yellow or brown antennomeres 11 (without maculae on elytra), the penultimate antennomeres are black in mature specimens and contrast with the antennomere 11 86

Section X: Small to medium-sized, elongate oval, convex species, they display dense, short bristles on the dorsal side of metatibiae which get visible on 50-fold magnification in oblique view (e. g. *A. borneensis* (GEBIEN, 1920), *A. sericeus* GEBIEN, 1927, *A. bruneiensis* PIC, 1915, *A. malaccanus* PIC, 1922) (specimens of this group have a body length of 4.8-8.8 mm)..... 89

Section XI: Elytra and pronotum with very short, recumbent hairs on intervals of elytra, on pronotum, on frons and on clypeus; these species are of medium size (3.5-6.2 mm long), elongate oval, with flat elytral intervals; elytra either golden, blue or orange dependent on incidence of light 93

Section VII

Species with very long elytra without displaying elytral maculae (length/width ratio mostly >1.55:1); the sides of elytra are either subparallel, or the sides are somewhat oval.

Formerly the species of this Section had been described as *Elixota* PASCOE, 1866, *Anacycus* FAIRMAIRE, 1896, *Platolenes* GEBIEN, 1913 or *Amarygmus* DALMAN, 1823. The pronotum is usually as wide as the base of elytra, and frequently, in males, protarsomeres 1-3 are slightly to markedly widened.

The following species belong to this Section: *Amarygmuss acerbus* BREMER, 2011, *A. alces* BREMER, 2012, *A. assessorius* BREMER, 2010, *A. baluensis* PIC, 1951, *A. blanchardi* BREMER, 2001, *A. cinctopunctatus* PIC, 1938, *A. comitus* BREMER, 2012, *A. emasensis* BREMER, 2010, *A. filiaster* BREMER, 2010, *A. filiastra* BREMER, 2011, *A. fulgurans* GEBIEN, 1927, *A. hassalti* FAIRMAIRE, 1882, *A. hilaratus* BREMER, 2007, *A. inermis* BREMER, 2011, *A. laevis* (KULZER, 1951), *A. longior* BREMER, 2005, *A. macer* (GEBIEN, 1927), *A. mahunkai* BREMER, 2003, *A. mitschkei* (PIC, 1938), *A. mnester* BREMER, 2012, *A. muluensis* BREMER, 2010, *A. nepos* BREMER, 2002, *A. neglectus* BREMER, 2011, *A. nevenae* sp. n., *A. pullus* BREMER, 2011, *A. sabahensis* BREMER, 2002, *A. selatanus* (MASUMOTO & MAKIHARA, 1997), *A. telnovi* sp. n., *A. tenellus* BREMER, 2003, *A. viduatus* BREMER, 2010, and *A. viridicatus* BREMER, 2004.

Determination key of species with long elytra

1 Body length 3.60-4.70 mm; elongate oval body shape 2

– Body length >5 mm 7

2 Elytra with small, mostly rhombic punctures in the rows 1-4; in the more lateral rows the punctures are increasingly linked by lines, and the rows change to incised striae. Elytral intervals on disc flat; lateral intervals are increasingly convex; intervals with tiny, distinct, separated punctures. Maximum of elytral width at the end of the first quarter; elytra are narrowing posteriorly slightly curved. Length/width ratio of elytra 1.50-1.64:1. Frons rather narrow in males, in females wider. Antennae of males markedly longer than those of females. Upper side brown, with metallic glimmer. Length 4.13-4.67 mm (Sumatra; Peninsular Malaysia; Sabah) (Fig. VII/1) (BREMER 2002a, 28-30) ..... ***nepos* BREMER**

– Elytra without rows containing small rhombic punctures, mostly only with striae..... 3

3 Elytra with striae in which punctures are not easily discernible 4

– The strial punctures are well discernible 5

4 Elytra with distinctly incised striae in which strial punctures are only recognizable as faint widenings; elytral intervals on disc slightly convex, laterally distinctly convex, with some tiny to small punctures. Frons in males of medium width, in females wide, wider than the frons of the neighbouring species (*A. nepos, A. filiaster*, *A. filiastra*). Length/width ratio of elytra 1.63:1. Genae not raised. Antennae short. Pronotum greyish brown, opaque; elytra dark brown or dark purple, lustrous; legs dark brown. Body length 3.61-3.70 mm (Sabah, currently only known from the Danum Valley) (Fig. VII/2) (BREMER 2011a, 238-239) ..... ***pullus* BREMER**

– Elytral striae on disc not distinctly incised, laterally somewhat more incised, intervals on disc allusively convex, laterally more convex, punctures on intervals tiny. Frons narrower than in the preceding species. Length width ratio of elytra 1.56:1. Elytra and pronotum green, lustrous, frons blue. Body length 3.79 mm (Sarawak, lowland rainforest) (Fig. VII/3) (BREMER 2011a, 211-212) ..... ***filiastra* BREMER**

5 Elytral striae are conspicuously incised, and the elytral intervals are convex, striae with small, distinct, not very closely set, well discernable punctures. Length/width ratio of elytra 1.70:1. Frons and pronotum greenish brown, with iridescence, elytra brownish golden. Body length 4.63 mm (Peninsular Malaysia) (Fig. VII/4) (BREMER 2010b, 41-43) ..... ***filiaster* BREMER**

– Elytral striae not conspicuously incised 6

6 Elytra bluish, lustrous, with a metallic shine; pronotum dark blue; femora and tibiae brown to dark brown. Elytra with superficial striae and with faint puncture; elytral intervals with indistinct punctation; elytral intervals flat; length/width ratio of elytra 1.55:1. Body length 4.16 mm (Sabah) (Fig. VII/5) (BREMER 2012a, 205-207) ..... ***comitus* BREMER**

– Elytra blue, lustrous, with a slight iridescence. Elytra on disc with striae and medium-sized strial punctures; lateral intervals clearly convex; intervals with a tiny, distantly set punctation; length/with ratio of elytra 1.53-1.56:1. Body length 4.12-4.35 mm (Sarawak, Sabah) (Fig. VII/6) (BREMER 2012a, 196-197) ..... ***alces* BREMER**

7 Species with elytral rows of large punctures with a violet bottom und with a violet halo 8

– Elytra without violet colored ground of punctures and without halloes around them 10

8 Species narrowly elongate; elytra green golden with elongate, striae like punctures with a violet ground and around them elongate oval violet haloes, length/width ratio of elytra 1.76-1.79:1; with a moderately narrow frons and a typical aedeagus (Fig. VII/7). Body length 5.43-6.53 mm (Thailand; Peninsular Malaysia; Borneo, Sumatra) (Fig. VII/7) (*Elixota selatanus* MASUMOTO & MAKIHARA 1997, 132, fig. p.152; *Amarygmus selatanus* (MASUMOTO & MAKIHARA): BREMER 2009a, 30) (several synonyms, see BREMER & LILLIG 2014, p. 59) ..... ***selatanus* (MASUMOTO & MAKIHARA)**

– Body length >8.0 mm 9

9 Body length 8.07-8.33 mm Elytra with rows of large punctures with a different shape, they can be elongate, round; different distances between them; elytra long, mostly subparallel, length/width ratio 1.65-1.74:1; elytral intervals flat, with minute punctures; legs and antennae black. Antennae short (Mentawei Isls.; Sumatra; Sabah; Peninsular Malaysia (Figs. IV/2, VII/8) (*Anacycus mitschkei*, 1938, 12; redescription: BREMER 2003a, 6) ..... ***mitschkei* (PIC)**

– Body length 16.5 mm (Peninsular Malaysia: Langkawi Is.) (Fig. VII/9) (description p. 82) ..... ***telnovi* sp. n.**

10 Body length 5.0 to 6.5 mm 11

– Body length mostly >6.5 mm 13

11 Upper side of species greenish blue and rather opaque; on elytra moderately incised striae; elytra very long (length/width ratio >1.75:1), elytra narrowed posteriorly, intervals on disc very slightly convex, laterally convex; frons of medium width 12

– Elytra dark brown, pronotum brown; elytral rows of small punctures on disc which are not incised and only partially connected by faint lines, laterally on elytra there are incised elytral striae; males with an area of dense hairs of median length on the apical parts of inner sides of pro- and mesotibiae; length/width ratio of elytra 1.62+1.71:1. Body length 5.00+5.27 mm (West Java) (Fig. VII/10) (description p. 82) .... ***nevenae* sp. n.**

12 Upper side blue; legs dark brown to black. Mesotibiae slightly bent. Elytra very long, length/width ratio 1.76-1.86:1, widest just behind base, slightly narrowing posteriorly. Body length 5.33-5.65 mm (Sarawak) (Fig. VII/11) (BREMER 2010a, 246-248) ..... ***viduatus* BREMER**

(only females of this and the next species are known. Both taxa are certainly very closely related, and they could either be subspecies or even one species with a great variation of characters. This question can only be solved when more material of both sexes becomes available for study)

– Upper side greenish blue; legs light brown. Mesotibiae markedly bent. Elytra very long: length/width ratio 1.83:1; widest behind shoulders, slightly narrowing posteriorly. Body length 5.25 mm (Sabah) (Fig. VII/12) (BREMER 2004a, 51) ..... ***viridicatus* BREMER**

13 Body relatively oval or when more parallel then the species is relatively broad, and the length/width ratio of elytra is <1.60:1 14

– Elytra parallel or nearly parallel, length/width ratio of elytra is >1.60:1 25
(concerning few species it is not easy to assign them to one of these two groups, especially in those species with very long elytra)

14 Species with a play of colors when the body is shifted 15

– Species with clear luster or without clear luster but when body is shifted there is no obvious play of colors 17

15 Elytra with rows of punctures 16

– Elytra with faint striae with small, somewhat elongate strial punctures, about 28 punctures in row 4; intervals flat, with fine, widely separated punctures. When the body is shifted a changing iridescence becomes obvious especially laterally (between violet, purple and green); pronotum with purple reflexes near base. Frons relatively narrow. Length/width ratio of elytra 1.53+1.58. Body length 6.23+6.60 mm (Sabah, Crocker Mts.) (Figs. VII/13) (BREMER 2003b, 60-61, 75) ..... ***tenellus* BREMER**
(from *A. tenellus* only females are known; *A. fulgurans* GEBIEN, 1927 is very similar to *A. tenellus* concerning body shape, structure of elytral striae, width of frons and structure of prosternal process; in males *A. fulgurans* possesses special sexual particularities on metatibiae (see Fig. VII/19), widened pro- and mesotarsomeres 1-3 and a very special shape of aedeagus; one should be attentive whether these are also present in *A. tenellus* when males of this species become known)

16 Elytra dark coppery and longitudinally with interrupted violet and green stripes; and with rows of punctures which are more closely set than ithe punctures of the following species; pronotum transversely with intensive violet and green reflections; legs brown. Length/width ratio of elytra ≈ 1.65:1. Elytra elongate ovate, with round, medium-sized punctures in rows which are closely set and with flat intervals. Frons of medium width. Antennae relatively long. Body length 7.84 mm (Sabah) (Fig. VII/14) (BREMER 2011a, 235) ..... ***neglectus* BREMER**

– Species with a distinct luster on elytra, and the colors of elytra are usually arranged in longitudinally stripes, they are either slightly pink or reflecting in all spectral colors. Punctures of rows of elytra large and distantly set, about 22 punctures in row 4; elytral intervals flat, with tiny punctures. Length/width ratio of elytra 1.63-1.73:1. Antennae short, in males somewhat longer than in females. Body length 7.93-9.20 mm (Peninsular Malaysia, Borneo, Sumatra) (Fig. VII/15) (PIC 1938, 12; redescription: BREMER 2003a, 51-53; illustration of a male: BREMER 2012a, 233) ..... ***cinctopunctatus* PIC**

17 Colors not arranged in colored stripes; the elytral rows of punctures are not easily discernible because the intensive punctation of intervals with punctures which are nearly as large as the punctures of the rows. Upper side green coppery, but depended on light incidence elytra may be reddish, green or golden. Legs and antennae black; genae scarcely present, therefore socket of antennae nearly barely visible; antennae long, filiform, reaching to the middle of elytra. Parameres very narrowed in the shaft part. Elytra elongate oval, very convex transversely and longitudinally. Body length 6.40-7.13 mm, length/width elytra 1.56-1.66 (Borneo, Sabah, Crocker Mts.; all specimens were collected at higher altitudes, mostly above 1000 m) (Fig. VII/16) (BREMER 2002c, 36-38, 42) ..... ***sabahensis* BREMER**

– Species with elytral striae 18

18 Elytra with slightly incised striae and with strial rhombic, medium-sized punctures which near apex become indistinct and small; about 24 punctures in row 4. Elytral intervals flat, with very tiny, sparse punctures. Length/width ratio of elytra ≈ 1.55:1. Elytra slightly oval; maximum of height and width slightly anterior of middle. Upper side dark green, legs dark brown or black. Frons of medium width, wider than length of antennomere 3. Protibiae slightly bent; mesotibiae somewhat more bent than protibiae; metatibiae clearly bent. Body length 8.52 mm (Sarawak) (Fig. VII/17) (BREMER 2010a, 206-208) ..... ***muluensis* BREMER**

– Species without distinct rhombic, median-sized punctures on elytra 19

19 Apex of elytra with the tendency being mucro-like; length/width ratio of elytra ≈ 1.74:1; elytra with faintly incised striae with small, elongate, relatively closely set widening as puncture equivalents, elytral

intervals flat on disc, with tiny, indistinct punctures. Protibiae straight, mesotibiae slightly bent, metatibiae straight in the basal half, slightly incurved in apical half. Antennae reaching the anterior third of elytra. Frons relatively wide (as wide as the combined lengths of 3rd and 4th antennomeres), fronto-clypeal suture slightly incised. Elytra brown metallic, pronotum and head dark green, upper side very lustrous and with a marked iridescence, legs dark brown. Body length ≈ 6.0 mm (Sabah) (Fig. VII/18) (BREMER 2012a, 213-214) ..... ***mnester* BREMER**

– Apex of elytra rounded 20

20 Upper side greenish, brilliant. Males with widened pro- and mesotarsomeres 1-3, and, near the end of metatibiae, with a small and narrow impression. With a special shape of aedeagus. Frons relatively narrow. Elytral striae faintly incised and with small, elongate and closely set strial punctures; elytral intervals flat, with tiny, widely separated punctures. Length/width ratio of elytra 1.60-1.72:1. Body length 6.80-7.40 mm (Java, Sumatra) (Fig. VII/19) (GEBIEN 1927, 54; redescription: BREMER 2003b, 55-56)..... ***fulgurans* GEBIEN**

– Species without the sexual peculiarities of the preceding species on legs and with different aedeagi ... 21

21 Sides of elytra bent and by their length/width ratio shorter than elytra of preceding species. Males without widened pro- and mesotarsomeres 1-3 and without a small impression near apex on metatibiae. Relatively compact species. Elytra with moderately incised striae and with elongate to rhombic punctures. Elytral intervals flat on disc, with tiny punctures. Sides of elytra slightly bent. Frons narrow (as wide as length of antennomere 2). Antennae very short. Aedeagus very different from aedeagus of preceding species. Upper side green (on pronotum somewhat darker green than on elytra and with a slight iridescence). Length/width ratio of elytra 1.46-1.60:1. Body length 10.0-11.3 mm (Sarawak, Sabah, Sulawesi) (Fig. VII/20) (PIC 1951, 15; redescription: BREMER 2004a, 14-15) ..... ***baluensis* PIC**

– When compared with the preceding species than, on the one hand, the sides of elytra are straighter and less oval, they are relatively stout and their elytra with rows of dense, small punctures, or, on the other hand, the species are elongate oval, have incised elytral striae, and are from Java (in one case also from the Mentawei Isls.)..... 22

22 The elytra are stout, relatively short (length/width ratio 1.53-1.59:1), with nearly straight sides, with elytral rows of small, dense punctures and with flat intervals 23

– The species are elongate oval, relatively narrow, and, in contrast to preceding species, have incised elytral striae, their length/width ratio of elytra is >1.60:1 (the species are from Java or from Mentawei Isls.) 24

23 Upper side (including elytra) green; the ground of punctures of the rows presents a weak violet tinge; the length/width ratio of elytra ≈ 1.55:1. The shape of aedeagus differs from aedeagi of all other species of this Section. Body length 11.1-11.5 mm (Sabah, lowland rainforest: Tawau Hills Park) (Fig. VII/21) (BREMER 2011a, 219-221) ..... ***inermis* BREMER**

– The elytra are dark ruby-colored, the pronotum is blue and with reduced luster. Length/width ratio of elytra 1.59:1. The front side of profemora possesses in males a round area of very short, dense hairs. Pro- and mesotibiae are straight, the outer sides of metatibiae are nearly straight, but the inner sides are slightly widened in their apical halves and possess there dense bristles (probably only in males). Protarsomeres 1-3 slightly widened (certainly only in males). Body length 10.7 mm (Sabah) (Fig. VII/22) (BREMER 2007a, 15-17) ..... ***hilaratus* BREMER**

(*Amarygmus hilaratus* BREMER, 2007 from the Kinabalu N. P. (Poring, 500 m), Sabah, is synonym to *A. commodus* BREMER, 2014 from the Cameron Highlands of Peninsular Malaysia (Tanah Rata, 1440 m). Only the holotypes of both taxa are known. Having the possibility to study both holotypes for the first time I cannot find differences of essential characters between them; both taxa have an area of very short, recumbent hairs on the anterior part of profemora in males: *Amarygmus hilaratus* BREMER, 2007 = *Amarygmus commodus* BREMER, 2014 [**syn. n.**]).

