New and little known species of Tenebrionidae (Coleoptera) from Borneo (3)

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Abstract

The following new species are described: *Camptobrachys andoi* **n. sp.** (E Malaysia/Sarawak), *Derispia ulfbremeri* **n. sp.** (E Malaysia/Sabah, Indonesia/Sumatra), *Falsonannocerus emasicus* **n. sp.** (E Malaysia/Sabah), *Promethis merkli* **n. sp.** (E Malaysia/Sarawak), and *Uloma (Uloma) gadingica* **n. sp.** (E Malaysia/Sarawak). New synonym: *Toxicum heros* Frivaldszky, 1882 = *T. moultoni* Gebien, 1914 **n. syn.** A lectotype is designated for *T. heros*. New records of *Tetragonomenes borneensis* (Kaszab, 1977) and *Toxicum heros* Frivaldszky, 1882 are given.

Keywords: Tenebrionidae, Borneo, Malaysia, Sabah, Sarawak, Sumatra, Cnodalonini, Ulomini, Stenochiini, new species, new records, synonymy.

Zusammenfassung

Die folgenden neuen Arten werden beschrieben: *Camptobrachys andoi* **n. sp.** (E Malaysia/Sarawak), *Derispia ulfbremeri* **n. sp.** (E Malaysia/Sabah, Indonesien/Sumatra), *Falsonannocerus emasicus* **n. sp.** (E Malaysia/Sabah), *Promethis merkli* **n. sp.** (E Malaysia/Sarawak) und *Uloma (Uloma) gadingica* **n. sp.** (E Malaysia/Sarawak). Neues Synonym: *Toxicum heros* Frivaldszky, 1882 = *T. moultoni* Gebien, 1914 **n. syn.** Für *T. heros* wird ein Lectotypus festgelegt. Neue Funde von *Tetragonomenes borneensis* (Kaszab, 1977) und *Toxicum heros* Frivaldszky, 1882 werden mitgeteilt.

Contents

1 Introduction

Like the first (Grimm 2010) and the second part (Grimm 2011) of this series on Tenebrionidae from Borneo, the present third part treats mainly material from the author's fieldwork in northern Borneo (Sabah, Sarawak), complemented by material from other collections (see acronyms of depositories).

Acknowledgements

For their great help I am grateful to Dr. Ottó Merkl (Budapest) who supported me with a copy of the paper of Frivaldszky (1882) and additional information on *Toxicum heros* Frivaldszky, and to Dr. Kimio Masumoto (Tokyo) who sent on loan the holotype of *Falsonannocerus harukae* Masumoto from the Tokyo National Science Museum and provided photographs of the holotype of *Tetragonomenes borneensis* (Kaszab) for me. For the gift and/or loan of specimens I also thank Dr. Michael Balke (Munich), Prof. (emer.) Dr. Hans J. Bremer (Osnabrück), Dr. Wolfgang Schawaller (Stuttgart), and Dr. Eva Sprecher (Basel). Furthermore, I am grateful to Dr. Ottó Merkl (Budapest) and Dr. Wolfgang Schawaller for reviewing the manuscript. Last but not least I thank Johannes Reibnitz (Stuttgart) again for producing the photographs and arranging the plates.

Acronyms of depositories

CRG Collection Dr. Roland Grimm, Neuenbürg, Germany
HNHM Hungarian Natural History Museum, Budapest, Hungary (Dr. Ottó Merkl)
NHMB-F Naturhistorisches Museum Basel, Collection Frey, Switzerland (Dr. Eva Sprecher)

SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany (Dr. Wolfgang Schawaller)
ZSMB Collection Prof. Dr. H. J. Bremer in Zoologische Staatssammlung Munich, Germany (Dr. Michael Balke)

2 The species

2.1 Tenebrioninae Latreille, 1802
Toxicini Lacordaire, 1859

Toxicum heros Frivaldszky, 1882
Toxicum moultoni Gebien, 1914 **n. syn.**

Type material studied

The type series of *Toxicum heros* Frivaldszky, 1882 consists of two male specimens (HNHM), both labelled as syntype. One of them, labelled [Borneo, Sarawak], Matang, leg. Xantus, 305/792, is designated herewith as lectotype. The other specimen, with same data, but 305/793, is consequently the paralectotype.

