

New and little known species of Tenebrionidae (Coleoptera) from Borneo (5)

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Abstract

The following new genera and new species from Malaysia/Borneo are described: *Borneosphaerotus* **n. gen.**, *Borneosynopticus* **n. gen.**, *Alphitobius inopinatus* **n. sp.**, *Borneosphaerotus santubongicus* **n. sp.**, *Borneosynopticus tubericollis* **n. sp.**, *Bradymerus ater* **n. sp.**, *Cryptobatoides merkli* **n. sp.**, *Derosphaerus laticollis* **n. sp.**, *Microatasthalus fungicolus* **n. sp.**, *Platydemia kubahensis* **n. sp.**, and *Spiloscapa borneensis* **n. sp.** New records from Borneo are given for *Boletoxenus mixtus* Grimm, 2014, *Cryptobatoides gebieni* Kaszab, 1941, *Cryptobatoides opaca* Kaszab, 1941, *Derosphaerus chewi* Grimm, 2014, and *Microatasthalus hadrocerus* Ando, 2010.

Key words: Tenebrionidae, Borneo, Malaysia, Indonesia, Kalimantan, Sabah, Sarawak, Boletophagini, Cnodalonini, Diaperini, Ulomini, new genera, new species, new records.

Zusammenfassung

Folgende neue Gattungen und Arten werden beschrieben: *Borneosphaerotus* **n. gen.**, *Borneosynopticus* **n. gen.**, *Alphitobius inopinatus* **n. sp.**, *Borneosphaerotus santubongicus* **n. sp.**, *Borneosynopticus tubericollis* **n. sp.**, *Bradymerus ater* **n. sp.**, *Cryptobatoides merkli* **n. sp.**, *Derosphaerus laticollis* **n. sp.**, *Microatasthalus fungicolus* **n. sp.**, *Platydemia kubahensis* **n. sp.** und *Spiloscapa borneensis* **n. sp.** Neue Funde von *Boletoxenus mixtus* Grimm, 2014, *Cryptobatoides gebieni* Kaszab, 1941, *Cryptobatoides opaca* Kaszab, 1941, *Derosphaerus chewi* Grimm, 2014 und *Microatasthalus hadrocerus* Ando, 2010 werden mitgeteilt.

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1 Introduction

In the present fifth part of the series concerning new and little known species of Tenebrionidae from Borneo, two new genera and nine new species are described. New faunistic data of several other species and in some cases taxonomic notes are added.

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Acronyms of depositories

CKA Collection Dr. KIYOSHI ANDO, Osaka, Japan

CRG	Collection Dr. ROLAND GRIMM, Neuenbürg, Germany
CSA	California State Collection of Arthropods, Sacramento, U. S. A. (Dr. ANDREW CLINE)
HNHM	Hungarian Natural Museum, Budapest, Hungary (Dr. OTTÓ MERKL)
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland (Dr. GIULIO CUCCODORO, Dr. IVAN LÖBL)
MNHN	Muséum National d'Histoire Naturelle, Paris, France (Dr. ANTOINE MANTILLERI)
NMP	National Museum, Department Entomology, Prague, Czech Republic (Dr. JIŘI HÁJEK)
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (Dr. WOLFGANG SCHAWALLER)
ZSM	Zoologische Staatssammlung Munich, Germany (Dr. MICHAEL BALKE)

2 The species

2.1 Tenebrioninae Latreille, 1802

Bolitophagini Kirby, 1837

Boletoxenus mixtus Grimm, 2014

Material examined

Borneo, Malaysia, Sabah, Crocker Range Park, Mahua Waterfall area, 1000–1200 m, 23.–24.II.2014, R. GRIMM leg., 1 ♂, 2 ♀♀ (CRG).

Remarks

This species was described based on males (GRIMM 2014). The females are of the same body shape, but the spatulate epistomal horn is lacking, the pronotal horns are reduced to two tubercles, and the elevation of the 1st abdominal ventrite (cf. GRIMM 2014) is only faintly developed. The above mentioned male is smaller than the type specimens, the spatulate epistomal horn is shorter, and the pronotal horns are short, the straight vestiges are directed forward, with an apical fringe of yellowish hairs. According to the newly accessed specimens the body length is 6.9–9.0 mm and the body width 3.5–4.8 mm.

Microatasthalus fungicolus n. sp.

(Figs. 5, 5a)

Holotype ♂: Borneo, Malaysia, Sarawak, Bako Nat. Park, 6.–7.XII.2010, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 3 ♂♂, 4 ♀♀ (CRG), 1 ♀ (SMNS). – Borneo, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs area, below Langanan Fall, 800 m, 11.V.1987, A. SMETANA leg., 3 ♂♂, 1 ♀ (MHNG). – Borneo, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs area, Langanan creek, 915 m, 18.VIII.1988, A. SMETANA leg., 2 ♂♂, 5 ♀♀ (MHNG), 2 ♂♂, 2 ♀♀ (SMNS).

Etymology

Fungicolus (Lat.) = living (dwelling) in fungi, in this case bracket fungi.

Description

Oblong, subparallel-sided, transversely convex; black, antenna, palpi and legs paler fulvous; shining. Body length 3.3–4.0 mm, body width 1.7–2.0 mm.

Head coarsely and densely punctured with supraorbital ridge; clypeus with anterior border slightly arcuate, in the middle with short trapezoidal to rectangular, transverse, at front densely hirsute horn (pubescence sometimes more or less abraded); fronto-clypeal suture ill-defined. Genae before eyes sinuate, eyes completely divided by genal canthus; genal canthus only slightly projecting beyond outer margin of eye. Antennae 11-segmented, the 5 terminal antennomeres forming a moderate club; 11th antennomere with apex rounded, embedded into the truncate apex of 10th.

Pronotum transverse, width/length ratio 1.46–1.87, transversely convex, narrowest at base, widest before the middle; in males area behind anterior border armed with a pair of nearly horizontal, long, slender, and incurved horns with a minute tooth at apex; in females horns replaced by

small longitudinal elevations. Anterior borders in males slightly bisinuate, in females straight in the middle; lateral borders dentate with 6–7 teeth, slightly arcuate. Surface covered with coarse punctures and scattered small setigerous tubercles; in males depressed between horns. Anterior angles somewhat produced by a tooth, posterior angles obtuse. Scutellum small, subpentagonal. Propleura coarsely punctured, between punctures shagreened; prosternal apex bent down posteriorly.

