

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

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Abstract

The following new species are described: *Platydema omissum* **n. sp.** (E Malaysia/Sabah and Sarawak, W Malaysia, Vietnam, Indonesia), *P. castaneum* **n. sp.** (E Malaysia/Sarawak), *P. castaneoides* **n. sp.** (E Malaysia/Sarawak), *P. santubongicum* **n. sp.** (E Malaysia/Sarawak), *P. thijlberti* **n. sp.** (E Malaysia/Sarawak), *Spiloscapa medvedevi* **n. sp.** (E Malaysia/Sarawak), and *S. bakeri* **n. sp.** (E Malaysia/Sabah). New combination and synonym: *Guanobius antricola* (Blair, 1936) **n. comb.** from *Tenebrio* = *Guanobius borneensis* Grimm, 2008 **n. syn.** *Taiwanocryphaeus erberi* Schawaller, 2005, *Platydema javanum* Kaszab, 1979, *P. nuciferae* Blair, 1928, *P. pentaphylloides* Kaszab, 1980, *P. unicornis* Gebien, 1927, *Derispia batuica* Schawaller, 2005, and *D. titschacki* Kaszab, 1946 are reported for the first time from Borneo. New records of *Toxicum moultoni* Gebien, 1914 are given. *Platydema latemarginatum* Gebien, 1927 from Sumatra is a valid species and not a synonym of *P. sericeum* Gebien, 1914 from Thailand, W Malaysia, Singapore, Sumatra, Mentawai, and Borneo.

Key words: Tenebrionidae, Borneo, Malaysia, Sabah, Sarawak, Toxicini, Alphitobiini, Diaperini, Leiochirini, new species, new records, synonymy.

Zusammenfassung

Die folgenden neuen Arten werden beschrieben: *Platydema omissum* **n. sp.** (Ost-Malaysia/Sabah und Sarawak, West-Malaysia, Vietnam, Indonesien), *P. castaneum* **n. sp.** (Ost-Malaysia/Sarawak), *P. castaneoides* **n. sp.** (Ost-Malaysia/Sarawak), *P. santubongicum* **n. sp.** (Ost-Malaysia/Sarawak), *P. thijlberti* **n. sp.** (Ost-Malaysia/Sarawak), *Spiloscapa medvedevi* **n. sp.** (Ost-Malaysia/Sarawak) und *S. bakeri* **n. sp.** (Ost-Malaysia/Sabah). Neue Kombination und neues Synonym: *Guanobius antricola* (Blair, 1936) **n. comb.** von *Tenebrio* = *Guanobius borneensis* Grimm, 2008 **n. syn.** *Taiwanocryphaeus erberi* Schawaller, 2005, *Platydema javanum* Kaszab, 1979, *P. nuciferae* Blair, 1928, *P. pentaphylloides* Kaszab, 1980, *P. unicornis* Gebien, 1927, *Derispia batuica* Schawaller, 2005 und *D. titschacki* Kaszab, 1946 werden erstmals für Borneo nachgewiesen. Neue Funde von *Toxicum moultoni* Gebien, 1914 werden mitgeteilt. *Platydema latemarginatum* Gebien, 1927 aus Sumatra wird als eigene Art betrachtet und nicht als Synonym von *P. sericeum* Gebien, 1914 aus Thailand, W Malaysia, Singapore, Sumatra, Mentawai und Borneo.

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1 Introduction

Tenebrionidae from Borneo have been described or recorded in several contributions, but the species inventory is far from complete. The author's fieldwork in northern Borneo (Sabah, Sarawak) between 2005 and 2009 yielded numerous new species and additional records. Some of them are described and communicated in this paper. Specimens from several collections (see list below) were used for comparison.

The examination of *Platydema* species indicated that *P. sericeum* Gebien, 1914 in the sense of SCHAWALLER (2004) consists of three different species.

Acknowledgements

Cordial thanks are due to Dr. MICHAEL BALKE (München), MAX BARCLAY and BEULAH GARNER (London), Dr. OTTÓ MERKL (Budapest), Dr. WOLFGANG SCHAWALLER (Stuttgart), Dr. EVA SPRECHER (Basel) and Dr. LOTHAR ZERCHE (Müncheberg) for the loan of specimens. Dr. WOLFGANG SCHAWALLER (Stuttgart) gave the first hint concerning the synonymy of *Guanobius borneensis* with *Tenebrio antricola*, and JOHANNES REIBNITZ (Stuttgart) produced the photographs and arranged the figures on plates. Furthermore, I am grateful to Dr. OTTÓ MERKL and Dr. WOLFGANG SCHAWALLER for reviewing the manuscript.

Acronyms of depositories

BMNH	The Natural History Museum, London, United Kingdom (MAX BARCLAY, BEULAH GARNER)
CKA	Collection Dr. KIYOSHI ANDO, Osaka, Japan
CRG	Collection Dr. ROLAND GRIMM, Tübingen, Germany
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Dr. OTTÓ MERKL)
NHMB-F	Naturhistorisches Museum Basel, Collection FREY, Switzerland (Dr. EVA SPRECHER)
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (Dr. LOTHAR ZERCHE)
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (Dr. WOLFGANG SCHAWALLER)
ZSM	Zoologische Staatssammlung, München, Germany (Dr. MICHAEL BALKE)

2 Taxonomy

2.1 Tenebrioninae Latreille, 1802

Toxicini Lacordaire, 1859

Toxicum moultoni Gebien, 1914

Type material studied

Borneo, Kuching, 25.X.[18]99, (MOULTON), Type! No 297, holotype (labelled as type) (NHMB-F).

Additional material studied

Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–250 m, 9.–12.III.2008, R. GRIMM leg., 3 ♀♀ (CRG). – Borneo, Malaysia, Sarawak, Kubah National Park, 250 m, 18.–19.III.2008, R. GRIMM leg., 1 ♀ (CRG). – Borneo, Malaysia, Sarawak, Kubah National Park, 100–300 m, 15.–18.IX.2008, R. GRIMM leg., 2 ♀♀ (CRG).

Distribution

Sarawak.

Remarks

So far only females of this distinctive species are known. The study of the holotype revealed that it is also a female, and not a male as it was stated by GEBIEN (1914), presumably because of the distinct horns on the head.

Taiwanocryphaeus erberi Schawaller, 2005

Material studied

Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 11.–14.IX.2008, R. GRIMM leg., 1 ♂ (CRG).

Distribution

Sumatra (SCHAWALLER 2005b), Borneo (new record).

Alphitobiini Reitter, 1917

Guanobius antricola (Blair, 1936) **n. comb.**

Tenebrio antricola Blair, 1936.

