

Revision of *Azarelius* Fairmaire, *Ziaelas* Fairmaire and related Oriental termitophilous genera, with descriptions of two new genera and remarks on tribal placement (Coleoptera: Tenebrionidae: Amarygmini)

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Abstract

The genera *Reichenspergeria* Wasmann, 1921, *Singapura* Gebien, 1925 and *Ziaelas* Fairmaire, 1892 are transferred from Rhysopaussini Wasmann, 1896 to Amarygmini Gistel, 1856, and annotations on these genera and species are provided. The genus *Azarelius* Fairmaire, 1892 is revised, and the species *A. sculpticollis* Fairmaire, 1892, *A. oberthueri* Wasmann, 1896, *A. tenuicornis* Blair, 1914, *A. bryanti* Blair, 1914, and *A. indicus* Pic, 1915 are illustrated. *Insolitoplonyx* **n. gen.** with *I. seorsus* **n. sp.** as type species from North India and *Nepaloplonyx* **n. gen.** with *N. caelebs* **n. sp.** as type species from Nepal are described and illustrated. *Azarelius singularis* Wasmann, 1896 is transferred to *Nepaloplonyx*. *Barlacus corporaali* Wasmann, 1912 is considered as taxon dubium. Remarks on the tribe Falsocossyphini Ferrer, 2006 are added. A determination key for the Oriental termitophilous genera of Rhysopaussini and Amarygmini is provided. Lectotypes are designated for *Azarelius tenuicornis* Blair, 1914 and *Reichenspergeria aurocincta* Wasmann, 1921.

Key words: Coleoptera, Tenebrionidae, Amarygmini, Rhysopaussini, Falsocossyphini, *Azarelius*, *Reichenspergeria*, *Singapura*, *Ziaelas*, new genera, new species, Oriental Region.

Zusammenfassung

Die Gattungen *Reichenspergeria* Wasmann, 1921, *Singapura* Gebien, 1925 und *Ziaelas* Fairmaire, 1892 werden von der Tribus Rhysopaussini Wasmann, 1896 in die Tribus Amarygmini Gistel, 1856 überstellt, und Angaben zu diesen Gattungen und Arten gemacht. Die Gattung *Azarelius* Fairmaire, 1892 wird revidiert, und die Arten *A. sculpticollis* Fairmaire, 1892, *A. oberthueri* Wasmann, 1896, *A. tenuicornis* Blair, 1914, *A. bryanti* Blair, 1914 und *A. indicus* Pic, 1915 werden abgebildet. *Insolitoplonyx* **n. gen.** mit *I. seorsus* **n. sp.** als Typusart von Nordindien und *Nepaloplonyx* **n. gen.** mit *N. caelebs* **n. sp.** als Typusart aus Nepal werden beschrieben und abgebildet. *Azarelius singularis* Wasmann, 1896 wird nach *Nepaloplonyx* transferiert. *Barlacus corporaali* Wasmann, 1912 wird als Taxon dubium angesehen. Anmerkungen zur Tribus Falsocossyphini Ferrer, 2006 werden angefügt. Ein Bestimmungsschlüssel der termitophilen Gattungen der orientalischen Region aus den Triben Rhysopaussini und Amarygmini wird erstellt. Lektotypen werden festgelegt für *Azarelius tenuicornis* Blair, 1914 und *Reichenspergeria aurocincta* Wasmann, 1921.

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1 Introduction

The tribe Rhysopaussini Wasmann, 1896 is a conglomeration of different taxonomic elements (WÜRMLI 1978). In

phylogenetic view, the genera and species belong to different tribes. A more precise definition of the tribe Amarygmini Gistel, 1856, published by ARDOIN (1962), and better knowledge of other tribes of Tenebrionidae permitted

a different placement of several genera of Rhysopaussini. ARDOIN (1962) transferred the following genera from Rhysopaussini to Amarygmini: *Borneogonocnemis* Pic, 1936 (now *Paragonocnemis* subgen. *Borneogonocnemis*), *Euglyptonotus* Gestro, 1901, *Falsosynopticus* Pic, 1956, *Gonocnemis* Thomson, 1858, *Gonocnemocistela* Pic, 1935, *Lemoultia* Chatanay, 1913, *Microgonocnemis* Pic, 1936, *Microsynopticus* Pic, 1922, *Overlaetia* Pic, 1937, *Paragonocnemis* Kraatz, 1899, and *Ubangia* Gebien, 1914 (synonym of *Crypsinous* Fairmaire, 1891). *Synopticus* Thomson, 1858 does not belong to Tenebrionidae at all (ARDOIN 1962). Furthermore, BREMER (1991) transferred *Azarelius* Fairmaire, 1892 from Rhysopaussini to Amarygmini. However, additional genera, formerly placed into Rhysopaussini remain unevaluated partially, because the types of these genera were not found or were not accessible. Among these obscure genera is also the type genus of the tribe *Rhysopaussus* Wasmann, 1896. ARDOIN (1962) was unable to locate its depository.

The genera *Falsocossyphus* Pic, 1916 and *Blatticephalus* Heller, 1917 have been placed by FERRER (2006) into Falsocossyphini Ferrer, 2006.

BREMER (2013) treated again some of the genera in question. In this paper *Rhysopaussus doherlyi* Wasmann, 1896 was examined, which provided arguments for a new definition of the tribe Rhysopaussini. According to this study, only the genera with 10 antennal segments should remain in this tribe, i. e. *Rhysopaussus* Wasmann, 1896, *Xenotermes* Wasmann, 1896, and *Mimoxenotermes* Pic, 1931. All genera with the usual number of 11 antennal segments must be excluded. Species of the tenebrionid tribe Gnathidiini Gebien, 1921 have also ten or even less antennal segments, but this tribe is not related to Rhysopaussini s. str. because of other characters.

While the genera and species of the newly defined tribe Rhysopaussini were revised in a previous study (BREMER 2013), an evaluation of the remaining genera with 11 antennal segments is presented herein: *Azarelius* Fairmaire, 1892, *Ziaelas* Fairmaire, 1892, *Reichenspergeria* Wasmann, 1921 and *Singapura* Gebien, 1925. Additionally, two new genera are described and illustrated, and a determination key for these genera is provided. Moreover, some annotations are made on *Barlacus corporaali* Wasmann, 1912 and on the tribe Falsocossyphini.

Acronyms of depositories

BMNH	Museum of Natural History, London, United Kingdom
CG	Collection of Dr. ROLAND GRIMM, Neuenbürg, Germany
CL	Collection of MARTIN LILLIG, Saarbrücken, Germany
MCSMG	Museo Civico di Storia Naturale di Genova, Italy
MNHN	Muséum National d'Histoire Naturelle, Paris, France
NHMB	Naturhistorisches Museum, Basel, Switzerland
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany
ZSM	Zoologische Staatssammlung, München, Germany

Acknowledgements

I warmly thank Dr. KIYOSHI ANDO (Osaka), for supplying me with a copy of HOZAWA's paper on *Ziaelas formosanus* and with information on the depository of its holotype. Additionally I am indebted to Dr. EVA SPRECHER (Basel), for the loan of the types of *Singapura quadrihamata* and *Reichenspergeria aurocineta*, to ANTOINE MANTILLERI and Dr. OLIVIER MONTREUIL (both Paris), and to MAX BARCLAY (London) for the loan of the holotypes and nontype-specimens of *Azarelius*. FRANK FORMAN (Schledehausen) prepared the drawings of this paper and JOHANNES REIBNITZ (Stuttgart) made the colour photograph. Thanks are extended to Dr. ROLAND GRIMM (Neuenbürg) and Dr. WOLFGANG SCHAWALLER (Stuttgart) for providing valuable suggestions to improve the manuscript.

2 Methods

"Body length" represents the distance between the middle of anterior edge of the pronotum and the apices of elytra, "body width" the maximum width across the elytra, "length of elytra" the distance between the base of the scutellum and the apices of the elytra (measured in dorsal view), "length of pronotum" the distance between the middle of their anterior and posterior edges.

3 *Azarelius* Fairmaire, 1892

Type species: *Azarelius sculpticollis* Fairmaire, 1892.

Original description of the genus (FAIRMAIRE 1892a: VII): "*Azarelius*. – Corpus elongatum. Caput minutum, oculis sat magnis, supra conjunctis, fere confusis, grosse granulatis, fronte medio cavata, tuberculis antennariis valde elevatis, tuberosis. Antennæ validæ, crassæ, moniliatæ, basin prothoracis superantibus, apicem versus leviter crassioribus, articulis fere æqualibus, 3° vix longiore. Prothorax ovatus, elytris angustior, latitudine longior, dorso exaratus. Elytra elongate, parallela, carinata, intervallis foveolis quadratis impressis. Pedes parum graciles, femoribus anticis subtus dente acuto armatis, tarsis sat robustis."

According to FAIRMAIRE (1892a) *Azarelius* is characterised by spined profemora. Based on the type species the following generic characters have to be added: pronotum with clearly raised longitudinal ridges; antennae 11-segmented; eyes nearly touching on upperside of head; head with elevated genae fused in the middle, anteriorly the fused genae vertically descending in form of a narrow plank; main part of frons situated on a level below this narrow plank; clypeus also situated on a lower level and not visible in dorsal view. Moreover, outer sides of tibiae with two sharp edges, in between a longitudinal groove. The latter character indicates a possible relationship to a group of genera of Amarygmini with similarly bicarinate tibiae, e. g. *Hoplonyx* Thomson, 1854, *Neoplonyx* Ardoin, 1963, *Gonocnemocistela* Pic, 1935, *Gonocnemis* Thomson, 1858, *Mimosynopticus* Pic, 1922, *Crypsinous* Fairmaire, 1891. The elytral pseudopleura reach the elytral apex.

FAIRMAIRE (1892b) described a further genus, *Ziaelas*, with the shape of genae very similar to *Azarelius*. The eyes of the type species of this genus are clearly separated on the upperside of the head, the pronotum has only very finely developed ridges, the profemora are not spined, and the antennae are 11-segmented with pearl-shaped segments (see section 4 below).

Subsequently, WASMANN (1896a, b) assigned additional species to *Azarelius*, regarding only the shape of the head as typical character of this genus, but disregarding the spines on the frontal side of the profemora. In all species which had been described and placed to *Azarelius* since WASMANN'S (1896a, b) papers the presence or absence of spined profemora was not mentioned (BLAIR 1914, PIC 1915). However, the examination of the types of several of them showed, that most of them have spined profemora. In contrary, *Azarelius singularis* Wasmann, 1896, lacks spined profemora and is transferred herein to *Nepaloplonyx* n. gen. (see section 7 below).

Following the original description of FAIRMAIRE (1892a), only species with spined profemora, marked pro-

notal ridges and sulci, and 11-segmented antennae are placed herein in *Azarelius*.

All species are probably termitophilous, but the host is only known for *Azarelius oberthueri* Wasmann. This species has been found together with *Termes azarelii* Wasmann, 1896 (see WASSMAN 1896a).

Azarelius sculpticollis Fairmaire, 1892

(Fig. 1A–E)

FAIRMAIRE did not mention number and depository of the syntypes. I only know a single syntype (sex not examined) from the BMNH. The data on the label are: "Cotype" [round label with yellow margin]; "Palembang, Sumatra" [printed]; "*Azarelius sculpticollis* Frm." [handwritten]; "*Azarelius sculpticollis* Frm, type" [FAIRMAIRE'S handwriting].