Elytra subparallel-sided, slightly divergent posteriorly, with rows of coarse, deep punctures; intervals with rows of setigerous tubercles; lateral borders dentate, in dorsal view only invisible before apex. Ventral surface of meso- and metaventrite as in propleura; metaventrite in the middle of anterior border with a cone-like process, strongly depressed in the middle. Abdominal ventrites coarsely, densely punctured.

Legs without modifications.

Aedeagus see Fig. 5a.

Differential diagnosis

Microatasthalus fungicolus n. sp. is similar in size and body shape to *M. hadrocerus* Ando, 2010, but in males of *M. hadrocerus* the clypeal horn is long, subcylindrical, and without pubescence at front; the apicale of the aedeagus is distinctly rounded at its apex and not slightly truncate as in *M. fungicolus* n. sp. (compare Fig. 5a with ANDO 2010: fig. 3). The colour of *M. hadrocerus* is reddish brown to castaneous, the genal canthus is distinctly projecting beyond outer margin of the eye, the tubercles on the pronotum are less dense, and the tubercles of the elytral intervals, especially on the disc of the elytra, are somewhat smaller and less dense.

Microatasthalus hadrocerus Ando, 2010

Material examined

Borneo, Malaysia, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs, 525 m, 18.–21.II.2014, R. GRIMM leg., 16 ex. (CRG).

Distribution

Malaysia/Sarawak (ANDO 2010, GRIMM 2014), Malaysia/Sabah (new record).

Alphitobiini Reitter, 1917

Alphitobius inopinatus n. sp.

(Figs. 1, 1a)

Holotype ♂: [Borneo], Indonesia, E Kalimantan, 55 km W of Balikpapan, PT Fajar Surya Swadaya, 01°18.3'S 116°21.0'E, 100 m, J. HÁJEK, J. SCHNEIDER & P. VOTRUBA leg., 24.–25. & 29.XI.2011 (NMP).

Etymology

Inopinatus (Lat.) = unexpected.

Description

Oval, black, with clypeus, labrum, palpi, antennae, scutellum and legs paler reddish-brown; moderately shining. Body length 6.5 mm, body width 3.0 mm.

Head subtrapezoidal, above densely, on clypeus and genae somewhat finer punctured than on remaining parts; anterior border of clypeus distinctly emarginate in the middle, laterally broadly arcuate towards front; outline continuous, not interrupted between clypeus and frons; fronto-clypeal suture distinct. Eyes large, constricted by genal canthus, dorsal part smaller than ventral part. Genae in front of eyes with impression, about as wide as eyes, hardly projecting beyond contour of eyes. Antennae thickened, antennomeres 4 to 10 distinctly serrate. Submentum conversely trapezoidal.

Pronotum transversely convex, width/length ratio 2.1 (measured transversally at base, longitudinally along mid-line); subtrapezoidal, widest at base, converging apically in nearly straight line; apical and basal borders bisinuate; lateral borders and apical border laterally distinctly margined; basal border finely margined laterally, margination of basal and apical border broadly interrupted in the middle; anterior and posterior angles acute; densely punctured, interspaces mostly broader than punctures. Propleura with interrupted longitudinal wrinkles. Prosternal apophysis horizontally projecting beyond procoxae, subacute and apically emarginate.

Elytra obovate, base slightly wider than base of pronotum; with 9 striae and additional scutellary striole. Punctures of rows coarse and dense. Intervals slightly, apically distinctly convex, much wider than striae; with fine, scattered, setigerous punctures. Lateral borders in dorsal view nearly visible on whole length, only concealed at level of 1st abdominal ventrite; apically broadly salient. Scutellum sub-pentagonal. Base of mesosternum deeply excavate. Metasternum and abdominal ventrites finely punctured.

Legs: Protibiae strongly, meso- and metatibiae moderately dilated towards apex.

Aedeagus see Fig. 1a.

Differential diagnosis

In the pronotal and elytral structure, and in the shape of the protibiae *Alphitobius inopinatus* n. sp. resembles the cosmopolitan *A. diaperinus* (Panzer, 1796). In this species the lateral borders of the pronotum are converging not in a straight line towards the apex, but are subparallel basally (compare Fig. 1 with SCHAWALLER & GRIMM 2014: fig. 15), the antennae are less serrate and only the 5th to 10th antennomeres are serrate, and the anterior border of the clypeus is only shallowly emarginate in the middle.

Remarks

Except of the cosmopolitan species *Alphitobius diaperinus* (Panzer, 1796) and *A. laevigatus* (Fabricius, 1781), up to now all congeners are restricted to the African region, the reason why GRIMM (2008) and SCHAWALLER & GRIMM (2014) assumed that the genus *Alphitobius* is a native Ethiopian faunal element. Therefore the discovery of a representative new for science in Borneo is quite surprising.

2.2 Diaperinae Latreille, 1802

Diaperini Latreille, 1802*Platydemia kubahensis* n. sp.

(Figs. 2, 2a, 2b, 2c)

H o l o t y p e ♂: Borneo, Malaysia, Sarawak, Kubah Nat. Park, Matang Wildlife Centre, 50 m, 11.–12.XII.2010, R. GRIMM leg. (CRG).

P a r a t y p e: Borneo, Malaysia, Sarawak, Kubah Nat. Park, Matang Wildlife Centre, 19.–22.IX.2008, R. GRIMM leg., 1 ♀ (CRG).

Etymology

The species name refers to the Kubah National Park where the type specimens were collected.

Description

Oval, dorsal side glabrous, shining, unicoloured castaneous, legs somewhat paler. Body length 5.6–6.0 mm, body width 2.8–3.0 mm,

Head with fine punctation, forehead in front of eyes subtrapezoidal; in males frons with two short, closely set, dentiform horns of same length, without setation, and with shallow excavation behind horns; in females horns reduced to low swellings; in both males and females clypeus with anteromedial tubercle. Length/width ratio of antennomeres 1–11 as 2:1/3:4/7:5/6:7/3:4/2.5:4/2.5:4/2.5:4/2.5:4/2.5:4/5:4.

Pronotum transverse, transversely convex, with shallow basal foveae; punctation similar, but less dense as on head. Basal border bisinuate, not margined; apical border finely margined, feebly emarginate, nearly straight in the middle two fourths, with anterior corners somewhat protruding. Anterior angles obtusely rounded, posterior angles obtuse. Propleura densely set with setigerous punctures, intermediate spaces shagreened.