The female holotype (labelled as type) of *T. moultoni* Gebien, 1914 (NHMB-F) is labelled Borneo, Kuching, 25.X.[18]99, (Moulton), Type! No. 297.

Additional material studied

Borneo, Malaysia, Sarawak, Kubah Nat. Park, Headquarter vic., 160–300 m, 15.–17.II.2012, R. Grimm leg., 1 ♂ (CRG). – Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 50–200 m, 20.–23.II.2012, R. Grimm leg., 1 ♀ (CRG). – [Indonesia, Kalimantan Barat], Borneo occ., Pontianak, 1900, no collector stated, 1 ♂ (HNHM). – Malaysia, Selangor, Templer Park, lowland rainforest, singled from logs & bracket fungi at night, 5.IV.1995, O. Merkl leg., 5 ♂♂, 6 ♀♀ (HNHM). – Philippines, Mindanao, Surigao, no date and collector stated, 1 ♂ (HNHM). – Philippine Islands, Mindanao, Misamis, 13.IV., no year and collector stated, 1 ♂ (HNHM). – Further material is listed by Grimm (2010).

Synonymy

As already mentioned by Grimm (2010), the holotype of *T. moultoni* Gebien is not a male as stated by Gebien (1914) but a female. Finding of a male in Sarawak and study of types revealed that Gebien's (1914) *T. moultoni* is the female, and thus a synonym, of *T. heros* Frivaldszky (Frivaldszky 1882). As is typical for the genus *Toxicum*, *T. heros* shows a distinct sexual dimorphism: head of female with two glabrous supraorbital horns, head of male with two supraorbital horns fringed with fulvous hairs and two epistomal horns which are joined at base.

Distribution

W Malaysia (new record), E Malaysia/Sarawak; Indonesia/Kalimantan Barat, Philippines/Mindanao (new records).

Ulomini Blanchard, 1845

Uloma (Uloma) gadingica **n. sp.**
(Figs. 1, 6, 11)

Holotype ♂: Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 50–300 m, 20.–23.II.2012, R. Grimm leg. (CRG).

Paratypes: Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 100–250 m, 9.–12.III.2008, R. Grimm leg., 1 ♀ (SMNS). – Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 50–200 m, 8.–10.XII.2010, R. Grimm leg., 1 ♀ (CRG).

Etymology

Named after Gunung Gading where the type series was collected.

Description

Short and stout, oval, convex, apterous; body length 9.2–9.8 mm, body width 4.6–4.8 mm; blackish brown to black, appendages somewhat paler.

Head with clypeus gently sinuate and large impression; in males lateral corners of clypeus and genae tooth-like, and posterior border of impression with raised rim. Punctation coarse and sometimes confluent basally, becoming finer laterally and apically; minute on clypeus. Antennomeres 5–9 in males with somewhat pointed sharp distal border at inner side. Mentum in males without setation, with weak mediobasal excavation and deep laterobasal impressions (Fig. 11).

Pronotum convex, transverse, width/length ratio 1.44–1.58; in males anteriorly with medial impression, which is laterally bordered by tubercle-like elevation. Anterior border finely, lateral borders strongly margined, basal border not margined but with small transverse impression on each side besides the middle. Punctures in anterior-medial impression and corresponding part in females coarse; on vaulted disc fine, scattered, but somewhat stronger on a midlongitudinal stripe; lateral portion with very coarsely punctured stripe, separated from lateral border with nearly smooth area. Scutellum triangular with some minute punctures.

Elytra obovate, convex. Punctures of elytral rows on disc smaller than convex intervals, but nearly as broad as intervals laterally. Lateral border in dorsal view visible only at base. Metaventrite shorter than mesocoxae behind them. Last visible ventrite unbordered.

Legs without modifications.

Aedeagus see Fig. 6.

Differential diagnosis

A review of the species of the genus *Uloma* Dejean, 1821 occuring in Borneo and Sumatra was given by Schawaller (2000). In this paper no apterous *Uloma* is mentioned. Due to its oval, short and stout, strongly convex

body shape the apterous *U. gadingica* n. sp. cannot be confused with any of its congeners so far known from Borneo.