New material: NE Sumatra, Tebing-Tinggi, Dr. SCHULTHEISS (2 ZSM). – Sumatra (1 ZSM). – N Sumatra, Dolok Merangir, 23.VII.1980, HEISS leg. (5 ZSM, 1 CG). – Thailand, Khon Kaen,

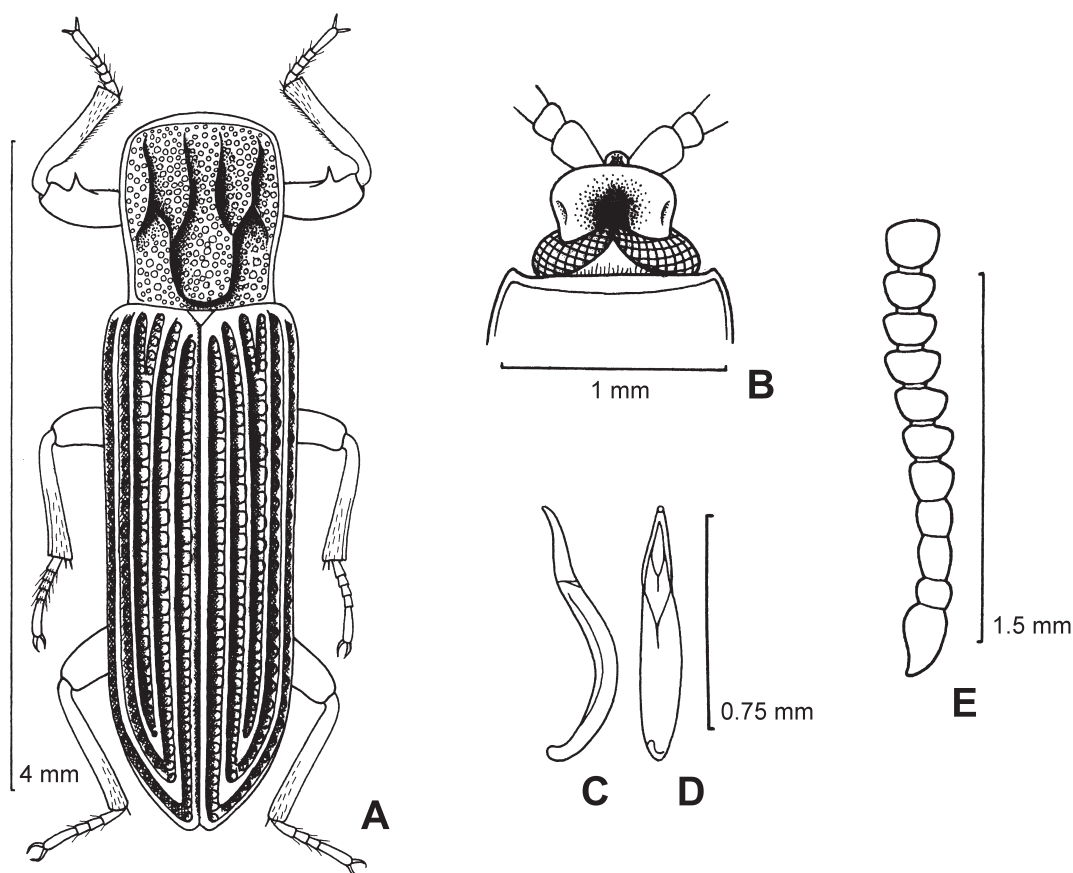


Fig. 1. *Azarelius sculpticollis* Fairmaire, 1892. – A Habitus (head not figured). B Head and anterior part of pronotum, dorsal view. C Aedeagus, lateral view. D Aedeagus, ventral view. E Antenna.

ad lucem, 24.I.1978, SUNANTA AUMPHANSIRI leg. (1 ZSM). – Same data, but 26.I.1978 (1 ZSM). – Same data, but 24.II.1980 (1 ZSM). – NE Thailand, Khon Kaen, ad lucem, 24.II.1980, Dr. SASTRI SAOWAKONTHA leg. (2 ZSM). – Same data, but 28.II.1980 (1 ZSM). – Same data, but 23.XI.1980 (1 ZSM). – Most of these specimens have been collected at light.

Redescription

Measurements: Body length: 3.74–4.94 mm. Body width: 1.05–1.32 mm. – Ratios: Pronotum: length/maximum width 1.20–1.28; maximum width/width hind corners 1.15–1.16. Elytra: length/width 2.56–2.65; length elytra/length pronotum 2.81–2.92; maximum width elytra/width pronotal hind corners 1.35–1.40.

Colouration: Upperside brown, pronotum opaque, elytra lustrous. Underside brown, moderately lustrous. Legs and antennae brown.

Head: Eyes longitudinally short, transversely touching each other on frons. Vertex triangularly separating the posterior parts of the eyes, with large punctures. Genae markedly raised upwards, fused medially and with a shallow depression; anteriorly genae descending nearly vertically and somewhat bent in form of a narrow plank. Narrow plank of genae anteriorly terminating on the short anterior part of the frons on a lower level. Clypeus excavated apically, crescent-shaped, somewhat circumventing the labrum. Clypeus and labrum not separated by a visible membrane; anterior margin of labrum with somewhat protruding, closely set bristles. Mandibles apically bifid.

Pronotum: Somewhat longer than wide; narrowly heart-shaped, moderately convex transversely; anterior corners rounded; hind corners angular, acute. Lateral margins narrowly bordered, anterior margin broadly bordered, posterior margin not bordered. With sharp longitudinal ridges and clear depressions as shown in Fig. 1A; the depressions are covered with large, relatively closely set punctures.

Elytra: Long, narrow, with parallel sides. Markedly convex transversely, flat longitudinally. With 8 rows of large, impressed punctures separated from each other by narrow bridges; rows of punctures separated by narrow, highly risen intervals. Interval 1 approaching the apical margin and here connected with the lateral edge; interval 2 connected with interval 6 before apex; intervals 3 and 5 terminating free in the apical region or connecting, which is true also for intervals 7 and 8; interval 4 very short and terminating shortly behind elytral base.

Prosternum: Anterior margin continuously and narrowly bent upwards. Prosternal apophysis narrow, long, posterior to procoxae bent downwards.

Mesoventrite: Anterior part depressed and closely punctured with large punctures; posterior part narrow and impunctate.

Metaventrite: Lateral parts of disc with large, not very closely set punctures, median part nearly impunctate. Median line neither incised nor impressed.

Ventrites: Lateral parts with large, closely set punctures; discs with smaller punctures. Narrow membrane visible between ventrites 3 and 4 and ventrites 4 and 5.

Legs: Femora slightly broadened in their middle part; profemora in both sexes with a protruding spine at about four-fifths of length. Meso- and metafemora unarmed. Dorsal side of tibiae with two longitudinal and sharp edges, in between slightly grooved; inner sides of protibiae clearly broadened in the apical four-fifths; meso- and metatibiae slightly broadened towards apex.

Azarelius oberthuri Wasmann, 1896 (Fig. 2A–D)

WASMANN'S (1896a: 617–618) description: “*Azarelius Oberthuri*, n. sp. (Taf. II, Fig. 3) – Rufocastaneus, glaber. Caput thorace angustius, processu frontali antice subrotundato, antennarum articulis 2–11 latitudine aequalibus, nodiformibus. Thorax elongatus, subcordatus, basin versus sensim angustatus, angulis posticis rectis; quadricostatus, costis lateralibus pone medium interruptis, lateribus alte marginatis, costarum interstitiis nitidis, parce et grosse punctatis. Elytra longa, omnino parallela, utrinque septemcostata (costa quarta prope basin abbreviata), costarum interstitiis valide punctato-striatis, sutura basi et apice depressa. Long. 5 mm, lat. 1 mm. – Palon (Prov. Pegù) in Birmania et Thagata in Tenasserim a cl. L. FEA in nidis termitum (*Termes Azarelii*, Wasm., n. sp.) Aprili 1887 et Aug.–Septembr. 1887 inventus. 5 exemplaria vidi, 4 ex Mus. Civ. Genuesi, 1 ex collect. R. OBERTHÜR.”

I could not clarify whether the four syntypes are still deposited in MCSMG; the syntype of the collection OBERTHÜR could not be found in MNHN yet. A specimen of this species of the original series of FEA is present in BMNH, the label data are: “Palon (Pegù), L. FEA VIII. IX.87; FRY Coll.1905.100; Determined from Description, C. J. G., *Azarelius oberthuri* Wasm.”. WASMANN (1921) confirmed the identity of this specimen.

Redescription

Measurements: Body length: 4.40 mm. Body width: 1.25 mm. – Ratios: Pronotum: length/maximum width 1.04; maximum width/width hind corners 1.20; maximum width/width front corners 1.15. Elytra: length/width 2.56; length elytra/length pronotum 2.93; maximum width elytra/maximum width pronotum 1.19.

Colouration: Brown, pronotum and punctures of the elytral rows lustrous. Elytral intervals somewhat less lustrous.

Small, elongate, Elytra with parallel sides, narrow, very convex transversely, straight in lateral view; with elevated keel-like intervals and large punctures in the elytral rows; elytral interval 4 very short, terminating slightly behind base of elytra; interval 5 somewhat surpassing the middle of elytra, intervals 7 and 8 connecting near the apex. Pronotum cordiform, widest near middle; slightly narrowing

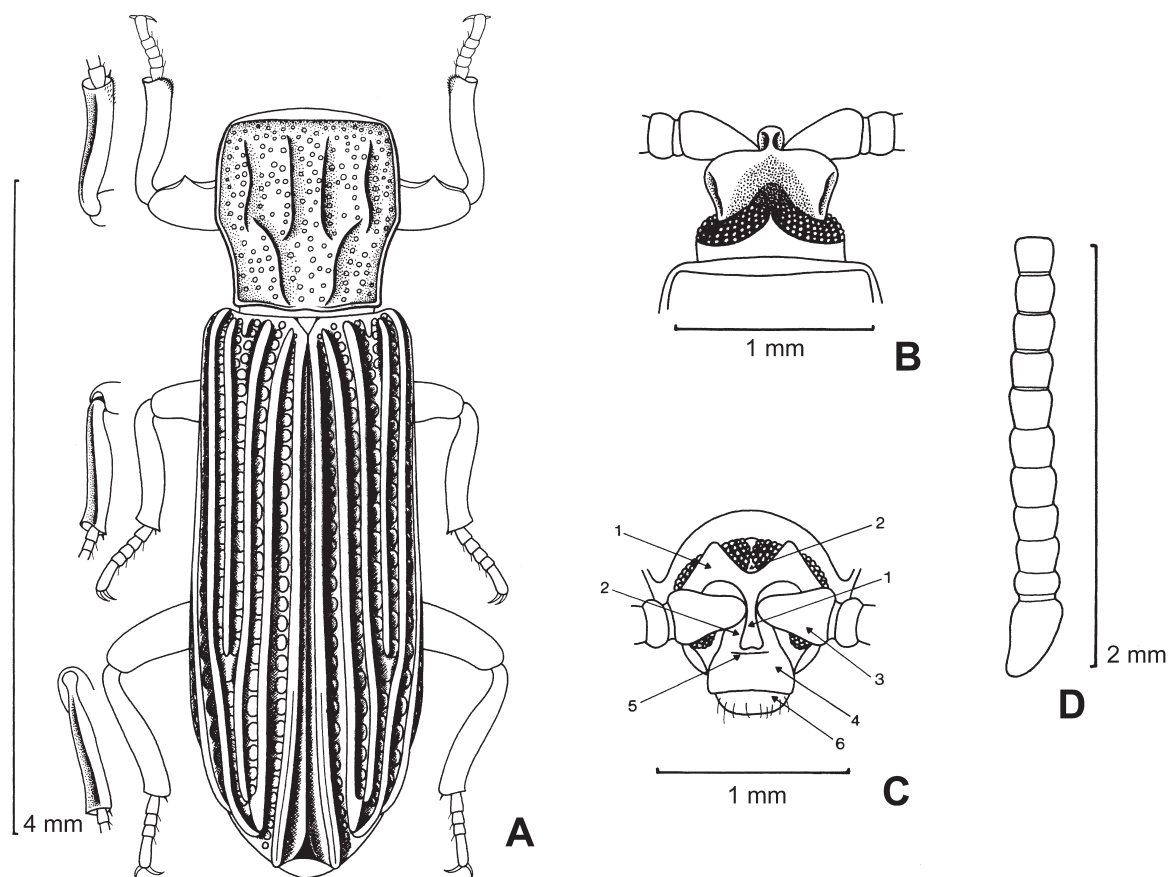


Fig. 2. *Azarelius oberthueri* Wasmann, 1896. – **A** Habitus (head not figured), left tibiae in lateral view. **B** Head, dorsal view. **C** Head, frontal view (1 = genae, 2 = frons, 3 = antennomere 1, 4 = clypeus, 5 = fronto-clypeal suture, 6 = labrum). **D** Antenna.

towards rounded front corners, more narrowing towards angular hind corners; surface with interrupted longitudinal costae and depressed areas as shown in Fig. 2A (the depressed areas with small punctures). Head with elevated genae which are fused in the middle; in frontal view genae Y-shaped; genae forming a semicircular border towards the depressed frons; eyes longitudinally narrow, nearly connecting in the middle, with a somewhat elevated triangular vertex; temples short, slightly wider than eyes laterally. Antennae short, pearl-shaped. Profemora on their frontal side near apex with a short tooth (Fig. 2A). Dorsal side of tibiae with two sharp edges, in between a shallow, longitudinal groove.

The small tooth on the frontal side of profemora and the clearly shortened elytral intervals 4 and 5 characterise this species. The tooth on the profemora is smaller than the thorn-like spines in most other species; but the length of the elytral interval 4 of the similar and also lustrous *A. bryanti* is even shorter than in *A. oberthueri*.

Azarelius bryanti Blair, 1914

(Fig. 3A–B)

BLAIR'S (1914: 316) description: "Very similar to *oberthueri*, Wasm., but much more nitid. The thoracic costae are more tumid, the interspaces in the anterior half shining and almost free of punctures, but in the posterior half they have a few large indistinct punctures. The antennae are very nitid, stouter than in *oberthueri*, joints 7–10 more strongly transverse. The costae of the elytra are more strongly raised, more nitid, and nos. 7 and 8 are united for about the last quarter of their length; the fourth costa is extremely short, not extending beyond the second puncture of the fourth interstice."

Material examined: Holotype, sex not determined, BMNH: "Type" [round label with red margin]; "Sarawak, Matang, 3,xii.13 (G. E. BRYANT)" [printed label].

Redescription

Measurements: Body length: 4.60 mm. – Ratios: Body width: 1.28 mm. Pronotum: length/maximum width 1.08.