Elytra oval, convex, about 1.3 times as long as wide; besides scutellar row and lateral margin with 8 rows of punctures in feeble striae, third row with approximately 70 punctures. Intervals flat with similar punctation as on pronotum. Abdominal ventrites with setigerous punctures, abdominal ventrites 1–3 laterally rugulose.

Legs without modifications.

Aedeagus see Fig. 2c.

Differential diagnosis

Platydemia kubahensis n. sp. is characterized by the subtrapezoidal forehead, the short, dentiform horns of the males, the anteromedial clypeal tubercle in both sexes, and the shape of the aedeagus and is thus distinguished from all other known Oriental, Moluccan, and New Guinean species of this genus (compare GRIMM 2010; SCHAWALLER 2004, 2008, 2012).

Scaphidemini Reitter, 1922

Spiloscapa borneensis n. sp.

(Figs. 6, 6a)

Holotype ♂: Borneo, Malaysia, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs area, 525 m, 18.–21.II.2014, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 11 ex. (CRG), 5 ex. (SMNS).

Etymology

The species name refers to the island of Borneo where the type series was collected.

Description

Oblong-oval, rufous to castaneous, shining. Scape, pedicel and 3rd antennomere castaneous, flagellum from apex of 3rd antennomere black. Body length 3.0–3.7 mm, body width 1.5–1.8 mm,

Head with punctation denser and somewhat coarser than on pronotum. Clypeus truncate at apex, frontoclypeal suture weak. Genae long and oblique, moderately convex. Eyes without inner ocular sulcus, strongly divided by genal canthus.

Pronotum transverse, trapezoidal, widest at base, punctation somewhat sparser and finer than on head, punctures setigerous in part; anterior margin, slightly emarginate, straight in median two fourths to roundly and slightly produced in median third, margined in lateral third; lateral borders weakly arcuately narrowing from base to apex, broadly sulcate; basal border slightly bisinuate and unmargined; anterior angles obtusely rounded, hardly produced; posterior angles rectangular. Propleura finely sulcate and microgranulated.

Elytra moderately convex, between ill-defined scutellar row and lateral margin with 8 rows of punctures, 8th row obsolete, 3rd row with about 40 densely set punctures. Intervals flat, with widely spaced, minute punctures and scattered setigerous punctures of the same size or sometimes somewhat larger than punctures in primary rows. Lateral borders visible in almost their entire length, not discernible only before apex. Metaventrite and abdominal ventrites nearly smooth, with only sparse and minute setigerous punctures; metaventrite with distinctly larger punctures laterally than medially.

Aedeagus see Fig. 6a.

Differential diagnosis

Spiloscapa borneensis n. sp. is similar to *S. medvedevi* Grimm, 2010. However, in *S. medvedevi* the dorsal side is not uniformly coloured, but parts of pronotum and elytra are with irregular blackish pattern, the elytra often with an irregular transverse patch near the middle and an irregular patch near the apex (compare Fig. 6 with GRIMM 2010: fig. 7); moreover the distal part of the last antennomere is ferruginous. *S. medvedevi* is distinctly more convex and both species differ in the shape of the aedeagus (compare Fig. 6a with GRIMM 2010: fig. 29).

2.3 Stenochiinae Kirby, 1837

Cnodalonini Gistel, 1856

Borneosphaerotus n. gen.

Etymology

Borneo and σφαίροειδής (Gr.) = spherical.

Description

Small (body length below 4 mm), apterous. Forehead shortened; head with ocular sulcus; between labrum and clypeus with distinct membrane. Antennae apically thickened. Pronotum not margined. Elytra short, strongly convex transversely and longitudinally; elytral rows coarsely punctured, intervals nearly smooth. Femora not clavate. Tibiae straight, cylindrical, without keels or furrows; in males pro- and mesotibiae apically with small, but distinct ventral tooth. Tarsi somewhat dilated, but not bilobed, with plantar surfaces bearing long, dense, fine setae; in males 1st metatarsomere ventrally with distinct tooth. Head, pronotum, and legs coarsely to rugosely punctured. Membrane between last three ventrites visible, last abdominal ventrite not margined.

Differential diagnosis

In KASZAB's (1941) key to the genera of Misolampini (now included in Cnodalonini) the new genus would run to *Microsphaerotus* Pic, 1928. *Microsphaerotus* is monotypical and the single specimen of *M. ruficornis* Pic, 1928, described by PIC (1928) from Annam (Vietnam), is destroyed by dermestids to a large extent; only the hind body and parts of the legs are left. According to PIC (l. c.) *Microsphaerotus* is much larger (body length 7 mm), and according to PIC (l. c.) and KASZAB (l. c.) the base of the pronotum is margined. In *Borneosphaerotus* n. gen. the forehead is shortened as in, e. g., *Eucyrtus* Pascoe, 1866, *Hemicera* Laporte de Castelnau & Brullé, 1831, or *Euhemicera* Ando, 1996. Neither PIC (l. c.) nor KASZAB (l. c.) refer to this character for *Microsphaerotus*.

Type species: *Borneosphaerotus santubongicus* n. sp.

Borneosphaerotus santubongicus n. sp.

(Figs. 7, 7a, 7b)

Holotype ♂: Borneo, Malaysia, Sarawak, Santubong Peninsula, Gunung Santubong, 300 m, 24.–26.II.2012, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, but 6.IV.2009, 4 ♂♂, 1 ♀ (CRG), 1 ♂ (SMNS). – Same data, but 2.–5.XII.2010, 2 ♂♂ (CRG), 1 ♂ (SMNS).

Etymology

Named after Gunung Santubong where the type series was collected.

Description

Short, stout, strongly convex, shiny, castaneous to blackish; antennae, labrum, palpi, coxae, tibiae, tarsi, and sometimes sutural intervals paler reddish brown. Body length 3.1–3.8 mm, body width 1.7–2.2 mm.

Head widest near middle of eyes, eyes protruding beyond contours of head; shagreened, coarsely and densely punctured, with interspaces distinctly smaller than puncture diameters. Frons flat, clypeus slightly convex. Anterior border of clypeus straight, that of genae nearly straight, only slightly converging to lateral borders which are perpendicular to eyes. Clypeal sulcus distinct. Supraorbital sulcus deep and broad. Antennae apically thickened, shape of antennomeres see Fig. 7, length ratio of antennomeres 1–11 as 15 : 5 : 9 : 5½ : 5½ : 6 : 6½ : 7½ : 8 : 8 : 13½.