24 The species has a length/width ratio of elytra ≈ 1.84:1. The elytra are dark green, metallic, somewhat opaque, and with deeply incised striae; in males with somewhat widened protarsomeres 1-3. Body length ≈ 8.9 mm (Java, Mentawei Isls.) (Fig. VII/23) (*Platolenes laevis* KULZER 1951, 554; *Amarygmus laevis* (KULZER, 1951): BREMER 2001a, 57) ..... ***laevis* (KULZER)**

– Species elongate oval (length/width ratio of elytra 1.62-1.69); elytra dark blue, lustrous; elytra with somewhat incised striae, on their ground are small, dense, not well demarcated punctures, intervals slightly convex, with fine, rather widely separated punctures; in males protibiae suddenly bent somewhat anterior to middle and on inner side anterior to bending broadened; and on frontal side of profemora and on back sides of meso- and metafemora with short, rather dense, erect hairs; mesotibiae in both sexes thin and markedly bent; anterior and posterior angles of pronotum rounded. Basal part of aedeagus long and enlarged. Body length 7.25-8.12 mm (Java, Bali) (Fig. VII/24) (BREMER, 2005e, 194-196) ..... ***longior* BREMER**

25 Intervals of elytra show a tendency to form a ridge in their middle (well visible in oblique view). Punctures of the elytral rows small, round, set in some distance to each other. Elytral intervals scarcely punctured. Length/width ratio of elytra 1.77-1.90:1. Antennae of males distinctly longer than those of females; copper-colored. Body length 7.13-8.13 mm (in Sabah mostly found on higher altitudes, in some locations frequently collected at light; (Sumatra; Peninsular Malaysia, Sulawesi) (Fig. VII/25) (*Anacycus aenescens* PIC, 1922a, 11*;* redescribed and nom. n.: BREMER 2003a, 49-51) ..... ***blanchardi* BREMER**

– Elytral intervals without a tendency to form a ridge in their middle 26

26 Elytra with faint and scarcely incised striae, in which small, rhombic punctures are incorporated; distances between punctures in row 4 correspond to diameters of a puncture; sides of elytra nearly straight between shoulders and hind third; elytra long (length/width ratio ≈1.81:1); elytral intervals flat; with tiny, spaciously set punctures. Upper side brown, lustrous. Frons narrow (width corresponds to length of antennomere 2). Pro- and mesotibiae slightly bent. Body lengths ≈ 10.1 mm (Sabah, Crocker Mts.) (Fig. VII/26) (BREMER 2010a, 187-189) ..... ***emasensis* BREMER**

– Elytra with rows of punctures 27

27 Elytra with rows of small punctures which are somewhat elongate, very densely set, ground slightly violet (but without a violet halo!). Elytral intervals flat, with tiny punctures. In males mesotibae markedly bent, on inner sides at the end of basal third with a small corner basad of a more or less distinct excision (female specimens show the outer sides are only slightly bent and without the particularities on inner sides). Frons of medium width. Antennae short. Upper side copper-colored, with slight greenish or purple tinge. Length/width ratio of elytra 1.49-1.58:1. Body length 9.07-10.73 mm (Sumatra; Peninsular Malaysia; Borneo) (Fig. VII/27) (FAIRMAIRE 1882, 248-249; redescription: BREMER 2003a, 58-61) ..... ***hassalti* FAIRMAIRE**
(relatively frequently collected species)

– Species without a more or less distinct excision on the inner side of mesotibiae in males; in most species length/width ratio of elytra >1.70:1 28

28 Upper side green, somewhat opaque. Elytra long: length/width ratio ≈ 1.82:1, with rows of medium-sized, indistinct punctures; punctures of row 6 are connected by faint lines, punctures of rows 7+8 are situated in incised striae. Elytral intervals 1-6 flat, 7-8 slightly convex, all intervals impunctate. Frons rather narrow, epistomal suture is situated just in front of eyes, and there is no speace between frontal anterior edge of eyes and epistomal suture. Apex of aedeagus is bent ventrad. Legs dark brown. Body length: ≈ 6.85 mm (Sabah, Ranau) (Fig. VII/28) (BREMER 2010a, 166-168) ..... ***assessorius* BREMER**

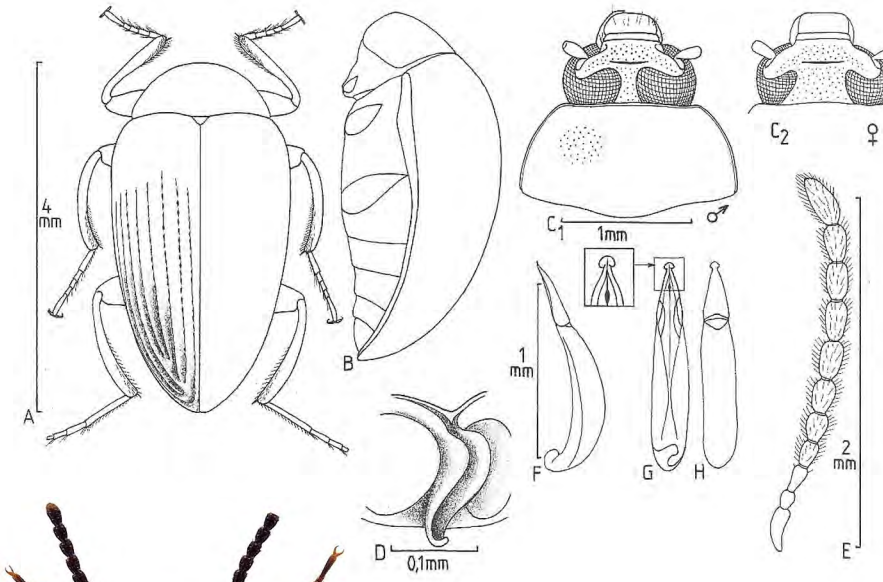
– Elongate species, apex of aedeagus not bent ventrad, and without an epistomal suture just on the anterior side of eyes 29

29 Species with a posteriorly directed cone of the prosternal process. Punctures of elytral rows are somewhat more narrowed than those of the preceding species, and they are usually rhombic or elongate. Antennae of males are somewhat longer than those of females; frons is somewhat narrower than frons of preceding species. Length/width ratio of elytra 1.71-1.85:1. Body length 7.73-9.47 mm (Sumatra; Peninsular Malaysia; Sabah) (Fig. VII/29) (*Platolenes macer* GEBIEN 1927, 49-50; redescribed: BREMER 2003a, 65-67) ..... ***macer* (GEBIEN)**

– Species without a posteriorly directed cone of the prosternal process 30

30 Species from Kalimantan, with opaque green to black elytra and pronotum. Elytra elongate, slightly oval, very long (length/width ratio ≈ 1.8:1), with rows of medium-sized, slightly elongate punctures and flat intervals with minute, distinct, relatively closely set punctures; frons relatively narrow; antennae short (Kalimantan) (VII/30) (BREMER 2011a, 192-194) ..... ***acerbus* BREMER**

– Species from Central and South Thailand which has its most southern distribution in the Cameron Highlands of Peninsular Malaysia according to our present knowledge. Very elongate, oval (length/width ratio of elytra 1.76-1.85:1), head and pronotum dark brown to black, pronotum lustrous, elytra dark brown, slightly microreticulated; femora, tibiae brown, antennae black. Elytra with rows of large, slightly elongate punctures, intervals flat, with some tiny punctures; anterior and posterior angles of pronotum rounded, with small punctures. Antennae short pro- and mesotibiae slightly bent, metatibiae more bent. Protarsomeres 1-3 moderately widened and on inner sides of pro- and mesotibiae with areas of half erected hairs of medium length in males. Body length 7.33-8.67 mm (Central and South Thailand; Peninsular Malaysia, on higher altitudes of Cameron Highlands) (Fig. VII/31) (BREMER 2003a, 96-99) ..... ***mahunkai* BREMER**



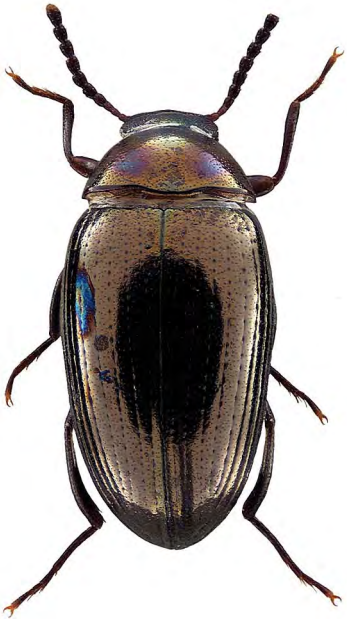


Fig. VII/1: *Amarygmus nepos* BREMER, 2002: **A** Habitus; **B** Body, lateral view; **C1** Head and pronotum, male; **C2** Head, female; **D** Prosternal process in oblique view; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (original);

Photographs (female): Habitus; head and pronotum.

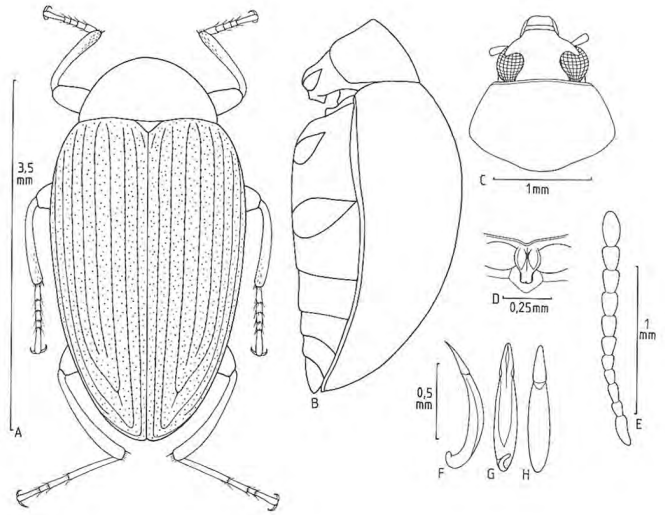


Fig. VII/2: *Amarygmus pullus* BREMER, 2011: **A** Habitus (holotype, male); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2011a, p.238); **Photographs:** Habitus; head and pronotum.

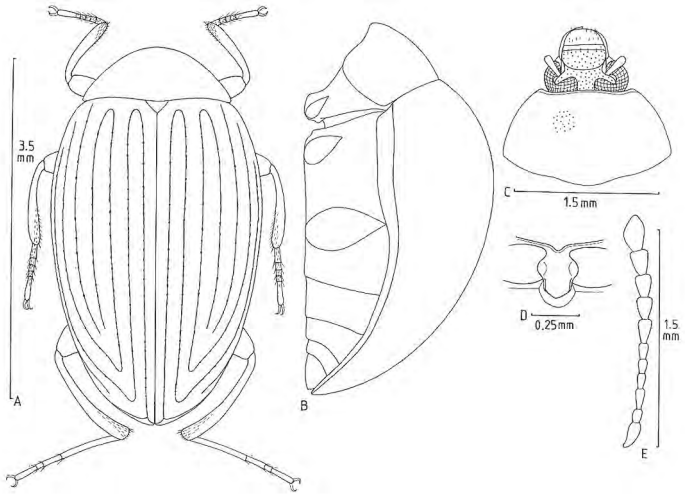


Fig. VII/3: *Amarygmus filiastra* BREMER, 2011: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; E Antenna (reproduction from BREMER 2011a, p.211).

Amarygmus filiastra BREMER, 2011:
Photographs: Habitus; head and pronotum.

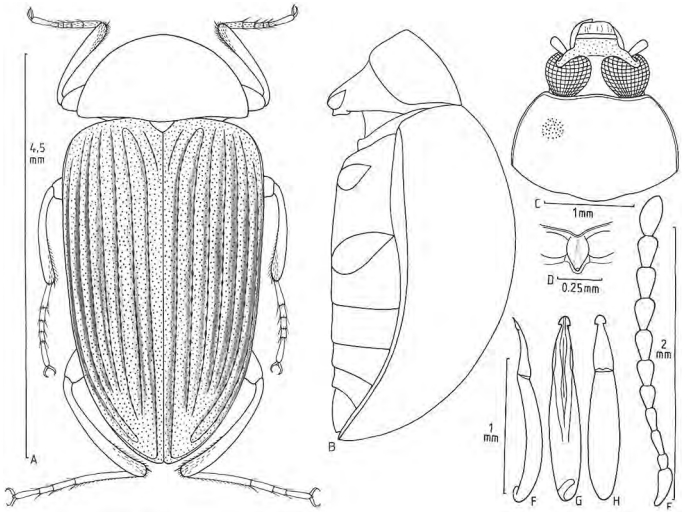


Fig. VII/4: *Amarygmus filiaster* BREMER, 2010, male: **A** Habitus; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus,lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2010b, p.42).
Photographs (male**):**
Habitus; head, antennae and pronotum

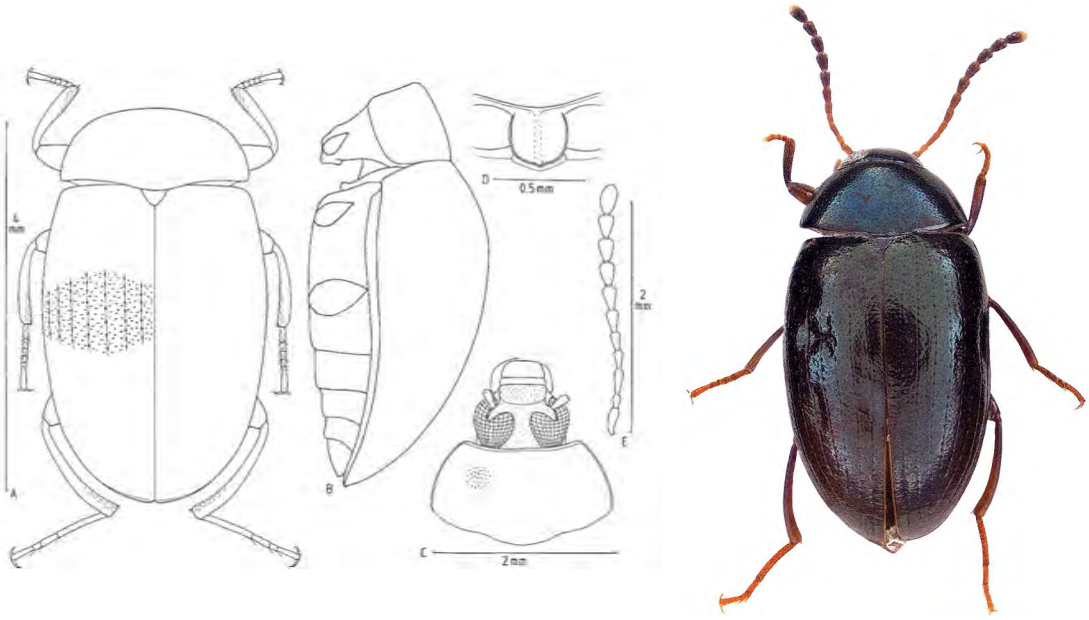


Fig. VII/5: *Amarygmus comitus* BREMER, 2012: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2012a, p.206); **right:** Photograph.

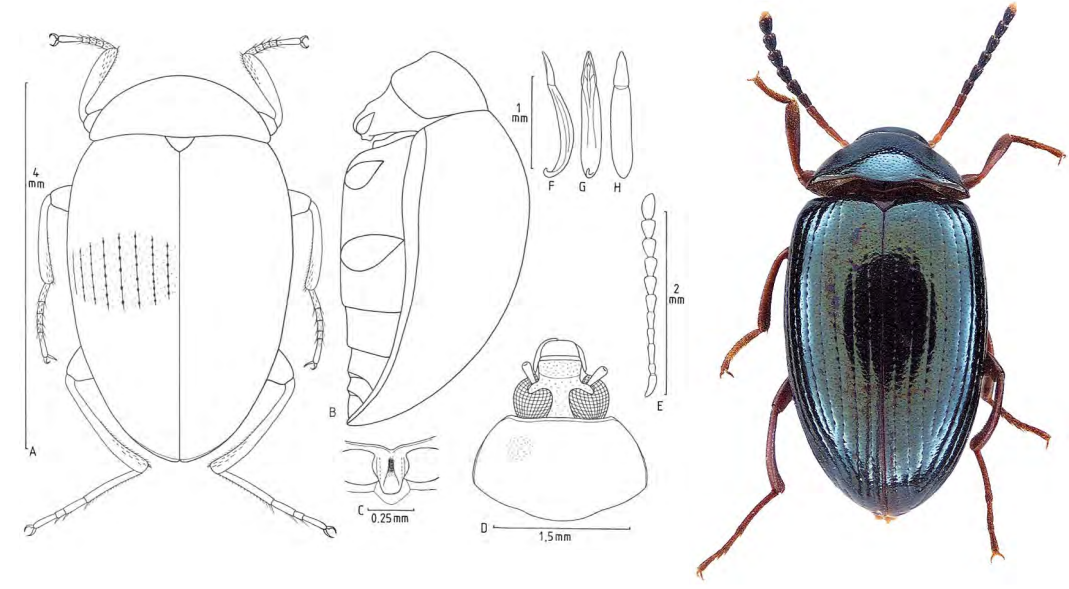


Fig. VII/6: *Amarygmus alces* BREMER, 2012, male: **A** Habitus; **B** Body, lateral view; **C** Prosternal process; **D** Head and pronotum; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **D** Aedeagus, dorsal view (reproduction from BREMER 2012a, p.197); **right:** Photograph.