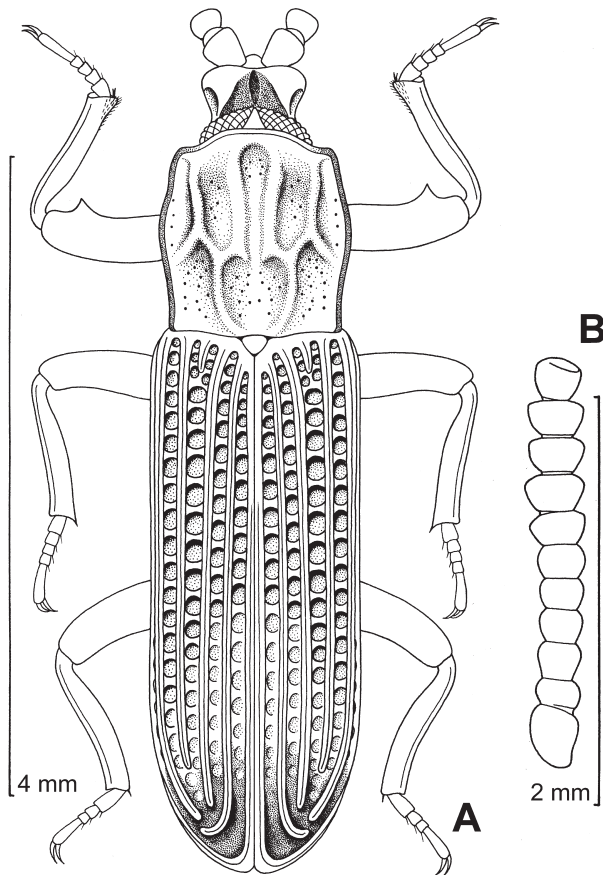


Fig. 3. *Azarelius bryanti* Blair, 1914. – A Habitus. B Antenna.

Elytra: length/width 2.57; length elytra/length pronotum 2.57; maximum width elytra/maximum width pronotum 1.08.

Colouration: Brown, upper- and underside very lustrous; legs and antennae brown. – Antennae short and antennomeres very closely set, antennomeres 7–10 somewhat broadened.

Very similar to *A. oberthueri*, but much more nitid. The spine on the front side of profemora of *A. oberthueri* is shorter than that of *A. bryanti*, the interval (costa according to BLAIR 1914) 4, is similarly short in both species, but the interval 5 of *A. oberthueri* is shorter than that of *A. bryanti*.

Azarelius tenuicornis Blair, 1914
(Fig. 4A–D)

BLAIR'S (1914: 315–316) description: “Castaneous, subnitid; the antennae are rather slender, their length about equal to that of the thorax together with twice the length of the head; joints 8–10 feebly transverse; the joints are obconical, feebly punctate, and with few setae. The thorax has the costæ mod-

erately prominent and conspicuously punctate; the interstices very coarsely and closely punctate. The elytral costæ are punctate, as the thoracic costæ, the fourth is very short, the rest all extending well on to the declivity; the seventh and eighth are united just before the apex, and the sixth and second enclose the rather shorter fifth and third. – Length 4 mm. – Hab., Burma: Karen Mts. (Doherty). Two specimens in the British Museum. – This species is very close to *sculpticollis*, Fairm., from Sumatra. – This species is very close to *sculpticollis* Fairmaire from Sumatra. It differs by smaller size, and longer and more slender antennae (in *sculpticollis* the antennae are scarcely longer than head and pronotum combined, and all antennomeres, except the first and third, are more or less transverse). For other differences see the species key below.

Besides the handwritten labels cited in BLAIR'S paper, another printed label exists in both specimens: “FRY Coll. 1905-100”. Only one of the two specimens sent to my from BMNH is labelled as “type”, and I designate this certain syntype specimen herewith as lectotype. A spine on the frontal side of the profemora is present, but not mentioned in BLAIR'S description.

Additional material: “India, Haldwani Dist., Kumaon [Uttarakhand State], H. G. C.; H. G. CHAMPION Coll.; B.M. 153–156; *Rhysoपाussus tenuicornis* Blair” (2 BMNH). – Thailand, Mae Hong Son, 26.–27.IV.2003, R. GRIMM leg. (1 CG). – NW Thailand, CW Mae Hong Son, Soppong (Pangmapa), 19.IV.2004, R. GRIMM leg. (4 CG). – N Thailand, CW Nan, NWW Nan, 30.IV.–1.V.2004, R. GRIMM leg. (3 CG). – NW Thailand, CW Mae Hong Son, Pai, 18.V.2006, R. GRIMM leg. (1 ZSM). – Same data, but 17.XI.1998, R. GRIMM leg. (1 CG). – Thailand, CW Loei, Loei vic., 6.–7.V.2003, R. GRIMM leg. (1 CG).

Redescription

Measurements: Body length: 3.50–4.05 mm. Body width: 1.05–1.18 mm. – Ratios: Pronotum: length/maximum width 1.07–1.18. Elytra: length/width 2.60–2.81; length elytra/length pronotum 2.71–2.83; maximum width elytra/maximum width pronotum 1.08–1.23.

Colouration: Brown, pronotum somewhat opaque.

Head: Towering genae fused in the middle. Eyes barely separated on upperside of head. Anterior to genae head vertically descending, frons, clypeus and labrum situated on a lower level. Antennae narrow, segment 11 apically straight (Fig. 4C).

Pronotum: Cordiform. In one specimen widest just behind the rounded front corners, in the other specimens nearly uniformly wide in the entire anterior half; narrowed towards hind corners and slightly concave. Hind corners sharply angled, nearly acute. Upperside with clearly elevated ridges (Fig. 4A), and with medium-sized, closely set punctures.

Elytra: Narrow, parallel, markedly convex transversely. With rows of large punctures. Interval 1 only negligibly convex and not keeled, reaching the apical margin; interval 4 very short, surpassing only one-tenth of the elytra; intervals 2, 3, 5, and 6 terminating free in the apical region.

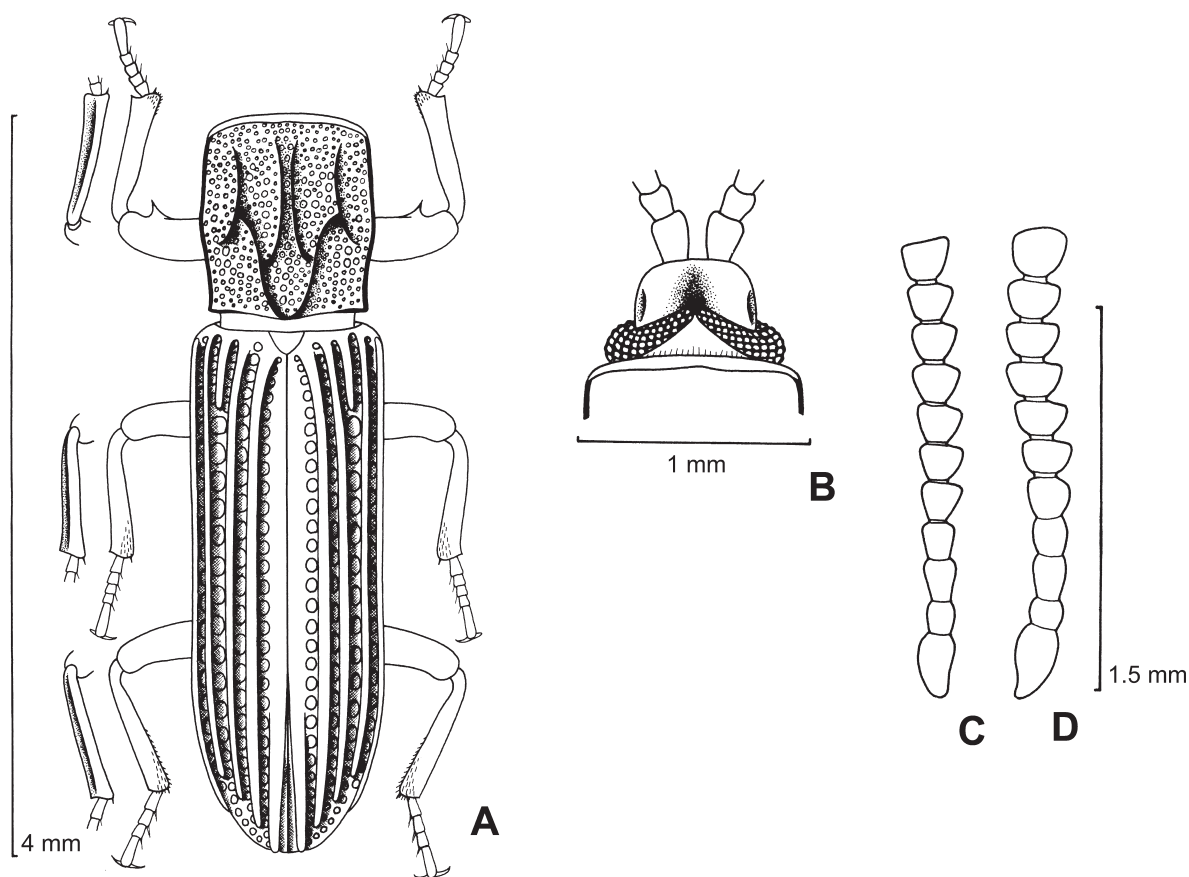


Fig. 4. *Azarelius tenuicornis* Blair, 1914 (A–C) and *A. sculpticollis* Fairmaire, 1892 (D). – **A** Habitus (head not figured), left tibiae in lateral view. **B** Head and anterior part of pronotum, dorsal view. **C** Antenna. **D** Antenna.

Ventrites: With large, closely set punctures.

Legs: Profemora with sharply pointed thorn near apex. Pro- and metatibiae with straight external side; mesotibiae slightly concave in the apical half of external side.

Very near to *A. sculpticollis* Fairmaire, 1892, but antennomeres 6–10 narrower and elytral interval 1 less keeled.

Azarelius indicus Pic, 1915
(Fig. 5A–C)

Pic's (1915: 16–17) description: "*Azarelius indicus* n. sp. – Angustatus, nitidus, rufis, oculis griseis; thorace elongato, multiplicato; elytris 6 costatis et late punctatis. – Étroite, brillant, roux, yeux gris. Antennes à derniers articles plus courts; prothorax allongé, orné sur le disque de plusieurs plis brillants, 4 plus courts au milieu dont deux antérieurs plus rapprochés et deux postérieurs écartés, un autre antérieur et externe subsinué; élytres un peu plus larges que le prothorax ayant chacun, en outre de la suturale, 6 côtes et marqués d'une ponctuation large et profonde, s'effaçant à l'extrémité. Long. 4 mill. environ. Indes: Pégu. – A placer près de *A. sculpticollis* Frm., de Sumatra."

Material examined: Holotype male in MNHN: "Pegu" [printed, the present name of Pegu is Bago]; "Type" [red label, printed]; "type" [handwritten]; "*Azarelius indicus* Pic" [Pic's handwriting]; "Muséum Paris, Coll. M. Pic" [printed]. – Left antennomeres 3–11, protarsi on both sides, left mesotarsi, and left metatarsomere 4 missing. Right antennomeres 10 and 11 separated from the other antennomeres, but present. – A genital preparation was not performed because of the fragile condition of the holotype.

Diagnosis

A full redescription of this species is not necessary because the structure of the body of *Azarelius indicus* is very similar to *A. sculpticollis*. The differences worth mentioning concern the profemora and the antennae: The spine on the frontal side of the profemora of *A. sculpticollis* is long and apically pointed, that of *A. indicus* is tiny, and therefore it may easily be overlooked; antennomeres 5–7 of *A. sculpticollis* are symmetrical, those of *A. indicus* are asymmetrical and apically somewhat pointed at their inner sides.

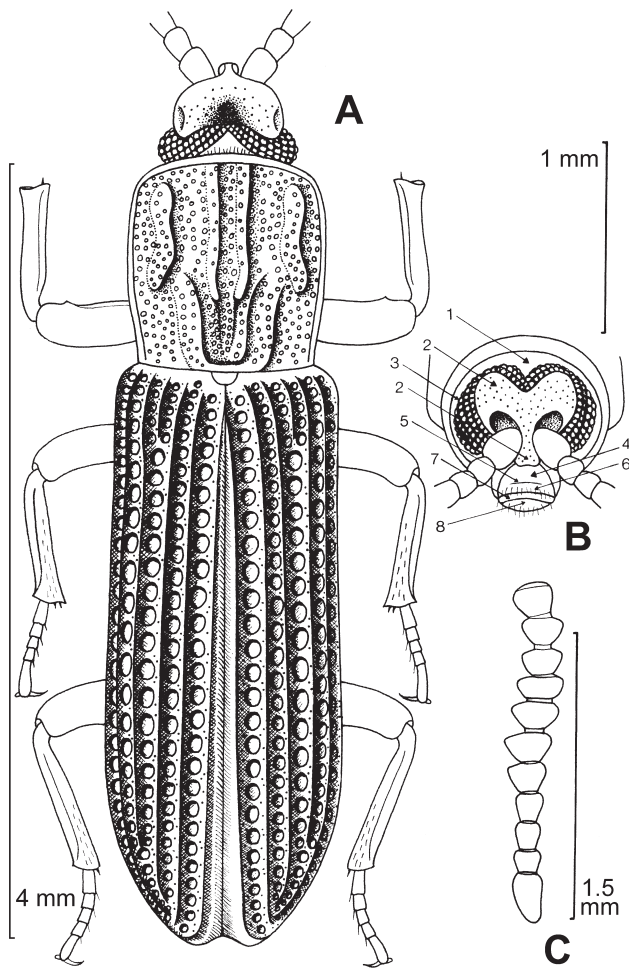


Fig. 5. *Azarelius indicus* Pic, 1915: – **A** Habitus. **B** Head, frontal view (1 = vertex, 2 = genae, 3 = eyes, 4 = frons, 5 = fronto-clypeal-suture, 6 = clypeus, 7 = membrane between clypeus and labrum, 8 = labrum). **C** Antenna.