Guanobius borneensis Grimm, 2008 **n. syn.**

Type material studied

Tenebrio antricola Blair, 1936: Java, Babakan, III.1933, DAMMERMAN leg., holotype (labelled as type) (BMNH).

Guanobius borneensis Grimm, 2008: Borneo, Malaysia, Sabah, Sandakan, Gomantong Caves, 13.III.2007, R. GRIMM leg., holotype and 67 paratypes (CRG).

Additional material studied

Malaysia, Sarawak, 4th Division, Gunung Mulu National Park, Deer Cave, 12.V.1978, P. M. HAMMOND & J. E. MARSHALL leg., BM 1978-49, 4 specimens (BMNH).

Distribution

Borneo, Java.

Remarks

BLAIR (1936) described the cave-dwelling *Tenebrio antricola* from Java and Borneo and GRIMM (2008) described *Guanobius borneensis* from caves in Sabah and Sarawak. Comparison of the types revealed that *G. borneensis* is a synonym of *T. antricola*. The species does not belong to the genus *Tenebrio* Linnaeus, 1758 (Tenebrionini) as BLAIR (1936) assumed, but to the genus *Guanobius* Grimm, 2008 (Alphitobiini). For phylogenetic discussion see GRIMM (2008). Consequently *Tenebrio antricola* Blair, 1936 is *Guanobius antricola* (Blair, 1936) **n. comb.**

2.2 Diaperinae Latreille, 1802

Diaperini Latreille, 1802

Platydema sericeum Gebien, 1914

(Figs. 14, 21)

Type material studied

Banguey near Borneo, ♂ holotype, 1 ♀ paratype (labelled as types) (NHMB-F); 2 ♂♂, 1 ♀ paratypes (labelled as cotypes) (NHMB-F); 1 ♀ paratype (labelled as cotype) (HNHM).

Additional material studied

Banguey, STAUDINGER, 2 specimens (ZSM). – Malaysia, Johor, Endau-Rompin, Selendang, 1.–4.III.1997, I. JENIS leg., 1 specimen (SMNS). – Singapore, C. J. SAUNDERS leg., BM 1933-227, 1 specimen (BMNH). – Banguey near Borneo, 2 specimens (SMNS). – Borneo, Malaysia, Sarawak, Kubah National Park near Matang Wildlife Centre, 50–100 m, 28.–31.III.2009, R. GRIMM leg., 10 specimens (CRG). – Same data as before, but 19.–22.IX.2008, 4 specimens (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, at light, 11.–14.IX.2008, R. GRIMM leg., 1 specimen (CRG). – Borneo, Malaysia, Sarawak, 10 km SE Lundu, 31.III.2009, R. GRIMM

leg., 9 specimens (CRG). – Borneo, Malaysia, Sabah, Apin Apin, 350–380 m, 6.II.2006, H. J. BREMER & R. GRIMM leg., 10 specimens (CRG). – N Borneo, 1 specimen (SDEI). – Mentawai, Si Oban, IV.–VIII.[18]94, 1 specimen (SDEI ex coll. KRAATZ). – Sumatra, Prov. Aceh-Selatan, Babahrot, 100 m, 15.–18.VII.1983, J. KLAPPERICH leg., 2 specimens (HNHM). – S Thailand, 8 km S Khao Lak, 08°36'36"N 98°14'61"E, env. Merlin Resort, 30.VII.–11.VIII.2007, A. SKALE leg., 1 specimen (CRG).

Distribution

Thailand, W Malaysia, Singapore, Sumatra, Mentawai, E Malaysia (Sabah, Sarawak).

Remarks

Not only the left horn of the males is furnished with hairs, but also the left cephalic tubercle of the females often has a small apical hair-brush.

The material listed by SCHAWALLER (2004) under *P. sericeum* contains, besides *P. sericeum* and *P. latemarginatum* Gebien, a new species, which is described below as *P. omissum* n. sp. Further remarks see under *P. latemarginatum*.

Platydemia latemarginatum Gebien, 1927

(Figs. 1, 1a, 20)

Type material studied

Sumatra, Fort de Kock, C. JACOBSON leg., ♂ holotype (labelled as type), 2 ♀♀ paratypes (labelled as cotypes) (NHMB-F); 1 ♂ paratype (HNHM). – Sumatra, Fort de Kock, 920 m, 1925, C. JACOBSON leg., 1 ♂, 1 ♀ paratypes (labelled as cotypes) (SDEI).

Additional material studied

Sumatra, Fort de Kock, C. JACOBSON leg., 1 ♂, 1 ♀ (ZSM); 1 ♂ (HNHM).

Distribution

Sumatra, so far only known from the type locality.

Remarks

According to SCHAWALLER (2004) *P. latemarginatum* Gebien, 1927 is a synonym of *P. sericeum* Gebien, 1914, because of the somewhat similar shape of the apicale of the aedeagus (compare Figs. 20, 21). However, *P. sericeum* is smaller in size (body length 3.3–3.8 mm), the colouration of pronotum and elytra is reddish-brown with blackish patches (usually a longitudinal one on each elytron), and the tip of the bulbous larger left horn of the males is broadly rounded and bears a tuft of longer hairs (Fig. 14). *P. latemarginatum* is larger in size (body length 4.2–5.2 mm), the general colouration of pronotum and elytra is blackish-brown with the lateral parts of elytra brown, and the horns of the males are both conical to subcylindrical (Figs. 1, 1a) with a short hairy brush apically (cf. SCHAWALLER 2004:

fig. 172, under *P. sericeum*). As already pointed out by GEBIEN (1927) the male vertex of *P. latemarginatum* has a deep pit (Fig. 1a) which is visible only as a small slit in normal position of the head. This is a character, that seems to distinguish *P. latemarginatum* from any other species of *Platydemia*. Thus, *P. latemarginatum* is regarded as a valid species and not as a synonym of *P. sericeum*.

Platydemia omissum n. sp.

