

Leaf beetles of the tribe Cryptocephalini (Coleoptera: Chrysomelidae: Cryptocephalinae) from Borneo

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Leaf beetles of the tribe Cryptocephalini (Coleoptera: Chrysomelidae: Cryptocephalinae) from Borneo

LEV MEDVEDEV & PAVEL ROMANTSOV

Abstract

Twelve species of Bornean Cryptocephalini are described as new for science: *Coenobius matangi* n. sp., *C. sabahensis* n. sp., *C. sarawacensis* n. sp., *C. schawalleri* n. sp., *Cryptocephalus borneoensis* n. sp., *Cr. geiseri* n. sp., *Cr. klimenkoi* n. sp., *Cr. nigrofulvus* n. sp., *Cr. nitidicornis* n. sp., *Cr. sepilocus* n. sp., *Cr. subcostipennis* n. sp., and *Cr. subserricornis* n. sp. The genus *Bucharis* Baly, 1865 is recorded from Borneo for the first time. *Cryptocephalus moultoni* Bryant, 1954 is transferred to the genus *Melixanthus* Suffrian, 1854. New replacement names are proposed: *Coenobius weiseanus* nom. nov. for *C. basalis* Weise, 1913, and *C. pici* nom. nov. for *C. bicolor* Pic, 1943. Keys for all species of Bornean Cryptocephalini are given.

Key words: Chrysomelidae, Cryptocephalinae, Cryptocephalini, Borneo, new species, new localities, keys.

Zusammenfassung

Zwölf neue Arten der Tribus Cryptocephalini von Borneo werden beschrieben: *Coenobius matangi* n. sp., *C. sabahensis* n. sp., *C. sarawacensis* n. sp., *C. schawalleri* n. sp., *Cryptocephalus borneoensis* n. sp., *Cr. geiseri* n. sp., *Cr. klimenkoi* n. sp., *Cr. nigrofulvus* n. sp., *Cr. nitidicornis* n. sp., *Cr. sepilocus* n. sp., *Cr. subcostipennis* n. sp. und *Cr. subserricornis* n. sp. Die Gattung *Bucharis* Baly, 1865 wird zum ersten Mal für Borneo nachgewiesen. *Cryptocephalus moultoni* Bryant, 1954 wird in die Gattung *Melixanthus* Suffrian, 1854 gestellt. Die folgenden beiden Ersatznamen werden eingeführt: *Coenobius weiseanus* nom. nov. für *C. basalis* Weise, 1913 und *C. pici* nom. nov. für *C. bicolor* Pic, 1943. Es werden Bestimmungsschlüssel für alle Arten der Cryptocephalini von Borneo gegeben.

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1 Introduction

Cryptocephalini Gyllenhal, 1813 is the biggest tribe in the leaf beetle subfamily Cryptocephalinae, consisting of about 3,000 species worldwide. The species diversity of this group is poor in the Oriental region (only about 300 species in six genera), and most species are only rarely collected. This is especially true for the fauna of the islands. A catalogue of the Malayan species (MOHAMEDSAID 2004) includes only three genera and nine species from Borneo. Additionally, one genus (*Adiscus*) and seven more species were recorded from Borneo during the last years (KIMOTO 1984, MEDVEDEV 2008 and 2011, and MEDVEDEV & ROMANTSOV 2014).

The present paper is based on the study of material collected by PAVEL ROMANTSOV in Borneo (Sabah) during three expeditions in the years 2012–2014. Additional material was received as loan from BMNH and SMNS, and L. MEDVEDEV's collection was studied too. This work is also an attempt to compile the scattered published infor-

mation on Cryptocephalini from Borneo. Keys for the representatives of this group from Borneo are provided for the first time.

We tried to examine the type specimens of the involved species, but not all were available to us. Furthermore, there is more material which we could not study. So this review is a first step to improve the knowledge of this group from Borneo. In any case the genus *Coenobius* Suffrian, 1857 needs a more detailed study.

Acknowledgements

We are grateful to MICHAEL GEISER (London) and WOLFGANG SCHAWALLER (Stuttgart) for the possibility to study Cryptocephalinae material from the collections of BMNH and SMNS.

2 Material and methods

All measurements were made using an ocular grid mounted on MBS-20 stereomicroscope. Photographs of the habitus were taken by PAVEL ROMANTSOV with a Canon EOS 500D digital camera with combined Canon EF 70–200 mm f/4.0L IS USM and

inverted Helios 50 mm objectives. Photographs of aedeagi and spermatheca were made by PAVEL ROMANTSOV with a Canon EOS 500D digital camera with combined Canon EF 70–200 mm f/4.0L IS USM and inverted EFS 18–55 mm f/3.5–5.6 objectives. Images at different focal planes were combined using Helicon Focus 4.60.3 Pro software.

Exact label data are given for the type material. A slash (/) separates different lines.

Acronyms of depositories

BMNH	British Museum of Natural History (London, United Kingdom)
LM	LEV MEDVEDEV'S collection (Moscow, Russia)
PR	PAVEL ROMANTSOV'S collection (Sankt-Petersburg, Russia)
SMNS	Staatliches Museum für Naturkunde (Stuttgart, Germany)
ZIN	Zoological Institute RAN (Sankt-Petersburg, Russia)

3 Taxonomy

Adiscus chypealis L. Medvedev, 2008 (Figs. 1, 6, 37, 38)

Adiscus chypealis L. MEDVEDEV, 2008: 204 (Sarawak).

Type material examined: Two paratypes: "Fed Malay States:/ 1909./ C. J. BROOKS./ D. M. 1931-570.", 1 ♂ (LM); "Mt. Matang./ W. Sarawak./ G. E. BRYANT./ 1.1914", 1 ♂ (LM).

Distribution: Borneo (Sarawak).

Adiscus grandis (Baly, 1865) (Figs. 2–4, 39, 40)

Dioryctus grandis BALY, 1865: 64 (Sumatra, Penang).

Adiscus grandis: KIMOTO 1984: 172; MOHAMEDSAID 2000: 345, 2004: 33.

Type material examined: Two syntype specimens. First specimen with four labels: "Type", "BALY Coll.", "Type/ H. T.", "*Dioryctus grandis*/ Baly/ Sumatra", 1 ♀ (BMNH); second one with two labels "Penang./ H. N. RIDLEY/ 97-74", "*Dioryctus grandis* Baly", 1 ♀ (BMNH).

Additional material examined: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mt./ N 05°26'35", E 116°27'5"/ 1250 m, 7.IV.2013, leg. P. ROMANTSOV", 1 ♂ (PR); same as before, but 8.IV.2013, 1 ♂ (PR).

Distribution: Borneo (Sabah), Peninsular Malaysia, Sumatra.

Adiscus ornatus L. Medvedev, 2008 (Fig. 5)

Adiscus ornatus L. MEDVEDEV, 2008: 204 (Sarawak).

Type material examined: Paratype: "Quop./ W. Sarawak/ G. E. BRYANT./ III 1914", 1 ♀ (LM).

Distribution: Borneo (Sarawak).

Adiscus tristis L. Medvedev, 2008 (Fig. 7)

Adiscus tristis L. MEDVEDEV, 2008: 204 (Sarawak).

Type material examined: Paratype: "Borneo./ German Mission/ Fry Coll./ 1905.100.", 1 ♀ (LM).

Distribution: Borneo (Sarawak).

Bucharis minutus Jacoby, 1896 (Fig. 8)

Bucharis minutus JACOBY, 1896: 381 (Sumatra).

Type material not examined.

Material examined: "Borneo, Kinabalu" [without further data], 2 ♀♀ (LM); "Mt. Matang./ W. Sarawak./ G. E. BRYANT./ 1.1914", 1 ♀ (BMNH).

Remarks: The species was described from Sumatra. In LM there are specimens also from Thailand, Singapore, Mentawai, and Lombok. Specimens from Vietnam, usually determined as *B. minor* (Pic, 1927), possibly also belong to this species. This genus is first recorded from Borneo.

Distribution: Borneo (Sabah, Sarawak), Vietnam, Thailand, Sumatra, Mentawai, Singapore, Lombok.

Coenobius cyclops L. Medvedev & Romantsov, 2014 (Figs. 9, 41, 65)

Coenobius cyclops L. MEDVEDEV & ROMANTSOV 2014: 236 (Sabah).

Type material examined: Holotype: "Malaysia, N Borneo, Sabah./ Keningau distr., Trus Madi Mt., 1250 m./ N 05°26'35", E 116°27'5"/ 16–18.III.2012, leg. P. ROMANTSOV", 1 ♂ (ZIN); paratypes: same data as holotype, 1 ♂, 2 ♀♀ (PR, LM); same locality, 13.IV.2013, 2 ♀♀ (PR).

Additional material examined: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mts./ 1250 m, N 05°26'35", E 116°27'5"/ 10.IV.2013, P. ROMANTSOV leg", 1 ♂, 3 ♀♀ (PR); "Malaysia, N Borneo, Sabah./ ~16 km NW Tambunan, Crocker/ Range, h~1660–1950 m, the daytime/ N 05°48'47", E 116°20'16"/ N 05°49'32", E 116°20'27"/ 9.III.2014, P. ROMANTSOV leg", 1 ♀ (PR); "Mt. Matang./ W. Sarawak./ G. E. BRYANT./ XII.1913", 3 ♀♀ (BMNH); "Mt. Matang./ W. Sarawak./ XII.13–P14/ G. E. BRYANT.", 1 ♀ (BMNH); "Mt. Matang./ W. Sarawak./ Jan. 1914/ G. E. BRYANT", 1 ♀ (BMNH).