Redescription

Measurements: Body length: 3.66 mm. Body width: 1.05 mm. – Ratios: Pronotum: length/maximum width 1.08. Elytra: length/width 2.48.

Colouration: Auburn, pronotum somewhat opaque within the depressed areas.

Azarelius blairi Wasmann, 1921

WASMANN'S (1921: 24) description: "*Azarelius Blairi* n. sp. – K. G. BLAIR (1914, p. 316) erwähnt ein Exemplar von *Azarelius* aus den Shan Staaten 1888 im Britischen Museum, das er fraglich zu *Az. oberthuri* WASM. stellte, weil er nicht feststellen konnte, ob die Unterschiede desselben von einem im Brit. Museum befindlichen Originalen Exemplare des *Oberthuri* aus Pegu (FEA!) bloß individuelle seien. Ich habe deshalb die Type von *Oberthuri* in meiner Sammlung verglichen und finde, dass

dieselbe mit dem von BLAIR erwähnten Exemplar aus Pegu in den von ihm angegebenen Punkten vollkommen übereinstimmt. Daher muss ich annehmen, dass der *Azarelius* aus den Shan Staaten wirklich eine neue Art ist, die ich *Blairi* nenne. Die Unterschiede sind folgende: – *Az. Oberthuri* WASM.: 5. Rippe der Flügeldecken hinter der Mitte abgekürzt; 7. und 8. Rippe an der Spitze der Flügeldecken zusammenfließend. – *Az. Blairi* n. sp.: 5. Rippe der Flügeldecken bis zur Spitze reichend, 7. und 8. Rippe an der Spitze nicht zusammenfließend."

It is not clear from WASMANN'S publication whether he personally saw the specimen which BLAIR (1914: 316) mentioned from the Shan States, and which BLAIR could not assign to a described species. WASMANN distinguished it from *Azarelius oberthuri* and described it as *A. blairi*. I probably received all specimens of *Azarelius* from the collection of the BMNH, however, a specimen of *Azarelius* from the Shan States was not among this material, thus the identity of this taxon must remain doubtful.

Determination key to the five examined species of *Azarelius*

- 1 Pronotum with large, closely set punctures (Figs. 1A, 4A) and with opaque surface. 2
- Pronotum with a few small punctures (Figs. 2A, 3A) and lustrous. 4
- 2 Spine on the frontal side of femora very short (Fig. 5A). Body length 3.66 mm. – Birma. *indicus*
- Spine on the frontal side of profemora long and acute (Figs. 1A, 4A). 3
- 3 Antennomeres 6–10 broader (Figs. 1E, 4D). Body length 3.74–4.94 mm. – Sumatra, NE Thailand. *sculpticollis*
- Antennomeres 6–10 narrower (Fig. 4C). Body length 3.50–3.88 mm. – NE Birma, NW Thailand, N India. *tenuicornis*
- 4 Elytral interval 5 terminating in the apical part (Fig. 3A). Antennomeres 7–10 broader (Fig. 3B). Body length 4.6 mm. – Sarawak. *bryanti*
- Elytral interval 5 terminating slightly behind the middle of the elytra. Antennomeres 7–10 narrower (Fig. 2D). Body length 4.4 mm. – Birma. *oberthuri*

4 *Ziaelas* Fairmaire, 1892

FAIRMAIRE'S (1892b: CX–CXI) description: "*Ziaelas*, n. gen. – J'ai publié, il y a quelque temps, dans le Bulletin de la Société, un nouveau genre de Ténébrionide, *Azarelius*, provenant de Sumatra et représentant, dans la Malaisie, les *Gonocnemis* d'Afrique. Aujourd'hui, j'adresse à la Société la description d'un nouveau genre du même groupe, ressemblant extrêmement au genre *Azarelius*, mais en différent notablement par l'absence d'épine aux fémurs antérieurs. C'est la même forme, avec les élytres moins parallèles. Les antennes sont cylindriques, non épaissies vers l'extrémité, le 3^e article est égal au 4^e, le dernier est tronqué de même. La tête est assez différente: elle est presque quadrangulaire en avant, relevée, tronquée au-dessus des antennes, qui sont à peine séparées à la base et sillonnée au milieu; le chaperon est vertical; le labre grand, transversal, légèrement sinué au bord antérieur; les yeux sont plus étroits, entourent la base des antennes et ne descendent pas en dessous.

Le corselet est presque identique, seulement les carènes latérales et postérieures sont plus droites, les intervalles plus finement ponctués. Les élytres sont plus larges, moins parallèles, carénées comme le corselet, la 1^{re} carène pas plus saillante que les autres; les gros points des interstices sont moins gros et plus serrés. Le prosternum est concave au milieu et se termine par une courte pointe; le mésosternum est faiblement concave; la saillie intercoxale est large, obtusément arrondie. Les tarses sont courts, épais, diminuant un peu d'épaisseur vers l'extrémité. – Ce curieux Insecte a 8 mill. de longueur. Il est entièrement d'un roux cannelle. Il provient de Hué, et m'a été obligeamment communiqué par notre collègue et ami M. A. Sallé. – Je lui donne le nom de *Ziaelas insolitus*.”

Ziaelas has no spine on the frontal side of the profemora, in contrary to *Azarelius*. It also has no sharp longitudinal ridges on the pronotum as in *Azarelius* and *Nepaloplonyx* n. gen. However, indistinct elevations and depressions on pronotum and unarmed profemora also occur in the genera *Singapura* Gebien, 1925 and *Insolito-plonyx* n. gen. (see below, sections 6 and 8).

Ziaelas insolitus Fairmaire, 1892
(Fig. 6A–F)

The type could not be re-examined.

New material: Anam (1 CL, 1 CG). – N. Thailand, CW Nan, Nan, 500 m, 30.IV.–2.V.2004, R. GRIMM (1 CG). – Thailand, Chiang Mai, Doi Pui, 11.V.1985 (1 CG). – N Vietnam, 180 km SSW Hanoi, 40 km SW Than Hoa, Ben En NP, 50 m, 29.–30.VII.1997, leg. A. NAPOLOV (1 CG). – Same data, but 1.–5.VIII.1997 (1 CG).

Redescription

Measurements: Body length: 7.88–9.16 mm. Body width: 2.39–2.55 mm. – Ratios: Pronotum: length/width 1.02–1.05. Elytra: length/width 2.17–2.39; length elytra/length pronotum 2.98–3.48.

Colouration: Upper- and underside reddish brown, not lustrous. Legs darker brown than upperside. Antennae dark brown, nearly black.

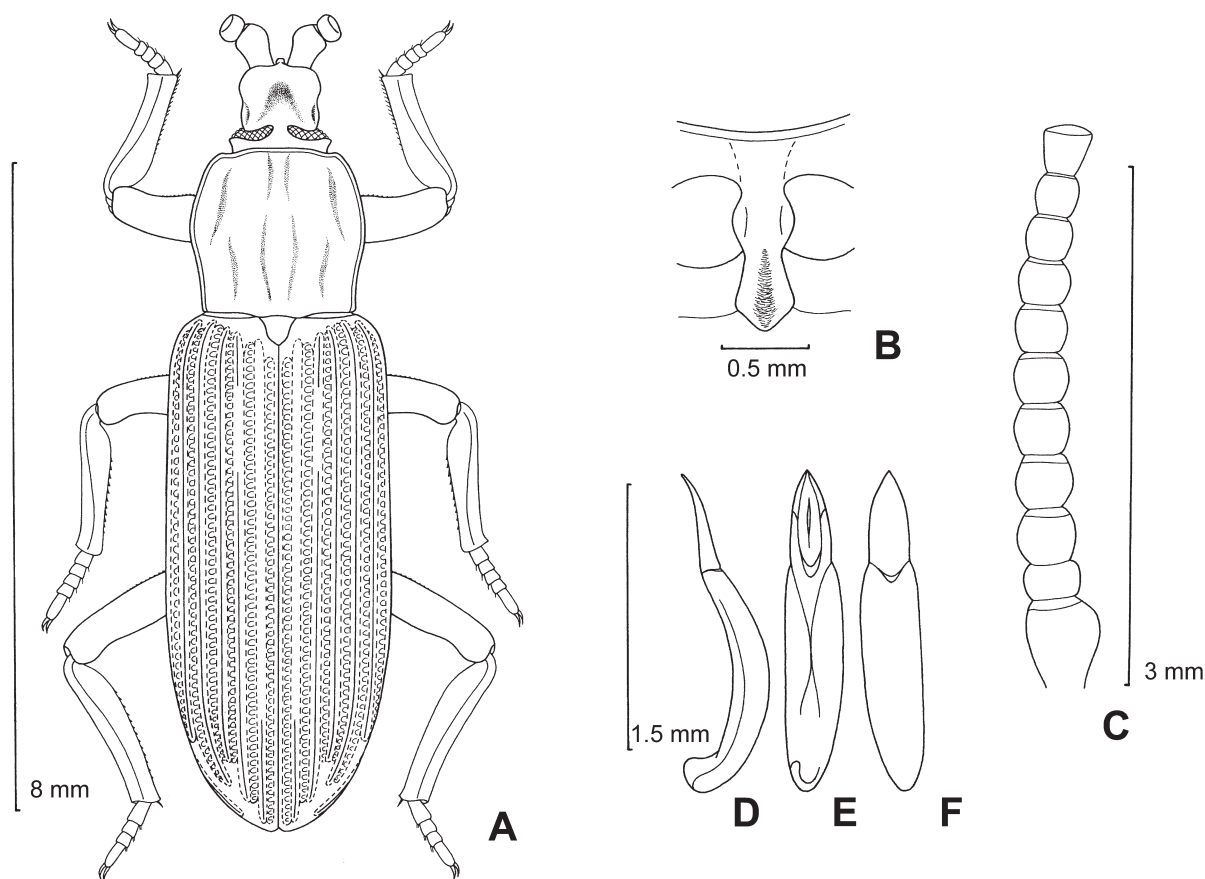


Fig. 6. *Ziaelas insolitus* Fairmaire, 1892. – A Habitus. B Prosternal apophysis. C Antenna. D Aedeagus, lateral view. E Aedeagus, ventral view. F Aedeagus, dorsal view.

Head: Upperside behind eyes very closely punctured. Eyes narrow longitudinally, towards temples somewhat retracted to the middle, i. e. the temples forming the widest part of the head. Vertex triangular, somewhat separating the eyes. In front of eyes a transverse elevation is formed by the genae which are fused in the middle. Antennae linked below the genae on the frontal side. In front of the genae head vertically descending, a narrow plank is separating the antennae. This plank is sharply terminating, and a small frons is scarcely visible on a lower level in frontal view. Clypeus closely punctured. Between clypeus and labrum no membrane; labrum lighter brown and less punctured than the darker brown clypeus.

Pronotum: Slightly longer than wide. Shape as in Fig. 6A. Upperside relatively flat, with feeble longitudinal sulci; the lateral sulcus has a sharp ridge in the anterior half; the low elevations in the middle narrowing each other.

Elytra: Long, sides nearly subparallel; convex transversely but flattened on disc, longitudinally flat towards the posterior third. With 9 rows of very closely set punctures which are weakly impressed. Rows of punctures

separated by keeled intervals. Interval 1 terminating at apex; intervals 2–9 terminating free; intervals 2 and 7–9 reaching or nearly reaching the apex; intervals 3–6 much shorter, 4 and 6 are the shortest. Lateral edges sharp and relatively wide in the apical part, visible in dorsal view.

Ventrites: Membrane visible between ventrites 3 and 4 and ventrites 4 and 5.

Legs: Femora without tooth or thorn on the frontal side. Tibiae somewhat depressed; external sides concave; inner side near base suddenly broadened (Fig. 6A). Tarsi short, somewhat compressed and narrowing from first to ultimate tarsomere.