(Figs. 2, 2a, 13, 17, 22, 23)

Holotype: ♂, Borneo, Malaysia, Sarawak, Kubah National Park, near Headquarter, 100–300 m, 27.–28.III.2009, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 5 ♂♂, 5 ♀♀ (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 27.–28.IX.2008, R. GRIMM leg., 2 ♂♂ (CRG). – Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–300 m, 31.III.–4.IV.2009, R. GRIMM leg., 4 ♂♂ (CRG). – Borneo, Malaysia, Sarawak, Kubah National Park, near Matang Wildlife Centre, 19.–22.IX.2008, R. GRIMM leg., 1 ♀ (CRG). – Borneo, Malaysia, Sabah, Apin Apin, 350–380 m, 6.II.2006, H. J. BREMER & R. GRIMM leg., 5 ♂♂, 1 ♀ (CRG). – E. Malaysia, Sarawak, Sebadai Park, 9 km SW Kapit, 50 m, 20.V.1994, secondary mixed Dipterocarp forest, LÖBL & BURKHARD leg., 1 ♂ (SMNS). – Borneo, Sabah, Kampung Takala, Kinabatangan river, 5.VI.1998, KODADA & ČIAMPOR leg., 1 ♀ (SMNS). – W Malaysia, Pahang, Kampung Tahan, 04°23'N 102°24'E, 20.–27.VII.2004, R. & H. FOUQUÉ leg., 4 ♂♂ (SMNS). – Indonesia, Nias eastern coast, Lawalo, 26.IX.1979, ERBER leg., 2 ♂♂, 7 ♀♀ (SMNS); 1 ♂, 2 ♀♀ (HNHM). – Lombok Is., Sabito, 29.–30.IV.1986, M. NISHIKAWA leg., 1 ♂, 1 ♀ (SMNS). – S Sumatra, Lampung Prov., Bukit Barisan, Selata National Park, 5°4'S 104°4'E, 600 m, 5 km SW Liwa, 7.–17.II.2000, D. HAUCK leg., 1 ♂ (ZSM). – Malacca, C. MÜLLER leg., 1 ♂ (ZSM). – Malacca, 1 ♂ (ZSM). – Mentawai, Si Oban, IV.–VIII.[18]94, MODIGLIANI leg., 1 ♂, 1 ♀ (SDEI). – Sumatra, Prov. Aceh-Selatan, Babahrot, 100 m, 15.–18.VII.1983, J. KLAPPERICH leg., 1 ♂ (HNHM). – Vietnam, 25 km W Thai Nguyen, 2.XI.1976, L. MEDVEDEV leg., 1 ♂ (HNHM).

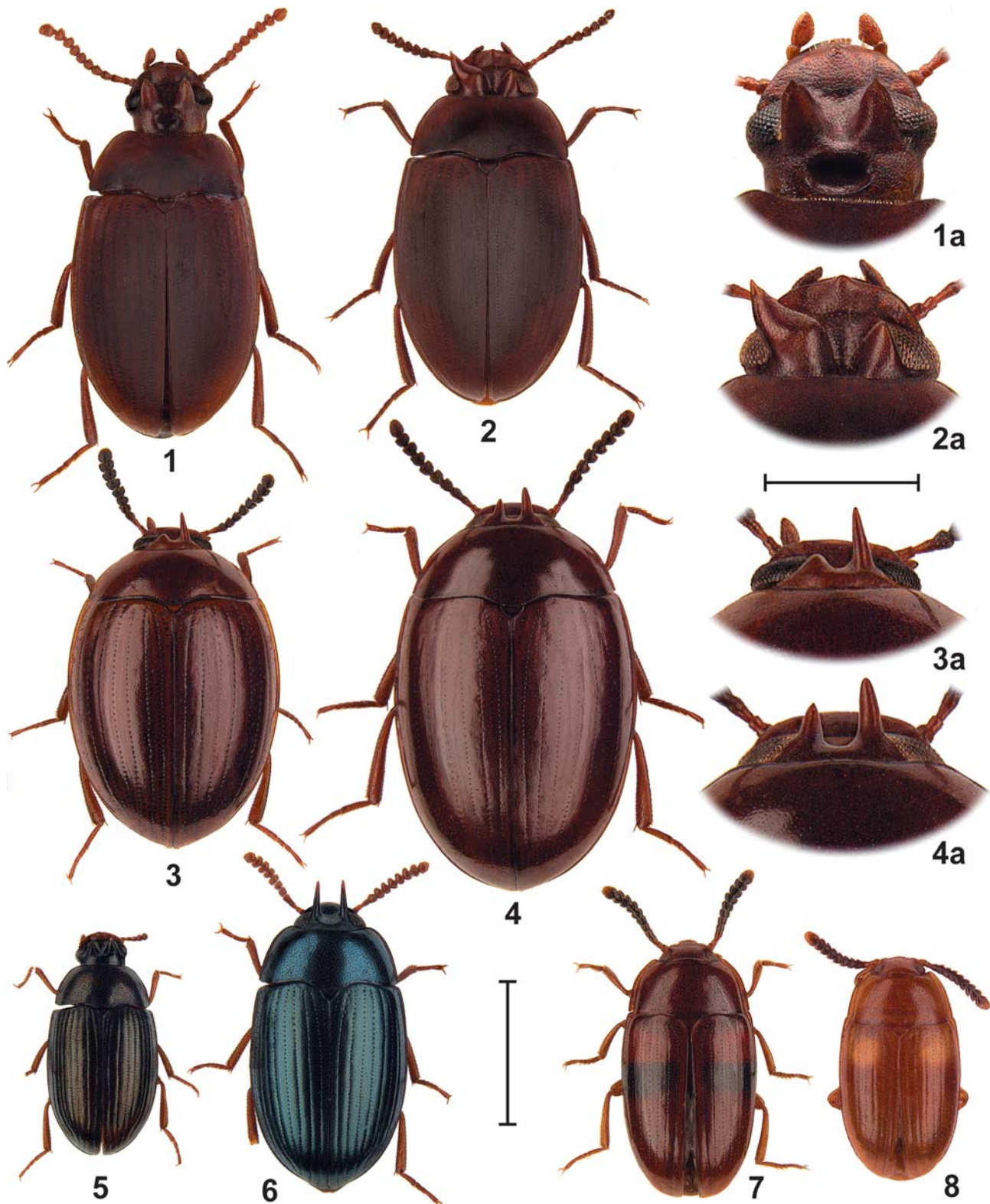
Etymology

Omittere (Lat.) = to omit.