Pronotum transverse, subrectangular, width/length ratio 1.57–1.83, widest before middle; slightly convex longitudinally, strongly convex transversely, near anterior corners somewhat flattened; surface coarsely and densely punctured. Lateral borders finely explanate, somewhat more converging to anterior than to posterior border; apical border nearly straight, basal border shallowly arcuate. Anterior and posterior angles obtuse. Propleura coarsely punctured; prosternum bordered anteriorly, prosternal apophysis declivious behind coxae.

Elytra obovate in males, spherical in females, with lateral intervals bent downwards; with 9 rows of large punctures and an additional scutellar row, punctures larger than distances between them; intervals convex, mostly somewhat wider than punctural rows, nearly smooth, only with scattered microscopical, setigerous punctures. Metaventricle coarsely punctured, very short between meso- and metacoxae. Abdominal ventrites nearly smooth, with scattered microscopical, setigerous punctures, last ventrite apically shagreened. 1st abdominal ventrite with apex broadly arcuate and in basal part with conspicuous, deeply impressed, coarse punctures along lateral borders.

Legs narrow, femora not clavate, basally nearly smooth, but predominantly densely and coarsely punctured, punctures shagreened. Tibiae straight, cylindrical, without

keels or furrows; in males pro- and mesotibiae apically with small, but distinct ventral tooth (Fig. 7). Tarsi somewhat dilated, with plantar surfaces bearing long, dense, fine setae; in males 1st metatarsomere ventrally with distinct tooth.

Aedeagus see Fig. 7b.

Borneosynopticus n. gen.

Etymology

Combination of Borneo and συνοπτικός (Gr.) = synoptic.

Description

Oblong, black, dorsal surface covered with broad, erect bristles. Frons impressed, clypeus curved up, clypeogenal meeting notched, genae raised. Eyes constricted by genal canthus, reniform. Antennae (Fig. 3) virtually 10-segmented, in some specimens with a fine suture visible between connate primary 10th and 11th antennomere. Ventral surface of genae in front of eyes with deep hole for taking scape, but without antennal groove between buccal process and eye. Maxillary palpi 4-segmented, with apical palpomere securiform. Pronotum subtrapezoidal, widely flattend laterally, disc with large, high bump. Elytral epipleura reaching apex. Legs long, robust; femora and tibiae covered with erect bristles. Pro- and mesotibiae dorsally widened towards the middle. Tarsal formula 5-5-4. Tarsi short; last pro- and mesotarsomere subequal in length to precedent tarsomeres combined, last metatarsomere slightly longer than precedent tarsomeres combined.

Differential diagnosis

On the first glance the new genus bears a certain resemblance to the monospecific genus *Macrosynopticus* Pic, 1922 (Amarygmini), because of the similar body shape with the subtrapezoidal pronotum having similar bulbs as in *Borneosynopticus* n. gen. But *Macrosynopticus* is distinguished by strongly keeled impair intervals, absent pubescence of the dorsal side, and different antennae not forming an apical club

Type species: *Borneosynopticus tubericollis* n. sp.

Borneosynopticus tubericollis n. sp.

(Figs. 3, 3a)

Holotype ♂: Borneo, Malaysia, Sabah, Crocker Range Park, Mahua Waterfall vic., 12.IV.2013, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 5 ex. (CRG). – Borneo, Malaysia, Sabah, Tawau Hills Park, 300 m, 4.–6.IV.2013, R. GRIMM leg., 10 ex. (CRG), 3 ex. (SMNS), 2 ex. (CKA), 1 ex. (HNHM). – Borneo, Sabah W., Crocker Range W., W of Apin Apin, II.2000, M. ŠNIZEK leg., 1 ex. (ZSM). – Borneo, Malaysia,

Sarawak, Gunung Gading Nat. Park, 100–250 m, 9.–12.III.2008, R. GRIMM leg., 3 ex. (CRG). – Borneo, Malaysia, Sarawak, Kubah Nat. Park near Headquarter, 100–300 m, 15.–18.IX.2008, R. GRIMM leg., 5 ex. (CRG), 2 ex. (SMNS).

Etymology

Tuber (Lat.) = hump, bump, protuberance; collum (Lat.) = neck, referring to the pronotum in this case.

Description

Oblong, black, mat to moderately shining; dorsal surface shagreened, covered with broad, erect bristles. Body length 6.1–8.0 mm, body width 2.9–3.7 mm.

Head with frontal impression, flat at bottom; clypeus straight, curved up, dorsally narrowly ridged; fronto-clypeal suture faint, straight; genae bulging, raised above level of eyes; facets of eyes large. Frons rugosely punctured, genae muricate to minutely granulate; punctures and granules bearing a broad, apically tapered, erect bristle, behind the bristle with a fine, long seta which is longer than the bristle and towering above the latter. Antennae with 3rd antennomere somewhat longer than 2nd, about as long as 4th and 5th combined; 5th to 7th quadrate, 8th subquadrate, 9th wider than long, 10th very large, longer than wide; 8th to 10th forming a loose club. Mentum reversed trapezoidal, carinate along midline.

Pronotum subtrapezoidal, widely flattened laterally; base and apex bisinuate. Disc centrally with large, high, frontally and laterally precipitous bump; apex of bump distinctly and broadly furrowed longitudinally, more weakly transversally, thus apex appearing bi- to quadrituberculate. Borders not margined, but basal border crenulate. Apical angles acute, basal angles subrectangular. Surface coarsely punctured with bristles and setae as on head, also along borders. Propleura microgranulated; prosternal apophysis terminating in a cone behind procoxal cavities.

Elytra convex transversally, widest at base, slightly converging towards apical two thirds, then shallowly rounded to apex. Disc in the middle at basal fourth flattened, laterally bordered by a longitudinal elevation. Surface coarsely, irregularly, laterally partly confluent punctured, with indicated rows on disc; punctures larger than distances between them, bearing bristles and setae as on head and pronotum. Basal borders crenulate, humeral angles dentate and humeral callosities distinct; lateral borders in dorsal view only visible in basal two thirds. Epipleura with scattered setigerous punctures. Scutellum with obsolete setigerous punctures. All ventrites with setigerous punctures.