Ziaelas formosanus Hozawa, 1914
(Fig. 7A–D)

HOZAWA's description and figure is detailed. I only provide herein a redrawing, based on the original figure. The narrower tibiae of *Ziaelas formosanus* seem to be the only difference to *Z. insolitus*, but it cannot be ruled out that it is only an inaccuracy of the original drawing, so that

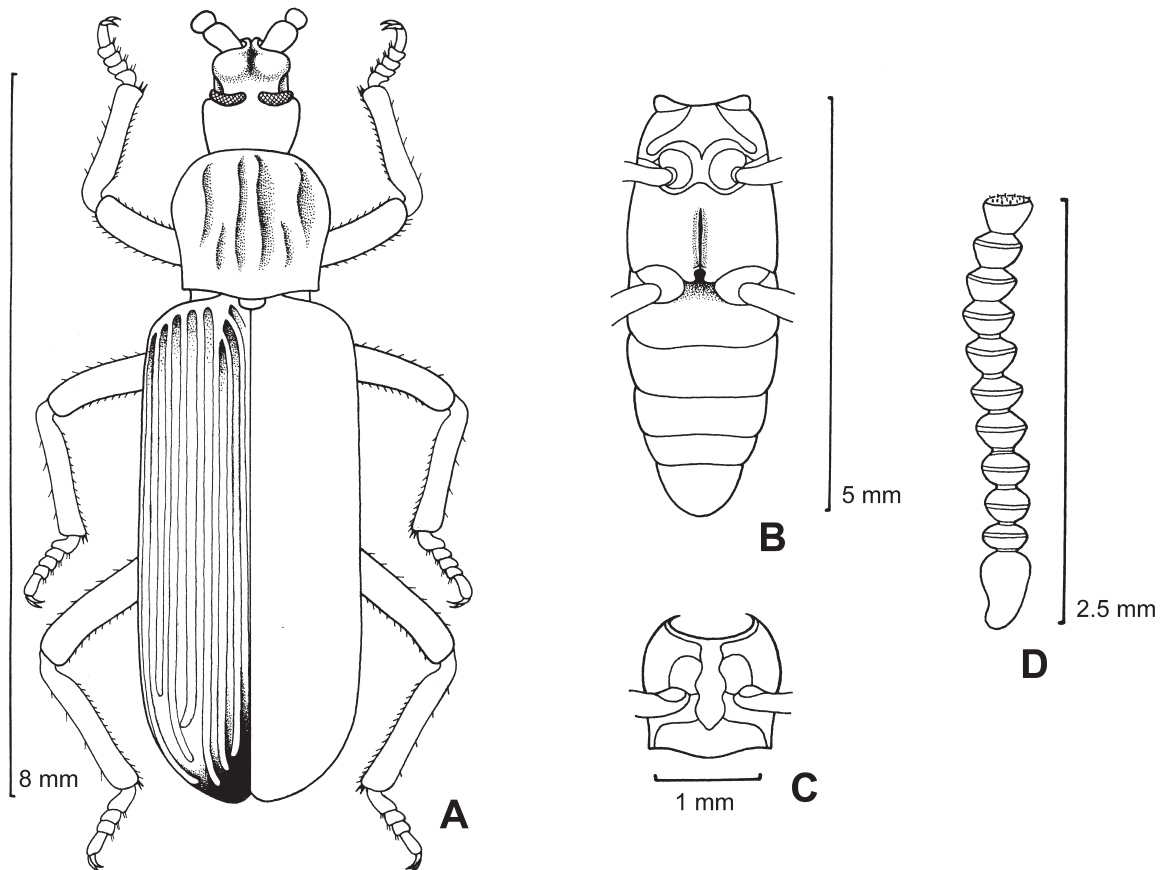


Fig. 7. *Ziaelas formosanus* Hozawa, 1914 (redrawing of HOZAWA's figures). – **A** Habitus. **B** Underside of body. **C** Underside of pronotum. **D** Antenna.

both taxa might be synonyms. A final decision on the status would perhaps be possible after new collections in Taiwan.

According to HOZAWA (1914) three syntypes have been taken from a nest of *Odontotermes* (*Cyclotermes*) *formosanus* (Shiraki, 1909). No information on the depository of the syntypes is given by HOZAWA (1914). Dr. K. ANDO (Osaka) kindly informed me that the syntypes had been stored in the collection of the Tokyo University, but they probably got lost.

Body length 8 mm, body width 2.5 mm (according to HOZAWA).

5 *Reichenspergeria* Wasmann, 1921

Type species: *Reichenspergeria aurocincta* Wasmann, 1921, by monotypy.

This genus is peculiar among Amarygmini (to which it is transferred herein) by the long, closely set hairs project-

ing laterally from the body. They originate from glandular pores, similar as in ant guests like *Claviger* (Staphylinidae, Pselaphidae) (KRÜGER 1910). The genae are fused in the middle and raised upwards as in the other genera of this group, but are partially hidden by the long hairs from the anterior part of the pronotum; terminal segment of maxillary palps conical, profemora spined as in *Azarelius*, pronotum with smooth surface, procoxae with spherical shape, prosternal apophysis depressed; meso- and metacoxae more narrowed than in the other genera of Amarygmini.

Reichenspergeria aurocincta Wasmann, 1921

(Fig. 8A–D)

WASMANN'S (1921: 21) description: "Rufocastanea, pernitida, processu frontali capitis impunctato, polito, clypeo subopaco, subtiliter punctato. Prothorax latitudine paulo longior, lateribus a basi usque ad apicem sensim rotundato-angustatis, angulis anticis rotundatis, posticis rectis, disco pernitido, sed

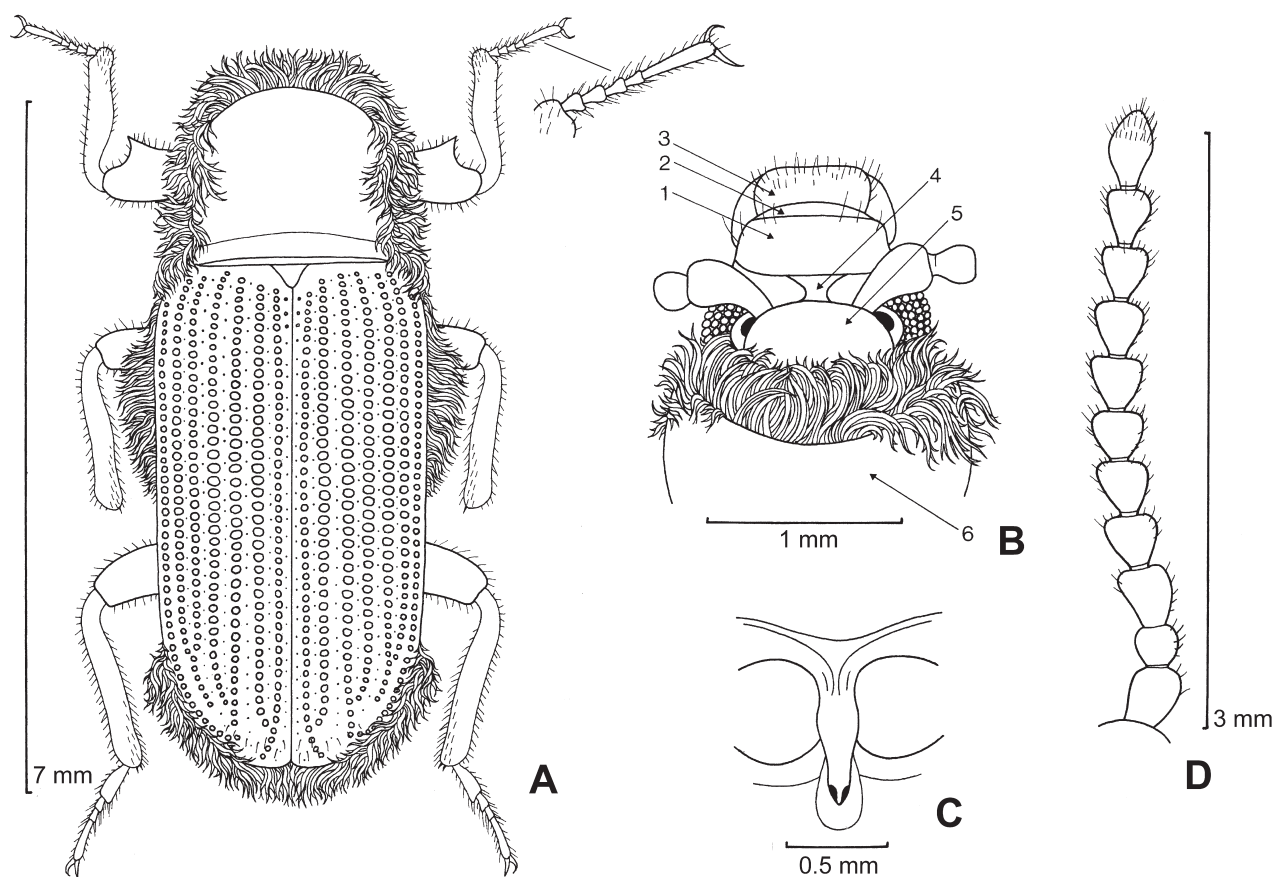


Fig. 8. *Reichenspergeria aurocincta* Wasmann, 1921. – **A** Habitus (head not figured). **B** Head and anterior part of pronotum, frontal view (1 = clypeus, 2 = membrane between clypeus and labrum, 3 = labrum, 4 = descending part of frons, 5 = genae, 6 = pronotum). **C** Prosternal apophysis. **D** Antenna.

parce sat grosse punctato, convexo, sulca obsoleta longitudinali media et transversali basali impressa. Elytra thoracis basi latiora, latitudine duplo longiora, subparallela, vix convexa, leviter striata, sed striis grosse et dense seriatopunctatis, interstitiis parum elevatis et haud punctatis. Superficies corporis nuda, sed margo anterior et lateralis prothoracis totus dense longeque aureovillosus, margo lateralis elytrorum in triente basali et iterum in triente apicali longe denseque aureovallatus. Long. corp. 6 mm., latit. elytrorum 2,3 mm. [...] Typen in meiner Sammlung, in den Sammlungen von REICHENSBERGER und GEBIEN."

The number of syntypes is not stated in WASMANN's paper. According to the description syntypes should be stored in the collections of WASMANN (Natural History Museum, Maastricht), REICHENSBERGER (Museum Alexander Koenig, Bonn) and GEBIEN (NHMB). One syntype could be located in GEBIEN's collection in Basel. In order to fix a single namebearing type I designate herewith the single syntype specimen in NHMB as lectotype. It is labelled: "Annam" [handwritten]; "*Reichenspergeria aurocincta* Wasm., Cotype" [handwritten, red ink]; "Annam, aus Termitenbau, Splichal 1911" [printed]; "b. *Odontotermes bellahunisensis* Holmgr." [printed]; "Cotype! No, 1585" [printed, red paper]. The right tibiae and protarsomeres and the left middle and hind legs are missing.

Redescription

Measurements: Body length (lectotype): 6.37 mm. Body width: 2.53 mm. – Ratios: Pronotum: length/width 0.95; width hind corners/width front corners 1.11. Elytra: length/width 1.78; length elytra/length pronotum 2.64; maximum width elytra/maximum width pronotum 1.55.

Genae fused in the middle and forming a towering, hyperbolic, sharp crest. At midlength a narrow plank is vertically descending representing the anterior part of genae; it widens triangularly at a lower level, and this triangular part is probably representing the frons. Frontoclypeal suture incised. Labrum on a lower level than clypeus. Clypeo-labral membrane barely noticeable. Eyes invisible in dorsal view. Antennae blackish brown, lustrous, finely pilose, slender, relatively long and clearly reaching beyond elytral base. Elytra with 8 rows of punctures (row 8 in the rim of the lateral edges). Membrane visible between ventrites 3 and 4 and ventrites 4 and 5. In contrast to WASMANN's description the disc of elytra is not bald but bears a few short, projecting hairs. Legs dark reddish brown, slender; profemora somewhat broadened and with pointed tooth on their frontal side; protibiae some-