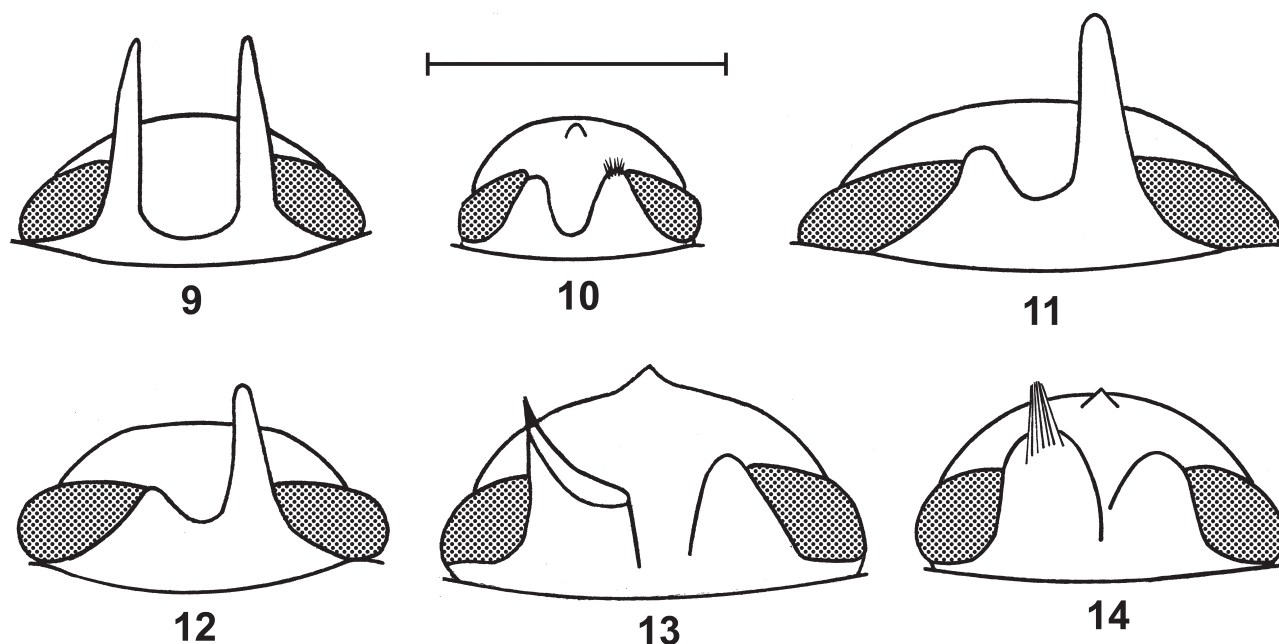
Description

Oval, body length 3.4–5.0 mm, body width 1.8–2.8 mm. Dorsal side reddish-brown to dark brown, pronotum and elytra with blackish patches in varying extension, matt; sometimes (in smaller individuals) the whole dorsal side blackish.

Head (Figs. 2a, 13) with coarse, dense punctation, and distinct clypeal suture. Proportions of antennal segments as in Fig. 17, third antennomere long. Male frons with a long left horn pointing more upwards than forwards and bearing an apical hair-brush; left horn frequently wider in the basal part and showing a step before narrowing to the tip (indistinct in specimens with reduced smaller left horn); sometimes left horn reduced to a small tubercle, but



Figs. 1.–8. *Platydema* and *Spiloscapa* spp., ♂♂ in dorsal view, heads magnified. – **1, 1a.** *Platydema latemarginatum* ♂ non-type (ZSM). **2, 2a.** *P. omissum* n. sp. ♂ holotype (CRG). **3, 3a.** *P. castaneoides* n. sp. ♂ holotype (CRG). **4, 4a.** *P. castaneum* n. sp. ♂ holotype (CRG). **5.** *P. thijlberti* n. sp. ♂ holotype (CRG). **6.** *P. santubongicum* n. sp. ♂ holotype (CRG). **7.** *Spiloscapa medvedevi* n. sp. ♂ holotype (CRG). **8.** *S. bakeri* n. sp. ♂ holotype (BMNH). – Scales: 1 mm (heads), 2 mm (dorsal view of beetles).



Figs. 9–14. *Platydema* spp., ♂♂, heads. – 9. *P. santubongicum* n. sp. 10. *P. thijlberti* n. sp. 11. *P. castaneum* n. sp. 12. *P. castaneoides* n. sp. 13. *P. omissum* n. sp. 14. *P. sericeum*. – Scale: 1 mm.

always bearing a hair-brush; right horn only tubercle-like or even more reduced; clypeus with a distinct anteromedial tooth.

Pronotum slightly convex, with very fine dust-like setation; punctation finer than on head, laterally denser than medially and sometimes confluent; interspaces of punctures shagreened; anterior and lateral margins completely bordered, basal margin unborded; anterior margin slightly excavate; anterior corners broadly rounded, not protruding. Propleura with fine setigerous punctures.

Elytra slightly convex, 1.2–1.3 times as long as wide, between scutellar row and lateral margin with 8 rows of punctures, third row with about 45 punctures, distance between punctures 0.5–2 times diameter of a puncture, intervals flat with vague punctation; setation as on pronotum.

Abdominal ventrites medially with fine sparse setigerous punctures and longitudinal wrinkles, interspaces between punctures distinctly micro-reticulate.

Legs without modifications, male tarsi not dilated, tibiae externally with indistinct crenulate keels.

Aedeagus see Figs. 22, 23.

Differential diagnosis

Platydema omissum n. sp. belongs to the group with sericeous dorsal side and very fine dust-like setation, and

is quite similar in general shape to *P. latemarginatum* Gebien, but it differs in the shape of the male horns and the aedeagus. The horns of *P. latemarginatum* are regularly narrowing towards the tip, and both have an apical hair-brush (Fig. 1a); the longer left horn of *P. omissum* n. sp. is frequently broader in the basal part and shows a step before it is narrowing towards the tip, and only the left horn has an apical hair-brush (Figs. 2a, 13). The apicale of the aedeagus of *P. latemarginatum* is distinctly sinuate before the tip (Fig. 20), whereas the apicale of *P. omissum* n. sp. is regularly narrowing (Fig. 23) or basally subparallel-sided (Fig. 22). Additionally, *P. latemarginatum* is distinguished from *P. omissum* by the deep pit of the vertex (Fig. 1a).

Distribution

W Malaysia, Vietnam, Sumatra, Mentawai, Nias, Lombok, E Malaysia (Sabah, Sarawak).

Remark

The dorsal colour pattern and other external characters of females of *P. omissum* n. sp. are virtually the same as those of females of *P. latemarginatum*. Thus, females were only included in the type series if they were collected together with males.

Etymology

Castaneus (Lat.) = chestnut brown. The species name refers to the castaneous colouration of the species.

Description

Oval, body length 4.8–6.3 mm, body width 3.0–3.7 mm. Dorsal side unicoloured castaneous, shining; tarsi and basal three antennomeres sometimes lighter, apical antennomeres black.

Head with fine sparse punctation. Proportions of antennal segments as in Fig. 15, third antennomere long. Male frons with a longer right and a shorter left horn pointing forwards, sometimes right horn very small and left horn only tubercle-like or completely reduced; clypeus anteromedially without any armature. Interocular space concave in males and females.