Remarks: Described on the basis of the following differences from *C. imatadei* Chûjô, 1964: head fulvous before eyes which are contiguous along almost all inner margins. According to the description (CHÛJÔ 1964) *C. imatadei* has the eyes contiguous only at the top, and the head (except labrum) black. Now we have specimens of *C. cyclops* with the colouration of the head as in *C. imatadei*. Possibly *C. cyclops* is identical with this species. It would be necessary to compare with the type or at least with specimens from the type locality.

Distribution: Borneo (Sabah).

Coenobius imatadei Chûjô, 1964

Coenobius imatadei CHÛJÔ, 1964: 262 (Brunei); MOHAMEDSAID 2004: 33.

Type material not examined.

Distribution: Borneo (Brunei).

Coenobius matangi n. sp.

(Figs. 10, 42)

Holotype: "Mt. Matang/ W. Sarawak./ Jan. 1914/ G. E. BRYANT", 1 ♂ (BMNH).

Paratypes: "W. Sarawak/ Mt. Matang, G. E. BRYANT/ 16–30.XII.1913", 1 ♀ (BMNH); "Mt. Matang/ W. Sarawak./ G. E. BRYANT/ XII.1914", 1 ♀ (LM); "Sarawak:/ 4th Division/ Gn. Mulu NP./ near camp 1, 150–200 m", 1 ♀ (BMNH).

Etymology: The name of the new species refers to the collecting locality Matang.

Description: Black, head fulvous, antennae piceous with 5 or 6 basal segments fulvous, pronotum red fulvous with blackish basal margin, legs fulvous (Fig. 10). – Head with large contiguous eyes, clypeus sparsely punctate. Antennae reaching anterior third of elytra, proportions of the segments are as 7-4-5-5-6-6-6-6-7, segments 6–11 thickened and feebly elongate. Pronotum 1.7 times as wide as long, broadest at base, conical with almost straight side margins, without any depressions, with distinct basal row of punctures, distinctly punctate in basal half. Scutellum lanceolate, about twice as long as wide, impunctate. Elytra 1.2–1.3 times as long as wide, slightly narrowed posteriorly and broadly rounded on apex, with regular rows of punctures, more feeble on apical slope, interspaces flat and broad at dorsum, distinctly convex on sides. Pygidium convex and distinctly punctate. Prosternum wide, finely punctate. Body length 1.7–2.0 mm.

Differential diagnosis: The new species is similar to *C. subsemicinctus* Pic, 1943 from the Malacca Peninsula (Fig. 11) which, however, has the elytra black with fulvous apices and the pronotum impunctate.

Distribution: Borneo (Sarawak).

Coenobius sabahensis n. sp.

(Figs. 12, 13)

Holotype: "Malaysia, N Borneo, Sabah, Keningau dist., Trus Madi Mt./ N 05°36'25", E 116°27'5"/ 1250 m./ 6.IV.2013, leg. P. ROMANTSOV", 1 ♀ (ZIN).

Etymology: The name of the new species refers to the collecting locality Sabah.

Description: Fulvous, antennae except 4 basal segments, narrow basal margin of pronotum and elytra, elytral suture, scutellum, metasternum and abdominal sternites 2–4 black (Fig. 12). – Body elongate. Head flat, shining, finely and sparsely punctate, eyes deeply emarginated, touch each other. Antennae comparatively long, reaching apex of scutellum, proportions of the segments are as 8-4-6-6-5-7-7-7-6-6-5, segments 6–11 widened, about twice as long as wide. Pronotum 1.6 times as wide as long, broadest at base and narrowed anteriorly, lateral margins almost straight, anterior margin with sharp collar, surface with transverse impression (Fig. 13, arrows) behind middle, more feeble in central part and distinctly punctate behind this impression in central part, rest of pronotal surface shining and impunctate, except usual basal

row. Scutellum cuneiform. Elytra 1.2 times as long as wide, rows of punctures more feeble on apical slope, a few rows behind humerus strongly confused, interspaces flat, broad and impunctate. Pygidium with broadly rounded apex, flat, finely punctate and pubescent. Prosternum quadrangular with subtruncate hind margin, 1.3 times as long as wide, finely and sparsely punctate. Body length 3.0 mm.

Differential diagnosis: The new species is similar to *C. monticola* Weise, 1922 from the Philippines. It differs by the absence of the interocular space, cuneiform scutellum (*C. monticola* has a drop-like scutellum), elytra with more feeble elytral rows with flat interspaces, and by other colouration (scutellum, elytral suture and large part of underside black).

Distribution: Borneo (Sabah).

Coenobius sarawacensis n. sp.

(Fig. 14)

Holotype: "Borneo/ Jaut Lag", "SE German Mission" [Sarawak], "Fry Coll./ 1905.100.", 1 ♀ (BMNH).

Paratype: "Borneo/ S. East", "German Mission" [Sarawak], "Fry Coll./ 1905.100.", 1 ♀ (BMNH).

Etymology: The name of the new species refers to the collecting locality Sarawak.

Description: Dark piceous to almost black, pronotum dark reddish fulvous, head, 5 basal antennal segments, abdomen including pygidium, tergites and legs fulvous. – Head sparsely punctate, with large contiguous eyes. Antennae reaching humeral tubercles, proportions of the segments are as 7-3-7-4-6-6-6-6-5-5-6, preapical segments slightly thickened, about twice as long as wide. Pronotum 1.8 times as wide as long, conical, strongly narrowed anteriorly, with practically straight lateral margin, surface shining, with distinct basal row of punctures, oblique impression on each side of the middle and distinct punctures on basal two thirds. Scutellum lanceolate, almost 3 times as long as wide, impunctate. Elytra 1.1 times as long as wide, narrowed posteriorly and rounded on apex, with regular rows of punctures, very feeble on apical slope, interspaces of rows flat and impunctate. Pygidium feebly convex, microsculptured and finely punctate. Prosternum quadrate, finely punctate, with straight hind margin. Body length 3.0–3.1 mm.

Differential diagnosis: This new species resembles *C. flaviventris* Weise, 1922 from Luzon, but differs in having fulvous head, larger size, elytra without metallic tint, and impunctate interspaces of rows.

Distribution: Borneo (Sarawak).

Coenobius schawalleri n. sp.

(Fig. 15)

Holotype: "Borneo: Sabah, Crocker/ Range N. P: NW Keningau/ 900–1200 [m], 16–20.XI.1996/ leg. W. SCHAWALLER", 1 ♂ (SMNS).

Paratype: "Sarawak:/ 4th Division/ Gn. Mulu NP", "nr. Camp 5", "Malaisie/ trap", 1 ♀ (BMNH).

Etymology: The new species is named after the coleopterologist WOLFGANG SCHAWALLER (SMNS).

Description: Fulvous, 4 apical antennal segments and narrow basal margin of pronotum and elytra black (Fig. 15). – Body elongate ovate. Head flat, shining and impunctate, eyes deeply emarginated, interocular space comparatively broad, with two punctures on each side near eye. Antennae reaching the base of elytra, proportions of the segments are as 7-4-3-3-5-5-4-4-4-5, segments 6–11 widened. Pronotum 1.6 times as wide as long, broadest at base and narrowed anteriorly, side margins very feebly arcuate, anterior margin with sharp collar, surface impunctate, shining, without impressions. Scutellum about twice as long as wide. Elytra 1.05 times as long as wide, rows of punctures distinct to apex, interspaces flat or feebly convex, impunctate. Pygidium triangular with subtruncate apex, flat, finely punctate. Aedeagus lost during preparation. Body length 1.5 mm.

Differential diagnosis: The new species is similar to *C. fenestratus* L. Medvedev, 1997 from the Philippines, but differs by the practically entirely fulvous body and much broader interocular space.

Distribution: Borneo (Sabah).

Coenobius wiseanus **nom. nov.**
(Fig. 16)

Coenobius basalis WEISE, 1913: 217 (Borneo) – nec *C. basalis* JACOBY, 1908: 189 (South India); MOHAMEDSAID 2004: 33.

Type material not examined.

Material examined: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mts./ 1250 m, N 05°26'35", E 116°27'5"/ 10.IV.2013, leg. P. ROMANTSOV/ by mowing in daytime", 1 ♀ (PR).

Remarks: *Coenobius basalis* Weise, 1913 was described from Borneo under the preoccupied name of JACOBY (1908). Thus *C. basalis* Weise, 1913 is a junior homonym of *C. basalis* Jacoby, 1908. We propose the replacement name *C. wiseanus* nom. nov. for *C. basalis* Weise, 1913.

Distribution: Borneo (Sabah).

Coenobius sp. A
(Fig. 17)

Material examined: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mts./ 1250 m, N 05°26'35", E 116°27'5"/ 10.IV.2013, leg. P. ROMANTSOV/ by mowing in daytime", 1 ♀ (PR).

Differential diagnosis: Possibly only a colour variation of *C. wiseanus* nom. nov.

Distribution: Borneo (Sabah).

Coenobius sp. B
(Fig. 18)

Material examined: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mts./ 1250 m, N 05°26'35",

E 116°27'5"/ 8.IV.2013, leg. P. ROMANTSOV/ by mowing in daytime", 1 ♀ (PR).

Differential diagnosis: Possibly only a colour variation of *C. wiseanus* nom. nov.

Distribution: Borneo (Sabah).

Coenobius sp. C
(Fig. 19)

Material examined: "Sarawak, Semongok/ 12 mi. S. Kuching/ 2.XII.1974/ A. EARNSHAW", 1 ♂ (LM); same locality and collector, 22.XII.1974, 1 ♀ (LM).