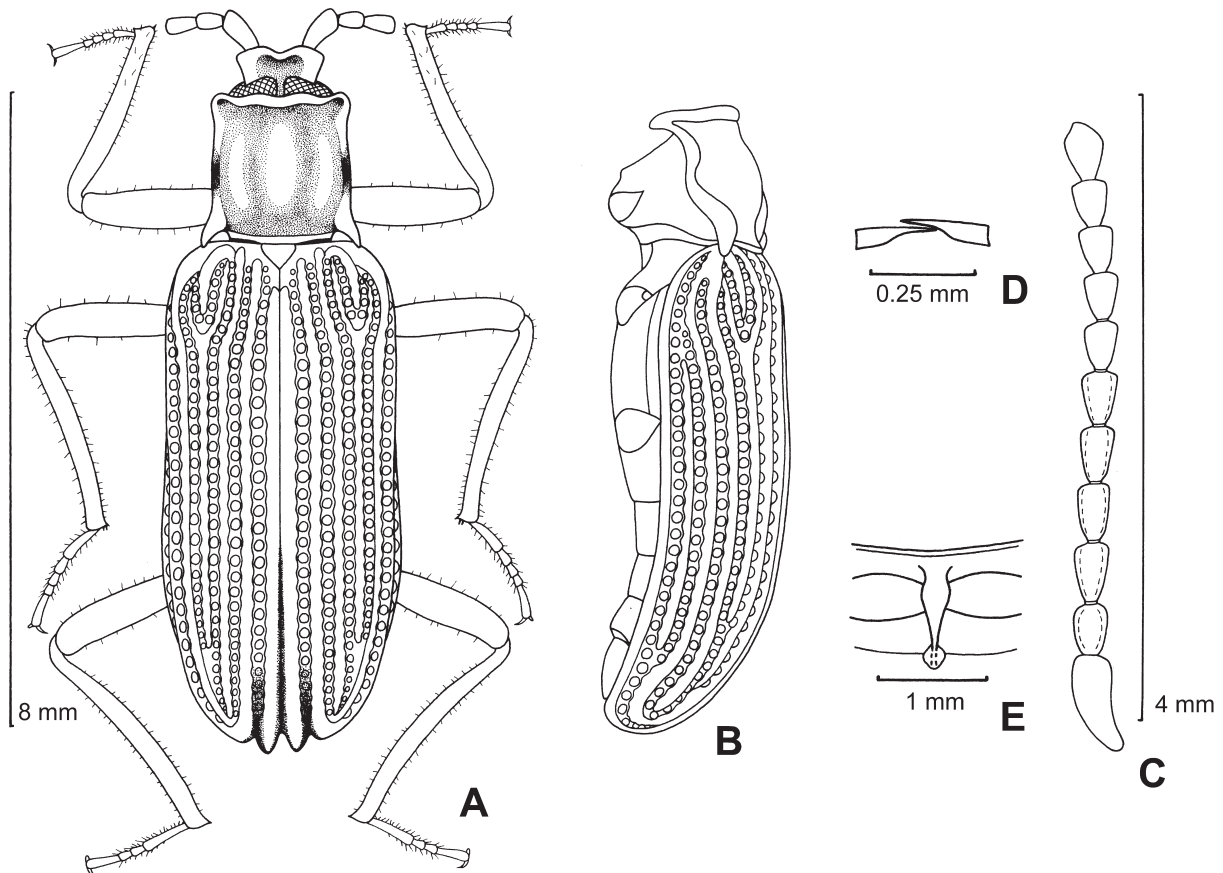


Fig. 9. *Singapura quadrihamata* Gebien, 1925. – A Habitus. B Body, lateral view. C Antenna. D Mandibles. E Prosternal apophysis.

what curved on their inner side; meso- and metatibiae scarcely curved at inner side.

This species was found in the nest of the termite *Odonotermes bellahunisensis* Holmgren & Holmgren, 1911 (WASMANN 1921).

6 *Singapura* Gebien, 1925

Type species: *Singapura quadrihamata* Gebien, 1925, by monotypy.

This genus has a pronotum with very faint elevations and depressions similar to *Ziaelas*, but is characterised by the pronotum with hook-like front and hind corners, and long antennae. The profemora are not spined.

Singapura quadrihamata Gebien, 1925 (Fig. 9A–E)

Material examined: Holotype male in NHMB. It is labelled: “*Singapura 4-hamata* Geb.” [white paper, GEBIEN’s handwriting]; “295” [white paper, handwritten]; “Type! No. 1289” [red paper, printed].

GEBIEN’S (1925) description includes the most essential information, therefore I provide herein only the following annotations: Upper- and underside auburn, lustrous. Maxillary palps with elongate oval (nearly conical) terminal segment. Mandibles with long and narrow apical part somewhat widened near base (Fig. 9D). Clypeo-labral membrane barely noticeable. Anterior margin of prosternum separated from anterior margin of procoxae; prosternal apophysis narrow and long, ascending between base and the level between procoxae and descending posterior to procoxae. Disc of metaventricle with tiny, closely set punctures; median line only shallowly incised in the middle. Ventrites 1–3 in males widely but shallowly impressed in the middle and ventrite 5 postero-medially broadly impressed; ventrites closely covered with tiny punctures (visible at 50× magnification); membranes clearly visible between ventrites 3 and 4 and ventrites 4 and 5. Femora thickened towards the second-third.

7 *Nepaloplonyx* n. gen.

Type species: *Nepaloplonyx caelebs* n. sp. by present designation.

Etymology

Combination of Nepal and plonyx, a frequently used suffix for genera of Amarygmini.

Diagnosis

The new genus *Nepaloplonyx* is similar to *Ziaelas* in the unarmed profemora and the shape of the head. Both genera can be separated by the pronotum (*Ziaelas* with inconspicuous elevations, *Nepaloplonyx* with distinctly elevated ridges), and by the patterns of the peculiarly formed elytral intervals (Fig. 8A). *Singapura* has also unarmed femora, but has the pronotum with hook-like protruding front and hind corners and additional inconspicuous elevations and depressions, furthermore the antennae are long and the antennomeres 4–10 have a narrow base, widening towards apices. See also under *Insolitoplonyx* n. gen.

Description

Body of medium size, elongate. Pronotum with distinctly elongate elevations; anterior and hind corners are not hook-like and protruding. Elytra long, subparallel, markedly convex transversely; with rows of large, very closely set punctures and with more or less elevated intervals; interval 4 shortened and terminating between middle and apical part; adjoining rows of punctures confluent behind the end of interval 4 and continuing caudad as a joint row of punctures. Eyes longitudinally narrow, but transversely largely extended. Genae markedly elevated and towering the head, fused in the middle with a shallow incision; genae anteriorly descending vertically, clypeus and labrum situated at a much lower level and not visible in dorsal view. Antennae 11-segmented. Femora relatively tender, unarmed on their frontal side; tibiae compressed at least near base.

Nepaloplonyx caelebs n. sp. (Fig. 10A–I)

Holotype (♂): “E Nepal, Arun Valley, M. BRANCUCCI; Arun River, Tumlingtar, 450 m, 26.V.83”, “*Rhysopaussus dohertyi* W., det. SCHAWALLER” (SMNS).

Etymology

Caelebs (Lat.) = bachelor.

Diagnosis

Elongate, pronotum lustrous, nearly rectangular, elytra somewhat less lustrous; long, elytral intervals keeled between the rows of large, impressed punctures, interval 4 very short. Pronotum with longitudinally elevated ridges. Eyes clearly separated on frons. Genae markedly elevated and fused in the middle; anteriorly sloping vertically to the much lower clypeus. Legs somewhat compressed over nearly the whole length. *Nepaloplonyx caelebs* n. sp. differs from *N. singularis* mainly by the shape of the pronotum, which is cordiform and anteriorly rounded in the latter species.

Description

Measurements: Body length: 6.77 mm. Body width: 2.71 mm. – Ratios: Pronotum: length/width 1.05; width hind corners/width front corners 1.19. Elytra: length/width 1.85; length elytra/length pronotum 3.15; maximum width elytra/maximum width pronotum 1.78.

Colouration: Brown; pronotum clearly lustrous, especially the ridges; the elevated elytral intervals somewhat less lustrous. Underside lustrous, metasternum brown, ventrites light brown. Femora and tibiae brown, lustrous; tarsi dark brown. Antennae somewhat darker brown than body.

Head: Genae markedly and upwardly raised, vertically descending anteriorly, in the median area fused with a groove in between; in the descending part separating the antennae by an abruptly terminating narrow plank. Below the genal plank a triangular frons situated on a lower level, separated from clypeus. Longitudinally short eyes separated from each other. Clypeus relatively large and vertically orientated, dull, of crescent shape. No clypeo-labral membrane present; anterior part of labrum with bristles of

medium length. Mandibles with two long, pointed teeth separated by a deep incision (Fig. 10D). Last segment of maxillary palps conical.

Antennae: Reaching to the basal border of pronotum. Antennomere 1 large, pear-shaped; antennomere 2 short; antennomeres 3–8 short, asymmetrically widened like an axe; 9 and 10 short but more symmetrically widened apically; 11 as wide and short as 10, but asymmetrical and with a straight apex.

Pronotum: Slightly longer than wide, scarcely convex transversely and longitudinally. Hind and front corners nearly right-angled. Lateral and anterior margins broadly bordered. Surface on each side with a straight ridge just aside median area, terminating posteriorly at two-thirds of length; lateral to these ridges on each side with an additional longitudinal ridge terminating at midlength, and with an additional ridge on each side in the posterior third terminating at the posterior margin.

Elytra: Elongate, sides subparallel, distinctly convex transversely, nearly flat longitudinally. Elytral base wider than pronotal base. Shoulders rounded. Elytral

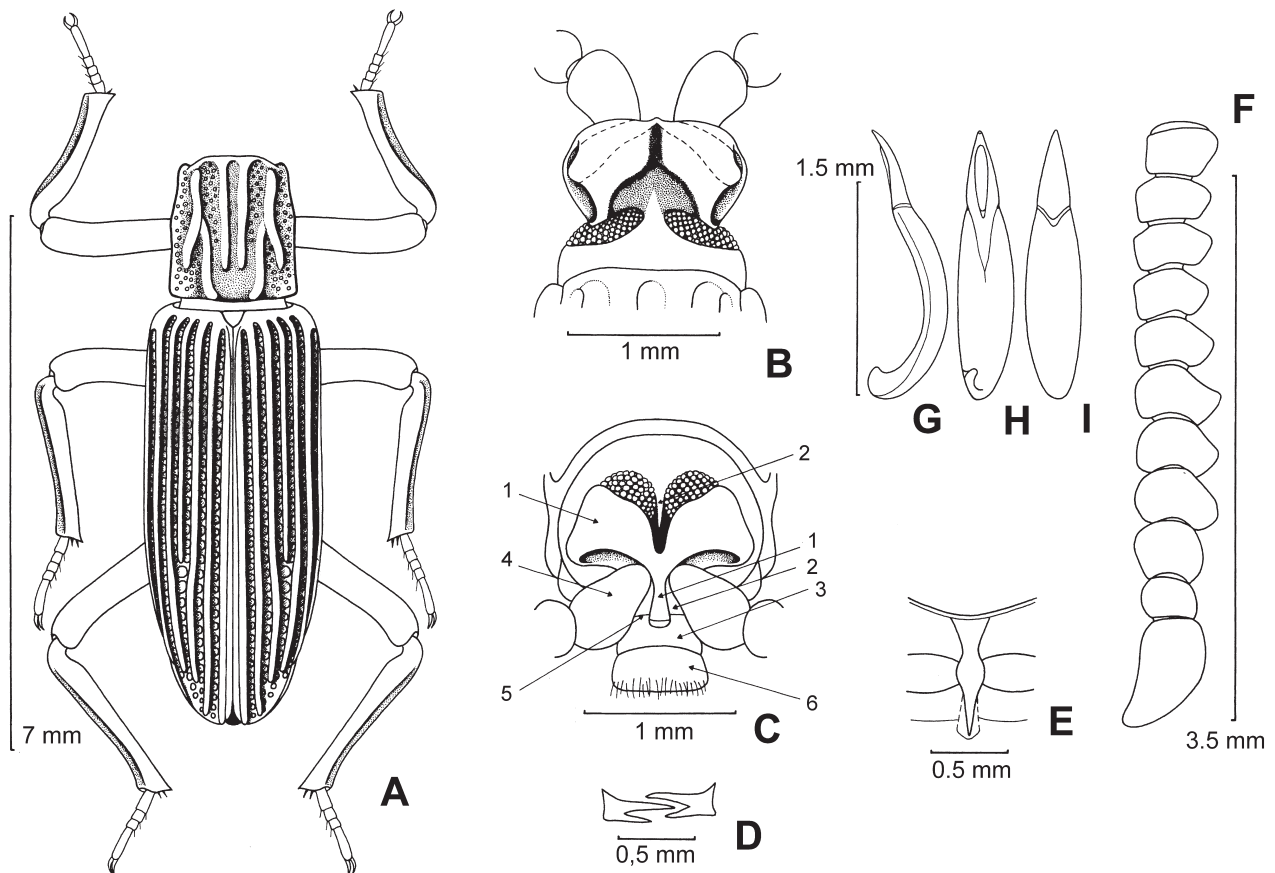


Fig. 10. *Nepaloplonyx caelebs* n. sp. – **A** Habitus (head not figured). **B** Head. **C** Head, frontal view (1 = genae, 2 = frons, 3 = clypeus, 4 = antennomere 1, 5 = fronto-clypeal suture, 6 = labrum). **D** Mandibles. **E** Prosternal apophysis. **F** Antenna. **G** Aedeagus, lateral view. **H** Aedeagus, ventral view. **I** Aedeagus, dorsal view.

base broadly bordered; elevated elytral intervals 3–5 connected; intervals 1, 2 and 6 terminating shortly behind this border; 7 and 8 connecting before basal border. Lateral edge sharp and connected with basal border; in dorsal view lateral edges visible along whole length. Surface with 8 rows of large, round, clearly impressed punctures; keel-like intervals 1–8 (9 corresponds to lateral edge) narrow. Intervals 1 and 2 terminating at the apical edge of the elytra, 3 short and terminating at the beginning of the posterior third; 3 and 5–7 terminating free in the apical part.

Prosternum: Anterior margin continuously and narrowly bent upwards. Anterior margin of prosternum and anterior margin of procoxae separated. Prosternal apophysis long, slightly widened along procoxae, posterior to procoxae descending to a lower level, then protruding caudad.

Mesoventrite: Depressed anterior part long, impunctate; posterior part narrow, on a higher level, anteriorly markedly excavated.

Metaventrite: Impunctate. Median line distinctly impressed in the posterior three-fourths.

Ventrites: Anterior margin ogival, narrowly bordered. Ventrites impunctate.