2.2 Diaperinae Latreille, 1802
Leiochrinini Lewis, 1894

Derispia ulfbremeri **n. sp.**
(Figs. 5, 7)

Holotype ♂: Borneo, Malaysia, Sabah, Tawau Hill Park, 21.–22.X.2009, Ulf Bremer leg. (CRG).

Paratypes: Same data as holotype, 1 ♂, 4 ♀♀ (CRG), 3 specimens (SMNS), 2 specimens (ZSMB). – [Indonesia], S Sumatra, Lampung prov., Bukit Barisan Selatan Nat. Park, 5°4'S 104°4'E, 5 km SW Liwa, 600 m, 7.–17.II.2000, J. Bezděk leg., 3 specimens (SMNS).

Etymology

Named in honour of Ulf Bremer (Shanghai), one of the collectors of the type series.

Description

Small, round, convex, body length (measured from middle of apex of pronotum to apices of elytra) 2.1–2.2 mm, body width 1.8–1.9 mm. Dorsal side blackish, with 2 large fulvous spots on each elytron; a roundish basal and a transverse subtriangular apical spot; blackish sutural band and transverse bands separating fulvous spots forming a cross. Lateral borders of pronotum and elytra forming a continuous fulvous verge. Legs fulvous, basal antennomeres fulvous to brownish, last 4–6 antennomeres blackish.

Head with minute scattered punctation; clypeus flat; antennomere 3 twice as long as antennomere 2.

Pronotum punctured as head, slightly convex, widest at base; apical border nearly straight, lateral borders arcuate, basal border in front of scutellum protruded posteriorly; apical border, lateral borders and basal border in the middle finely margined. Scutellum triangular, with some fine punctures.

Elytra with fine but distinct, mostly irregularly distributed punctures partially arranged in irregular rows; lateral margins in dorsal view nearly visible throughout the whole length, except apically. Abdominal ventrites with fine scattered punctures.

Legs without modifications.

Aedeagus see Fig. 7.

Differential diagnosis

Derispia batuica Schawaller, 2005 and, according to Kaszab (1946), *D. kuntzeni* Kaszab, 1946 are of the same body size and have also a dorsal colour pattern similar to that of *Derispia ulfbremeri* n. sp. However, *D. batuica* and *D. kuntzeni* have a distinctly different shape of the aedeagus (compare Fig. 7 with Schawaller 2005: figs. 22, 23 and Kaszab 1946: figs. 44, 45), and in both species pronotum and elytra are impunctate. In *D. batuica* the antennae are unicoloured fulvous and not darkened distally.

2.3 Stenochiinae Kirby, 1837
Stenochiini Kirby, 1837

Promethis merkli **n. sp.**
(Figs. 2, 8)

Holotype ♂: Borneo, Malaysia, Sarawak, Kubah Nat. Park, Matang Wildlife Centre vic., 50 m, 11.–12.XII.2010, R. Grimm leg. (CRG).

Paratypes: Same data as holotype, 1 ♂, 4 ♀♀ (CRG), 1 ♀ (SMNS).

Etymology

Named in honour of Dr. Ottó Merkl, curator of Coleoptera in the Hungarian Natural History Museum in Budapest.