Aedeagus see Fig. 3a.

Bradymerus ater n. sp.

(Fig. 4)

Holotype ♀: Borneo, Malaysia, Sabah, Keningau Crocker Range Park, 950 m, 21.III.2013, R. GRIMM leg. (CRG).

Paratype: Borneo, Malaysia, Sabah, Tenom, 19.–20.III.2013, R. GRIMM leg., 1 ♀ (CRG).

Etymology

Ater (Lat.) = black.

Description

Oblong, black, shining (Fig. 4). Body length 9.0–9.7 mm, body width 3.8–4.2 mm.

Head with coarse, dense punctation. Anterior border of clypeus slightly emarginate in the middle. Fronto-clypeal suture fine, but distinct. Genae smaller than eyes; frons with distinct supraorbital furrows, but without supraorbital keels. Last 5 antennomeres forming a moderate club.

Pronotum transverse, width/length ratio 1.5, strongly convex, widest in the middle; with coarse, dense, but separate punctation, interspaces between punctures ridged, before base punctures more separate. Anterior border slightly curved forward in the middle; lateral borders explanate, with feeble crenulation, arcuate and feebly emarginate before posterior corners; basal border bisinuate, explanate in the middle. Anterior corners acute, protruding; posterior corners subrectangular.

Elytra with punctural striae, punctures small, oblong, more than 30 in 3rd stria. Intervals minutely punctured; intervals 1, 2, 4, 6 with small tubercles, flat on disc, feebly convex on elytral declivity; interval 3 feebly convex on disc, with tubercles, keeled on elytral declivity; interval 5 similar to 4, but keeled in about apical half; interval 7 entirely keeled, keel on disc interrupted by tubercles; intervals 8, 9 convex with granules, 9 apically keeled.

Legs: Tibiae externally without keels; male tibiae unknown.

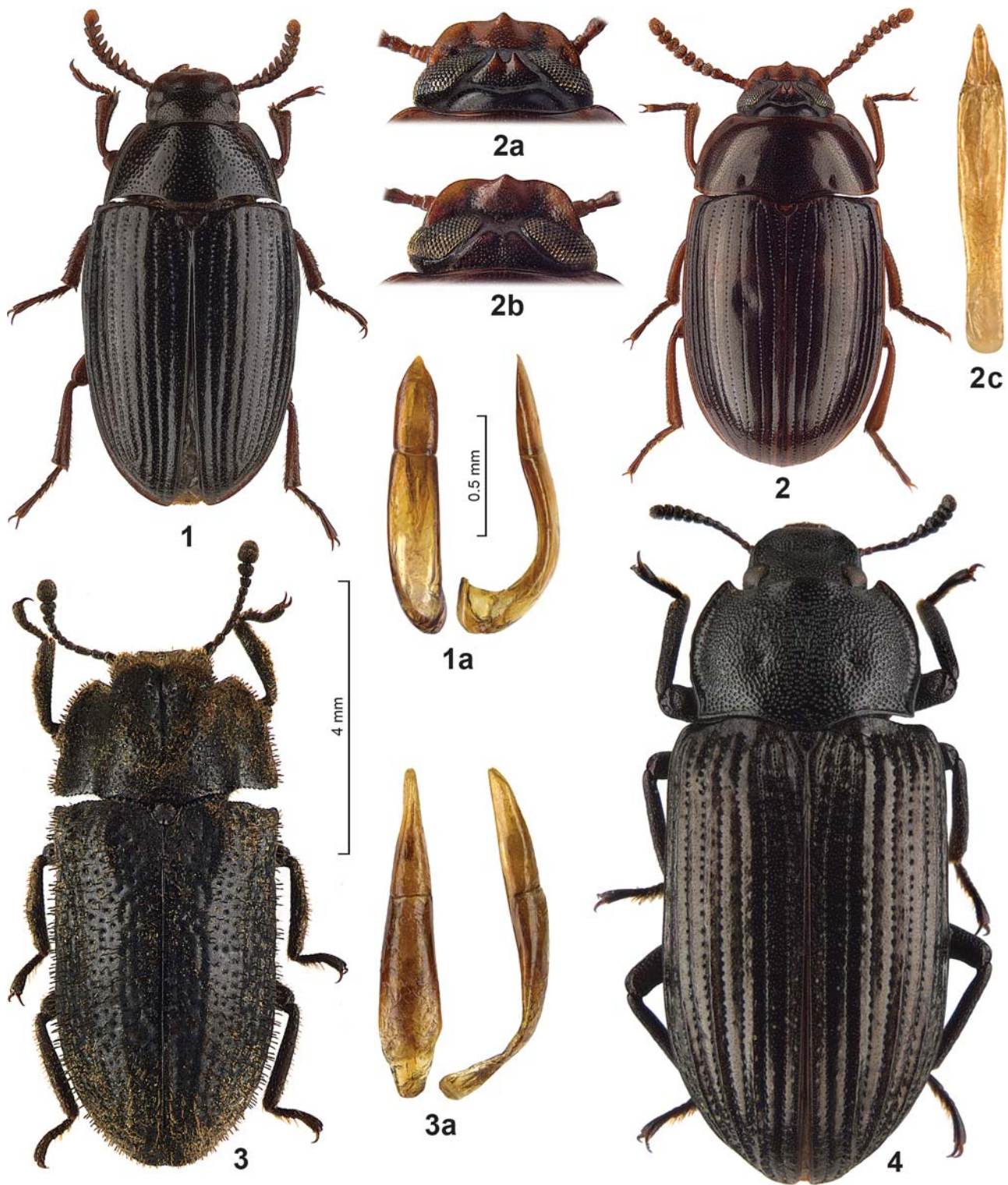
Differential diagnosis

Bradymerus ater n. sp. has a similar body shape as the Sulawesian *B. michihikoi* Schawaller, 2006, but the latter species differs in the extraordinarily wide supraorbital furrow, the pronotum with the anterior corners not protruding, the confluent punctation of the pronotum, and the differently keeled elytra without tubercles (compare SCHAWALLER 2006). The Taiwanese *B. masumotoi* Schawaller, 2006 is similarly keeled as *B. ater* n. sp., but the elytral intervals are without granules, the body is more elongate, and the pronotal disc is only feebly convex.