Legs: Femora not broadened in the shaft area, unarmed. Tibiae with two edges at outer side. Protibiae compressed, external side concave; inner side bent and widened, terminating apically in a short thorn. Mesotibiae conspicuously compressed near base; only slightly concave at outer side. Metatibiae slightly concave at outer side, slightly compressed. Tarsi heteromorous, short.

Nepaloplonyx singularis (Wasmann, 1896) **n. comb.**
(Fig. 11A–F)

Azarelius singularis Wasmann, 1896.

WASMANN'S (1896b: 151) description: "*Azarelius singularis*, Wasm, n. sp. – Antennae moniliformes, art. 2–10 transversis, 2–4 nodiformibus, 6–8 ceteris paullo latioribus, penultimis subcordiformibus. Thorax latitudine haud longior, lateribus rotundatis, basin versus angustatis et paullo sinuatis, angulis anticis rotundatis, posticis rectis; costae thoracis mediae integrae ad basin usque pertingentes, laterales tripartitae (in 3 hintereinander liegende, durch einen schmalen Längskiel zusammenhängende Knoten aufgelöst); interstitiis costarum alutaceis, haud distincte punctatis. Elytra parallela, thorace paullo lateriora, costa quarta in medio abbreviata. Long. 6,5 mm. – 1 Exemplar, Pedong [= 27°15'N 88°61'67"E, in Darjeeling District of NE India], A. Desgolins!, ohne nähere Fundortsangabe."

I could not study the single type of *Azarelius singularis*, which is probably deposited in WASMANN'S collection (later deposited in the Natural History Museum of Maastricht). This species with its markedly elevated pronotal ridges has no spine on the frontal side of the profemora, and the eyes are more separated from each other than in the *Azarelius* species. Therefore, it is better placed into the genus *Nepaloplonyx* n. gen.

Examined material: "India, U.P., Lansdown Div., Cilla [= Chilla, Uttarakhand State near New Delhi], 1,200 ft, 30.xii.1931, H. G. CHAMPION; CHAMPION Coll. B. M. 1953-156" (2 BMNH). – "W. Almora, Kumaon [= Kumaon in Uttarakhand State], India, H. G. C. [= H. G. CHAMPION]", "*Azarelius singularis* Was." [handwritten] (1 BMNH). – "Mumphu [= Mumphu, Sikkim], ATKINSON Coll. 92-3; *Azarelius singularis* Was., Determined from description, K. G. B. [= K. G. BLAIR]" (1 BMNH).

Diagnosis

Of medium size, elongate; elytra parallel-sided, with rows of large punctures and moderately convex intervals; rows 4 and 5 are connected to a common row (with a shortened interval 4); profemora unarmed; eyes somewhat separated on frons; genae markedly elevated and fused in the middle; pronotum narrowly cordiform, with longitudinal, conspicuous elevations. *Nepaloplonyx singularis* can be separated from *N. caelebs* n. sp. by the parallel-sided pronotal elevations which are shorter in *N. caelebs* than in *N. singularis*. Both species share a shortened elytral interval 4.

Redescription

Measurements: Body length: 5.73–6.05 mm. Body width: 1.79–1.87 mm. – Ratios: Pronotum: length/width 1.00–1.08. Elytra: length/width 2.27–2.37; length elytra/length pronotum 2.79–3.11; maximum width elytra/maximum width pronotum 1.31–1.33.

Colouration: Upperside auburn, lustrous. Meso- and metaventrites black, ventrites brown. Labrum lighter brown than clypeus. Femora lighter brown than underside.

Head: Eyes widely separated; longitudinally short. Posterior part of frons impunctate between eyes. Genae markedly raised upwards, connected to each other in the middle by a narrow bridge; this bridge terminating at the posterior part of the frons. Genae anteriorly nearly vertically descending and narrowing to a plank, this narrow plank separating the antennae, its lower part widening triangularly (and probably representing the anterior part of the frons), the genal part of the plank and the triangularly widened part separated by different intensity of the brown colour. This lower part of frons separated from clypeus by a faint fronto-clypeal suture. Clypeus nearly flat, with a few short hairs, anterior margin slightly emarginated. No clypeo-labral membrane present. Anterior part of labrum with closely set bristles of medium length. Mandibles externally with a longitudinal sulcus, apically bifid.

Antennae: Short. Antennomere 1 reversely pear-shaped; antennomere 2 like a very short discus; antennomere 3 also like a discus but thicker; antennomeres 5–10 short and clearly widened apically; antennomere 11 short, apically straight.

Pronotum: Narrowly cordiform; widest shortly behind anterior margin; front corners rounded; lateral margins in the posterior half somewhat concave; hind corners sharply

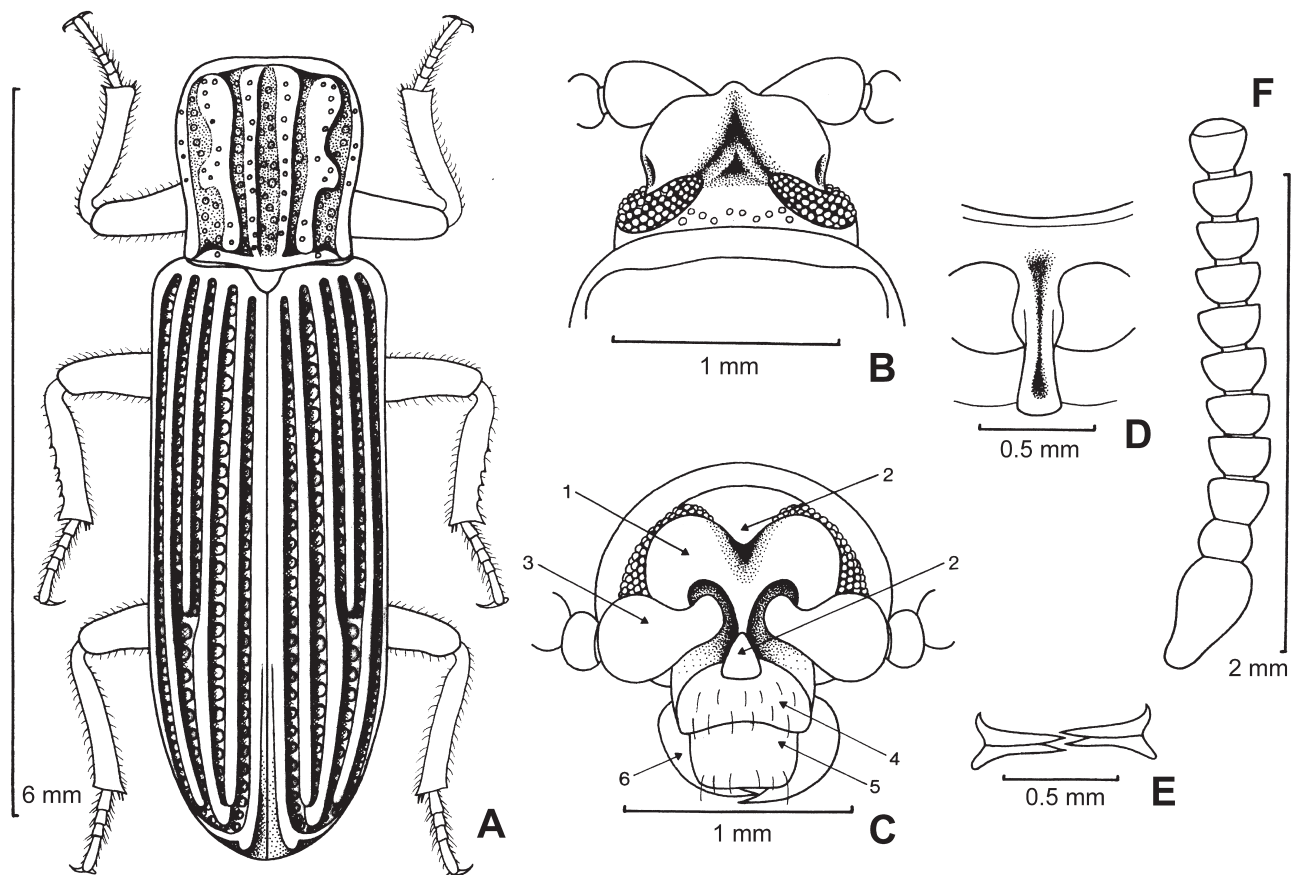


Fig. 11. *Nepaloplonyx singularis* (Wasmann, 1896). – **A** Habitus (head not figured). **B** Head and anterior part of pronotum, dorsal view. **C** Head, frontal view (1 = genae, 2 = frons, 3 = antennomere 1, 4 = clypeus, 5 = labrum, 6 = mandible). **D** Prosternal apophysis. **E** Mandibles. **F** Antenna.

rectangular. Lateral and anterior margins bordered, posterior margin not bordered. Surface with a distinctly raised ridge parallel to the median area; these parallel-sided ridges extend across the whole pronotum without interruption; in the anterior half of the pronotum, lateral to these ridges with a bulge-like elevation and a narrower ridge branching off this bulge. Elevations separated by scarcely punctured, microreticulated depressions.

Elytra: Long, parallel-sided, distinctly convex transversely, flat longitudinally. With 8 slightly elevated intervals, separated by rows of large punctures. Interval 4 terminating between the middle and the beginning of the second third of the elytral length, at the end of interval 4 rows of adjoining punctures confluent and continuing as a joint row of punctures; interval 1 terminating at the apex; the other intervals unconnected when terminating in the apical part.

Prosternum: Anterior margin continuously bent upwards. Anterior margin of prosternum and anterior margin of procoxae separated. Prosternal apophysis bent downwards posterior to procoxae.

Mesoventrite: Depressed anterior part closely covered with punctures of medium size; posterior part narrow and on a somewhat higher level.

Metaventrte: Disc with minute, widely separated punctures. Median line impressed in the posterior two-thirds.

Ventrtes: With tiny, widely separated punctures bearing minute, tender, recumbent hairs.

Legs: Profemora unarmed. Tibiae with some projecting hairs of medium length; dorsal side with only one edge; all tibiae somewhat widened at inner side; protibiae slightly concave at outer side; mesotibiae nearly straight and with a few tiny prickles; metatibiae slightly concave at outer side. Metatarsomere 1 approximately as long as metatarsomere 4.

8 *Insolitoplonyx* n. gen.

Type species: *Insolitoplonyx seorsus* n. sp. by present designation.

Etymology

Insolitus (Lat.) = extraordinary; *plonyx* = frequently used suffix for genera of Amarygmini.

Diagnosis

Body elongate, upper- and underside with tiny, very closely and regularly set punctures (otherwise impunctate). Tibiae (especially protibiae) with short compressed and broadened part near base; profemora unarmed; tarsi tiny. Genae markedly raised upwards and fused in the middle. Eyes longitudinally short, separated on frons. Head vertically descending in front of genae. Terminal segment of maxillary palps conical. Antennae 11-segmented, short. Pronotum nearly rectangular, somewhat longer than wide; pronotal surface with delineated, elongate elevations. Elytra with rows of punctures separated by slightly convex intervals. In males disc of ventrites 1–3 impressed.

Unarmed profemora, 11-segmented antennae and a similar shape of head are present in *Ziaelas* Fairmaire, 1892, *Singapura* Gebien, 1925 and *Nepaloplonyx* n. gen. *Singapura* and *Nepaloplonyx* n. gen. share with *Insolitoplonyx* the rectangular form of the pronotum. In contrast to *Insolitoplonyx*, *Singapura* has pointed, protruding hind and front corners of the pronotum and long antennae, but has no tiny, closely set punctation of the whole integument, nor has it similarly tiny tarsi (but also faint elevations on the pronotum). In contrast to *Insolitoplonyx*, the species of *Nepaloplonyx* n. gen. have distinct elevations on the pronotum, the integument has no uniform tiny punctation, the median area of ventrites 1–3 has no depression in males, and the tarsi are not tiny.

Insolitoplonyx seorsus n. sp.
(Fig. 12A–F)

Holotype (♂): “India, Uttar Pradesh, Bhimtal, 1500 m, 2.VII.1973, leg. F. SMETACEK” (SMNS).

Etymology

Seorsus (Lat.) = special.

Description

Measurements: Body length: 8.12 mm. Body width: 2.71 mm. – **Ratios:** Pronotum: length/maximum width 1.16; width front corners/width hind corners 1.07. Elytra: length/width 2.21; length elytra/length pronotum 3.00; maximum width elytra/maximum width pronotum 1.58.

Colouration: Brown, the very closely set, tiny punctation induces a reduced lustre. Legs and antennae somewhat darker brown than upper- and underside.

Head: Genae markedly raised upwards, fused in the middle and with a median depression; anteriorly descending nearly vertically in form of a very narrow plank, this

plank separating the antennae. Posterior to the median part of the genae a short vertex separates the eyes; the vertex representing the hind part of the frons. Anterior part of the frons very small, situated on a level below the end of the vertically descending plank of genae, broadened like a reversed heart, separated from the large crescent clypeus by an incision. No clypeo-labral membrane present; anterior part of labrum with bristles of medium length and with closely set punctures of medium size. Mandibles partially covered by labrum and its hairs (but neither bifid nor like the mandibles in *Nepaloplonyx*). Last segment of maxillary palps conical.