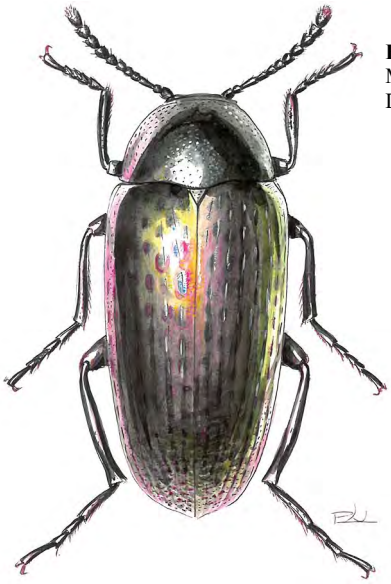
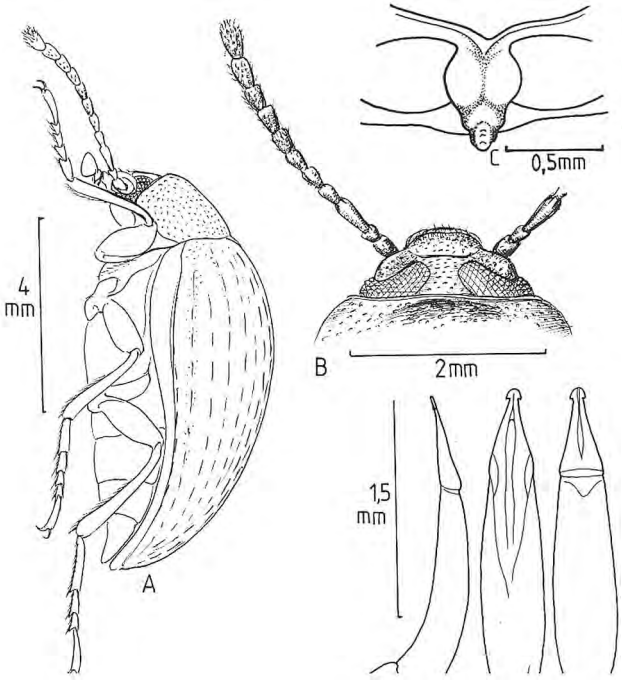


Fig. VII/7: *Amarygmus selatanus* MASUMOTO & MAKIHARA, 1997: Drawing.



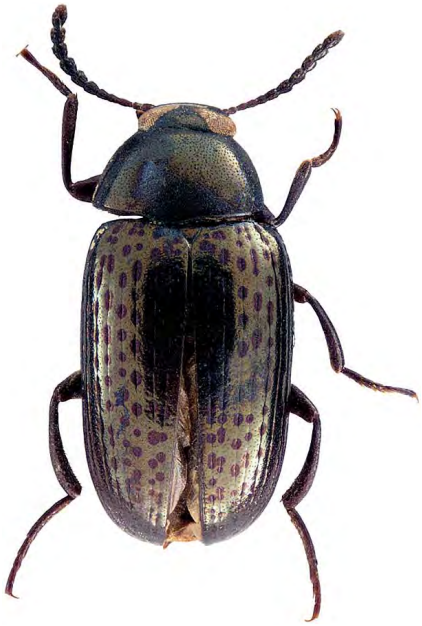


Fig. VII/8: *Amarygmus mitschkei* (PIC, 1938): **A** Body lateral view; **B** Head and antenna; **C** Prosternal process; Aedeagi, lateral view, ventral view, and dorsal view (reproduction from BREMER 3003a, p.68). **Photographs** (male): Habitus; head and pronotum.

Fig. VII/9: *Amarygmus telnovi* **sp. n.**:
Photograph of the female holotype. Body length: 16.5 mm;
above: Photograph of head and pronotum.

Fig. VII/10: *Amarygmus nevenae* **sp. n.**: Photographs:
Habitus; head and pronotum.

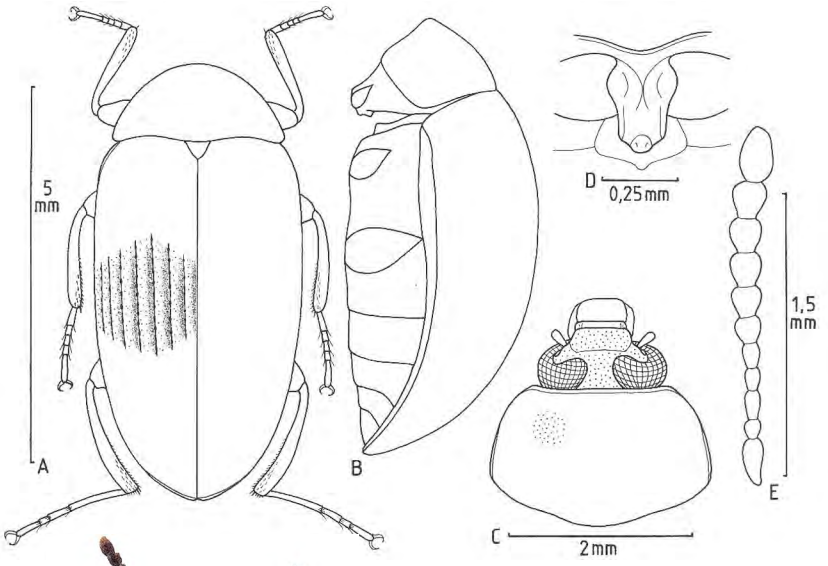


Fig. VII/11: *Amarygmus viduatus* BREMER, 2010: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2010a, p.247). **Photographs** (female): Habitus; protibiae, head and pronotum.

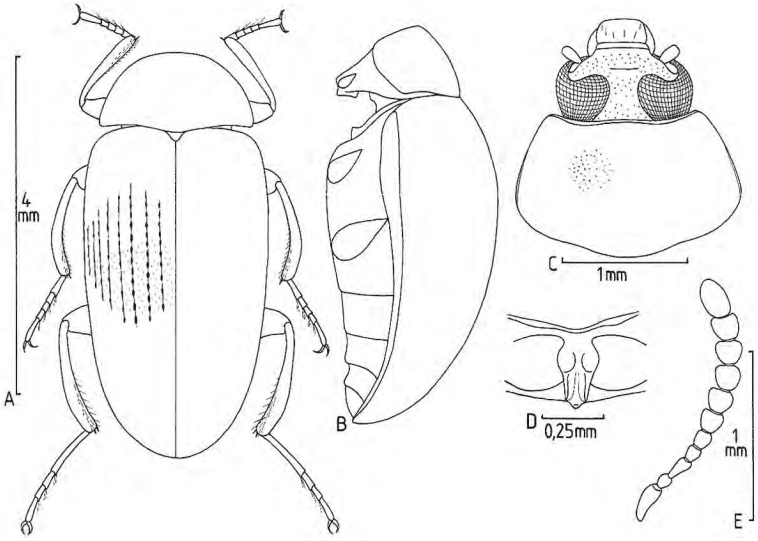


Fig. VII/12: *Amarygmus viridicatus* BREMER, 2004: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2004a, p.86).

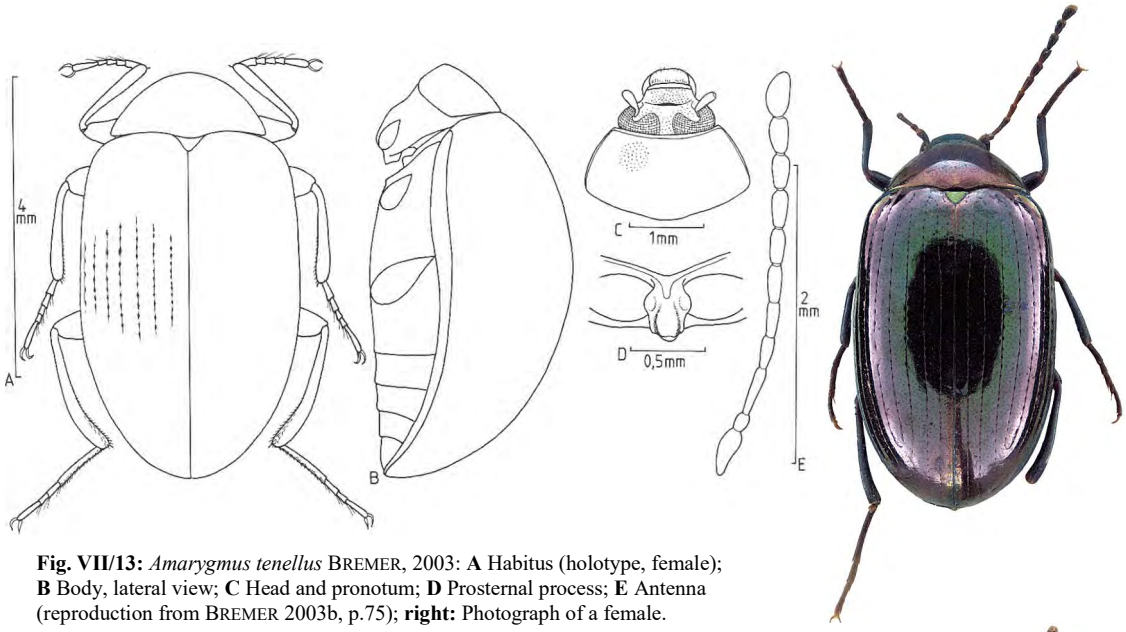


Fig. VII/13: *Amarygmus tenellus* BREMER, 2003: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2003b, p.75); **right:** Photograph of a female.

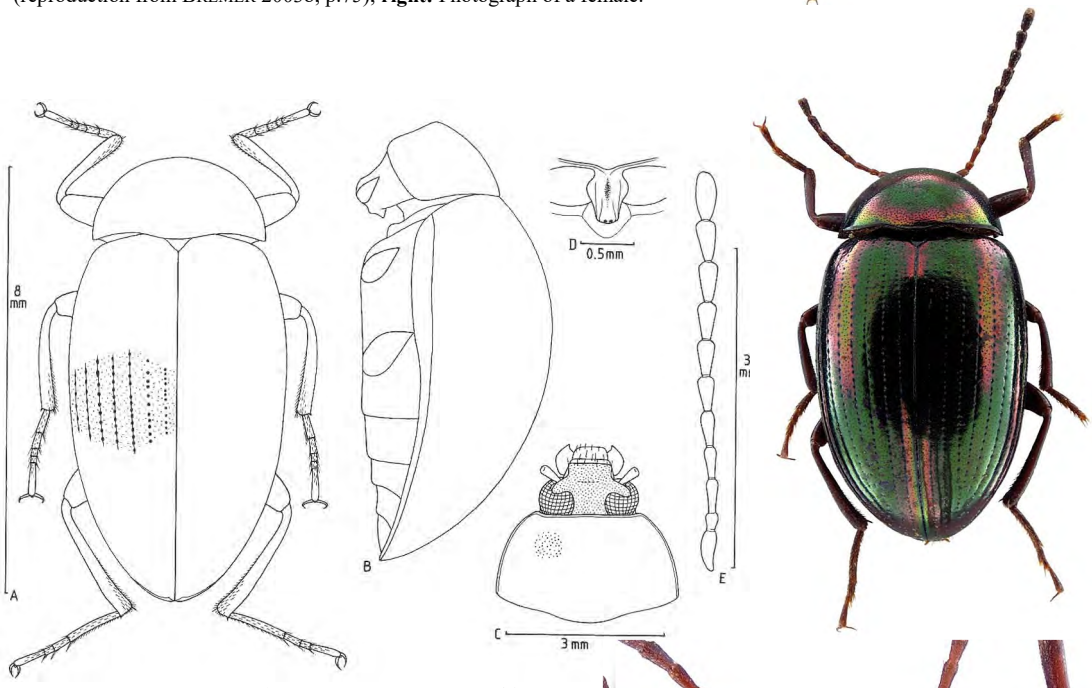


Fig. VII/14: *Amarygmus neglectus* BREMER, 2011: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2011a, p.234).
Photographs (female): Habitus; head and pronotum.

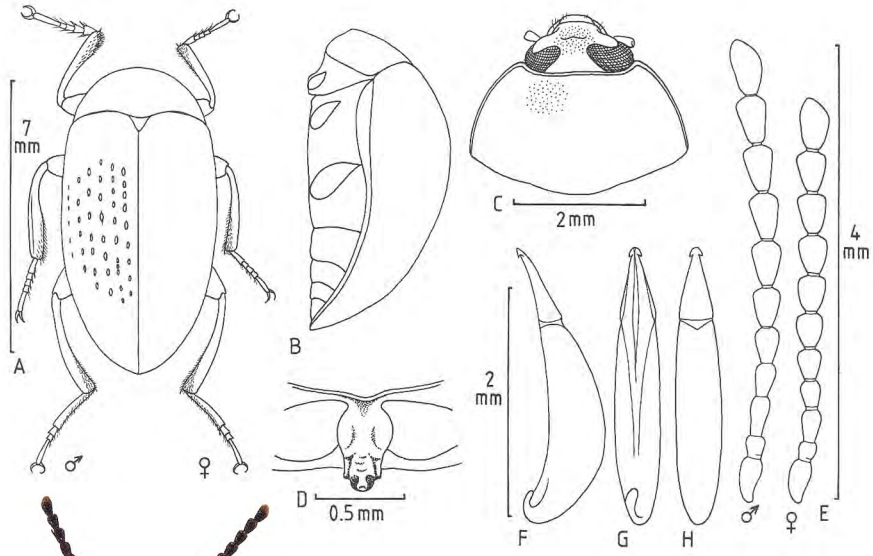
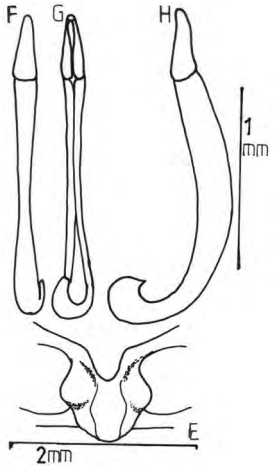


Fig. VII/15: *Amarygmus cinctopunctatus* PIC, 1938: **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennae, male and female; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, lateral view (reproduction from BREMER 2012a, p.233). **Photograph**: female.



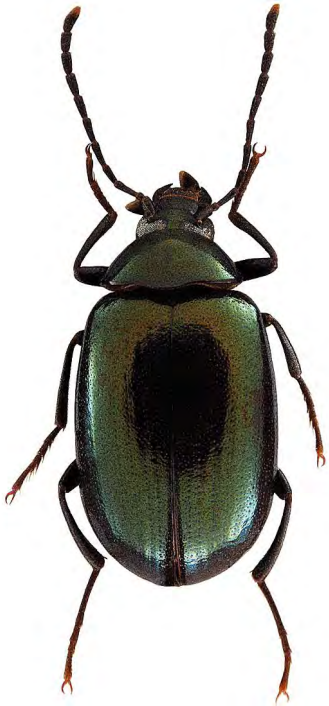


Fig. VII/16: *Amarygmus sabahensis* BREMER, 2002: **Drawing:** Aedeagus: **F** in dorsal view, **G** in ventral view, **H** in lateral view and **E** Prosternal process (reproduction from BREMER 2002c, 42); **Photographs:** Habitus; forelegs, head and pronotum.

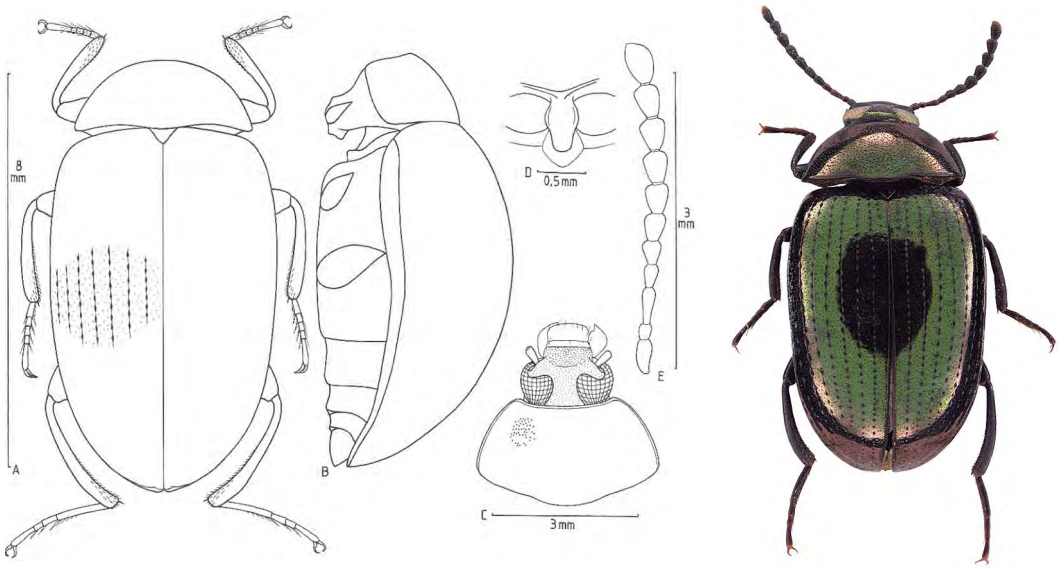


Fig. VII/17: *Amarygmus muluensis* BREMER, 2010: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2010a, p.207); **right:** Photograph.