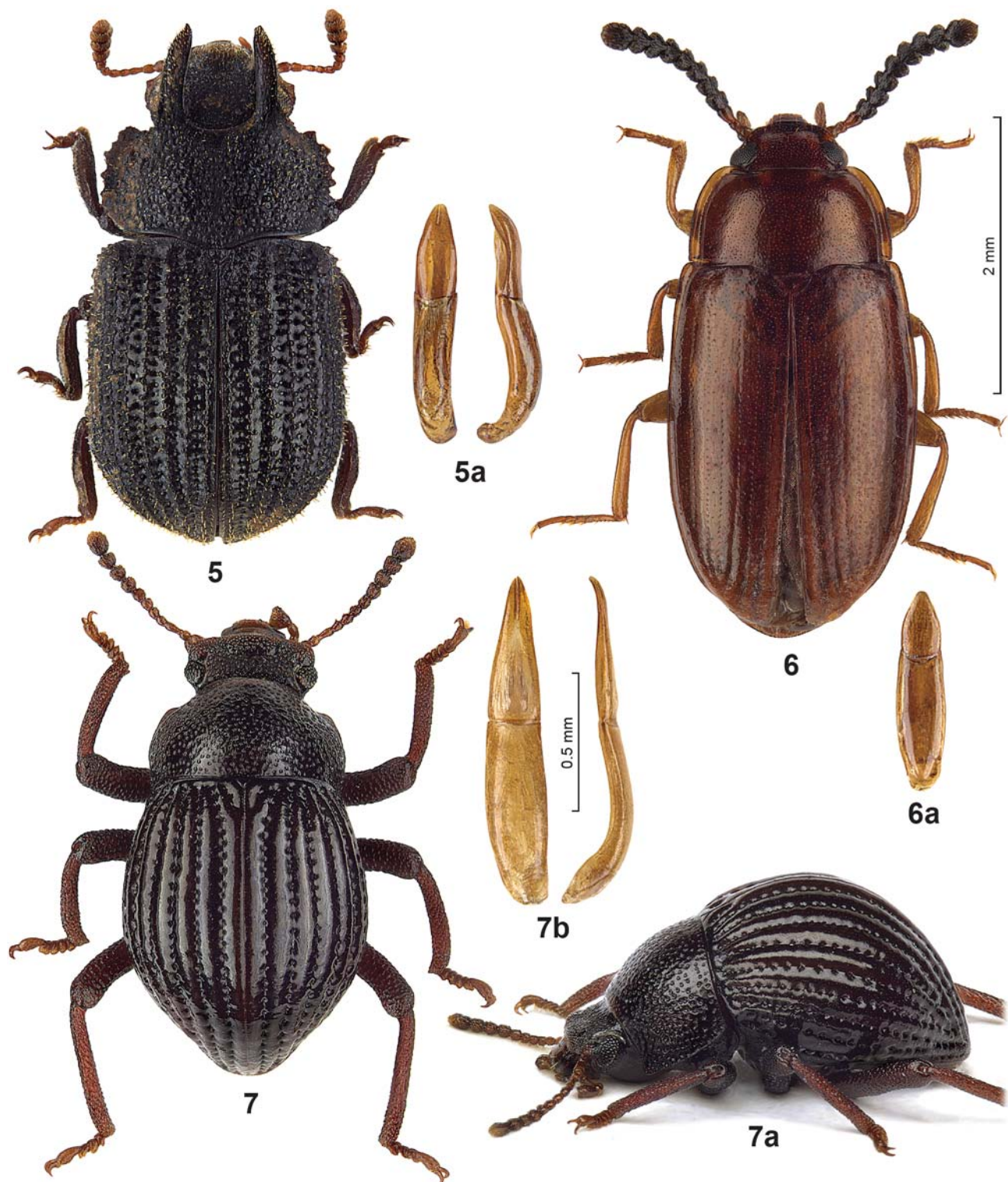
Cryptobatoides gebieni Kaszab, 1941

Material examined

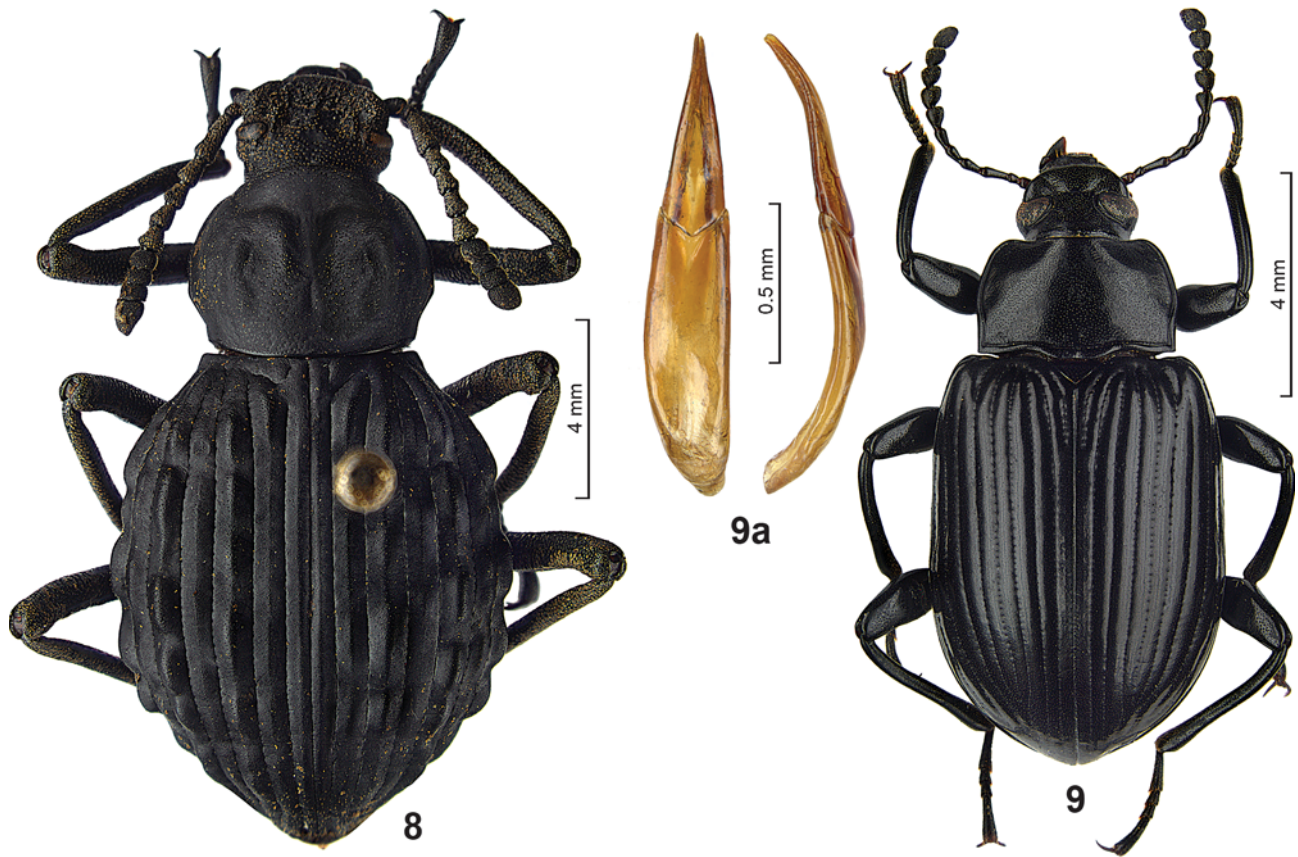
Borneo, Malaysia, Sabah, Danum Valley Conservation Area, Borneo Rainforest Lodge, 1.–4.III.2013, R. GRIMM leg., 1 ex. (CRG).