Differential diagnosis: *Coenobius* sp. C belongs to a species group with uninterrupted (or in the middle only feebly interrupted) transverse groove on reddish pronotum and black elytra. This group includes three Oriental species: *C. birmanicus* Jacoby, 1892 (Fig. 20), *C. rubrithorax* Pic, 1940 from Indochina, and *C. bicolor* Weise, 1922 from the Philippines (nec *C. bicolor* Pic, 1943). Distinctive features of the four taxa are as follows:

C. birmanicus – Ventral surface pitchy black with pronotum and 5th abdominal segment reddish brown.

C. rubrithorax – Ventral surface entirely reddish brown.

C. bicolor – Ventral surface black, pronotum red.

Coenobius sp. C – Ventral surface reddish brown with black meso and metathorax.

Remarks: Under the name *C. bicolor* was described one more species: *C. bicolor* Pic, 1943. Thus *C. bicolor* Pic, 1943 is a junior homonym of *C. bicolor* (described by WEISE 1922) and we propose the replacement name *C. pici* nom. nov. for *C. bicolor* Pic, 1943 from India. According to the short description given by PIC (1943), this species resembles *C. rubrithorax*, but differs by smooth pronotum. Therefore, we believe that it is not to be included in the discussed group.

Distribution: Borneo (Sarawak).

Coenobius sp. D
(Fig. 21)

Material examined: "E. Malaysia, Borneo, Sabah./ Sepilok, 10–40 m./ 05°52'N, 117°57'E/ 19–24.IV.2011/ O. GORBUNOV leg.", 1 ♀ (LM).

Distribution: Borneo (Sabah).

Cryptocephalus annulipes Baly, 1865

Cryptocephalus annulipes BALY, 1865: 72 (Borneo); MOHAMEDSAID 2004: 33.

Type material not examined.

Distribution: Borneo.

Cryptocephalus borneoensis **n. sp.**
(Figs. 22, 64)

Holotype: "Malaysia, N Borneo, Sabah./ Keningau dist., Trus Madi Mt./ h~1250 m, N 05°26'35", E 116°27'5"/ at light, 17.III.2012, P. ROMANTSOV leg.", 1 ♀ (ZIN).

E t y m o l o g y : The name of the new species refers to the collecting locality Borneo.

D e s c r i p t i o n : Body light fulvous, hind margin of pronotum with black teeth, tibiae and tarsi dark fulvous (Fig. 22). – Head flat, finely punctate on frons, with longitudinal impressed line on vertex, interocular space as wide as length of basal antennal segment and about 1.4 times as wide as width of upper half of eye. Antennae thin, reaching apical third of elytra, proportions of the segments are as 12-4-10-15-12-12-10-10-10-12. Pronotum widest at base, 1.7 times as wide as long, conical with almost straight anterior and lateral margins, surface shining, impunctate, with oblique impression on each side of base. Scutellum as long as wide, triangular, with truncate apex. Elytra 1.4 times as long as wide and 3.2 times as long as pronotum, almost parallel-sided with broadly rounded apices, humeral tubercle well developed, rows distinct to apex, interspaces of rows flat and impunctate. Pygidium feebly convex, punctate, with almost truncate apex. Prosternum subquadrate, with concave posterior margin, but without distinct teeth. Spermatheca as in Fig. 64. Body length 7.7 mm.

D i f f e r e n t i a l d i a g n o s i s : *C. borneoensis* n. sp. is similar to *C. cinnabarinus* Suffrian, 1854, but the body is larger with more elongate elytra, the basal elytral margin without black teeth, and underside and legs fulvous. From *C. annulipes*, which has elongate body and yellow elytra (except basal margin), the new species differs by large body, different proportions of the antennal segments and the impressed pronotum. In *C. annulipes* antennal segments 3 and 4 are equal, each twice as long as the second; the 5th and the following segments are also equal, each appreciably longer than the 4th.

D i s t r i b u t i o n : Borneo (Sabah).

Cryptocephalus geiseri n. sp.

(Figs. 23, 43–45)

H o l o t y p e : “B. N. Borneo, / near Kinabalu, / Kabayau 600, / 11.V.1929 / H. M. PENDLEBURY coll. / F. M. S. Museums.” [Sabah], 1 ♂ (BMNH).

P a r a t y p e s : “Borneo, Banj”, “German Mission”, “Fry coll.” [Sarawak], 1 ♂ (BMNH); “B. N. Borneo, / near Kinabalu, / Kawag-Kabayau 1000–600, / 6.V.1929 / H. M. PENDLEBURY coll. / F. M. S. Museums.”, 1 ♂ (PR); “B. N. Borneo, / near Kinabalu, / Kabayau 600, / 11.V.1929 / H. M. PENDLEBURY coll. / F. M. S. Museums.”, 1 ♀ (LM); “N. Borneo, / Bettotan, / NR. Sandakan, / Aug: 3–4d 1927, / C. B. K. & H. M. P. / F. M. S. / Museums” [Sabah], 1 ♀ (BMNH).

E t y m o l o g y : The new species is named after MICHAEL GEISER (London), curator of Chrysomelidae collections in BMNH.

D e s c r i p t i o n : Reddish fulvous, very narrow basal margins of pronotum and elytra black, antennal segments 5–11 darkened (Fig. 23). – Head shining, flat with longitudinal impression on frons and vertex, impunctate, interocular space on frons as wide as two basal antennal

segments and 2.35 times as wide as width of upper half of eye. Antennae almost reaching apex of elytra, proportions of the segments are as 8-3-6-6-7-7-7-7-7-8, segments 1–4 cylindrical, the next segment elongate triangular, not more than twice as long as wide. Pronotum 1.6 times as wide as long, surface strongly convex, shining, impunctate, with impression on each side of base before scutellum. Scutellum elongate triangular, impunctate with small impression on base. Elytra 1.15 times as long as wide, parallel-sided with feebly rounded apices, shallow punctures grouped in 10 rows (including the short one near scutellum), rows of punctures more feeble on apical slope, interspaces flat and impunctate. Pygidium almost flat, punctate, with obtuse apex. Prosternum broad, widened to behind, with truncate hind margin. Apical abdominal sternite concave in the middle. Aedeagus slightly widened to bifurcate apex, underside with sharp longitudinal ridge in apical half and with a small impression on each side near apex (Figs. 43–45). Length of aedeagus 2 mm. Body length 6.2 mm.

R e m a r k s : One female has almost entirely fulvous antennae (only a few apical segments very slightly darkened). The male from Sarawak has the body length smaller (5.4 mm) than specimens from Sabah (6.0–6.2 mm in male, 6.5–7.5 mm in female).

D i f f e r e n t i a l d i a g n o s i s : The new species *C. geiseri* s similar to *C. borneoensis* n. sp., *C. nitidicornis* n. sp., and *C. subserricornis* n. sp., but differs from the first two by the widened antennal segments 5–11. From *C. subserricornis* it is well distinguished by the furcated shape of the aedeagus. *C. geiseri* n. sp. also resembles *C. cinnabarinus* Suffrian, 1854 from Sumatra, but differs by the colouration of the legs (black femora and tibiae).

D i s t r i b u t i o n : Borneo (Sabah, Sarawak).

Cryptocephalus gestroi Jacoby, 1892

Cryptocephalus gestroi JACOBY, 1892: 890 (Burma; Genova); MOHAMEDSAID 1993: 6, 2000: 345, 2004: 34.

Type material not examined.

R e m a r k s : MOHAMEDSAID (1993) lists this species as a new record for Borneo, but in the catalogue of the Malaysian Chrysomelidae (MOHAMEDSAID 2004) it is indicated only for Peninsular Malaysia and Myanmar. Hence we believe that the record of *C. gestroi* for Borneo is erroneous and do not include it in our key to species.

D i s t r i b u t i o n : Thailand, Laos, Burma, Vietnam, S and W China, Peninsular Malaysia.

Cryptocephalus klimenkoi n. sp.

(Figs. 24, 46, 47)

H o l o t y p e : “Malaysia, N Borneo, Sabah, / Keningau dist., Trus Madi Mts, / N 5°26'35", E 116°27'5", 1250 m, / at light, 4.VI.2014, leg. A. KLIMENKO”, 1 ♂ (ZIN).

E t y m o l o g y : The new species is named after its collector ALEKSEY KLIMENKO (Russia, Tver).

Description: Head black with fulvous genae and labrum, antennae with segments 1–4 fulvous, next segments missing, pronotum and scutellum black, elytra fulvous with all margins, widened at apical third of suture, humeral spot and spot at apical third of side margins black, underside including pygidium and legs fulvous (Fig. 24). – Head flat, finely punctate, interocular space as wide as length of basal antennal segment. Proportions of antennal segments are as 12-5-7 (next segments missing). Pronotum widest at base, twice as wide as long, surface strongly convex, shining, impunctate, without any impressions. Scutellum as long as wide, triangular with broadly rounded apex, impunctate. Elytra 1.1 times as long as wide, slightly widened posteriorly, with broadly rounded apices, humeral tubercle feeble, rows more feeble on apical slope, interspaces of rows broad, flat and impunctate. Pygidium flat, finely punctate, with rounded apex. Prosternum subquadrate with two teeth on hind margin. Aedeagus as in Figs. 46, 47. Length of aedeagus 1.4 mm. Body length 4.1 mm.

Differential diagnosis: The new species differs from all other Bornean species of the genus *Cryptocephalus* by its unusual colouration with the pronotum entirely black, the elytra fulvous with black pattern, and underside and legs fulvous.