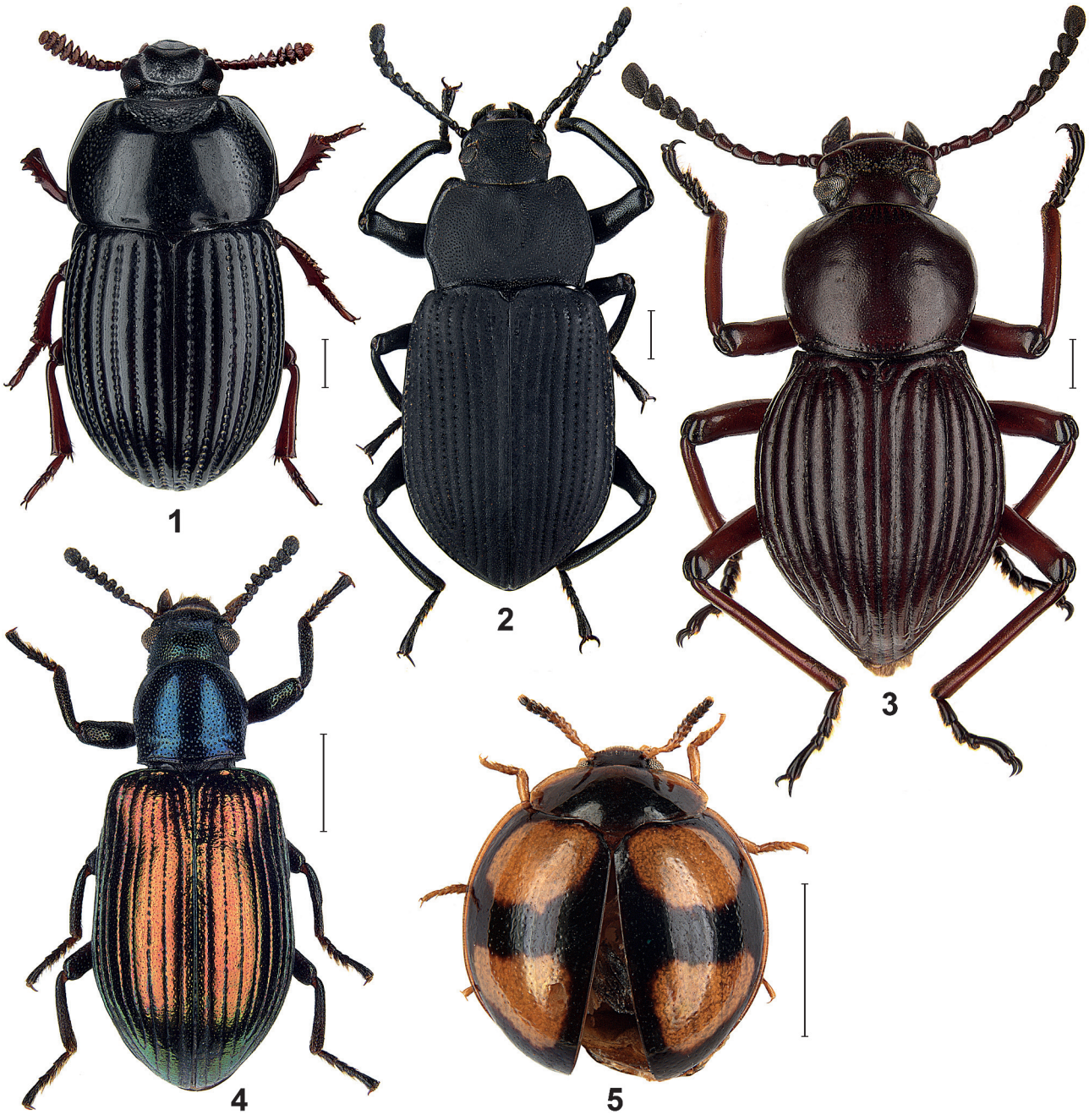
Description

Elongate oval, black, matt. Body length 9.5–10.2 mm, body width 4.2–4.5 mm.

Head with clypeus very slightly emarginate, frontoclypeal suture only feebly indicated; surface with fine, dense, setigerous punctures, setae very small, only visible by higher magnification, punctural interspaces feebly micro-reticulated. Mentum subhexagonal, apically slightly convex transversally, bicoloured with longer, subcordate, piceous, densely and coarsely punctured basal part and a shorter transversal, fulvous, smooth, laterally impressed apical part; anterior border slightly emarginate; punctures bearing fine short or, especially in the middle, long erect hairs.

Pronotum transverse, widest behind middle, width/length ratio (measured transversally along widest part and longitudinally along midline) 1.59–1.65, base slightly wider than apex; anterior border shallowly emarginate, nearly straight in the middle; anterior corners somewhat protruding forward; lateral borders converging toward apex from widest point of pronotum, sinuate before base; basal border slightly bisinuate, lateral borders and basal border distinctly margined, apical border finely margined laterally, margination interrupted in the middle; anterior angles rectangular, rounded, posterior angles subrectangular, pronounced; surface punctured as on head; disc with shallow midlongitudinal impression. Propleura coarsely, setigerous punctured; prosternal process flat, broad, and densely set with coarse, setigerous punctures; slightly raised and smooth along procoxae.

Elytra with scutellar, 1st and 2nd punctures rows distinctly finer than remaining ones. Intervals flat in the middle of disc, becoming slightly convex basally, laterally, and distally; coriaceous, with scattered minute, dust-like setae.