Figs. 1–4. Tenebrionidae spp., dorsal views (1, 2, 3, 4), dorsal views of head (2a ♂, 2b ♀), aedeagi, dorsal (1a and 3a left, 2c) and lateral (1a and 3a right) views. – **1, 1a.** *Alphitobius inopinatus* n. sp. ♂ holotype. **2, 2a, 2b, 2c.** *Platydema kubahensis* n. sp. ♂ holotype (2, 2a, 2c), ♀ paratype (2b). **3, 3a.** *Borneosynopticus tubericollis* n. sp. ♂ holotype. **4.** *Bradymerus ater* n. sp. ♀ holotype.



Figs. 5–7. Tenebrionidae spp., dorsal views (5, 6, 7), oblique lateral view (7a), aedeagi, dorsal (5a and 7b left, 6a) and lateral (5a and 7b right) views. – **5, 5a.** *Microatasthalus fungicolus* n. sp. ♂ holotype. **6, 6a.** *Spiloscapa borneensis* n. sp. ♂ holotype. **7, 7a, 7b.** *Borneosphaerotus santubongicus* n. sp. ♂ holotype.



Figs. 8–9. Tenebrionidae spp., dorsal views (8, 9), aedeagus, dorsal (9a left) and lateral (9a right) views. – 8. *Cryptobatoides merkli* n. sp. ♀ holotype. 9, 9a. *Derosphaerus laticollis* n. sp. ♂ holotype.

Remarks

So far only the holotype from Sandakan (Sabah) was known (KASZAB 1941).

Distribution

E Malaysia/Sabah.

Cryptobatoides merkli n. sp. (Fig. 8)

Holotype ♀: [Borneo], Indonesia, Kalimantan Barat, Belaban Ellat, Bukit Baka-Bukit Raya Nat. Park, lowland rainforest, 0°36'58"S 112°14'43"E, 300–400 m, 1.–4.I.2003, G. SZÖVÉNYI leg. (HNHM).

Etymology

Named in honour of Dr. OTTÓ MERKL, curator of Coleoptera in the Hungarian Natural History Museum in Budapest, who kindly provided me with the specimen for description.

Description

Unicoloured black, dull. Body length 17.5 mm, body width 9.0 mm.

Head with deep fronto-clypeal sulcus, weakly notched between clypeus and genae. Genae raised. Clypeus shallowly convex, with anterior border straight, rugosely punctured; medio-basally with short keel-like swelling which is continued by distinct keel on frons. Frons impressed on both sides of this keel, and these impressions also keeled laterally at eyes; frons punctured as on clypeus. Vertex coarsely punctured. Antennae reaching base of pronotum.

Pronotum strongly convex transversally, somewhat wider than long, width/length ratio 1.24, widest near middle, apically more narrowed than basally. Anterior border nearly straight, finely margined laterally; lateral borders arcuate, weakly undulate in the middle, constricted before base, and finely margined; basal border arcuate, margined laterally. Anterior angles broadly rounded, posterior angles obtusely rounded. Surface with low longitudinal elevations, vaguely punctured and shagreened. Pro-

pleura vaguely longitudinally rugose. Prosternal apophysis declivous behind coxae, with wide and shallow furrow.

Elytra broadly oval, with lateral intervals bent downwards; at base as wide as pronotal base, widest in the middle. Striae finely punctured. Intervals convex, distinctly wider than striae; intervals 3, 5, 6 and 7 equipped with distinct elongate nodules, bearing minute, setigerous punctures; otherwise intervals shagreened with scattered microgranules. Combined base shallowly sinuate. Lateral margin in dorsal view only visible near base and apex. Last abdominal ventrite broadly margined.

Legs long, narrow; densely, but separately punctured. Tibiae straight, subcylindrical.

Differential diagnosis

So far only two further species of the genus *Cryptobatoidea* Kaszab, 1941 were described. *C. opaca* Kaszab, 1914 is distinguished by flat elytral intervals. In *C. gebieni* Kaszab, 1941 the elytral intervals are also convex, but this species is more shining, the elytra are oblong oval, with the stria punctures larger, and the intervals evenly convex; the lateral borders of the pronotum are explanate in the middle, and the punctures of the legs are coarse and partly confluent.

Cryptobatoidea opaca Kaszab, 1941

Material examined

Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 100–250 m, 9.–12.III.2008, R. GRIMM leg., 5 ex. (CRG). – Borneo, Malaysia, Sarawak, Kubah Nat. Park, Headquarter area, 160–300 m, 15.–17.II.2012, R. GRIMM leg., 1 ex. (CRG).

Remarks

Until now only the holotype from Pontianak (Kalimantan) was known (KASZAB 1941).

Distribution

Indonesia/Kalimantan Barat (KASZAB 1941), E Malaysia/Sarawak (new record).

Derosphaerus chewi Grimm, 2014

Material examined

Borneo, Malaysia, Sabah, Mt. Kinabalu Nat. Park, Poring Hot Springs, 525 m, 18.–21.II.2014, R. GRIMM leg., 1 ♀ (CRG).