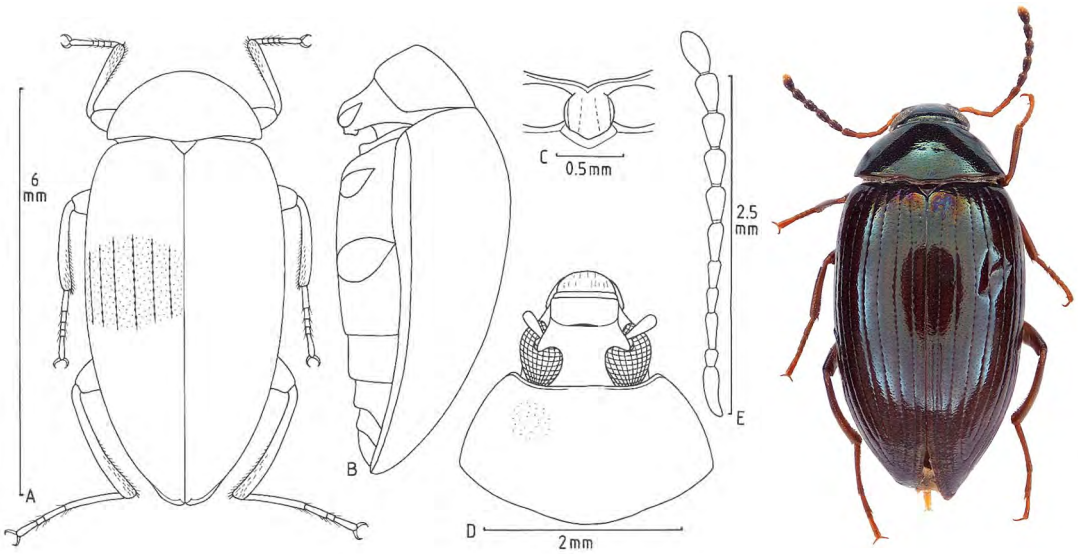


Fig. VII/18: *Amarygmus mnester* BREMER, 2012: **A** Habitus (holotype, female); **B** Body, lateral view; **C** Prosternal process; **D** Head and pronotum; **E** Antenna (reproduction from BREMER 2012a, p.214); **right:** Photograph of a female.

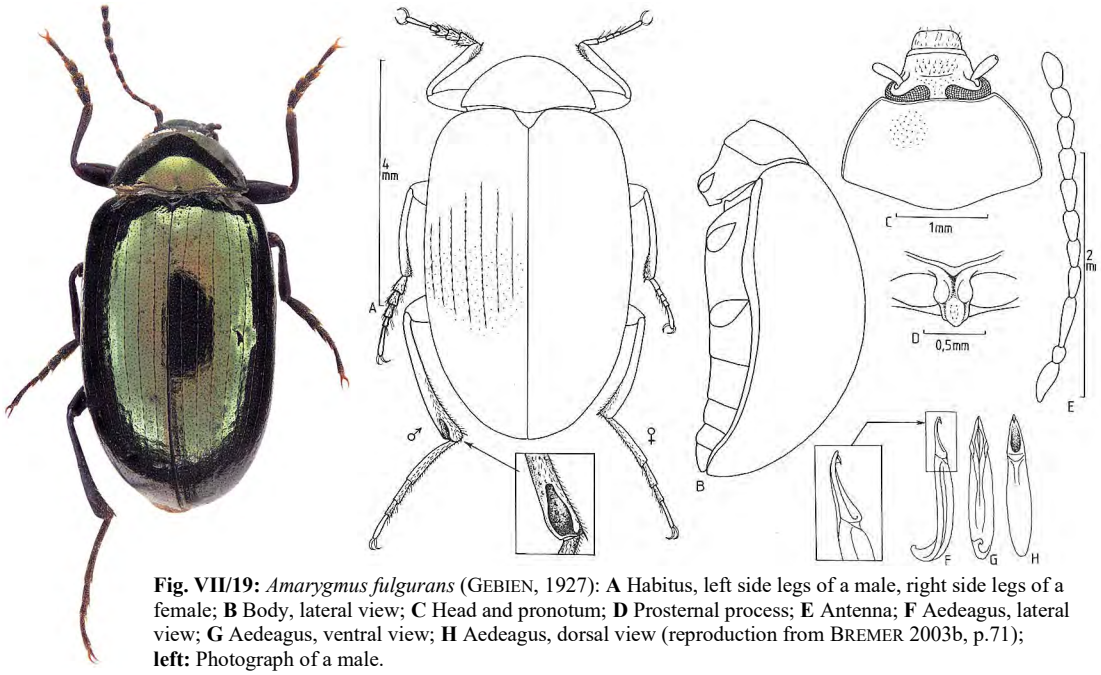


Fig. VII/19: *Amarygmus fulgurans* (GEBIEN, 1927): **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2003b, p.71); **left:** Photograph of a male.

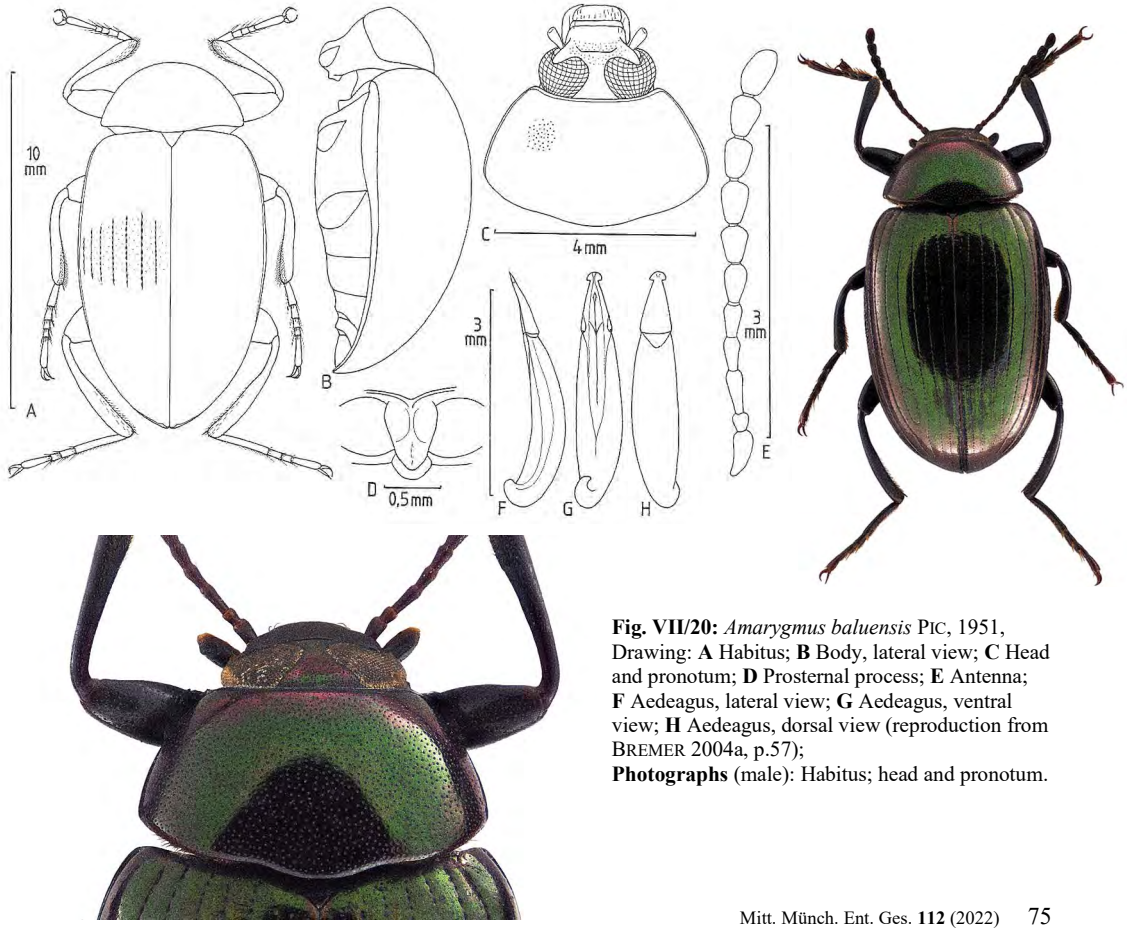


Fig. VII/20: *Amarygmus baluensis* PIC, 1951, Drawing: **A** Habitus; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2004a, p.57);
Photographs (male): Habitus; head and pronotum.

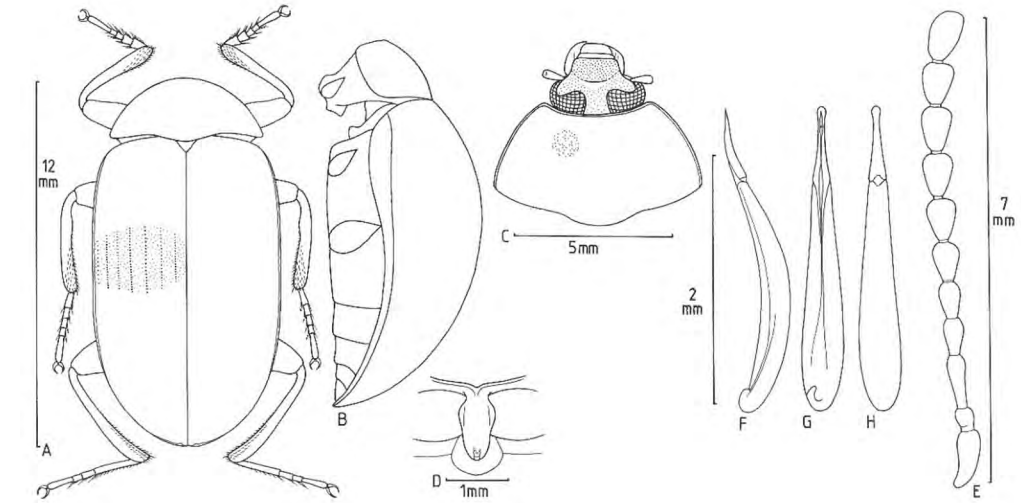


Fig. VII/21: *Amarygmus inermis* BREMER, 2011: **A** Habitus (holotype, male); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2011a, p.220);
Photographs (male): Habitus; head and pronotum.

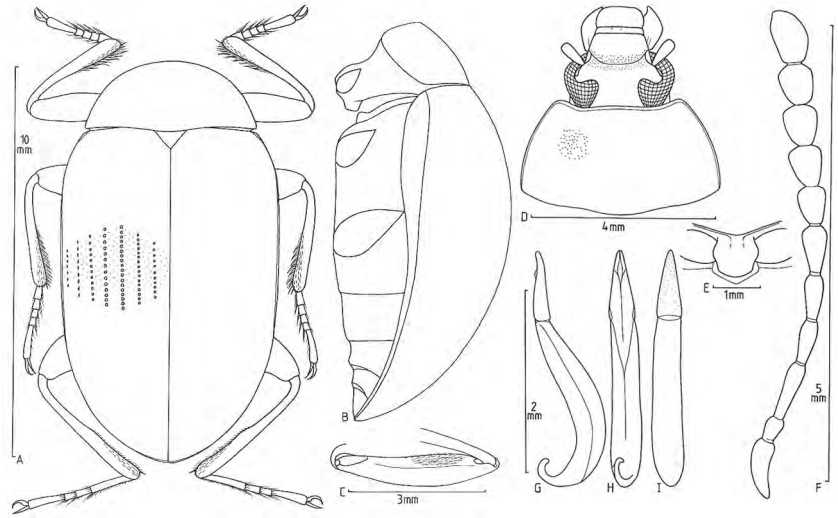


Fig. VII/22:
Amarygmus hilaratus BREMER, 2007:
A Habitus (holotype, male); **B** Body, lateral view; **C** Profemur of a male; **D** Head and pronotum; **E** Prosternal process; **F** Antenna; **G** Aedeagus, lateral view; **H** Aedeagus, ventral view; **I** Aedeagus, dorsal view (reproduction from BREMER 2007a, p.16).

Amarygmus hilaratus BREMER, 2007;
Photographs (male): Habitus;
forelegs, head and pronotum.

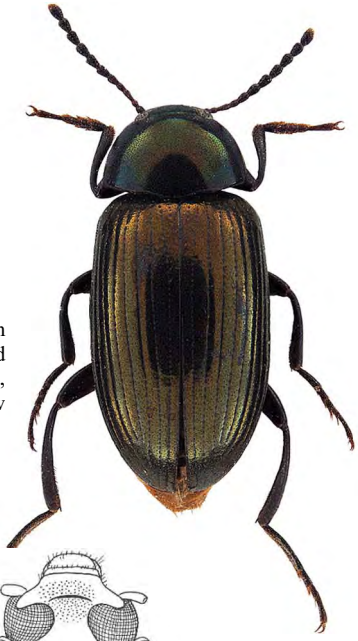
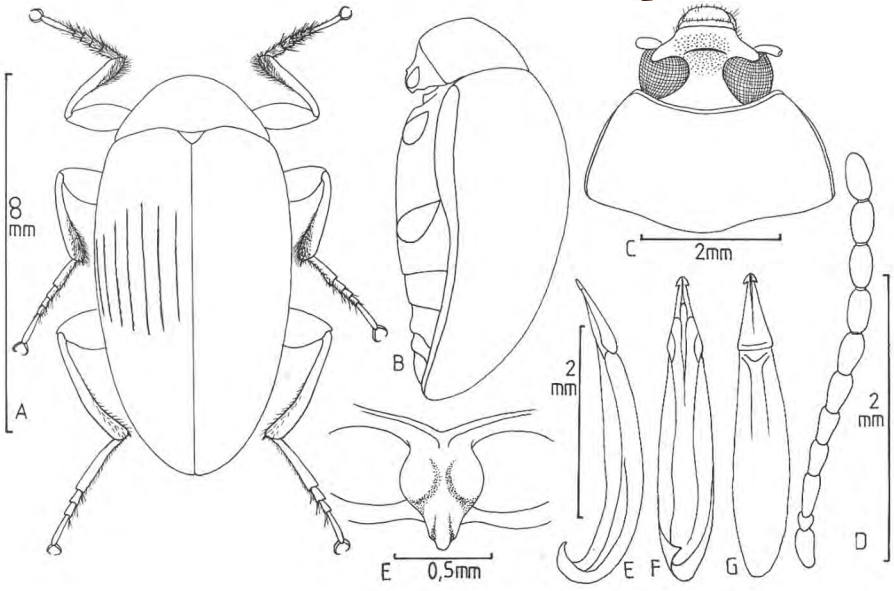


Fig. VII/23: *Amarygmus laevis* (KULZER, 1951): **right:** Photograph of a male; **below:** **A** Habitus, male; **B** Body, lateral view; **C** Head and püronotum; **D** Antenna; **E** Prosternal process; **F** Aedeagus, lateral view; **F** Aedeagus, ventral view; **G** Aedeagus, dorsal view (reproduction from BREMER 2003a, p.65);



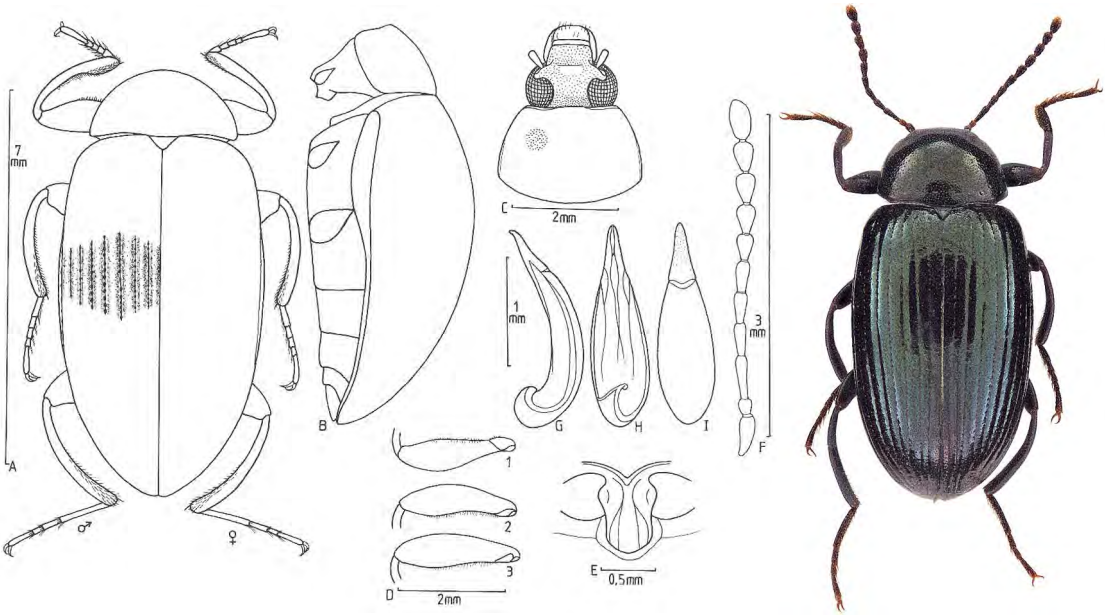


Fig. VII/24: *Amarygmus longior* BREMER, 2005: **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Profemur, mesofemur and metafemur of a male; **E** Prosternal process; **F** Antenna; **G** Aedeagus, lateral view; **H** Aedeagus, ventral view; **I** Aedeagus, dorsal view (reproduction from BREMER 2005e, p.194); **right:** Photograph of a male.