Pronotum slightly convex, with fine punctation as on head, between punctures with micro-reticulation becoming stronger laterally; anterior and lateral margins completely bordered, basal margin unbordered; anterior margin slightly excavate with middle part slightly bisinuate; anterior corners broadly rounded, not protruding. Propleura rugulose, intermingled with setigerous punctures.

Elytra slightly convex, 1.1–1.2 times as long as wide, between scutellar row and lateral margin with 8 rows of punctures, third row with about 60 punctures, distance between punctures 0.5–1.5 times diameter of a puncture, intervals flat with very fine and sparse punctation.

Abdominal ventrites medially with fine sparse punctures with short setae, laterally with distinct longitudinal wrinkles, interspaces between punctures distinctly micro-reticulate.

Legs without modifications, male tarsi not dilated, tibiae externally with indistinct crenulate keels.

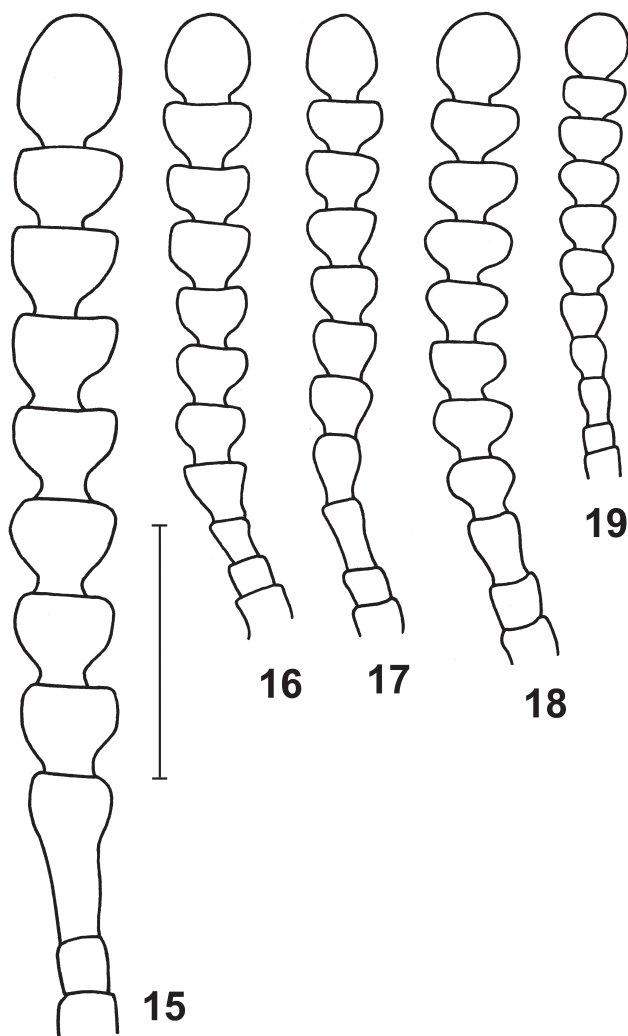
Aedeagus see Fig. 24.

Differential diagnosis

Platydemia castaneum n.sp. shares with *P. kovaci* Schawaller, 2004 and *P. riedeli* Schawaller, 2004 the armature of the male head with the long right horn pointing forwards and the left horn tubercle-like. *P. kovaci* (cf. SCHAWALLER 2004: fig. 111) has the aedeagus somewhat similar to that of *P. castaneum* n.sp. (Fig. 24), but can be easily separated by the different colour pattern: *P. kovaci* has a dark pronotum and the elytra are light brown, whereas *P. castaneum* has a unicoloured castaneous dorsal side. *P. riedeli* has the general colouration lighter brown, the elytra with a common dark spot in the anterior part, and the shape of the aedeagus entirely different (cf. SCHAWALLER 2004: fig. 156).

Distribution

E Malaysia, only known from the type locality.



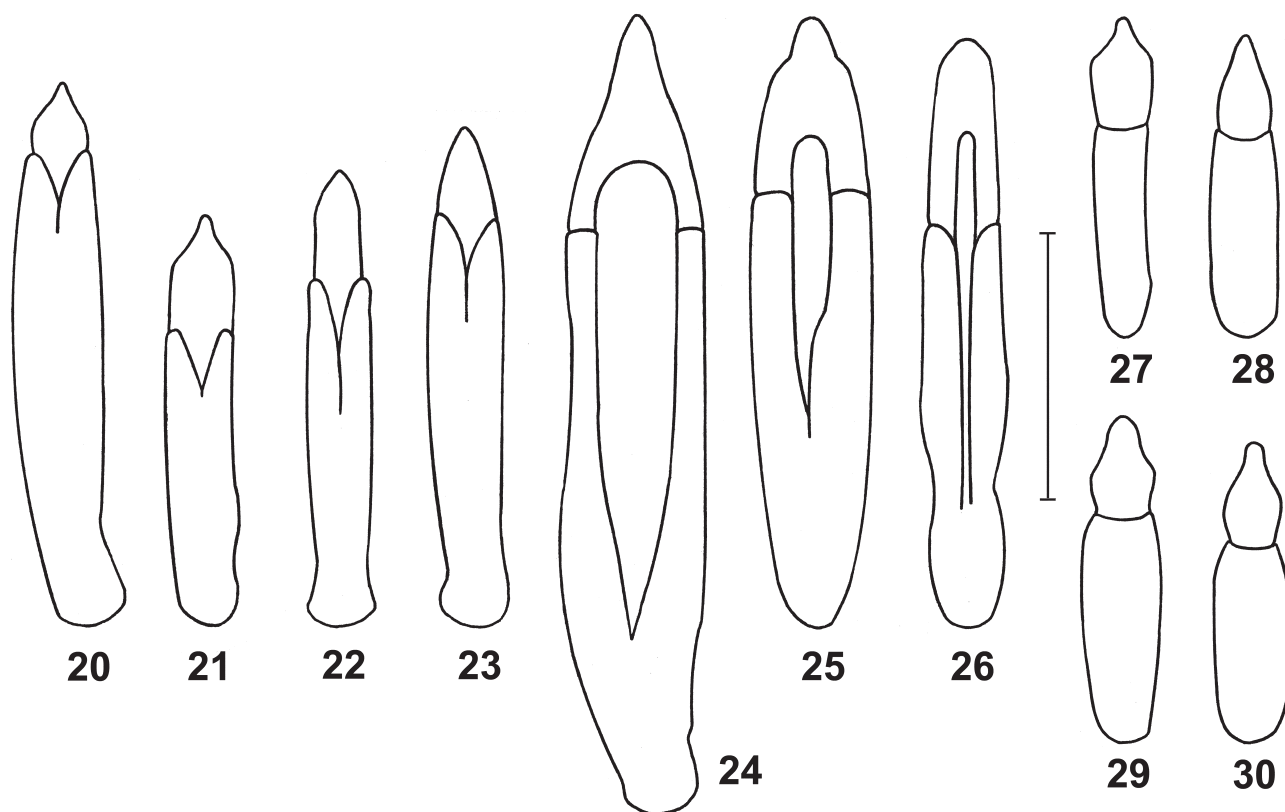
Figs. 15–19. *Platydemia* spp., antennae. – **15.** *P. castaneum* n.sp. **16.** *P. castaneoides* n.sp. **17.** *P. omisum* n.sp. **18.** *P. santubongicum* n.sp. **19.** *P. thijlberti* n.sp. – Scale: 0.5 mm.