Figs. 1–5. Tenebrionidae spp., dorsal view. – **1**. *Uloma gadingica* n. sp., ♂ holotype (CRG). **2**. *Promethis merkli* n. sp., ♂ holotype (CRG). **3**. *Camptobrachys andoi* n. sp., ♂ holotype (CRG). **4**. *Falsonannocerus emasicus* n. sp., ♂ holotype (CRG). **5**. *Derispia ulfbremeri* n. sp., ♂ holotype (CRG). – Scales: 1 mm.

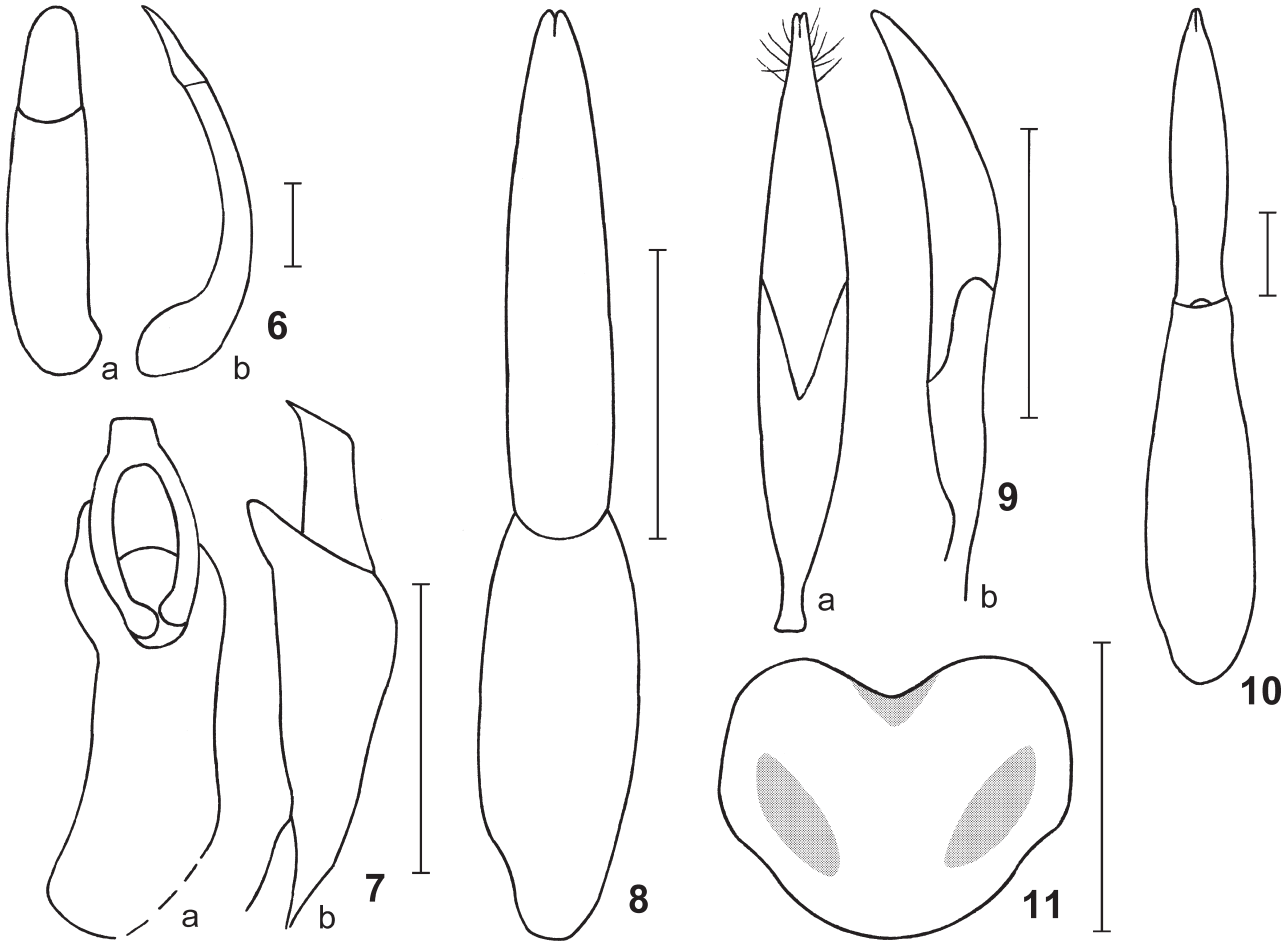
Lateral margin in dorsal view visible over entire length. Metaventrite with setigerous punctures, without any modification; abdominal ventrites with dense, setigerous punctures, last abdominal ventrite apically not margined.