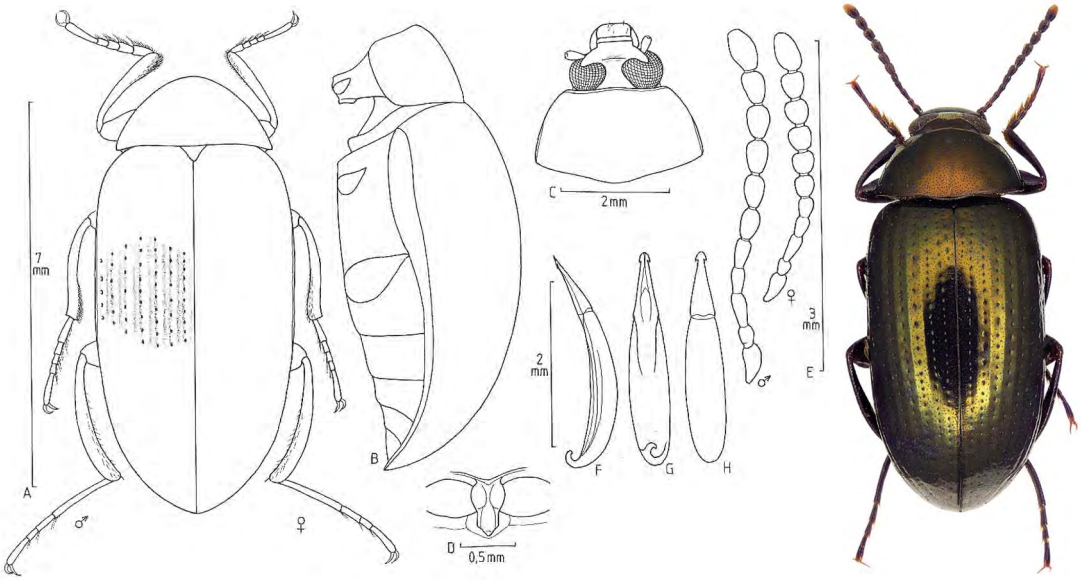


Fig. VII/25: *Amarygmus blanchardi* BREMER, 2001: **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennae, male and female; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2004e, p.195); **right:** Photograph of a male.

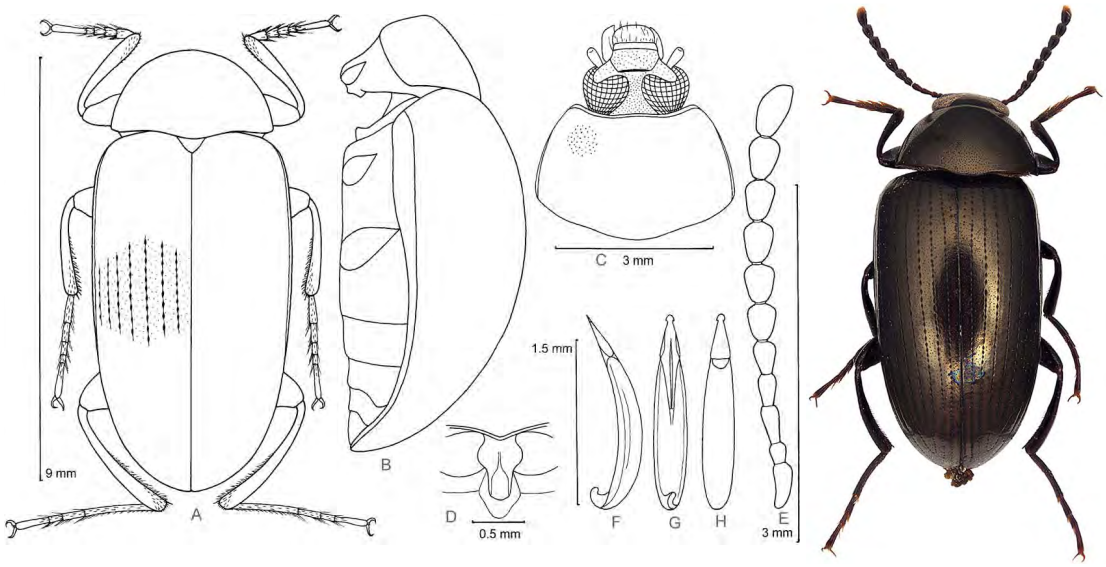


Fig. VII/26: *Amarygmus emasensis* BREMER, 2010: **A** Habitus (holotype, male); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2010a, p.188); **right:** Photograph of a male.

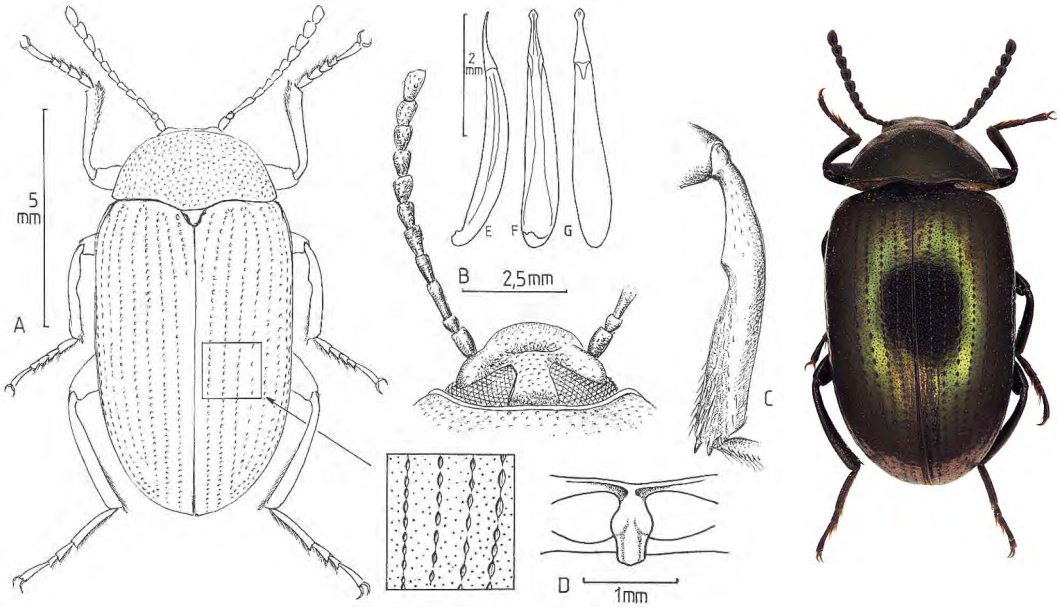


Fig. VII/27: *Amarygmus hassalti* FAIRMAIRE, 1882: **A** Habitus, male; **B** Head and antenna; **C** Mesotibia of a male; **D** Prosternal process; **E** Aedeagus, lateral view; **F** Aedeagus, ventral view; **G** Aedeagus, dorsal view (reproduction from BREMER 2003a, p.60); **right:** female, Photograph.

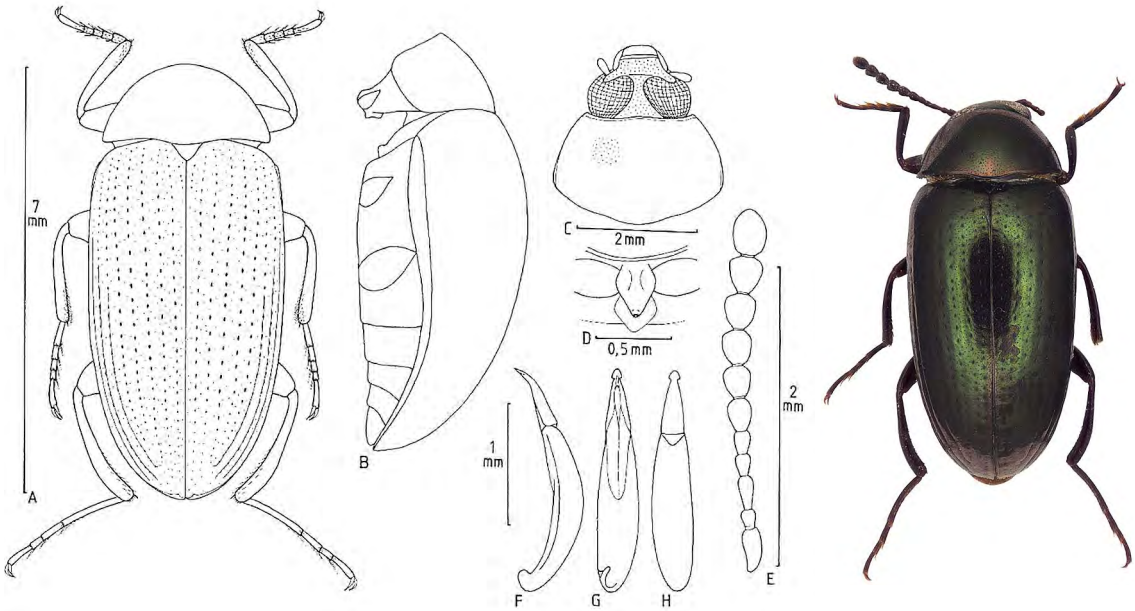


Fig. VII/28: *Amarygmus assessorius* BREMER, 2010: **A** Habitus (holotype, male); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2010a, p.167); **right:** Photograph of a male.

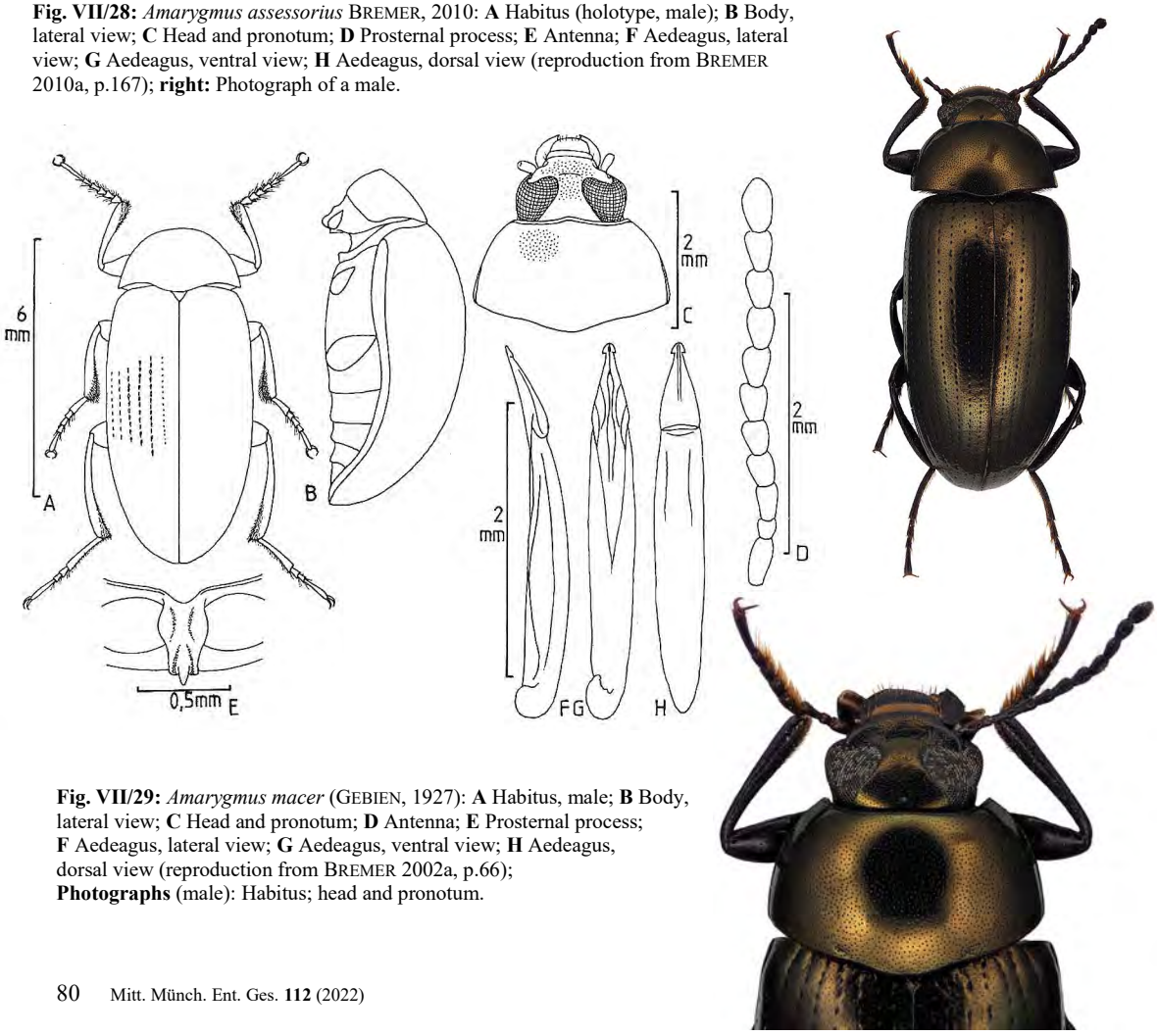


Fig. VII/29: *Amarygmus macer* (GEBIEN, 1927): **A** Habitus, male; **B** Body, lateral view; **C** Head and pronotum; **D** Antenna; **E** Prosternal process; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2002a, p.66); **Photographs** (male): Habitus; head and pronotum.

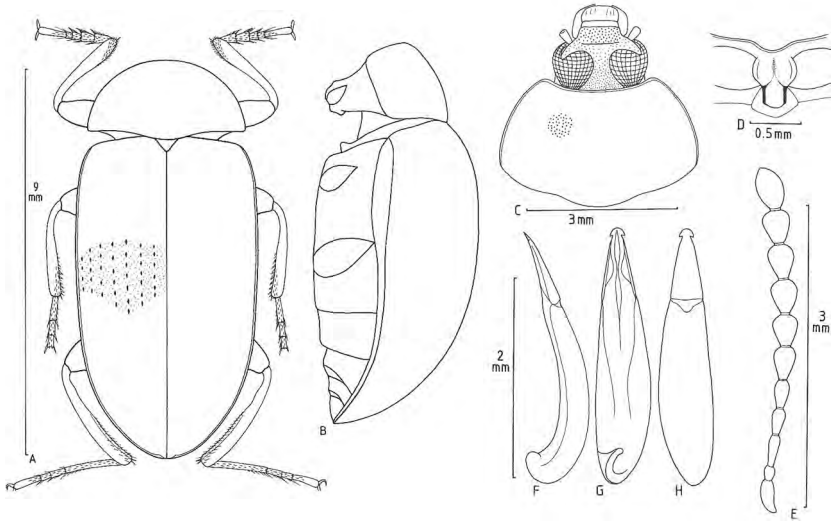


Fig. VII/30: *Amarygmus acerbus* BREMER, 2011: **A** Habitus (holotype, male); **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2011a, p.193).

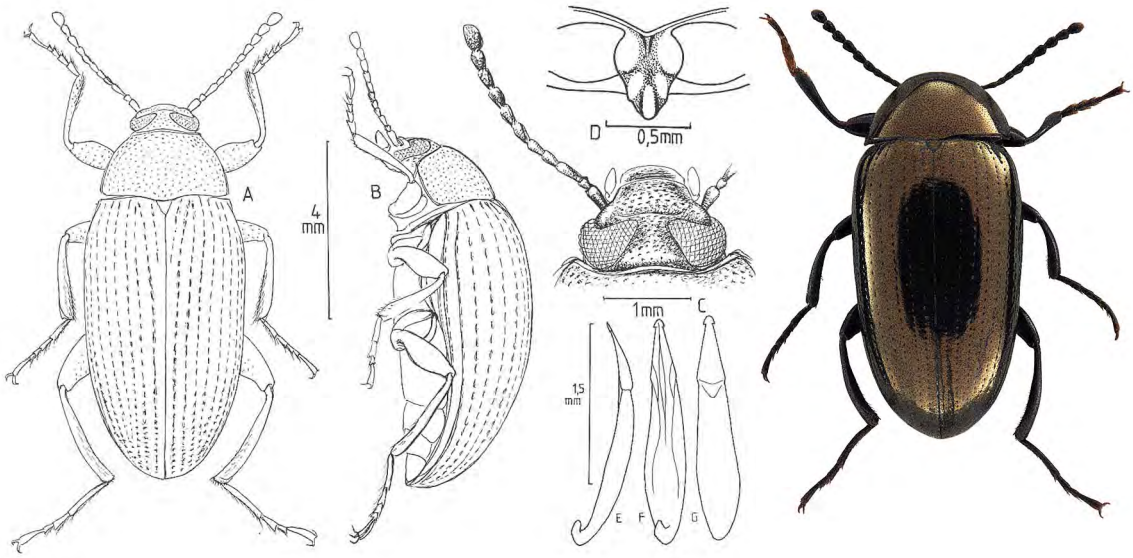


Fig. VII/31: *Amarygmus mahunkai* BREMER, 2003: **A** Habitus; **B** Body, lateral view; **C** Head and antenna; **D** Prosternal process; **E** Aedeagus, lateral view; **F** Aedeagus, ventral view; **G** Aedeagus, dorsal view (reproduction from BREMER 2003a, p.97); **Photographs** (male): Habitus; head and pronotum.