Platydemia castaneum n.sp.

(Figs. 4, 4a, 11, 15, 24)

Holotype: ♂, Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 23.–27.III.2009, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 11 ♂♂, 11 ♀♀ (CRG), 2 ♂♂, 2 ♀♀ (SMNS), 1 ♂, 1 ♀ (HNHM), 1 ♂, 2 ♀♀ (ZSM), 1 ♂, 1 ♀ (NHMB-F). – Same data as holotype, but 4.–8.IV.2009, 8 ♂♂, 7 ♀♀; 27.–28.IX.2008, 3 ♀♀; 11.–14.IX.2008, 3 ♂♂, 3 ♀♀ (all CRG).



Figs. 20–30. *Platydema* and *Spiloscapa* spp., aedeagi in dorsal view. – **20.** *Platydema latemarginatum*. **21.** *P. sericeum*. **22, 23.** *P. omisum* n. sp. **24.** *P. castaneum* n. sp. **25.** *P. castaneoides* n. sp. **26.** *P. santubongicum* n. sp. **27.** *P. thijlberti* n. sp. **28.** *Spiloscapa eiliesa*. **29.** *S. medvedevi* n. sp. **30.** *S. bakeri* n. sp. – Scale: 0.5 mm.

Platydema castaneoides n. sp.

(Figs. 3, 3a, 12, 16, 25)

Holotype: ♂, Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 4.–8.III.2009, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 1 ♂, 2 ♀♀ (CRG). – Same data as holotype, but 23.–27.III.2009, 1 ♂, 1 ♀ (CRG), 1 ♀ (SMNS). – Same data as holotype, but 11.–14.IX.2008, at light, 1 ♀ (CRG).

Etymology

Castaneoides = castaneum-like. *P. castaneoides* n. sp. is quite similar to *P. castaneum* n. sp. thus both can be confused on the first sight.

Description

Short oval, body length 3.8–4.6 mm, body width 2.25–3.00 mm. Dorsal side unicoloured castaneous, shining; head, sides of pronotum, legs and basal three antennomeres sometimes lighter, apical antennomeres black.

Head with fine sparse punctation. Proportions of antennal segments as in Fig. 16, third antennomere short.

Male frons with a longer right horn pointing forwards, left horn reduced and sometimes only tubercle-like; clypeus without anteromedial armature.

Pronotum slightly convex, with fine punctation as on head, between punctures distinctly micro-reticulate; anterior and lateral margins completely bordered, basal margin unbordered; anterior margin slightly excavate with middle part straight; anterior corners broadly rounded, not protruding. Propleura finely coriaceous.

Elytra distinctly convex, about 1.1–1.2 times as long as wide, between scutellar row and lateral margin with 8 rows of punctures, third row with about 40 punctures, distance between punctures equal to half diameter of a puncture, intervals flat with very fine and sparse punctation.

Abdominal ventrites medially with fine sparse setigerous punctures, laterally with distinct longitudinal wrinkles, interspaces between punctures feebly micro-reticulate.

Legs without modifications, male tarsi not dilated, tibiae externally with indistinct crenulate keels.

Aedeagus see Fig. 25.

Differential diagnosis

Platydema castaneoides n. sp. shares with *P. castaneum* n. sp. the colour pattern and the armature of the male head, but differs in the smaller body size, the rounder and more convex body shape, the distinctly shorter third antennomere (compare Figs. 15, 16), and the shape of the aedeagus (compare Figs. 24, 25). The propleura of *P. castaneoides* n. sp. are very finely coriaceous, those of *P. castaneum* n. sp. are longitudinally wrinkled, intermingled with setigerous punctures. In *P. castaneoides* n. sp. the third elytral row has about 40 punctures, in *P. castaneum* about 60 punctures.

P. castaneoides has a somewhat similar aedeagus as *P. riedeli* (cf. SCHAWALLER 2004: fig. 156) and coincides with the latter in the armature of the head, but *P. castaneoides* n. sp. has a different colour pattern and is distinctly more convex. *P. castaneoides* n. sp. is unicoloured castaneous, whereas in *P. riedeli* the general colour is lighter brown and the elytra have a joint dark spot in the anterior part.

The armature of the head is also similar to that of *P. kovaci*, but *P. castaneoides* n. sp. and *P. kovaci* can be separated by the different shape of the aedeagus (compare Fig. 25, and SCHAWALLER 2004: fig. 111) and the different colour pattern (*P. kovaci* has a dark pronotum and the elytra are light brown).

Distribution

E Malaysia, only known from the type locality.

Platydema santubongicum n. sp. (Figs. 6, 9, 18, 26)

Holotype: ♂, Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 23.–27.III.2009, R. GRIMM leg. (CRG); left hind tarsus absent.

Paratypes: Same data as holotype, 3 ♂♂, 3 ♀♀ (CRG), 1 ♂, 1 ♀ (SMNS). – Same data as holotype, but 11.–14.IX.2008, 1 ♀; 4.–8.IV.2009, 1 ♂, 1 ♀ (all CRG).

Etymology

Named after Gunung (= Mount) Santubong where the type series was collected.

Description

Oval, body length 3.75–5.20 mm, body width 2.10–2.75 mm. Dorsal side unicoloured piceous with bluish metallic tinge, shining; palpi, antennae, and legs testaceous to fuscous.

Head with regular and dense punctation. Proportions of antennal segments as in Fig. 18, third antennomere long. Male frons with two symmetrical horns pointing forwards and slightly curved upwards; Figs. 6 and 9 depict a male with long horns; the horns can be reduced so that they do not protrude over the anterior border of the head; clypeus

without anteromedial armature. Head in larger females (4.75–5.20 mm) with tubercle-like horns, in smaller females (4.3–4.5 mm) without horns.