Distribution: Borneo (Sabah).

Cryptocephalus nigrofulvus n. sp.

(Figs. 25, 48–50)

Holotype: “E. Malaysia, Borneo, Sabah, Kinabalu Mt., 1500 m./ 06°00'N, 116°33'E./ 27–31.VII.2009./ O. GORBUNOV leg.”, 1 ♂ (ZIN).

Etymology: The name of the new species refers to its colouration.

Description: Body black, abdomen including pygidium and posterior legs fulvous; apices of 3 basal antennal segments more or less fulvous (Fig. 25). – Head flat, shining, impunctate, space between upper part of eyes about 1.4 times as wide as width of upper half of eye. Antennae almost reaching apical slope of elytra, proportions of the segments are as 9-3-6-7-10-10-10-10-8 (2 apical segments missing), segments 1–4 cylindrical, the next flattened and enlarged, about 2.4 times as long as wide. Pronotum twice as wide as long, surface strongly convex, shining, impunctate, with deep impression on each side of base before scutellum, which is conical with rounded apex, impunctate. Elytra 1.15 times as long as wide, almost parallel-sided with broadly rounded apices, humeral tubercle high, rows of punctures much more feeble on apical slope, interspaces of rows flat and impunctate. Pygidium feebly convex, punctate, with broadly rounded apex. Prosternum broad, with truncate posterior margin. Apical abdominal sternite with rather deep groove in the middle. Apex of aedeagus distinctly widened and bilobed with flat and

widely rounded lateral lobes, covering plate also bilobed with lobes in the form of curved horns directed upward and forward (Figs. 48–50). Length of aedeagus 2.3 mm. Body length 5.8 mm.

Differential diagnosis: *C. nigrofulvus* n. sp. belongs to group of species with bilobed apex of the aedeagus (*C. nitidicornis* n. sp. and *C. subserricornis* n. sp.). But unlike the other species which have a simple covering plate of the aedeagus, the new species has this plate bilobed. Moreover *C. nigrofulvus* n. sp. differs from the other species by the combination black body with fulvous abdomen.

Distribution: Borneo (Sabah).

Cryptocephalus nitidicornis n. sp.

(Figs. 26, 51–53)

Holotype: “Quop, W. Sarawak, G. E. BRYANT/ 24.II.1914”, 1 ♂ (BMNH).

Paratype: “Sarawak, C. J. BROOKS/ B. M. 1928-193”, 1 ♂ (BMNH).

Etymology: The name of the new species refers to its shining antennae.

Description: Fulvous, underside, pygidium except apex and partly hind femora black, hind margin of pronotum with very narrow black edging (Fig. 26). – Head shining, flat with longitudinal impression on frons and vertex, impunctate, interocular space as wide as length of basal antennal segment. Antennae thin, reaching apical slope of elytra, proportions of the segments are as 10-3-6-7-8-9-9-10-10-10-11, apical segments 3.5–4.0 times as long as wide. Pronotum 1.7 times as wide as long, surface strongly convex, shining, impunctate, with impression on each side of base before scutellum. Scutellum triangular, impunctate. Elytra 1.25 times as long as wide, parallel-sided with feebly rounded apices, rows of punctures feeble, especially on apical slope, interspaces flat and impunctate. Pygidium feebly convex, punctate, with rounded apex. Prosternum broad, with feebly concave hind margin. Apical abdominal sternite feebly concave in the middle. Aedeagus with bifurcate apex, but not widened, underside with longitudinal ridge in apical half, widened to base and with deep longitudinal impression on each side (Figs. 51–53). Length of aedeagus 2 mm. Body length 5.6 mm in holotype, 5.5 mm in paratype.

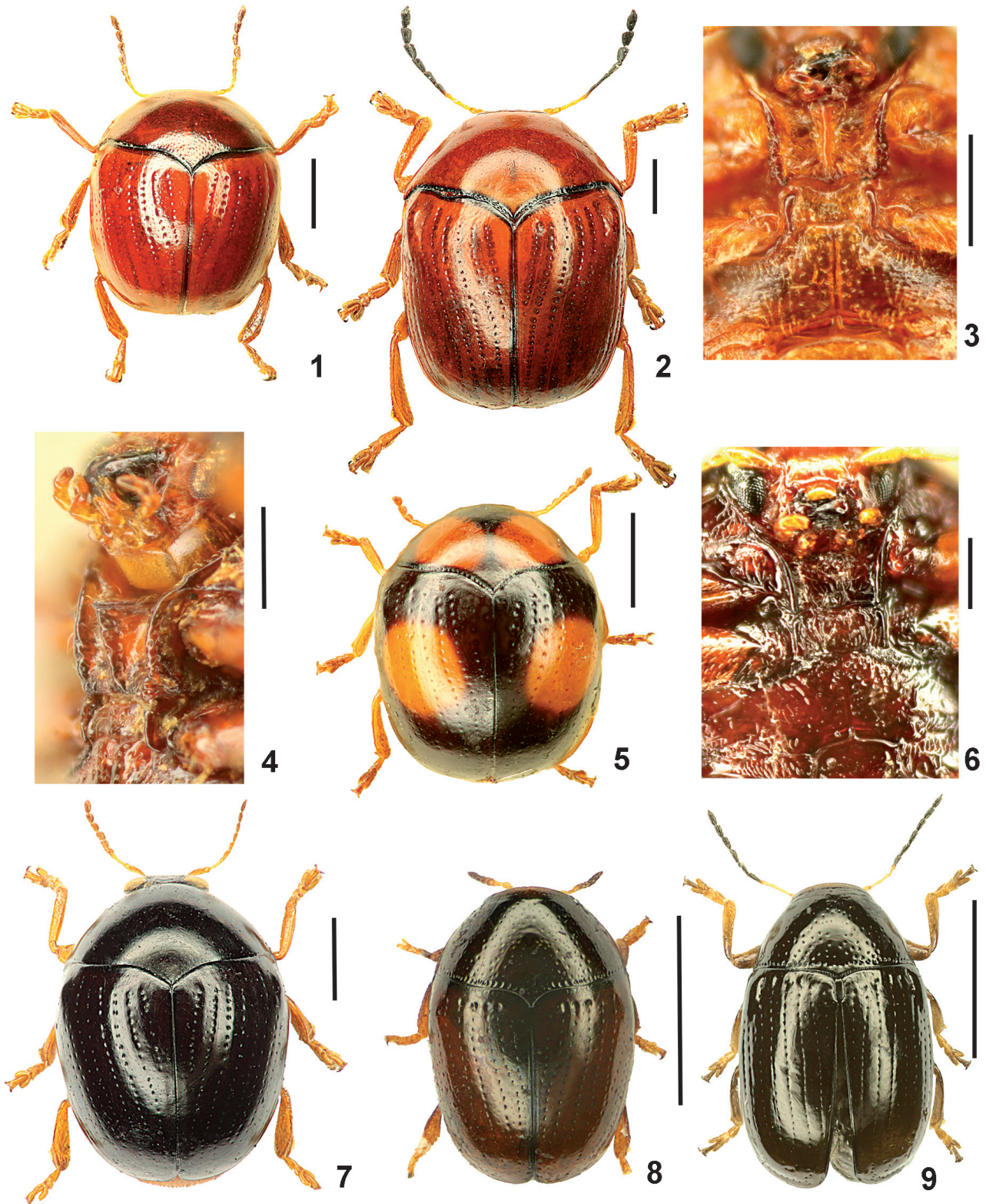
Differential diagnosis: *C. nitidicornis* n. sp. belongs to the group of species with bilobed apex of the aedeagus, close to *C. geiseri* n. sp. and *C. cinnabarinus* Suffrian, 1854 from Sumatra, but differs by filiform antennae and details of the aedeagus.

Distribution: Borneo (Sarawak).