Description of new species

Amarygmus nevenae sp. n. (Fig. VII/10)

Holotypus, male, ZSM: W. Java Prov., Mt. Salak, 1100 mm, VI-VII,1996, ST. JÁKL lgt.
Paratypus: W. Java Prov., Mt. Gede N. P., 1600 m, Cibodas vill. env., 15.-18.6.1996, ST. JÁKL lgt. (1 female, ZSM) (somewhat squashed and only the right antennomeres 1-8 present).

Diagnosis. Small, narrow elongate oval. On elytral disc with rows of superficially small punctures which irregularilly are connected by faint lines, laterally with striae which are shallowly impressed, intervals on disc flat, laterally slightly convex. Elytra black, moderately lustrous, scutellum, pronotum and head brown, lustrous; legs and antennae dark brown. In males on inner side of pro- and mesotibiae apically relatively long, semi-erect hairs. Antennae short. Frons of relatively narrow.

I do not know a similar *Amarygmus* species of this faunistic area.

Description. Frons relatively narrow, slightly convex longitudinally, slightly higher situated than eyes. With tiny, widely distributed punctures. Epistomal suture towards frons and epistome somewhat impressed, narrow. Epistome convex transversely and longitudinally, with some punctures which are larger than the punctures of the frons. Genae obliquely separating eyes towards their middle. Coloration, see *Diagnosis.*

Antennae short, in the male holotype overlapping the base of pronotum with two antennomeres.

Pronotum. Relatively narrow. Markedly convex transversely, moderately convex longitudinally; in view from above the anterior angles not visible, in anterior view slightly obtuse; the hind angles visible from above, slightly obtuse; the lateral borders just discernible from above; surface slightly microreticulated, with tiny, widely distributed punctures.

Scutellum triangular. Elytra narrow, elongate oval; largest width slightly in front of the middle, apex mutuately rounded; very convex transversely, moderately convex longitudinally. Surface on disc with rows of small punctures, plane intervals, laterally with somewhat incised striae and convex intervals; intervals on disc with one row of small, distant punctures; laterally the intervals bear tiny, distant punctures.

Prosternum short, prosternalprocess somewhat elongate oval, apically narrowly rounded, lateral parts along proxocae markedly raised. Anterior process of ventrite III between metacoxae elongately arch-shaped; only with a few tiny punctures; ventrites IV-VI with larger punctures than on ventrite III; ventrite VII in the middle clearly impressed (certainly only in males).

Legs. Protibiae in their basal third curved, in their apical 2/3 nearly straight on outer side, on inner side anteriorly somewhat broadened, and on inner side in their apical 1/3 with dense hairs of medium length in the male; mesotibiae distinctly bent, in their inner ¼ with dense, oblique hairs of medium length in the male; metatibiae markedly bent. Protarsomeres 1-3 scarcely widened in the male.

Body lengths: 5.00 + 5.27 mm. Body widths: 2.47 + 2.59 mm. Length/width elytra 1.64 + 1.71; width/length pronotum 1.84 + 1.88.

Etymology. Dedicated to Katja NEVEN, ZSM, saying her a brief thanks for her allways friendly support and looking for the beetles wanted for this paper.

Amarygmus telnovi sp. n. (Fig. VII/9)

Holotype, female, BMNH: Malay Penin., West Coast, Longkawi Is., April 15, 1928. (The left metatarsi are missing).

Diagnosis. Large species with violet and blue grounds of the elytral punctures of the row, and with colored haloes around these colors, most of these elytral punctures of the rows are narrowed each other and look like short striae. Body narrow, elytra very elongate and with roughly parallel sides; elytra and pronotum very convex transversely and moderately convex longitudinally; base of pronotum and base of elytra roughly at the same width. Ground color of upperside is coppery, it is moderately lustrous; ground color of underside is brown. Antennae and legs are black. Frons is of medium width. Antennae are short. Legs are short.

This species is very similar to *Amarygmus mitschkei* (PIC, 1938), but *A. telnovi* it is definitely larger than *A. mitschkei* (body length about 8.0-8.5 mm), its frons is somewhat wider than frons of *A. mitschkei*.

Head. Frons of medium width, with dense, minute punctures, anteriorly frons terminate in a distinct epistomal suture which is laterally marked off by genae; anteriorly to this epistomal suture the hind part of epistome is buckled longitudinally, hind part of epistome punctured like frons, anterior part of epistome less punctured; genae laterally somewhat raised; they cover the sockets of antennae.

Pronotum. Narrow and short, very convex transversely, the lateral borders are very narrowly visible except a short line behind the anterior corners. The anterior corners are narrowly rounded; the hind corners

are angular and obtuse. Surface with small, relatively dense punctures which on the lateral parts are distinct, median indistinct and origin of very tiny (at 75-fold magnification) hairs.

Scutellum. Triangular, with a few minute punctures. Elytra very long, roughly parallel towards the hind quarter; greatest height at the first third; anterior corners narrowly rounded; apex elytra mutually rounded. Surface with elongate, slightly incised , small punctures, many punctures are narrowed each other, therefore, they look like a combined puncture, between many of these combined punctures the distance is large; ground of these strial punctures deep violet, they are surrounded by a narrow halo; interals flat, with very indistinct minute punctures.

Underside. Prosternal process narrow, sides aside procoxae raised, behind procoxae bent downwards, apical taper to a narrowly rounded point. Sternites with minute punctures.

Antennae terminate just behind anterior margin of elytra.

Legs short; protibiae straight, mesotibiae in the basal half slightly bent, in the apical half straight metatibiae slightly bent.

Body length: 16.5 mm. Body width: 7.7 mm. Ratios. Length/width elytra 1.66:1; width/length pronotum 1.75:1.

Etymology. Dedicated to Dr. Dmitry TELNOV, BMNH, London, for his efforts turning up *Amarygmus* of the region treated in this paper in the old collection of the BMNH.

Section VIII.

Very large species (length >12 mm) with long legs.

Diagnosis: The very large *Amarygmus* of this Section with their long legs possess profemora which elicit a bulging on their frontal side, but they do not possess a tooth or a sharp, step-like interruption of their anterior outline, as it is typical of the similarly looking *Plesiophthalmus* MOTSCHULSKY, 1857. The metatarsomere 1 is shorter than the metatarsomere 4, or it is of equal length. The legs present markedly bent protibiae and a red ring around all femora (subgenus *Varogeton* BREMER, 2014 of *Amarygmus* DALMAN, 1823); or they have no markedly bent protibiae and no red ring around femora (subgenus *Pyanirygmus* PIC, 1915).

I take one species from Thailand into account of this Section, *Amarygmus* (*Varogeton*) *visendus* BREMER, 2007 (2007a, pp. 23-26). This species occurs in South Thailand near the border to Malaysia (6.42°N-101.37°E). It may also be present in Peninsular Malaysia.

Determination key of species of Section VIII

1 Protibiae in males are markedly bent (in females moderately bent); in both sexes these species have femora with a reddish brown ring basad of a dark apical cap (*Amarygmus* subgenus *Varogeton* BREMER 2014) (in old collection material these rings around femora may be yellow) 2

– Protibiae in both sexes straight or nearly straight, and without a reddish brown ring around profemora (*Amarygmus* subgen. *Pyanirygmus* PIC, 1915): The pronotum presents coarse, irregularly set punctures. Elytra are rather long and have subparallel sides (length/width ratio 1.70-1.83:1); the elytra are wider than the pronotum; they have scarcely incised striae with small, round punctures; the elytral intervals are flat and display small, dense punctures. The antennae are short, in females they are shorter than in males. Body length 16.9-17.3 mm (Kalimantan; Sabah; Sumatra; Peninsular Malaysia (Fig. VIII/1) (PIC 1915, 9; redescription: BREMER 2005d, pp.213, 214) ..... ***corinthius* (PIC)**
(Also *A. visendus* BREMER from Central and South Thailand belongs to this subgenus (Fig. VIII/5); this species has very large punctures on its elytral rows. This species may also occur in Peninsular Malaysia.)

2 The pronotum within the hind half is subparallel or is only slightly narrowed towards hind corners. The elytral intervals are allusively convex; they present very tiny, indistinct punctures. The apical part of the aedeagus is relatively narrow and subparallel. The length/width ratio of elytra is 1.46-1.52:1. The pronotum and the elytra are black. Body length 12.1-12.6 mm (Sabah; Sarawak; Sumatra) (Fig. VIII/2) (MASUMOTO 2001, pp.67, 68) ..... ***kerleyi* (MASUMOTO)**

– The pronotum is widest in the middle. The apical part of aedeagus is gradually narrowing towards its tip 3

3 The frontal sides of profemora and the back sides of meso- and metafemora present short, projecting hairs in males. Elytral intervals are flat, they display minute, clearly separated punctures. Length/width ratio of elytra 1.46-1.57:1. Pronotum and elytra copper-colored, lustrous. Body length 11.0-12.1 mm (Cameron Highlands of Peninsular Malaysia) (Fig. VIII/3) (MASUMOTO 2001, 66-67) ..... ***cameronensis* (MASUMOTO)**

– The frontal sides of profemora and the back sides of meso- anf metafemora do not present hairs in males. The elytral intervals display minute, dense punctures. The upper side is brown. Body length 10.0-12.1 mm (Sumatra) (Fig. VIII/3) (BREMER 2010b, 50-52; stat n.: BREMER 2014a, 73) ..... ***proconsul* BREMER**

(Species with hairs on the frontal sides of profemora and on the back sides of meso- and metafemora and presenting a ring-like brown coloration of femora are also *A.* (*Varogeton*) *subannulipes* (PIC 1922) from Vietnam and Laos and *A.* (*Varogeton*) *martinbrendelli* BREMER, 2005 from North India)

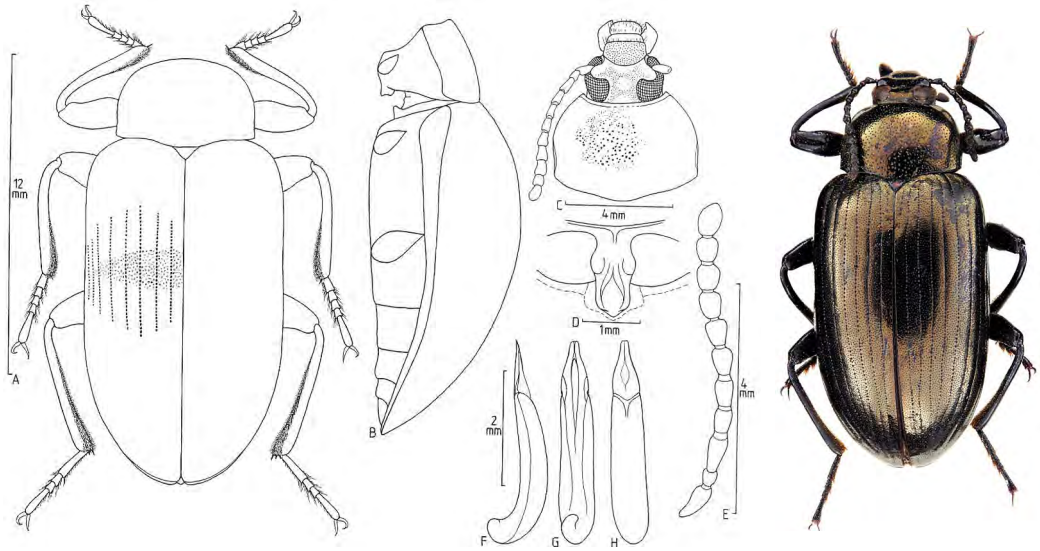


Fig. VIII/1: *Amarygmus* (*Pyanirygmus*) *corinthius* (PIC, 1915): **A** Habitus, male; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2014a, p.74); **right:** Photograph.

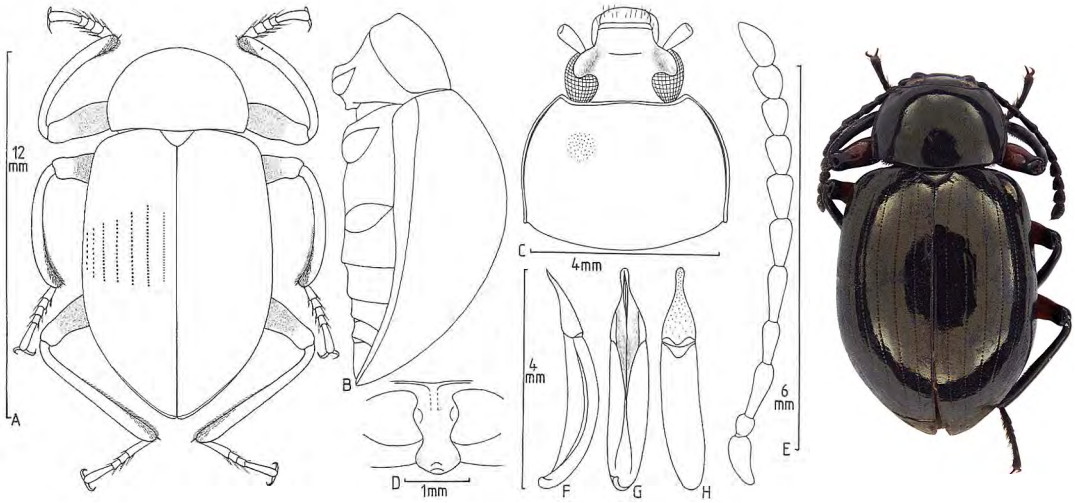


Fig. VIII/2: *Amarygmus* (*Varogeton*) *kerleyi* (MASUMOTO, 2001): **A** Habitus, male; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2014a, p.72); **right:** Photograph.

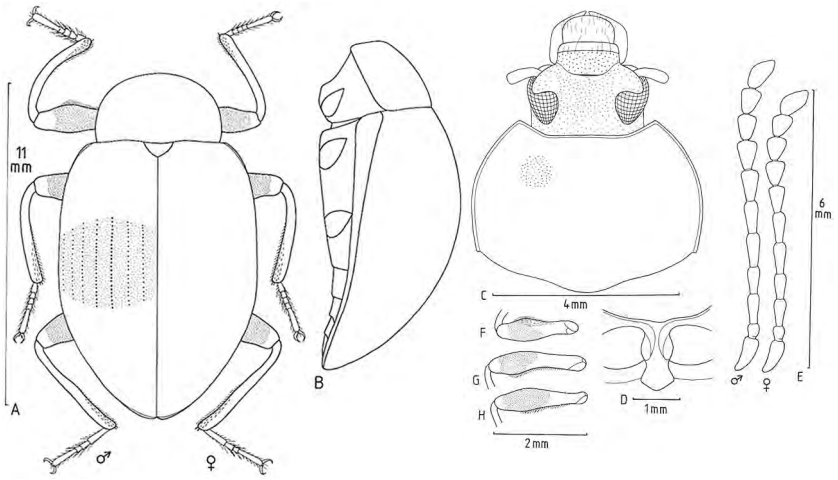


Fig. VIII/3: *Amarygmus* (*Varogeton*) *cameronensis* (MASUMOTO, 2001): **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennae, male and female; **F** Profemur, male; **G** Mesofemur, male; **H** Metafemur, male (reproduction from BREMER 2014a, p.71).

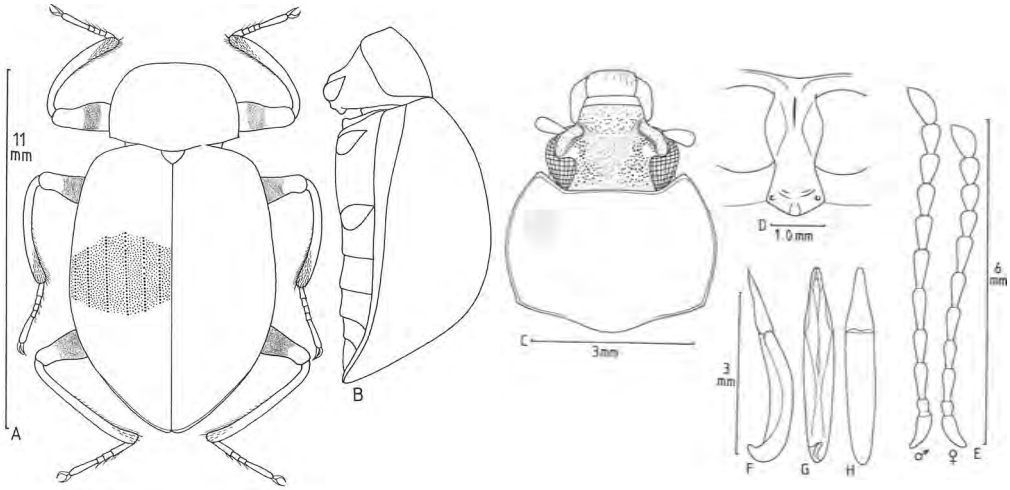


Fig. VIII/4: *Amarygmus* (*Varogeton*) *proconsul* BREMER, 2010: **A** Habitus; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennae, male and female; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2010b, pp.50, 51); **left:** Photograph.