Pronotum slightly convex, with punctation as on head; anterior and lateral margins completely bordered, middle of basal margin unbordered; anterior margin slightly excavate with middle part straight; anterior corners broadly rounded, not protruding. Propleura proximally with coarse setigerous punctures, distally with transversal longitudinal wrinkles.

Elytra convex, 1.2–1.3 times as long as wide, between ill-defined scutellar row and lateral margin with 8 rows of punctures in shallow striae, third row with about 45 punctures, intervals feebly convex on disc, more distinct laterally and caudally; punctation on intervals as on pronotum, between punctures distinctly micro-reticulate.

Abdominal ventrites with coarse and dense punctation and short setation, interspaces between punctures micro-reticulate.

Legs without modifications, male tarsi not dilated, tibiae externally with indistinct crenulate keels.

Aedeagus see Fig. 26.

Differential diagnosis

P. santubongicum n. sp. shares with *P. marseuli* Lewis, 1894 and *P. mindanaoicum* Schawaller, 2004 the unicoloured metallic dorsal surface and the pair of symmetrical long horns on the male head. However, it can be distinguished from *P. marseuli* by flat elytral intervals and elytral rows without striae, from *P. mindanaoicum* by the bluish tinge, and from both species by a completely different aedeagus (compare Fig. 26, SCHAWALLER 2004: figs. 108, 117).

Distribution

E Malaysia, only known from the type locality.

Platydema thijlberti n. sp. (Figs. 5, 10, 19, 27)

Holotype: ♂, Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–300 m, 31.III.–4.IV.2009, R. GRIMM leg. (CRG); left antenna absent, right antenna and left middle tarsus partially absent.

Paratypes: Same data as holotype, 2 ♀♀ (CRG).

Etymology

Named in honour of my colleague and friend THIJBERT STRUBELT (Neuenbürg-Rotenbach, Germany), for fruitful cooperation in professional matters.

Description

Oval, body length 3.1–3.2 mm, body width 1.50–1.65 mm. Dorsal side unicoloured brownish black, shining; antennae and legs testaceous.

Head with coarse, dense, but not confluent punctation. Proportions of antennal segments as in Fig. 19, third antennomere long. Male frons with two asymmetrical horns, right horn longer and pointing more upwards, left horn shorter and pointing forwards, tip of right horn with sparse setation; clypeus with anteromedial tubercle. Interocular space of females distinctly impressed in the middle.

Pronotum slightly convex, with coarse and regular punctation; anterior and lateral margins completely bordered, basal margin unbordered; anterior margin slightly excavate; anterior and posterior corners broadly rounded. Propleura with sparse setigerous punctures, between punctures finely coriaceous.

Elytra convex, about 1.4 times as long as wide, between scutellar row and lateral margin with 8 rows of punctures in feeble striae, third row with about 50 punctures, distance between punctures less than diameter of a puncture, intervals feebly convex with setigerous punctation distinctly finer and sparser than on pronotum.

Abdominal ventrites with coarse setigerous punctures, interspaces between punctures micro-reticulate, laterally to some extent with longitudinal wrinkles.

Legs without modifications, male tarsi not dilated, tibiae externally with indistinct crenulate keels.

Aedeagus see Fig. 27.

Differential diagnosis

P. thijlberti n. sp., *P. masumotoi* Schawaller, 2004, and *P. subfascium* Walker, 1858 have the same armature of the male head, i. e. two asymmetrical horns, the tip of the longer right horn with setation, and the clypeus with an additional tooth. *P. thijlberti* n. sp. can be separated from both species by smaller body size, completely different colour pattern of the elytra (cf. SCHAWALLER 2003: pl. 4, fig. 4; SCHAWALLER 2004: fig. 32), and different aedeagus (cf. SCHAWALLER 2003: fig. 18; SCHAWALLER 2004: fig. 114).

Distribution

E Malaysia, only known from the type locality.

Platydema javanum Kaszab, 1939

Material studied

Borneo, Malaysia, Sabah, Apin Apin, 350–380 m, H. J. BREMER & R. GRIMM leg., 6.II.2006, 1 specimen (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Gunung Santubong, 6.IV.2009, R. GRIMM leg., 7 specimens (CRG). – Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–300 m, 31.–4.IV.2009, R. GRIMM leg., 3 specimens (CRG). – Borneo, Malaysia, Sarawak, Kubah National Park near Headquarter, 27.–28.III.2009, R. GRIMM leg., 5 specimens (CRG). – Borneo, Malaysia, Sarawak, Kubah National Park near Matang Wildlife Centre, 50–100 m, 16.–17.III.2008, R. GRIMM leg., 7 specimens (CRG).

Distribution

W Malaysia, Sumatra, Java (SCHAWALLER 2004), Borneo (new record), Thailand, Sulawesi (new records, based on specimens in CRG).

Platydema nuciferae Blair, 1928

Material studied

Borneo, Malaysia, Sabah, Keningau, 17.–19.II.2006, R. GRIMM leg., 1 specimen (CRG). – Borneo, Malaysia, Sabah, Keningau, 17.II.2006, H. J. BREMER leg., 1 specimen (CRG).

Distribution

Thailand, Vietnam, W Malaysia, Riouw Archipelago, Solomon Islands (SCHAWALLER 2004), Borneo (new record).

Platydema pentaphylloides Kaszab, 1980

Material studied

Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 10–200 m, 23.–27.III.2008, R. GRIMM leg., 1 specimen (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Gunung Santubong, 6.IV.2009, R. GRIMM leg., 1 specimen (CRG).

Distribution

Thailand, Vietnam, Sumatra (SCHAWALLER 2004), Borneo (new record).

Platydema unicornis Gebien, 1927

Material studied

Borneo, Malaysia, Sabah, Apin Apin, 350–380 m, 6.II.2006, H. J. BREMER & R. GRIMM leg., 1 ♂ (CRG).

Distribution

Thailand, W Malaysia, Sumatra (SCHAWALLER 2004), Borneo (new record).

Spiloscapa medvedevi n. sp.

(Figs. 7, 29)

Holotype: ♂, Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–300 m, 23.–29.IX.2008, R. GRIMM leg. (CRG).

Paratypes: Same data as holotype, 16 specimens (CRG), 5 specimens (SMNS). – Same data as holotype, but 31.III.–4.IV.2009, 42 specimens (CRG), 5 specimens (BMNH), 5 specimens (HNHM), 5 specimens (NHMB-F), 3 specimens (SDEI), 5 specimens (SMNS), 5 specimens (ZSM), 5 specimens (CKA).

Etymology

Named in honour of the late colleague Prof. GLEB S. MEDVEDEV (St. Petersburg, † 23.IX.2009), contributor of numerous and substantial papers on tenebrionid taxonomy.