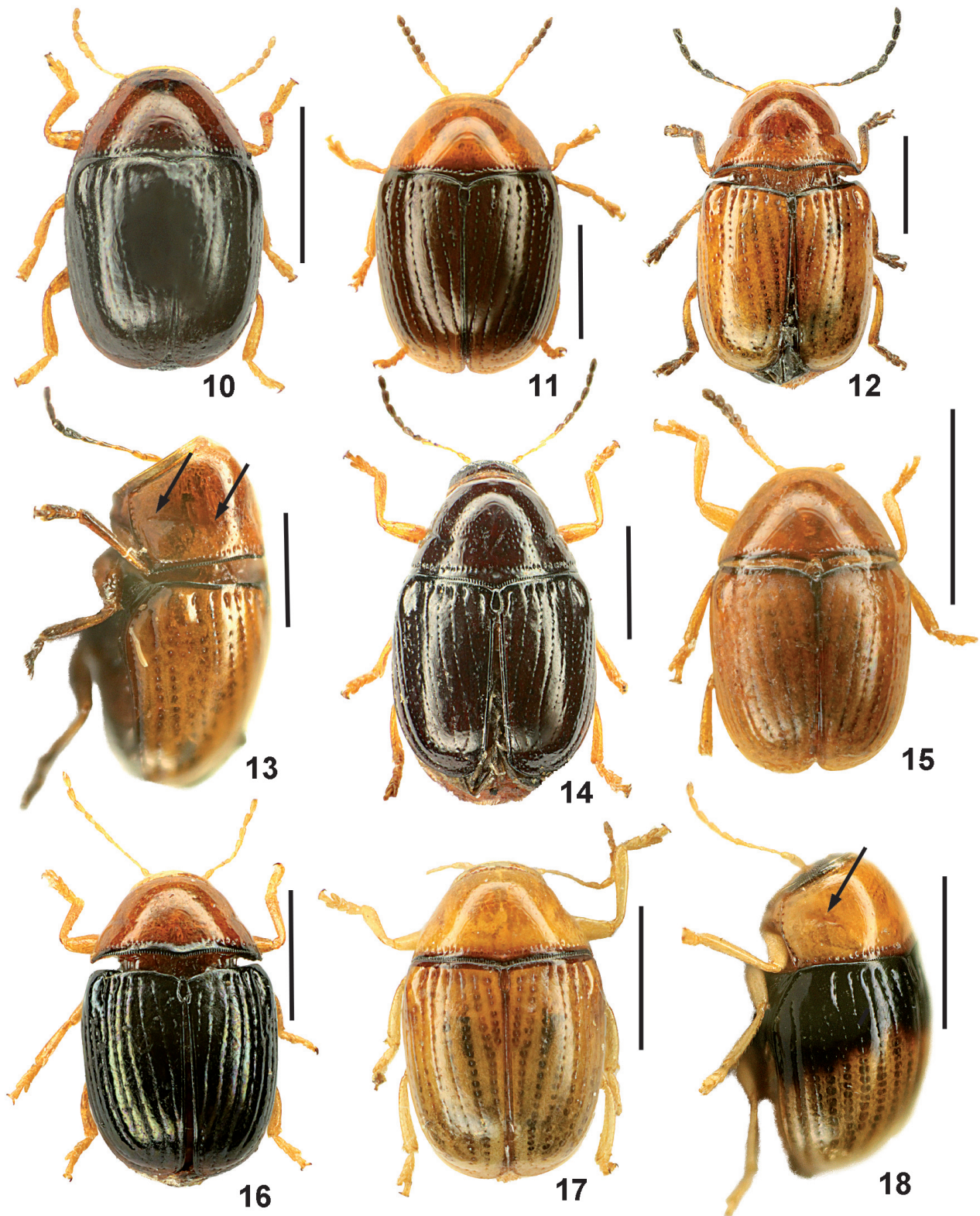
Cryptocephalus romantsovi L. Medvedev, 2011

(Fig. 27)

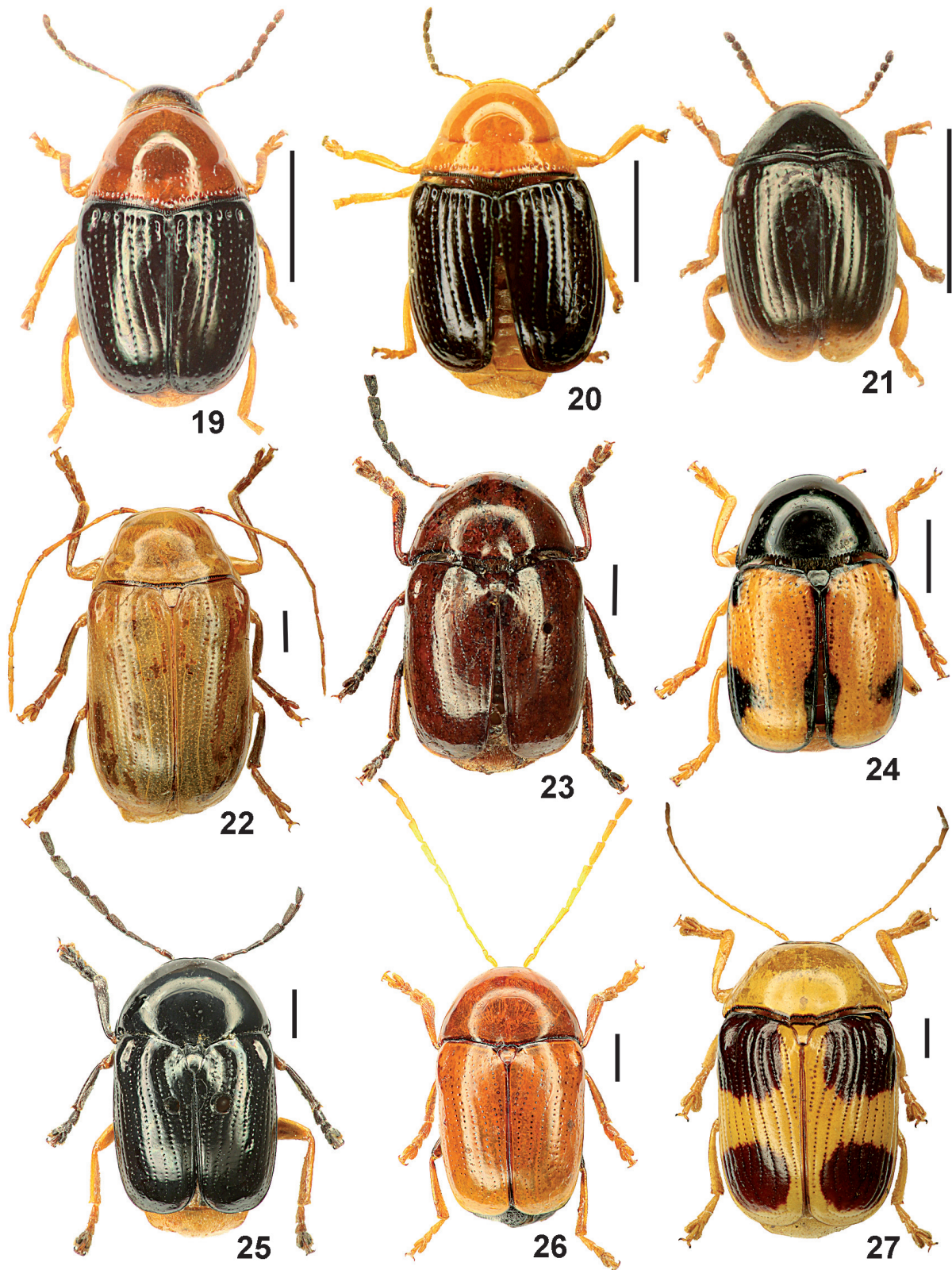
Cryptocephalus romantsovi L. MEDVEDEV, 2011: 348 (Sabah).



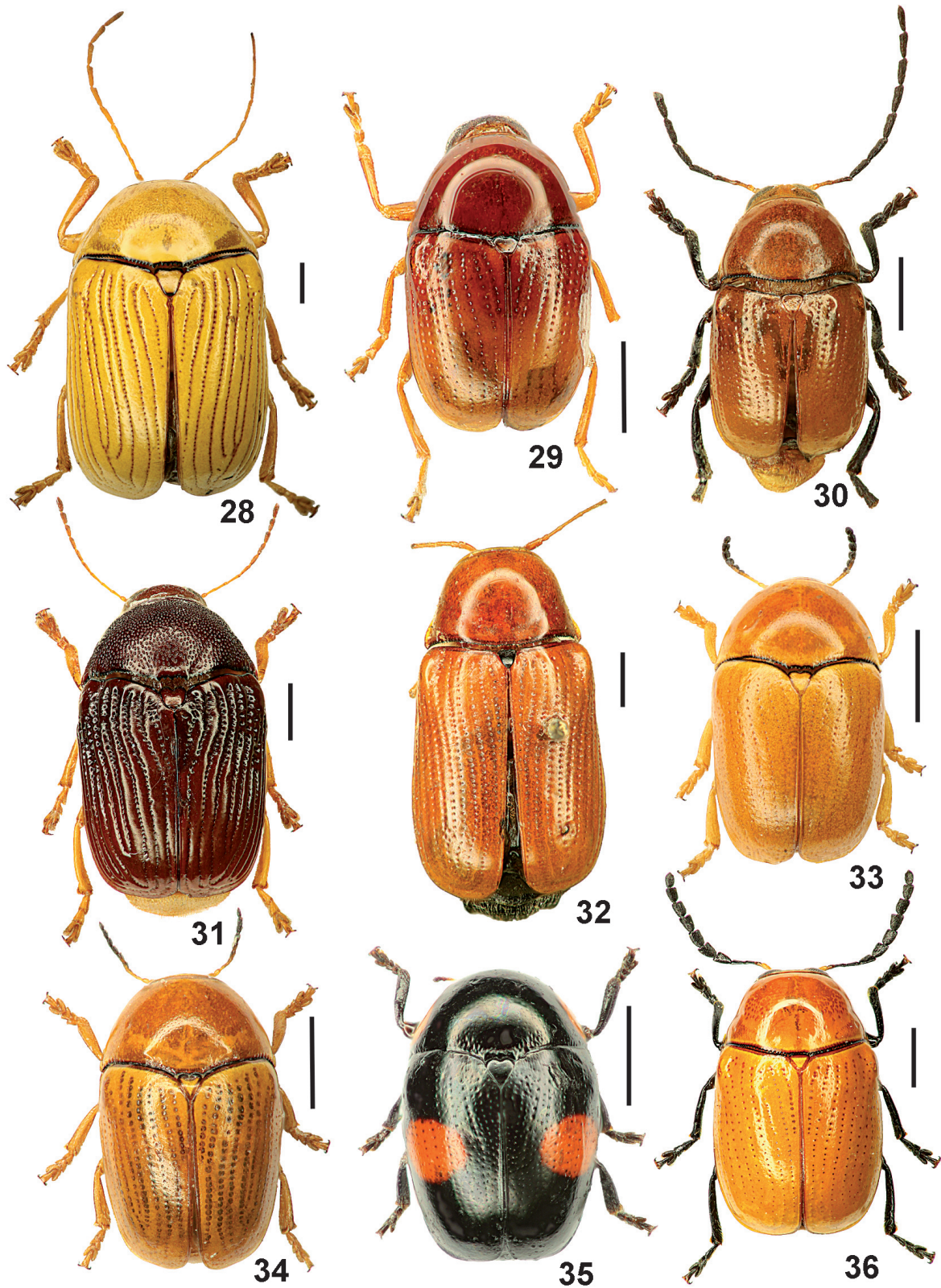
1–9. *Adiscus* spp., *Bucharis* spp. and *Coenobius* spp. from Borneo, dorsal (1, 2, 5, 7, 8, 9) and ventral (3, 4, 6) views. – 1, 6. *Adiscus clypealis* (paratype). 2–4. *A. grandis*. 5. *A. ornatus* (paratype). 7. *A. tristis* (paratype). 8. *Bucharis minor*. 9. *Coenobius cyclops*. – Scales: 1 mm.