Remarks

Until now only the male holotype was known (GRIMM 2014).

Distribution

E Malaysia/Sabah (GRIMM 2014).

Derosphaerus laticollis n. sp.

(Figs. 9, 9a)

H o l o t y p e ♂: Borneo, Malaysia, Sabah, Mt. Trus Madi, 1100 m, 1.–15.IV.2005, K. MARTINI leg. (CRG).

Paratypes: Borneo, [Malaysia], Sabah, Crocker Range W., route Keningau–Papar, V.1999, Z. SMRŽ leg., 1 ♂ (ZSM). – Borneo, Malaysia, Sabah, Crocker Range, Mt. Trus Madi, 1400 m, 05°33'00"N 116°31'00"E, 6.VII.2005, S. CHEW leg., 1 ♀ (CSA).

Etymology

Latus (Lat.) = wide and collum (Lat.) = neck (referring in this case to the pronotum).

Description

Elongate oval, black, shining. Body length 10.3–11.7 mm, body width 5.0–6.0 mm.

Head with fine and uniform punctation; genae not widened, fronto-clypeal suture deep; eyes constricted by genal canthus, distance between eyes on frons narrower than anterior border of clypeus, the latter straight; frons without impressions or other modifications; supraocular groove deep; shape of antennomeres see Fig. 9, last antennomeres broader, but not forming a distinctly separated club, antennomeres 8 to 10 weakly dentate. Mentum reversed subtrapezoidal, with elevated, anteriorly narrowing middle-section, coarsely punctured, hirsute.

Pronotum transverse, subrectangular, slightly convex transversely; width/length ratio 1.67–1.70; widest somewhat behind middle. Lateral sides slightly rounded at widest point, nearly straight converging towards apex, weakly constricted behind widest point and then straight to base. Apex shallowly emarginate, base shallowly bisinuate. Lateral borders and apical border distinctly margined, apical margin interrupted in the middle; basal border with broad margin, especially in the middle. Apical angles broadly rounded, basal angles rectangular. Surface punctured as on head. Propleura minutely punctured, nearly smooth. Prosternum and prosternal apophysis hirsute, the latter with apex rounded.

Elytra elongate-oval, subparallel-sided, with 9 striae and additional scutellary striola; punctures of striae distinctly larger than those on pronotum, without setae; elytral intervals flat to weakly convex, with minute punctation. Epipleura complete, continuously narrowing to apex. Mesoventrite weakly excavate, basal half hirsute. Metaventrite with mid-longitudinal furrow, surface with fine, setigerous punctures. Abdominal ventrites finely punctured; membranes between last three ventrites exposed, last ventrite not bordered.

Legs long, with minutely punctured surface, femora clavate, anterior femora of males with elongate, pubescent ventral spot in the middle. Tibiae long and narrow, apically thickened, thickened part ventrally and latero-

basally with dense, short setation; tibial spurs short and inconspicuous. Anterior tarsomeres in males not dilated, tarsomere 5 of anterior tarsus longer than tarsomeres 1–4 combined; tarsomere 4 of posterior tarsus shorter than tarsomeres 1–3 combined; tarsomere 1 of posterior tarsus prolonged, longer than 2 and 3 combined.

Aedeagus see Fig. 9a.

Differential diagnosis

As in *Derosphaerus chewi* Grimm, 2014 and *D. reibnitzii* Grimm 2014, *D. laticollis* n. sp. is characterized by the elongate oval, black, and shining body, the broadly margined basal border of the pronotum, and the pubescent ventral spot of the male anterior femora, but the new species is easy to distinguish by the wide (width/length ratio 1.53 in *D. chewi* and 1.23–1.30 in *D. reibnitzii*) and differently shaped pronotum (compare Fig. 9 with GRIMM 2014: figs. 12, 13). The three species can also be separated by the shape of the aedeagus (compare Fig. 9a with GRIMM 2014: figs. 12a, 13a).

3 References

- ANDO, K. (2010): Fungivorous Tenebrionidae (Coleoptera) collected in Lambir Hills National Park, Sarawak, Malaysia by Dr. YAMASHITA. – *Entomological Review of Japan* **65**: 151–182.
- GEBIEN, H. (1925): Die Tenebrioniden (Coleoptera) des indomalayischen Gebietes, unter Berücksichtigung der benachbarten Faunen, III. Die Gattungen *Bradymerus*, *Chaetopsia*, *Danodema*, und *Dicraeosis*. – *Philippine Journal of Science* **26**: 535–576, pl. 4.
- GRIMM, R. (2008): *Guanobius borneensis* n. gen., n. sp. from Borneo (Coleoptera: Tenebrionidae: Alphitobiini). – *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **1**: 375–379.
- GRIMM, R. (2010): New and little known species of Tenebrionidae (Coleoptera) from Borneo. – *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **3**: 257–267.
- GRIMM, R. (2014): New and little known species of Tenebrionidae (Coleoptera) from Borneo (4). – *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **7**: 183–197.
- KASZAB, Z. (1941): Die indomalayischen Misolampinen (Coleopt., Tenebri.). – *Annales Historico-Naturales Musei Nationalis Hungarici* **34**: 1–44, pl. 1.
- PIC, M. (1928): Nouveautés diverses. – *Mélanges exotico-entomologiques* **52**: 1–32.
- SCHAWALLER, W. (2004): The Oriental species of *Platydemus* Laporte & Brullé, with descriptions of 16 new species (Coleoptera: Tenebrionidae). – *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* **671**: 49 pp.
- SCHAWALLER, W. (2006): Revision of the Oriental species of the genus *Bradymerus* Peroud, with descriptions of 29 new species (Coleoptera: Tenebrionidae). – *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)* **694**: 64 pp.
- SCHAWALLER, W. (2008): The species of *Platydemus* Laporte & Brullé (Coleoptera: Tenebrionidae) from New Guinea and Moluccan Islands, with descriptions of 11 new species. – *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **1**: 413–429.
- SCHAWALLER, W. (2012): The Oriental species of *Platydemus* Laporte & Brullé, part 2, with descriptions of 11 new species (Coleoptera: Tenebrionidae: Diaperinae). – *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **5**: 243–255.
- SCHAWALLER, W. & GRIMM, R. (2014): The genus *Alphitobius* Stephens (Coleoptera, Tenebrionidae, Alphitobiini) in Africa and adjacent islands. – *ZooKeys* **415**: 169–190.

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