Description

Oblong-oval, body length 3.1–3.7 mm, body width 1.5–1.9 mm, shining. Dorsal and ventral side castaneous (in mature specimens), parts of pronotum and elytra irregularly blackish, elytra often with an irregular transverse patch near the middle and an irregular patch near the apex. Scape, pedicel and third antennomere castaneous, flagellum from tip of third to last antennomere black, distal part of last antennomere ferrugineous.

Head with punctation denser and somewhat coarser than on pronotum, distance between punctures 2 times diameter of a puncture. Clypeus truncate at apex, fronto-clypeal suture distinct, with lateral depression behind fronto-clypeal suture. Genae long and oblique, moderately convex. Eyes without inner ocular sulcus, strongly divided by genal canthus.

Pronotum trapezoidal, with punctation sparser and somewhat finer than on head, distance between punctures about 1–4 times diameter of a puncture, punctures setigerous in part; anterior margin slightly emarginated, roundly and slightly produced in the median third, bordered in the lateral third; lateral margins weakly curved and slightly narrowing forwards, broadly sulcate with setigerous punctures; basal margin slightly sinuate and unbordered; anterior angles obtuse, hardly produced, posterior angles rectangular. Propleura with sparse, fine punctures.

Elytra moderately convex, between ill-defined scutellar row and lateral margin with 8 rows of punctures, eighth row obsolete, third row with about 45 punctures, distance between punctures 1–2 times diameter of a puncture, intervals flat, with minute sparse punctures; first, third, fifth and seventh intervals with rows of setigerous punctures, about 20 punctures in the first interval; size of punctures as in primary rows, distance between punctures about 5–10 times diameter of a puncture; lateral margin in dorsal view visible almost over its entire length, not discernible only before apex.

Punctures on metasternum and abdominal ventrites somewhat coarser laterally than medially.

Aedeagus see Fig. 29.

Differential diagnosis

Spiloscapa medvedevi n. sp. is similar to *S. eiliesa* Schawaller, 1997. However, in *S. eiliesa* the dorsal side is ferrugineous without colour pattern (castaneous with parts of pronotum and elytra irregularly blackish in mature specimens of *S. medvedevi* n. sp.), the rows of setigerous punctures of the alternate elytral intervals are more irregular and with larger punctures than those of the primary

rows (punctures of primary rows and alternate rows of intervals equal in size in *P. medvedevi* n. sp.), and the shape of the aedeagus is different (compare Figs. 28, 29).

Distribution

E Malaysia, only known from the type locality.

Spiloscapa bakeri n. sp. (Figs. 8, 30)

Holotype: ♂, Brit. N. Borneo, Sandakan, 1919-2, C. F. BAKER leg. (BMNH).

Etymology

Named after CHARLES FULLER BAKER (1872–1927), collector of the holotype.

Description

Oblong-oval, body length 3 mm, body width 1.6 mm, shining. Dorsal and ventral side of body including legs and palpi fuscous; elytra with slightly lighter humeral spot; antennae blackish-brown, with the three basal antennomeres and the last one fulvous.

Head coarsely punctate, punctation denser on clypeus and frons than on vertex. Clypeus truncate at apex, fronto-clypeal suture obsolete, with lateral depression behind fronto-clypeal suture. Genae long and oblique, moderately convex. Eyes without inner ocular sulcus, strongly divided by genal canthus.

Pronotum trapezoidal, with punctation as on head, distance between punctures about 0.5–5 times diameter of a puncture, punctures setigerous in part; anterior margin slightly emarginate, bordered in the lateral third; lateral margins weakly curved and slightly narrowing forwards, broadly sulcate with setigerous punctures; basal margin very slightly sinuate and unbordered; anterior angles obtuse, hardly produced, posterior angles rectangular. Propleura smooth with only inner anterior part coarsely punctured.

Elytra moderately convex, between ill-defined scutellar row and lateral margin with 8 rows of punctures, eighth row obsolete, third row with about 35 punctures, distance between punctures 0.5–1.5 times diameter of a puncture, intervals flat; first, third, fifth and seventh intervals with rows of setigerous punctures, about 10 punctures in the first interval; punctures smaller as in primary rows, and hardly perceptible if setae are rubbed off; lateral margin in dorsal view visible almost over its entire length, not discernible only before apex.

Punctures on metasternum and abdominal ventrites 1–4 somewhat coarser laterally than medially. Last ventrite finer and less densely punctured.

Aedeagus see Fig. 30.

Differential diagnosis

Spiloscapa bakeri n. sp. shares with *S. unicolor*, Blair, 1937 from India and Thailand the nearly unicoloured dorsal side with only an indistinct humeral spot, and a somewhat similar aedeagus (compare Fig. 30 and SCHAWALLER 1997: fig. 30). *S. bakeri* n. sp. can be distinguished from *S. unicolor* by fulvous colouration (ferrugineous in *S. unicolor*), less dense and less coarse punctation of the head, lighter (fuscous) last antennomere, flat elytral intervals and puncture rows without striae (somewhat convex and rows in striae in *S. unicolor*), and about 35 punctures in the third row (about 45 in *S. unicolor*).

Distribution

E Malaysia, only known from the type locality.

Leiochrinini Lewis, 1894

Derispia batuica Schawaller, 2005

Material studied

Borneo, Malaysia, Sarawak, Gunung Gading National Park, 100–250 m, 9.–12.III.2008, R. GRIMM leg., 6 specimens (CRG). – Borneo, Malaysia, Sarawak, Santubong Peninsula, Permai Rainforest Resort, 20–160 m, 13.–15.III.2008, R. GRIMM leg., 1 specimen (CRG).

Distribution

W Malaysia (SCHAWALLER 2005a), Borneo (new record).

Derispia titschacki Kaszab, 1946

Material studied

Borneo, Malaysia, Sarawak, Kuching, Reservoir Park, 50 m, 4.–5.III.2008, R. GRIMM leg., 8 specimens (CRG); 9.–10.IX.2008, 1 specimen (CRG).

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Manuscript received: 26.X.2009, accepted: 11.XI.2009.

Distribution

Southern China, W Malaysia (SCHAWALLER 2005a), Borneo (new record).

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Zeitschrift/Journal: [Stuttgarter Beiträge Naturkunde Serie A \[Biologie\]](#)

Jahr/Year: 2010

Band/Volume: [NS_3_A](#)

Autor(en)/Author(s): Grimm Roland

Artikel/Article: [New and little known species of Tenebrionidae \(Coleoptera\) from Borneo 257-267](#)