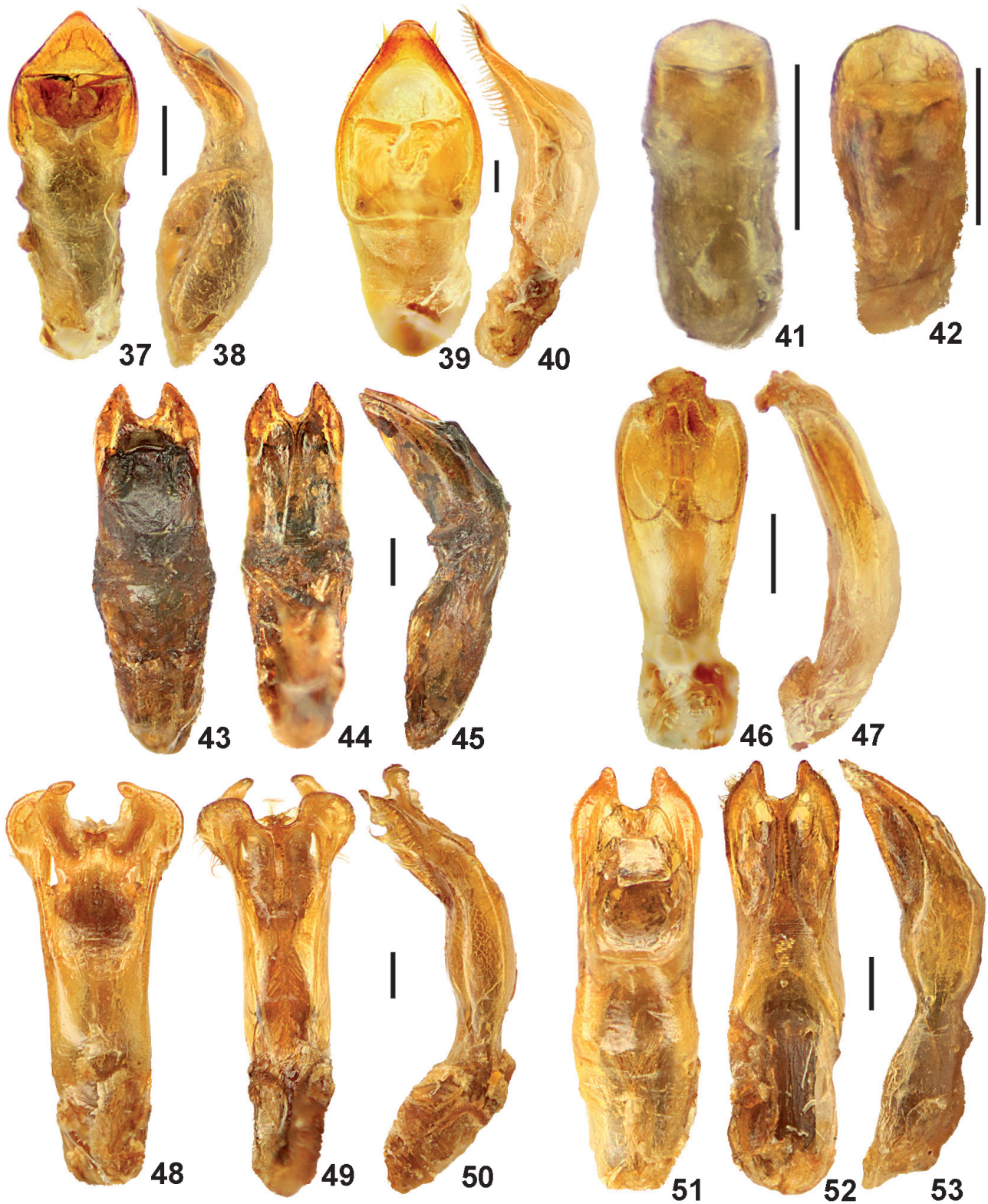
10–18. *Coenobius* spp. from Borneo (10, 12–18) and Peninsular Malaysia (11), dorsal (10–12, 14–17) and lateral (13, 18) views. – 10. *C. matangi* n. sp. (holotype). 11. *C. subsemicinctus*. 12, 13. *C. sabahensis* n. sp. (holotype). 14. *C. sarawacensis* n. sp. (holotype). 15. *C. schawalleri* n. sp. (holotype). 16. *C. wiseanus*. 17. *C.* sp. A. 18. *C.* sp. B. – Arrows indicate the pronotal impressions. – Scales: 1 mm.



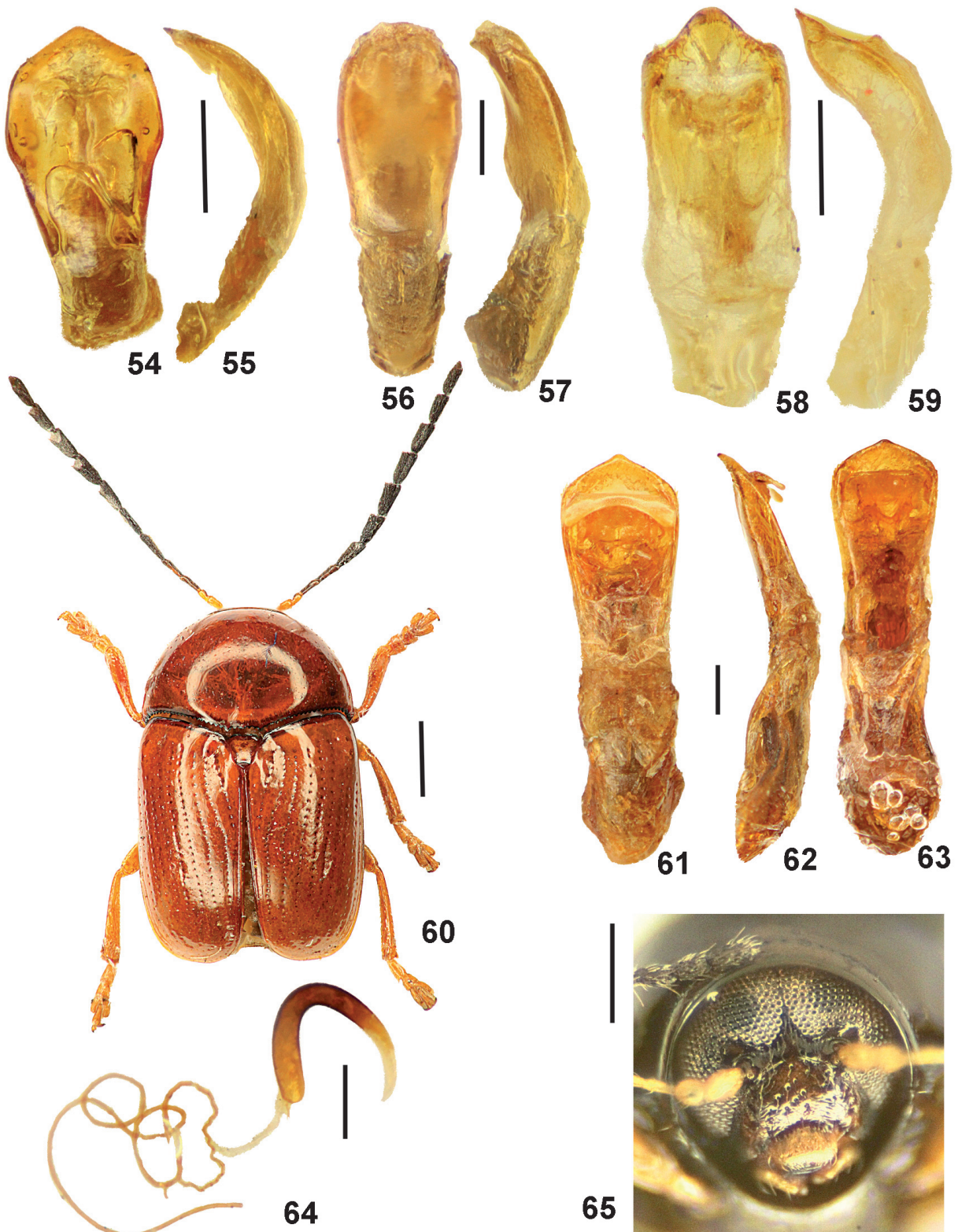
19–27. *Coenobius* spp. and *Cryptocephalus* spp. from Borneo (19, 21–27) and Sumatra (20), dorsal views. – 19. *Coenobius* sp. C. 20. *C. birmanicus*. 21. *C.* sp. D. 22. *Cryptocephalus borneoensis* n. sp. (holotype). 23. *Cr. geiseri* n. sp. (holotype). 24. *Cr. klimenkoi* n. sp. (holotype). 25. *Cr. nigrofulvus* n. sp. (holotype). 26. *Cr. nitidicornis* n. sp. (holotype). 27. *Cr. romantsovi*. – Scales: 1 mm.