Antennae: Short, not reaching base of pronotum. Antennomere 1 large and reversely pear-shaped; antennomere 2 asymmetrical and short, antennomeres 3–10 shaped like an axe; antennomere 11 short.

Pronotum: Elongate parallel, only slightly widened anteriorly, scarcely convex transversely and longitudinally. Hind corners acute-angled, front corners narrowly rounded and slightly protruding. Anterior margin straight between the slightly protruding front corners. Lateral margins narrowly bordered, straight part of anterior margin not bordered. Surface with faint elevations.

Elytra: Elongate, subparallel. Disc nearly flat, but laterally bent downwards. Shoulders rounded. Apices of elytra mutually rounded. Lateral edges between shoulders and apex only narrowly visible in dorsal view. Surface with 8 slightly convex intervals, and 7 rows of slightly impressed, closely set punctures. Interval 1 approaching the apical edge where it unites with interval 8, interval 1 very narrow posterior to scutellum; intervals 2 and 3 originating at base and connecting in the apical part; interval 4 very short, covering only anterior fifth of elytra; intervals 5 and 6 originating at base and terminating free at the apical part; interval 7 not connected in the apical part; interval 8 originating behind base.

Prosternum: Anterior margin broadly and indistinctly bordered. Anterior margin and anterior margin of procoxae widely separated. Prosternal apophysis long, relatively narrow, somewhat ascending between anterior margin and procoxae and somewhat descending between procoxae and apex; their lateral margins concave posterior to procoxae.

Mesoventrite: Anterior part on a lower level than posterior part and long; anterior and lateral margins narrowly bordered. Posterior part between mesocoxae very narrow and anteriorly excavated.

Metaventrite: Anterior margin between mesocoxae rounded, bordered, anteriorly circumventing the short anterior apophysis. Median line incised and somewhat impressed in the posterior half.

Ventrites: Anterior margin of ventrite 1 between metacoxae ogival, bordered. Median area of ventrites 1–3 widely depressed. Membrane visible between ventrites 3 and 4 and ventrites 4 and 5.

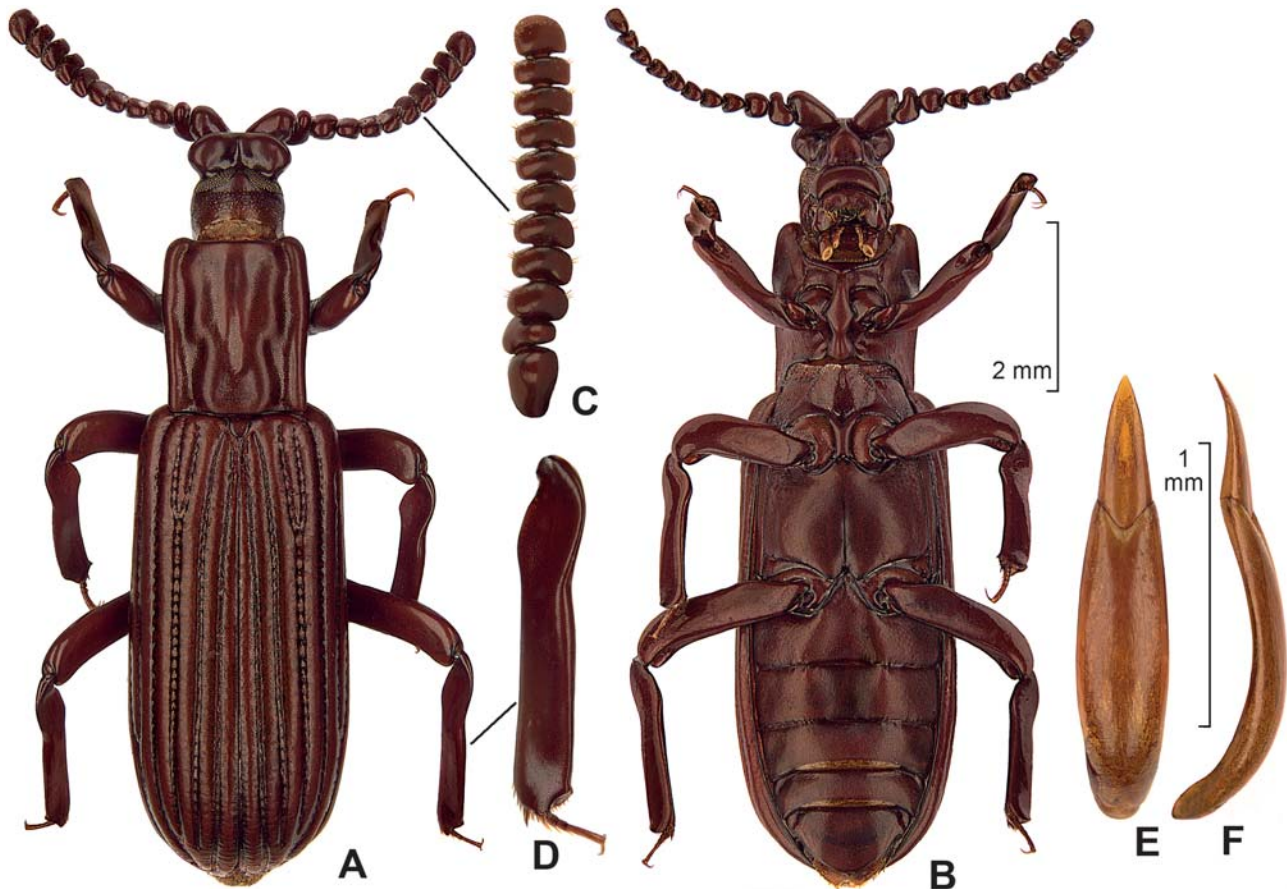


Fig. 12. *Insolitoplonyx seorsus* n. sp. – **A** Habitus, dorsal view. **B** Habitus, ventral view. **C** Antenna. **D** Right hind tibia and tarsus. **E** Aedeagus, ventral view. **F** Aedeagus, lateral view.

Legs: Femora not broadened in the middle, profemora unarmed. Tibiae near base compressed and broadened; posterior part somewhat compressed but not as marked as in the basal tenth; protibiae slightly bent at outer side; less so mesotibiae; metatibiae nearly straight. Tarsi extremely narrow and short.

9 *Barlacus corporaali* Wasmann, 1912

WASMANN (1912) described the species *corporaali* from Sumatra with the pronotum with longitudinal sulci and ridges and placed it into the genus *Barlacus* Fairmaire (type species *Barlacus costulatus* Fairmaire from Borneo, see FAIRMAIRE 1900). However, the type species of *Barlacus* has a plain pronotal surface without sulci and ridges, and *Barlacus costulatus* Wasmann, 1912 is a junior synonym of the South African species *Asyleptus fumosus* Péringuay, 1896 (BREMER 2013). For zoogeographical reasons it seems impossible that *Asyleptus* occurs also in

the Oriental Region, thus the type of *Barlacus costulatus* might be mislabelled and originates not from Borneo but from South Africa.

The syntypes of *Barlacus corporaali* came from the collection of VETH to whom WASMANN they probably returned. The collection of VETH was later deposited in the Natural History Museum of Leiden. Unfortunately, the syntypes were not accessible to me, therefore the generic assignment of *corporaali* remains doubtful.

10 Remarks on the tribe Falsocossyphini

The tribe Falsocossyphini was erected by FERRER (2006) for three genera, excluded from the Rhysopausini, namely *Falsocossyphus* Pic, 1916 from India (*Falsocossyphus pilosus* Pic, 1916 by monotypy), *Blatticephalus* Heller, 1917 from tropical Africa (*Blatticephalus adelotopus* Heller, 1917 by monotypy), and *Microblattellus* Ferrer, 2006 from Vietnam (*Microblattellus leongmani* Ferrer,

2006 by monotypy). All have the head shifted to the ventral side of the pronotum, thus the head is hidden and not visible in dorsal view. According to FERRER (2006), the base of the aedeagus is symmetrical in all these taxa and not asymmetrical as in Amarygmini.

However, several characters point to different taxonomic positions of these genera. The aedeagus of *Falsocossyphus pilosus*, ventrally without fused parameres, does not look like an aedeagus of Tenebrionidae at all; the aedeagus of *Blatticephalus adelotopus* with fused parameres and asymmetrical base (in contrary to FERRER'S statement) shows the form of the aedeagi of Amarygmini. The aedeagus of *Microblattellus lecongmani* has a symmetrical base according to FERRER'S figure. The femora of *Blatticephalus* and *Falsocossyphus* are flattened and enlarged like those of Helodidae and have the trochantinus entirely hidden, those of *Microblattellus* show the normal form of femora as usual in all Amarygmini and Tenebrionidae. I do not know a similar shape of femora as in *Blatticephalus* and *Falsocossyphus* from any other genus of Tenebrionidae. Furthermore, intersegmental membranes between ventrites 3 and 4 and between 4 and 5 are missing in *Blatticephalus adelotopus* (present in most Amarygmini). Therefore, the tribe Falsocossyphini seems to be an unnatural assemblage of taxa belonging to different families and tribes; the taxa concerned should be re-examined in detail, considering also female genitalia, excretory glands etc.

11 Key to genera treated

Not included is *Falsocossyphus* Pic, see above (section 10).

- 1 Antennae 10-segmented, antennomeres wide and antennomere 10 markedly narrower than the preceding ones. **2**
 - Antennae 11-segmented, antennomere 11 of different shape. **4**
- 2 Antennomeres 4–9 widened, of reversely trapezoidal shape. First elytral interval shortened. – 2 species: *dohertyi* Wasmann, 1896 and *septemcarinatus* Kaszab, 1965. **3**
 - Antennomeres 3–9 markedly widened. Elytral intervals not abbreviated. **3**
- 3 Antennomeres 3–9 short, very wide and nearly symmetrically widened, antennae straight and not helically twisted. Front corners of pronotum nearly as wide as hind corners, the latter not protruding laterad; pronotal disc with more separated pair of subparallel elevations. Elytra somewhat oval. Metatarsomere 1 prolonged. – 1 species: *feai* Wasmann, 1896. **Xenotermes** Wasmann
 - Antennomeres 3–9 asymmetrically widened, antennae helically twisted. Hind corners of pronotum wider than front corners and protruding laterad; pronotal disc with narrowed pair of subparallel elevations. Elytra subparallel. Metatarsomere 1 not longer than metatarsomere 4. – 1 species: *duporti* Pic, 1931. **Mimoxenotermes** Pic
- 4 Head entirely shifted to the ventral side of the body, even the posterior part of the head including genae not visible in dorsal view. Body length 1.4–1.7 mm. – 1 species: *lecongmani* Ferrer, 2006. **Microblattellus** Ferrer

- Posterior part of head including genae visible in dorsal view (except in *Reichenspergeria*, in which it is covered by long hairs originating from the anterior margin of the pronotum). Body length at least 3.0 mm. **5**
- 5 Profemora spined at frontal side. **6**
 - Profemora not spined. **7**
- 6 Pronotum at anterior and lateral margins, and elytra at lateral margins with long and projecting, closely set hairs (Fig. 8A, B). Pronotum smooth and without longitudinal ridges. – 1 species: *aurocincta* Wasmann, 1921. **Reichenspergeria** Wasmann
 - Pronotum and elytra without long projecting hairs. Pronotum with longitudinal sulci and distinct elevations. – 6 species: see section 3. **Azarelius** Fairmaire
- 7 Antennae long, antennomeres longer than wide, antennomeres 5–10 triangular, terminal antennomere prolonged and apically pointed (Fig. 9C). Pronotum with projecting corners, hook-like front corners projecting ventrad, hind corners projecting posteriorly (Fig. 9A, B). – 1 species: *quadrihamata* Gebien, 1925. **Singapura** Gebien
 - Antennae short, terminal antennomere apically not pointed (Figs. 10F, 11F, 12C). Pronotum without projecting front and hind corners. **8**
- 8 Pronotum with conspicuously elevated longitudinal ridges (Figs. 10A, 11A). – 2 species: *caelebs* n. sp. and *singularis* (Wasmann, 1896). **Nepaloplonyx** n. gen.
 - Pronotum with weak and inconspicuous longitudinal elevations (Fig. 12A). **9**
- 9 Upper- and underside of body without tiny, very closely set punctures, without lustre. Tarsi short, but not tiny (Figs. 6A, 7A). Tibiae at inner side broadened. Elytra cylindrical, with rows of large, closely set punctures; external intervals mostly keeled, intervals 1–3 partially not keeled. Most antennomeres pearl-like. – 2 species: *insolitus* Fairmaire, 1892 and *formosanus* Hozawa, 1914. **Ziaelas** Fairmaire
 - Upper- and underside of body with tiny, very closely set punctures which induce a reduced lustre. Tarsi tiny (Fig. 12D). Tibiae near base compressed and widened over a short distance (Fig. 12D). Elytra with rows of punctures, separated by slightly convex intervals (Fig. 12A). Antennomeres not pearl-like (Fig. 12C). – 1 species: *seorsus* n. sp. **Insolito-plonyx** n. gen.

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