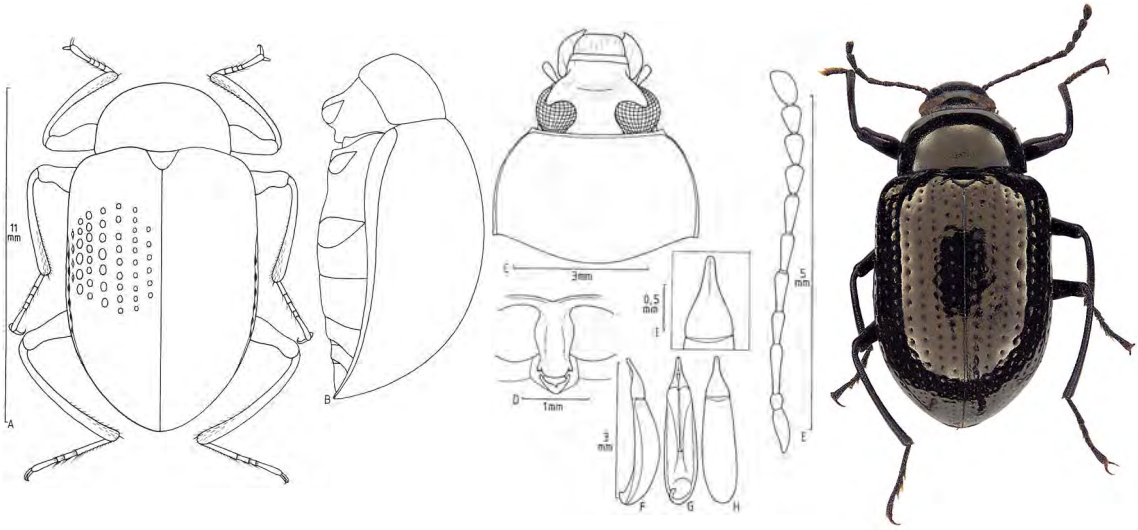


Fig. VIII/5: *Amarygmus* (*Pyanirygmus*) *visendus* BREMER, 2007: **A** Habitus, male; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view; **I** Anterior part of aedeagus (magnified) (reproduced from BREMER 20014a, p.74); **right:** Photograph of a male.

Section IX

Species with uniformly white, yellow or brown antennomeres 11 (without maculae on elytra), and the penultimate antennomeres are black in mature specimens and contrast with the uniformly lighter antennomere 11

The following species present this character: *A. gilvicornis* BREMER, 2011 (Fig. II/8), *A. lynnae* BREMER, 2002 (presents maculae on pronotum and elytra) (Fig. II/2), *A. proteus* BREMER, 2010 (presents maculae on elytra) (Fig. III/14), *A. elegans* BREMER, 2002 (presents maculae on pronotum and elytra) (Fig. III/18), *A. hongi* BREMER, 2011 (presents maculae on pronotum and elytra ((Fig. III/19), *A. rufonotatus* PIC, 1915 (presents maculae on pronotum and elytra) (Fig. III/20), *A. morpheus* BREMER, 2011 (presents maculae on pronotum and elytra (Fig. III/21), *A. nigrofasciatus* PIC, 1915 (presents maculae on pronotum and elytra) (Fig. III/22), *A. nigromaculatus* PIC, 1915 presents maculae on pronotum and elytra (Fig. III/24), *A. binotatus* PIC, 1915 (presents maculae on pronotum and elytra) (Fig. III/30), *A. apicicornis* BREMER, 2012 (already treated in Section V) (Fig. V/1). Another representative species from South India is *Amarygmus elisabethae* BREMER, 2003 from South India.

The determination key of this Section includes: *A. apicicornis* BREMER, 2012, *A. blairi* BREMER, 2001, *A. gilvicornis* BREMER, 2011, *A. praestans* BREMER, 2002, and *A. infans* BREMER, 2011. The inclusion of the latter species is somewhat speculative as the only known holo- and paratypes do no longer possess an antennomere 11. But its size and shape seem to suggest that it belongs to the species of this group, and this species can easily be identified if it is collected. This is the reason that I publish here a drawing and a photograph of *Amarygmus infans*.

Determination key of the *Amarygmus* species of Section IX

1 Tiny, transversely and longitudinally convex species with uniformly yellow elytra and a much darker pronotum; epistomal suture very deeply and broadly incised across the head, with an anterior border of the suture towards the clypeus like a semi-circle, the frons is steeply sloping downwards to the incised suture. Antennomeres eleven uniformly yellow (antennomeres 7-10 black, 1-6 yellow). Length/width ratio of elytra 1.37:1. Body length ≈ 2.5 mm (Sabah) (Fig. V/1) (BREMER 2012a, pp.197, 198, 199) .... ***apicicornis* BREMER**

– The species do not show a markedly incised epistomal suture 2

2 Tiny, transversely and longitudinally convex species with incised elytral striae; frons wide, epistomal suture slightly impressed but not incised. Elytra brown, with a golden shimmer, pronotum and underside chestnut brown, legs light brown; antennomeres 1-5 light brown, 6 apically darker, 7-10 black, 11 uniformly yellow. Length/width ratio of elytra 1.27-1.33:1. Body length 2.73-3.31 mm (Sarawak) (Fig. IX/1) (BREMER 2001b, 97-99) ..... ***blairi* BREMER**

– Species without elytral striae. They either present rows of elytral punctures, or the elytral punctation do not reveal any trace of rows of punctures, and the elytra are uniformly punctured 3

3 The upper side is copper-colored and with a reduced luster. Tiny (body size 3.04-3.22 mm), elytra densely and uniformly punctured; frons of medium width (Sabah, Banjaran Maitland, lowland rainforest) (Fig. IX/4) (BREMER 2011a, 221-223) ..... ***infans* BREMER**

– Upper sides are either distinctly lustrous with a golden tinge or with a greenish blue pronotum and elytra greenish yellow with an iridescence of different colors 4

4 Species slightly elongate. Upper side golden brown with a clear reddish tinge, distinctly lustrous. The elytral punctures of the rows are very small, indistinct, and smaller than the punctures of the rows of the following species. On the flat intervals there are tiny punctures. Body length 3.57-4.00 mm (Sabah, lowland rainforest) (Figs. II/8; IX/3) (BREMER 2011a, 214-215) ..... ***gilvicornis* BREMER**

– Small species; oval. Pronotum greenish blue, lustrous; elytra greenish yellow, with bluish and reddish iridescence. The elytra with rows of small punctures, punctures which are distincter than the punctures of the rows of the preceding species. Antennae of medium length, reaching to the middle of elytra; antennomeres 1-6 and 11 yellow or light brown, 7 brown, 8-10 black. Body length 4.14-4.66 mm (Sabah, Sarawak) (Fig. IX/2) (BREMER 2002a, 32-33) ..... ***praestans* BREMER**

Fig. IX/1: *Amarygmus blairi* BREMER, 2001: Photograph.

Fig. IX/2: *Amarygmus praestans* BREMER, 2002: Photograph.

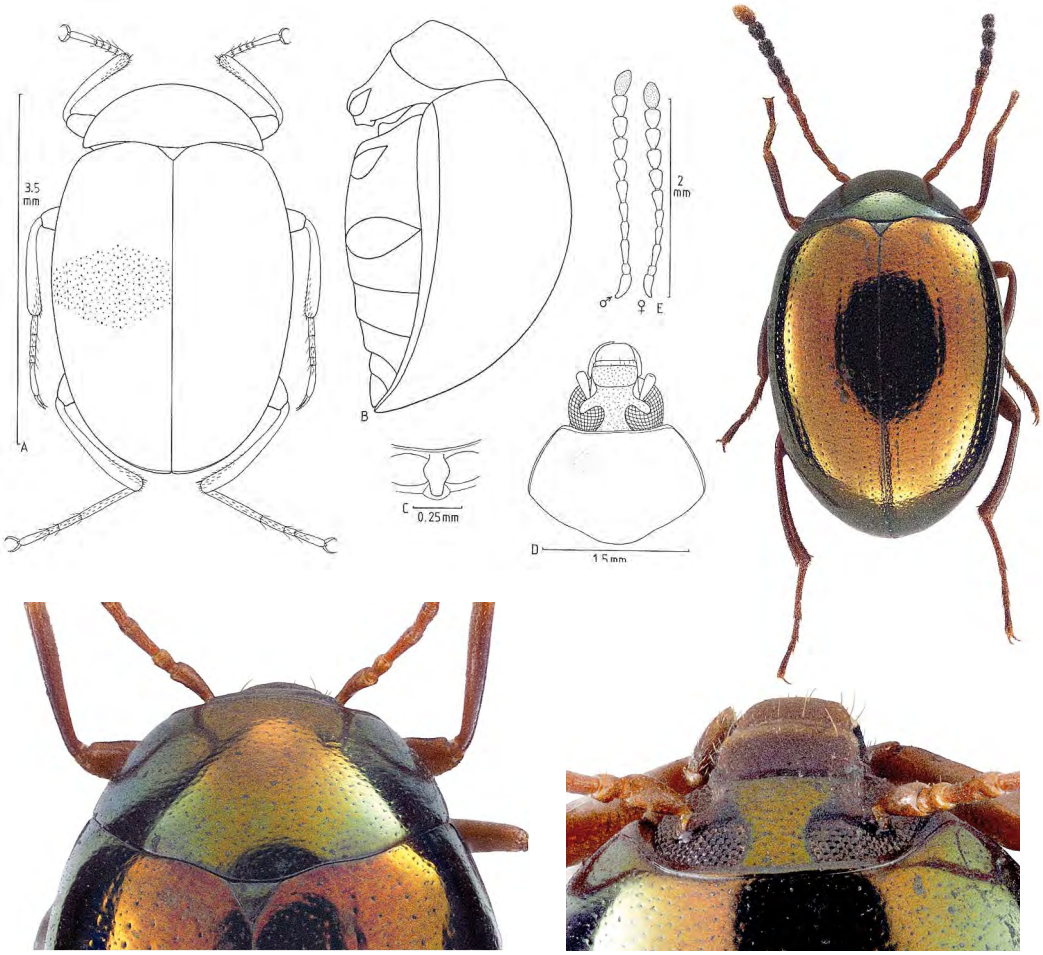


Fig. IX/3: *Amarygmus gilvicornis* BREMER, 2011: **A** Habitus; **B** Body, lateral view; **C** Prosternal process; **D** Head and pronotum; **E** Antennae, male and female (reproduction from BREMER 2011a, p.215). **Photographs (**male): Habitus; head and pronotum.

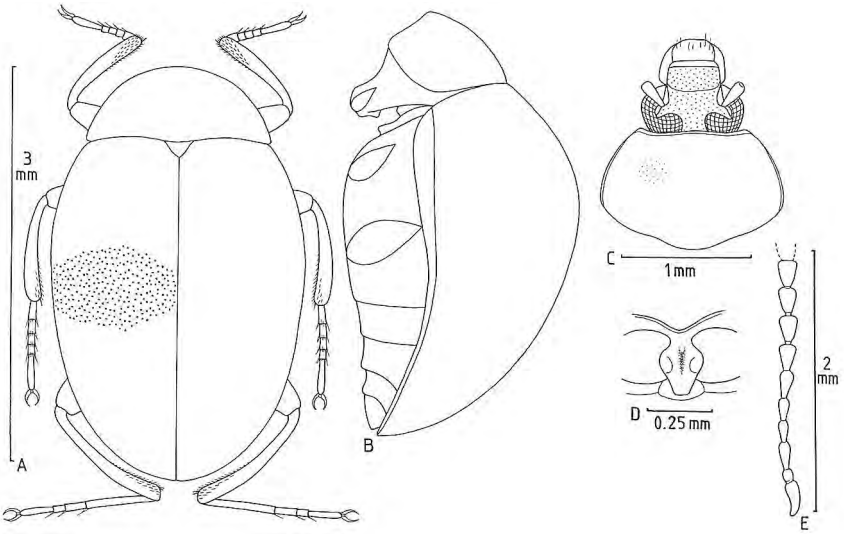


Fig. IX/4: *Amarygmus infans* BREMER, 2011: **A** Habitus; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennomeres 1-10 (reproduction from BREMER 2011a, p.222).

Amarygmus infans BREMER, 2011:
Photograph of the holotype, head and pronotum.

Section X

Species with small, dense set bristles on the lateral and partially on the dorsal sides of metafemora, visible at 50-fold magnification in lateral view (see Fig. X/1b); in most other species the lateral and back sides of metatibiae are bald and without such bristles or only with a few bristles; elytra with rows of punctures on elytra (but without hairs on their flat elytral intervals (the species with the tiny hairs on intervals of elytra are delt in the next Section).

The following species belong to this group: *Amarygmus borneensis* (GEBIEN, 1920), *A. malaccanus* PIC, 1922, *A. bruneiensis* PIC, 1915, and *A. sericeus* GEBIEN, 1927.

Determination key of species of Section X

1 Elytral rows of punctures are slightly impressed and intervals are slightly convex; the frons is narrow; in males protarsomeres 1-3 are widened and prolonged. In males the mesotibiae are more or less bent in the middle. The aedeagus displays a special form: the tip of the dorsal side of aedeagus is bordered by a somewhat lifted edge. Caused by interference the upper side shows different colors, but at a standardized incidence of light this species may look unicolored, like in the photograph Fig. X/1; legs and antennae are black, tarsi brown. Body length 6.8-8.8 mm (Borneo, Java, Sumatra, Peninsular Malaysia, South Thailand) (Fig. X/1) (GEBIEN 1920, 402; redescription: BREMER 2002c, pp.31, 32) ..... ***borneensis* (GEBIEN)**

– Elytra with rows of punctures which are not slightly impressed, and the elytral intervals are flat 2

2 The punctures of the elytral rows are small and indistinct. Because of the dense punctation of the elytral intervals the punctures of the elytral rows are not so easily discernible as the elytral punctures of the rows of the two following species. The length/width ratio of elytra is 1.49-1.60:1. In males the metatibiae are not bent in the middle; the protarsomeres 1-3 are less widened in males as they are in the males of the preceding species. The frons is on a somewhat higher level than the eyes. Pronotum and elytra display a silky sheen, and they usually present weak colors of the spectral range; at a special incidence of light it may look unicolored, as it is portrayed in Fig. X/2. Body length 7.13-8.20 mm. (Java; Sumatra; Peninsular Malaysia) (Fig. X/2) (GEBIEN 1927, pp.51,52; redescription: BREMER 2002c, pp.35, 36) ..... ***sericeus* GEBIEN**

(it is a frequently collected species in Sumatra and in Peninsular Malaysia. I did not see specimens from Borneo yet, but a similar looking species occurs on higher altitudes of the Crocker Mts. of

Sabah, *Amarygmus sabahensis* BREMER, 2002 (see Fig. VII/16); *A. sabahensis* has somewhat longer elytra, somewhat larger punctures of the elytral rows, the eyes are not on a lower level than the frons, but in contrast to *A. sericeus* it has a narrowed middle part of aedeagus (see X/2)

– The punctures of the elytral rows are larger and distinct and larger than the punctures of the elytral intervals (see Fig. X/3) 3

3 This species is very similar to the following species, I only can distinguish it by the form of protibiae: Our species has straight protibiae in both sexes. The elytra display rows of medium-sized, closely set, deeply impressed punctures. The intervals on disc are closely punctured, but the punctures are clearly smaller than punctures of rows. Length/width ratio of elytra 1.44-1-62:1. The protarsomeres 1-3 are widened in males (but not as much as they are in *A. borneensis*). The elytra display in day-light a reddish shimmer, at artificial light under the binocular they may show different spectral colors (green, blue, yellow, purple or mixed colors). It may be frequently found at lower altitudes. Body length 6.33-8.15 mm (Sabah; Sarawak; Peninsular Malaysia; Sumatra; Mentawei Isls.; Java; Bali) (Fig. X/3) (PIC 1922a, p.12; redescription: BREMER 2009a, pp.24, 25, 26) ..... ***malaccanus* PIC**

– Protibiae in males are clearly bent, in females slightly bent; at low altitudes in some places frequently found. Body length 6.33-8.00 mm (Sumatra; Peninsular Malaysia; Borneo) (Fig. X/4) (PIC 1922a, 12; redescription: BREMER 2002c, 32-34) ..... ***bruneiensis* PIC**

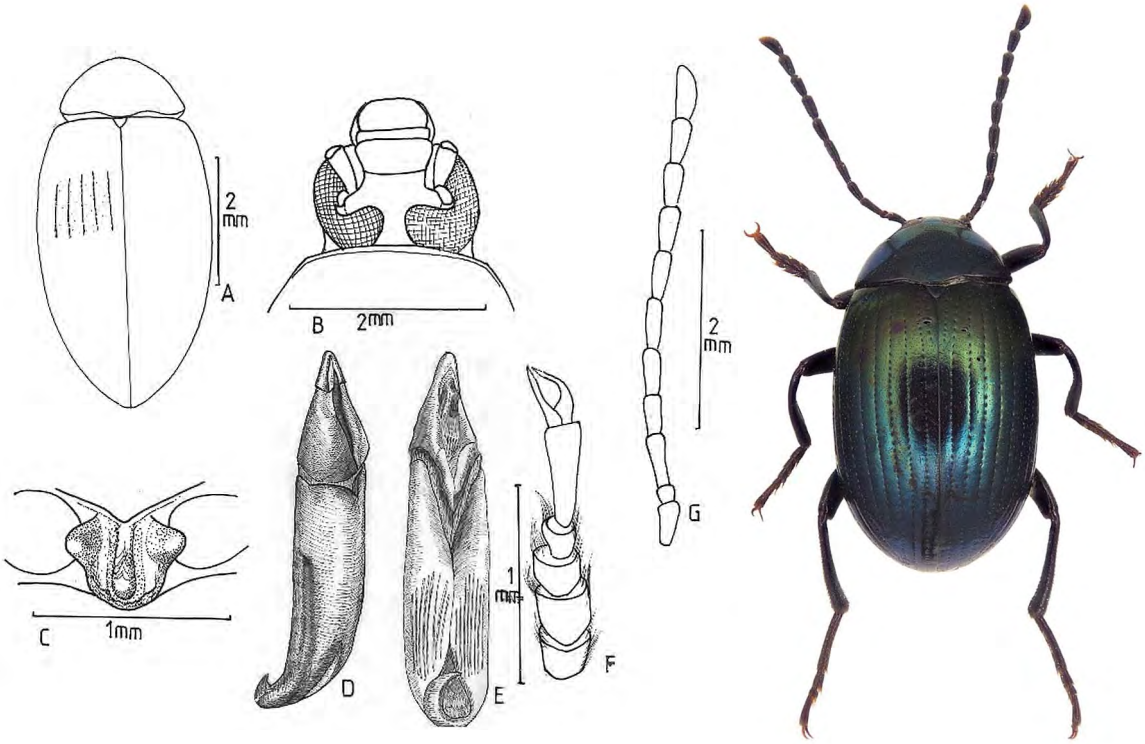


Fig. X/1: *Amarygmus borneensis* (GEBIEN, 1920: **A** Habitus; **B** Head; **C** Prosternal process; **D** Aedeagus, lateral view; **E** Aedeagus, ventral view; **F** Protarsomeres, male; **G** Antennae (reproduction from BREMER 2002c, p.39); **right:** Photograph of male.