28–36. *Cryptocephalus* spp. and *Melixanthus* spp. from Borneo, dorsal views. – 28. *Cryptocephalus sabahensis* n. sp. (paratype). 29. *Cr. sarawacensis* n. sp. (holotype). 30. *Cr. sepilocus* n. sp. (holotype). 31. *Cr. subcostipennis* n. sp. (holotype). 32. *Cr. suspectus* (holotype). 33, 34. *Melixanthus coctus*. 35. *M. moultoni* (holotype). 36. *M. rothschildi*. – Scales: 1 mm.



37–53. Chrysomelidae from Borneo, aedeagi, dorsal (37, 39, 41, 42, 43, 46, 48, 51), lateral (38, 40, 45, 47, 50, 53), and ventral (44, 49, 52) views. – 37, 38. *Adiscus clypealis* (paratype). 39, 40. *A. grandis*. 41. *Coenobius cyclops*. 42. *C. matangi* n. sp. (holotype). 43–45. *C. geiseri* n. sp. (holotype). 46, 47. *C. klimenkoi* n. sp. (holotype). 48–50. *C. nigrofulvus* n. sp. (holotype). 51–53. *C. nitidicornis* n. sp. (holotype). – Scales: 0.25 mm.



54–65. Chrysomelidae from Borneo, aedeagi, dorsal (54, 56, 58, 61), lateral (55, 57, 59, 62), and ventral (63) views, dorsal view of the beetle (60), spermatheca (64), and head (65). – 54, 55. *Cryptocephalus sarawacensis* n. sp. (holotype). 56, 57. *Cr. sepilocus* n. sp. (holotype). 58, 59. *Melixanthus coctus*. 60–63. *Cryptocephalus subserricornis* n. sp. (holotype). 64. *Cr. borneoensis* n. sp. (holotype). 65. *Coenobius cyclops*. – Scales: 0.25 mm (54–59, 61–65), 1 mm (60).

Type material examined: Holotype: "Borneo i, Sabah,/ Keningau district/ Trus Madi Mt./ H= 1500 m/ May 1–3, 2006/ Leg. VAKSOV", 1 ♀ (LM).

Additional material examined: "Malaysia, N Borneo, Sabah,/ Keningau distr., Trus Madi Mt., 1250 m./ N 05°26'35", E 116°27'5"/ 5.IV.2013, leg. P. ROMANTSOV", 1 ♀ (PR).

Distribution: Borneo (Sabah).

Cryptocephalus sabahensis

L. Medvedev & Romantsov, 2014

(Fig. 28)

Cryptocephalus sabahensis L. MEDVEDEV & ROMANTSOV, 2014: 236 (Sabah).

Type material examined: Holotype: "Malaysia, N Borneo, Sabah,/ Keningau distr., Trus Madi Mt./ 1250 m, N 05°26'35", E 116°27'5"/ 16.–18.III.2012, P. ROMANTSOV leg.", 1 ♀ (ZIN). Paratypes: same data as holotype, 1 ♀ (LM); same locality, 6.IV.2013, 1 ♀ (PR).

Additional material examined: "Malaysia, N Borneo, Sabah,/ Keningau distr., Trus Madi Mt./ h~1250 m, N 05°26'35", E 116°27'5"/ at light 6.IV.2013, P. ROMANTSOV leg.", 1 ♀ (PR).

Distribution: Borneo (Sabah).

Cryptocephalus sarawacensis L. Medvedev, 2011

(Figs. 29, 54, 55)

Cryptocephalus sarawacensis L. MEDVEDEV, 2011: 348 (Sarawak).

Type material examined: Holotype: "Sarawak, Semongok/ 12 mi. S. Kuching/ 15.XII.1974/ A. EARNSHAW", 1 ♂ (LM); paratype: same data, but 10.XII.1974, 1 ♂ (LM).

Distribution: Borneo (Sarawak).

Cryptocephalus sepilocus n. sp.

(Figs. 30, 56, 57)

Holotype: "E. Malaysia, Borneo, Sabah,/ Sepilok, 10–40 m/ 05°52'N, 117°57'E,/ 19–24.IV.2011,/ O. GORBUNOV leg.", 1 ♂ (ZIN).

Etymology: The name of the new species refers to the collecting locality Sepilok.

Description: Fulvous, antennae except 2 basal segments, apical half of femora, tibiae and tarsi black (Fig. 30). – Head impunctate, space between upper part of eyes very narrow, half as wide as width of upper half of eye. Antennae reaching apical third of elytra, proportions of the segments are as 9-4-7-9-10-14-13-13-14, segments 4–10 slightly extended, about 3 times as long as wide. Pronotum 1.5 times as wide as long, broadest near base and narrowed anteriorly, lateral margins very feebly rounded, posterior angles acute and slightly produced posteriorly, surface strongly convex, impunctate, without any impressions. Basal margin with well-developed black teeth, equal in length. Scutellum triangular with straight basal margin and truncate apex, finely and sparsely punctate. Elytra 1.2 times as long as wide, almost parallel-sided with rounded apices, rows of punctures feeble, especially

on apical slope, interspaces flat and impunctate. Pygidium feebly convex, finely punctate, microsculptured and pubescent. Prosternum quadrate, with 2 rather long teeth on hind margin. Segment 1 of fore and mid tarsi moderately widened. Aedeagus as in Figs. 56, 57, its length 1.2 mm. Body length 4.0 mm.

Differential diagnosis: The new species is very similar to *C. annulipes*, but differs from it by other colouration of legs and sculpture of elytra (see couplet 10 in the key to *Cryptocephalus*).

Distribution: Borneo (Sabah).

Cryptocephalus subcostipennis n. sp.

(Fig. 31)

Holotype: "Indonesia: Borneo/ Kalimantan, Tengah/ Busang/Rekut confl., 0°03'S, 113°59'E", "August 2001/ MV light/ leg. BRENDLELL & MENDEL", "Barito Ulu 2001./ BMNH (E)/ 2001-191", 1 ♀ (BMNH).

Etymology: The name of the new species refers to its costate elytra.

Description: Head (except labrum), pronotum, scutellum, elytra brown red, antennae fulvous, labrum, underside including pygidium and legs pale flavous (Fig. 31). – Head very densely and strongly punctate, frons with longitudinal impressed line, interspace between antennal bases about 1.5 times as wide as narrowest width of frons, space between upper part of eyes about 1.5 times as wide as width of upper half of eye. Antennae thin, reaching humeral tubercle, proportions of the segments are as 13-5-8-9-10-10-9-8-9-9-10, preapical segments about 3 times as long as wide. Pronotum 1.8 times as wide as long, broadest near base, lateral margins feebly arcuate, hind angles acute and produced, teeth on posterior margin short, surface convex, with dense strong punctures, especially on sides, with oblique grooves on middle of base. Scutellum cordiform with truncate apex, impunctate. Elytra 1.15 times as long as wide, slightly narrowed posteriorly, with subtruncate apex, surface with regular rows of punctures and strongly convex smooth interspaces, more or less costate in anterior third and on sides. Pygidium feebly convex, finely punctate and pubescent. Hind margin of prosternum bidentate. Body length 5.6 mm.

Differential diagnosis: The new species is similar to *C. sabahensis* L. Medvedev & Romantsov, 2014, but differs from it by its colouration, strongly punctured head and pronotum, and subcostate interspaces of the elytral rows.

Distribution: Borneo (Kalimantan).

Cryptocephalus subserricornis n. sp.

(Figs. 60–63)

Holotype: "Puak,/ Sarawak,/ G. E. BRYANT/ 1.V.1914", 1 ♂ (BMNH).

Etymology: The name of the new species refers to the expanded segments of its antennae.

Description: Reddish fulvous, antennae except 2 basal segments and very narrow basal margins of pronotum and elytra black (Fig. 60). – Head shining, flat, impunctate, interocular space on frons narrower than the two basal antennal segments and only 1.1 times as wide as width of upper half of eye. Antennae almost reaching apex of elytra, proportions of the segments are as 8-3-5-6-7-7-7-7-7-8, segments 1–4 cylindrical, the next enlarged, 2.25 times as long as wide. Pronotum 1.45 times as wide as long, surface strongly convex, shining, impunctate, with impression on each side of base before scutellum, hind margin with black teeth. Scutellum conical with more less truncated apex, impunctate. Elytra 1.1 times as long as wide, parallel-sided with feebly rounded apices, rows of punctures distinct throughout, interspaces very slightly convex, impunctate. Pygidium almost flat, punctate, with obtuse apex. Prosternum broad, widened to behind, with truncate hind margin. Apical abdominal sternite concave in the middle. Apical part of aedeagus broadly triangular, covering plate with two curved lobes directed upwards, smooth without any depressions or ridges, length of aedeagus 2.0 mm (Figs. 61–63). Body length 4.6 mm.

Differential diagnosis: *C. subserricornis* n. sp. is similar to *C. borneoensis* n. sp., *C. nitidicornis* n. sp. and *C. geiseri* n. sp. It differs from the first two by its widened, elongate triangular antennal segments 5–11 and black (except the two basal segments) antennae. From *C. geiseri* it is well distinguished by the not bilobed apex of the aedeagus. Moreover *C. subserricornis* has a conical scutellum with more or less truncate apex, the elytra with deeper depressions near scutellum, and the head with the interocular space on frons narrow (*C. geiseri* has an almost triangular scutellum with rounded apex, the elytra with less deep depressions near scutellum, and the head with the interocular space wider).