Legs without modifications, only apex of protibiae with short decumbent hairs; protibiae of males a little more bent apically than in females.

Aedeagus see Fig. 8.

Differential diagnosis

Promethis merkli n. sp. is a strikingly small species. The type specimens indicate that this is undoubtedly the smallest species of the genus, taking in consideration the size range of the *Promethis* species in Kaszab (1988). Females may be confused at first glance with small females of *P. aequatorialis* (Blanchard, 1853), but in *P. aequatorialis* the punctation of the pronotum is somewhat sparser



Figs. 6–11. Aedeagi (6–10) and mentum (11) of Tenebrionidae spp. – **6**. *Uloma gadingica* n. sp., dorsal (a) and lateral (b) view. **7**. *Derispia ulfbremeri* n. sp., dorsal (a) and lateral (b) view. **8**. *Promethis merkli* n. sp., dorsal view. **9**. *Falsonannocerus emasicus* n. sp., dorsal (a) and lateral (b) view. **10**. *Camptobrachys andoi* n. sp., dorsal view. **11**. *Uloma gadingica* n. sp., ♂. – Scales: 0.5 mm.

and the elytral intervals are finely but distinctly punctate. The males of *P. aequatorialis* are easy to distinguish by the modified protibiae (see Kaszab 1988: fig. 126 and pl. III-I) and the different aedeagus (compare Fig. 8 with Kaszab 1988: fig. 123).

Camptobrachys andoi **n. sp.**
(Figs. 3, 10)

Holotype ♂: Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 50–200 m, 8.–10.XII.2010, R. Grimm leg. (CRG).

Paratypes: Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 50–300 m, 20.–23.II.2012, R. Grimm leg., 1 ♂, 1 ♀ (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 30–150 m, 24.–26.II.2012, R. Grimm leg., 1 ♂, 1 ♀ (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Gunung Santubong, 80–300 m, 24.–26.II.2012, R. Grimm leg., 1 ♀ (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 21.III.2008, R. Grimm leg., 1 ♀ (SMNS). – Same data, but 13.–15.III.2008, 1 ♀ (CRG). – Same data, but 23.–27.III.2009, 1 ♀ (CRG). – Same data, but 4.–8.IV.2009, 1 ♀ (CRG). – Borneo, Malaysia, Sarawak, Gunung Gading Nat. Park, 100–300 m, 23.–29.IX.2008, R. Grimm leg., 1 ♀ (CRG), 1 ♀ (SMNS). – Same data, but 31.III.–4.IV.2009, 1 ♀ (CRG).

Etymology

Named in honour of my colleague and friend Dr. Kiyoshi Ando (Osaka, Japan).

Description

Strongly convex, castaneous, legs paler, reddish-brown, antennae distally, apex of femora, tarsi and mouthparts partly black. Body length 11.1–11.7 mm , body width 5.0–5.8 mm .

Head with deep and broad ocular sulcus, weakly notched between clypeus and genae, clypeus flat with anterior border straight, very finely punctured, intermin-

gled with larger punctures in basal half and especially near clypeal sulcus. Frons flat, smooth to very finely punctured on posterior part, coarsely punctured near clypeal sulcus, punctation partly confluent and continuing beyond clypeal sulcus. Vertex almost smooth; genae raised, punctured as clypeus.

Pronotum very finely punctured, convex, subcordate, widest just before middle, width/length ratio (width measured at widest point, length along longitudinal midline) 1.20–1.30. Lateral borders arcuate anteriorly, nearly straight posteriorly; posterior border arcuate, anterior border nearly straight, lateral borders finely and sharply margined, lateral margins visible or sometimes partially not visible in dorsal view; anterior margin interrupted in the middle, posterior border broadly margined; anterior and posterior angles obtuse, anterior angles rounded. Prosternal process bent down between coxae, extending toward rounded apex.