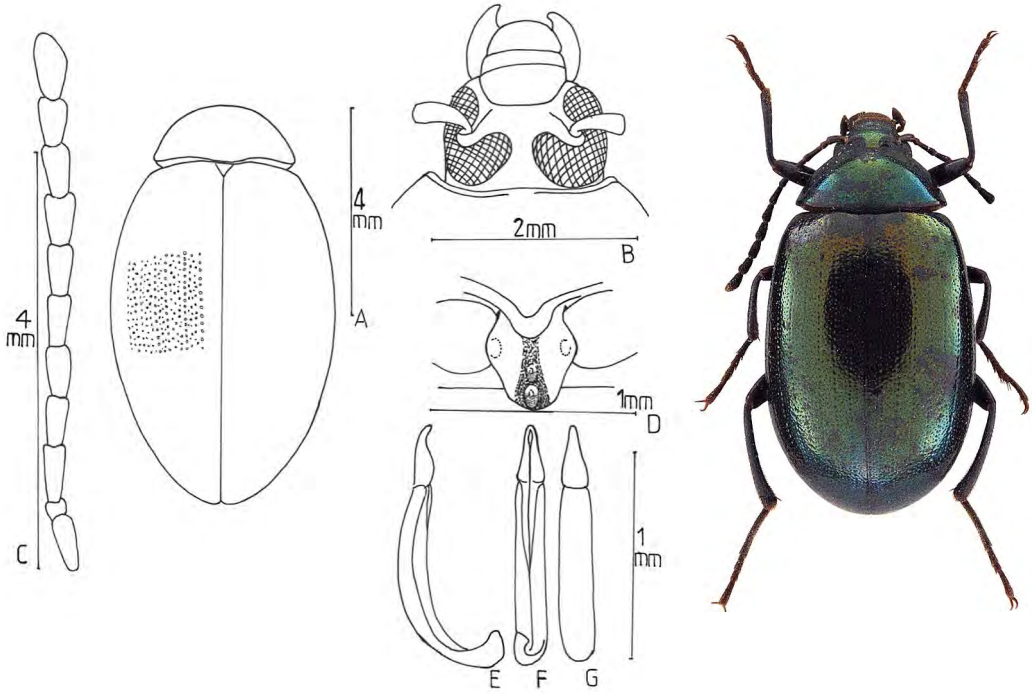


Fig. X/2: *Amarygmus sericeus* GEBIEN, 1927: **A** Habitus, **B** Head; **C** Antenna; **D** Prosternal process; **E** Aedeagus, lateral view; **F** Aedeagus, ventral view; **G** Aedeagus, dorsal view (reproduction from BREMER 2002d, p.41); **Photographs:** Habitus; metatibia magnified.

Fig. X/3: *Amarygmus malaccanus* PIC, 1922:
Photographs: Habitus; metatibia magnified, see the bristles around the tibia.

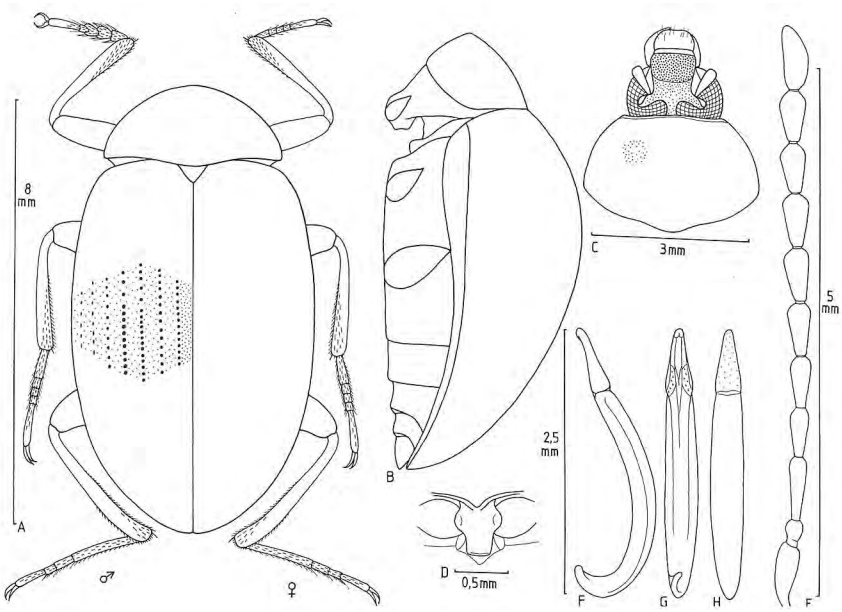


Fig. X/3: *Amarygmus malaccanus* PIC, 1922: **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antennae; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (reproduction from BREMER 2009a, p.42).

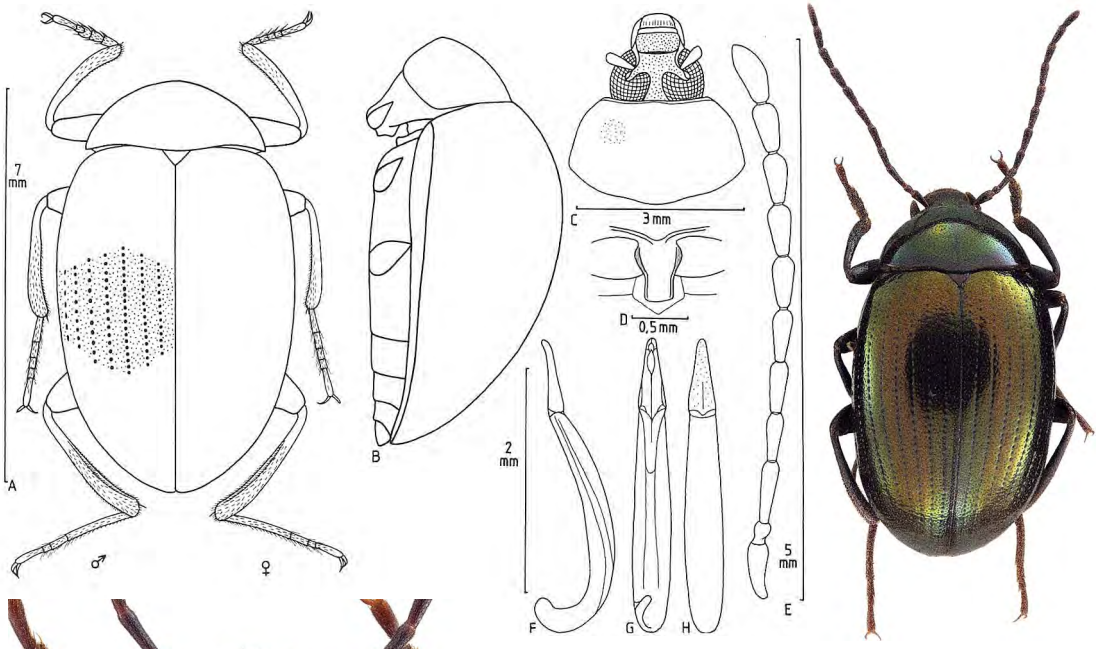


Fig. X/4: *Amarygmus bruneiensis* PIC, 1915: **A** Habitus, left side legs of a male, right side legs of a female; **B** Body, lateral view; **C** Head and pronotum; **D** Prosternal process; **E** Antenna; **F** Aedeagus, lateral view; **G** Aedeagus, ventral view; **H** Aedeagus, dorsal view (original drawing);
Photographs: Habitus; head and pronotum.

Section XI

Elytra and pronotum with very short, recumbent hairs on intervals of elytra; these species are of medium size (3.5-8.2 mm long), elongate oval, with flat elytral intervals; elytra either golden, blue or orange dependent on incidence of light.

1 Species with a body length >4.8 mm; elongate oval and markedly convex transversely; flat intervals of elytra closely punctured; punctures of the rows small; elytra long, antennae reaching to the hind quarter of elytra; frons narrow and genae scarcely expressed 2

– Body length 3.56+3.62 mm. Elytra narrower than in the following species. Length/width ratio of elytra 1.67:1); elytra and pronotum have a marked, transverse convexity; this species is conspicuous by its striking iridescence with golden and bluish green colors on elytra. Legs light brown. (Peninsular Malaysia, Benom Mts.) (Fig. XI/1) (BREMER 2002a, 47-49) ..... ***tenuis* BREMER**

2 Greatest width of elytra clearly in front of middle, length/width ratio of elytra 1.46-1.50:1. Pronotum blue, elytra reflecting light golden, green, reddish dependent on incidence of light; femora brown, tibiae brown to black, tarsi light brown; antennomeres 4 to 11 black. Body length 4.85-6.01 mm (Sarawak; Peninsular Malaysia) (XI/2) (BREMER 2002a, 20-22) ..... ***bryanti* BREMER**

– Greatest width of elytra in the middle, length/width ratio of elytra 1.55-1.61:1; on back and lateral sides of metatibiae with some bristles. Pronotum green or blue, elytra either blue, golden or orange dependent on incidence of light, femora and tibiae dark brown to black. Body length 5.12-8.2 mm (Sumatra: Harau Valley, Bukittingi; Peninsular Malaysia: Benom Mts., Banjaran Titi Wangsa Mts., 1200 m) (Figs. II/10; XI/3) (BREMER 2010b, 46-48) ..... ***lepidus* BREMER**

left: *Amarygmus bryanti* BREMER, 2002;
right: *Amarygmus lepidus* BREMER, 2010.

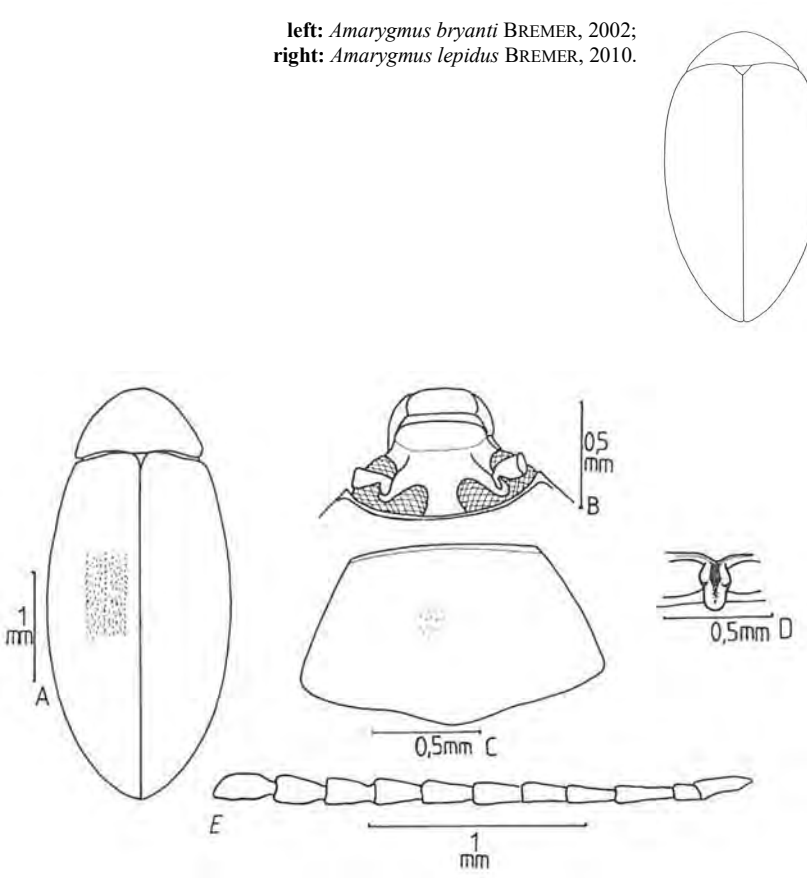


Fig. XI/1 :
Amarygmus tenuis BREMER, 2002:
A Habitus; **B** Head; **C** Pronotum; **D** Prosternal process; **E** Antenna (reproduction from BREMER 2002a, p.49).

Fig. XI/2: *Amarygmus bryanti* BREMER, 2002:
Photographs: Habitus;.part of elytra magnified, see hairs on surface.

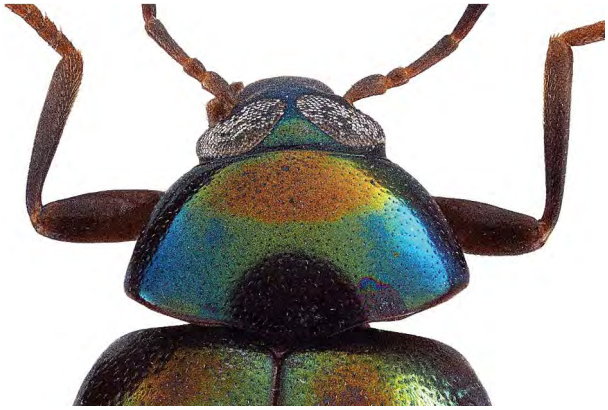
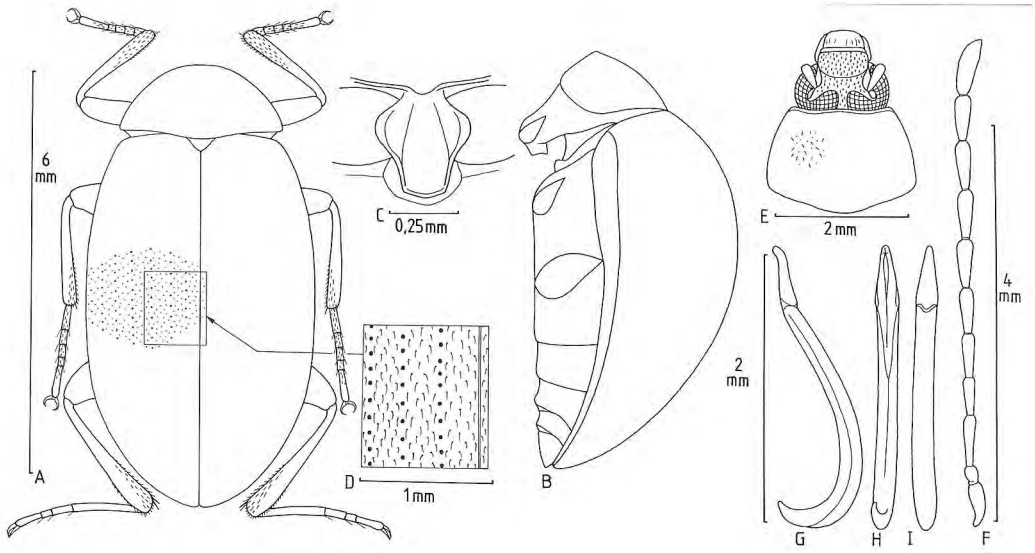


Fig. XI/3: *Amarygmus lepidus* BREMER, 2010: **Photographs:** Habitus; head and pronotum; part of elytra magnified, see hairs on surface.



Amarygmus lepidus BREMER, 2010: **A** Habitus with enlargement of part of elytra; **B** Body, lateral view; **C** Prosternal process; **E** Head and pronotum; **F** Antenna; **G** Aedeagus, lateral view **H** Aedeagus, ventral view; **I** Aedeagus, dorsal view (reproduction from BREMER 2010b, p.47).

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I am also due to Katja NEVEN that she always well disposed supplied me with wanted species from the ZSM. Mr. Edgar MÜLLER, Saarwellingen, Germany, produced the image stacks of the species of this paper; I am grateful for his contribution.

Zusammenfassung

In dieser 2. Arbeit, die sich an den 1. Teil anschließt (Mitt. Münchner Ent. Ges. **111**, 2021, 45-96) werden Bestimmungsschlüssel weiterer Sektionen von *Amarygmus*-Arten der Großen Sunda-Inseln und der Malayischen Halbinsel veröffentlicht. Es handelt sich um die Sektionen VII-XI.

Zwei neue Arten werden beschrieben und abgebildet: ***Amarygmus nevenae* sp. n.** aus Java und ***Amarygmus telnovi* sp. n.** von der Malayischen Halbinsel.

Amarygmus hilaratus BREMER, 2007 = *Amarygmus commodus* BREMER, 2014 [**syn. n.**].

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