Elytra obovate, sometimes nearly rounded, strongly convex, with lateral intervals bent downwards; deeply striate, striae finely punctate on disc, punctures more distinct in lateral striae; intervals strongly convex, smooth. Length/width ratio 1.13–1.24. Combined base of elytra shallowly sinuate. Lateral margin in dorsal view visible only near base and apex.

Legs long, narrow; tibiae straight, subcylindrical.

Aedeagus see Fig. 10.

Differential diagnosis

Camptobrachys andoi n. sp. is similar to *C. sarawakensis* Grimm, 2011 with which it was confused by Grimm (2011). As newly collected material reveals, the female paratypes of *C. sarawakensis* as designated by Grimm (2011) belong to *C. andoi* n. sp. described here. This means that so far only the male holotype of *C. sarawakensis* is known. *C. sarawakensis* (body length 9.0 mm , body width 4.3 mm) is much smaller than *C. andoi* n. sp., the pronotum is more convex, the colouration of the body is darker blackish (see Grimm 2010: figs. 4 and 5; fig. 5 shows a female of *C. andoi* n. sp.). Both species can be clearly distinguished by the shape of the aedeagus (compare Fig. 10 with Grimm 2010: fig. 13).

Tetragonomenes borneensis (Kaszab, 1977)

Material studied

Borneo, Malaysia, Sabah, Crocker Range, Gunung Alab, 1350 m, 20.XI.2006, R. Grimm leg., 4 specimens (CRG).

Remarks

T. borneensis was described by Kaszab (1977) under *Obriomaia* Gebien, 1927 on the basis of a single male from Mt. Kinabalu (Sabah, N Borneo).

Falsonannocerus emasicus **n. sp.**
(Figs. 4, 9)

Holotype ♂: Borneo, Malaysia, Sabah, Crocker Range, Gunung Emas, 1500 m, 16.–17.III.2007, R. Grimm leg. (CRG).

Paratype: Borneo, Malaysia, Sarawak, Gunong Emas vic., 15.–27.IV.1993, Jeniš & Štrba leg., 1 ♂ (ZSMB).

Etymology

Named after Gunung Emas where the types were collected.

Description

Oblong ovate, strongly convex; dorsal side of head and pronotum dark metallic greenish blue; elytra golden to coppery, laterally and distally greenish blue; ventral side, antennae and legs piceous to black, legs with metallic tinge. Body length 5.0–5.3 mm , body width 2.1–2.2 mm .

Head coarsely and densely punctured, punctures larger than intermediate spaces; anterior border of clypeus slightly and broadly emarginate; fronto-clypeal sulcus distinct, frons slightly inclined anteriorly; genae moderately raised; eyes large, convex; head with supraorbital sulcus coming down to upper part of temple. Antennae with last 7 antennomeres forming a club.

Pronotum subquadrate, width/length ratio 1.09–1.11; strongly convex transversely, moderately convex longitudinally but strongly sloping to flattened basal part; punctation less dense and somewhat finer than on head, interspaces usually larger than diameter of punctures; anterior border slightly and broadly arcuate and not margined; lateral borders arcuate in frontal half, slightly sinuate in basal half, finely margined, the margination in dorsal view not visible; basal border slightly bisinuate, distinctly margined in about medial three-fourths, becoming finer laterally. Anterior angles obtuse, posterior angles subrectanglar. Scutellum subpentagonal, with a few punctures.

Elytra dilated posteriorly, with maximum width at about two-thirds of elytral length; strongly convex, highest in about middle, with shallow inverted V-shaped impression in basal one-fifth; punctate-striate, strial punctures fine, elongate, closely set; intervals slightly convex on disc, becoming more convex laterally, with fine scattered punctures; humeral callosity week.

Legs: Femora and tibiae densely punctured.

Aedeagus see Fig. 9.

Differential diagnosis

With its metallic colouration *F. emasicus* n. sp. can only be confused with *F. harukae* Masumoto, 1988 from Mt. Trus Madi (Sabah, N Borneo), but is distinctly characterized by the different shape of the aedeagus (compare Fig. 9 with Masumoto 1998: figs. 29–30). In *F. harukae* the pronotum is dark blue and more convex and the elytra are purple.

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