Distribution: Borneo (Sarawak).

Cryptocephalus suspectus Baly, 1865
(Fig. 32)

Cryptocephalus suspectus Baly, 1865: 73 (Sarawak, Tringanee); MOHAMEDSAID 2004: 35.

Type material examined: “SAR/1136”, “Type”, “BALY Coll.”, “SYN-/ Type”, “TYPE/ H. T.” [red label], “*Cryptocephalus/ suspectus/ Baly*”, 1 ♀ (BMNH); “SAR/1136”, “Type”, “BALY Coll.”, “SYN-/ Type”, 1 ♀ (BMNH).

Remarks: We studied the two syntype specimens above from Tringanee. One of them has a white quadrangular label “type” (BALY’s handwriting) and the apex of the abdomen fulvous, how it is indicated in the original description. The other one has additionally a round label with red margins “TYPE H. T.” and the abdomen (including pygidium) entirely black, but this character is not stated in BALY’s description.

Distribution: Borneo (Sarawak), Peninsular Malaysia.

Melixanthus coctus Baly, 1865
(Figs. 33, 34, 58, 59)

Melixanthus coctus Baly, 1865: 65 (Borneo, Flores); MEDVEDEV 2012: 168; MOHAMEDSAID 2004: 35.

Type material not examined.

Material examined: “Malaysia, N Borneo, Sabah, Keningau dist., Trus Madi Mts./ N05°26’35”, E116°27’5”, 1250 m./ 8.IV.2013, leg. P. ROMANTSOV”, 1 ♂ (PR); “Malaysia, S Borneo, Sabah, Nabawan dist., ~7 km N/ Pensiangan vill., h~530 m, the/ daytime, N04°35’16”, E116°19’27”/ 3.III.2014, P. ROMANTSOV leg”, 2 ♀♀ (PR).

Distribution: Borneo, Flores.

Melixanthus intermedius Suffrian, 1854

Melixanthus intermedius SUFFRIAN, 1854: 10 (Borneo); Baly 1865: 64; MEDVEDEV 2012: 167; MOHAMEDSAID 2004: 35.

Type material not examined.

Distribution: Borneo, Sulawesi.

Melixanthus moultoni (Bryant, 1954) n. comb.
(Fig. 35)

Cryptocephalus moultoni BRYANT, 1954: 454 (Sarawak; BMNH).

Type material examined: One specimen with labels: “Quop./ W. Sarawak./ G. E. BRYANT./ 20.III.14”, “Type” [red], G. BRYANT Coll./ 1919-14”, “*Cryptocephalus/ moultoni/ Type Bryant/ G. E. BRYANT det. 1953*”, 1 ♀ (BMNH).

Distribution: Borneo (Sarawak).

Remarks: The studied type specimen has toothed claws, short antennae (reaching only basal quarter of pronotum), with segments 6–11 distinctly wider than preceding ones, and segments 6–10 about 1.5 times as long as wide. All these characters allow us to include this species in the genus *Melixanthus* Suffrian, 1854.

Melixanthus rothschildi Jacoby, 1894
(Fig. 36)

Melixanthus rothschildi JACOBY, 1894: 269 (S. E. Borneo: Martapura); MEDVEDEV 2012: 168; MOHAMEDSAID 2004: 35.

Type material not examined.

Material examined: “Malaysia, N Borneo, Sabah, Keningau dist., Trus Madi Mts./ N05°26’35”, E116°27’5”, 1250 m./ 8.IV.2013, leg. P. ROMANTSOV”, 1 ♀ (PR).

Distribution: Borneo (Kalimantan, Sabah).

Melixanthus sexguttatus Weise, 1910

Melixanthus sexguttatus WEISE, 1910: 30 (N Borneo: Banguay); MEDVEDEV 2012: 163; MOHAMEDSAID 2004: 35.

Type material not examined.

Distribution: Borneo (Sabah).

4 Keys to the Cryptocephalinae of Borneo

Key to genera

- 1 Hind margin of pronotum sharply produced and pointed posteriorly at the middle of base (Figs. 1–2, 5, 7–8). Scutellum not or only slightly visible in dorsal view..... 2

- Hind margin of pronotum not or only slightly produced posteriorly at the middle of base (Figs. 9–36). Scutellum either large and triangular or small and narrow, but always visible in dorsal view. **3**
- 2** Body rounded (Figs. 1–2, 5, 7). Prosternum with distinct ridges laterally (Figs. 3–4, 6). Elytral epipleura with downwardly directed lobe. Scutellum not visible in dorsal view. Body length at least 2.5 mm. ***Adiscus***
- Body oblong oval (Fig. 8). Prosternum without lateral ridges. Elytral epipleura without such lobe. Scutellum minute, but visible in dorsal view. Body length about 2 mm or less. ***Bucharis***
- 3** Eyes very closely approximate, often touching above (Fig. 65). Scutellum very narrow, usually widened posteriorly (Figs. 9–21). Small species, body length usually not more than 3 mm. ***Coenobius***
- Eyes not closely approximate. Scutellum more or less triangular. **4**
- 4** Antennae robust, segments 6–11 usually thickened, preapical segments about as wide as long (Figs. 33–36). ***Melixanthus***
- Antennae slender, segments 6–11 usually not or only slightly thickened, preapical segments more than 1.5 times as long as wide (Figs. 22–32). ***Cryptocephalus***

Adiscus Gistel, 1857

- 1** Prosternum without median ridge (Fig. 6). – Body entirely fulvous, only apical antennal segments black. Clypeus impunctate, shining. Aedeagus as in Figs. 37, 38. Body length 3.3–3.8 mm. – Borneo (Sarawak, Mt. Merinjak). ***A. clypealis*** L. Medvedev, 2008
- Prosternum with a median ridge mostly forming an elevated triangular tooth anteriorly and sometimes reduced posteriorly (Figs. 3, 4). **2**
- 2** Larger (body length 4.7–6.0 mm). Body entirely yellow (Fig. 2). Aedeagus as in Figs. 39, 40. – Peninsular Malaysia, Sumatra, Borneo (Sabah). ***A. grandis*** (Baly, 1865)
- Smaller (body length 2.8–3.3 mm). Body not entirely yellow, pronotum and elytra black with or without red spots, head black with yellow clypeus and labrum. **3**
- 3** Pronotum black with two large red spots, sometimes connected and occupying almost entire surface except margins; elytra black, each with a round red spot (Fig. 5). Body length 2.8–3.3 mm. – Borneo (W Sarawak). ***A. ornatus*** L. Medvedev, 2008
- Pronotum and elytra entirely black (Fig. 7). Body length 3.0–3.3 mm. – Borneo (W Sarawak). ***A. tristis*** L. Medvedev, 2008

Bucharis Baly, 1865

Only one species treated, *B. minutus* Jacoby, 1896: Subquadrate-ovate, truncate apically; body black, labrum, base of antenna and legs fulvous (Fig. 8). Body length 1.0–1.5 mm. – Borneo (Sabah), Vietnam, Thailand, Sumatra, Mentawai, Singapore, Lombok.

Coenobius Suffrian, 1857

- 1** Pronotum with distinct transverse or oblique impression on each side just behind middle. Metasternum black. **2**
- Pronotum without any impressions. Underside either entirely yellow or entirely black. **7**
- 2** Impressions of pronotum (Fig. 13, arrows) connected in the middle and more or less punctate behind impression. – Antennae black with fulvous basal segments. **3**

- Impressions of pronotum (Fig. 18, arrow) not connected in the middle. **4**
- 3** Upperside entirely fulvous (Fig. 13). Pronotum distinctly punctate behind impression. Body length 3.0 mm. – Borneo (Sabah). ***C. sabahensis*** n. sp.
- Pronotum reddish fulvous with narrow black border, elytra black (Fig. 19). Pronotum very sparsely punctate behind impression. Body length 2.0–2.5 mm. – Borneo (Sabah). ***C. sp. C***
- 4** Pronotum distinctly punctate behind impressions. Dark piceous to almost black, antennae black with fulvous basal segments; head, abdomen including pygidium and tergites, and legs fulvous, pronotum dark reddish fulvous (Fig. 14). Body length 3.0–3.1 mm. – Borneo (Sarawak). ***C. sarawacensis*** n. sp.
- Pronotum entirely impunctate except basal row of punctures. Antennae fulvous, apical segments occasionally slightly darkened; breast and usually abdominal segment 1 black with fulvous hind margin. Body length 2.1–2.2 mm. **5**
- 5** Elytra black with fulvous extreme apex and sometimes with feeble metallic tint (Fig. 16). Abdominal segment 1 black with fulvous hind margin. – Body length 2.2 mm. – Borneo (Sabah). ***C. wiseanus*** nom. nov.
- Elytra differently coloured. **6**
- 6** Elytra entirely fulvous (Fig. 17). Body length 2.1 mm. – Borneo (Sabah). ***C. sp. A***
(possibly a light form of *C. wiseanus* nom. nov.)
- Elytra fulvous with black basal third (Fig. 18). Body length 2.2 mm. Other characters as in *C. sp. A*. – Borneo (Sabah). ***C. sp. B***
(possibly a colour variation of *C. wiseanus* Baly, 1913)
- 7** Pronotum impunctate. Body entirely fulvous except black 4 apical antennal segments and narrow basal margin of pronotum and elytra (Fig. 15). – Eyes not contiguous. Body length 1.5 mm. – Borneo (Sabah). ***C. schawalleri*** n. sp.
- Pronotum with punctures, especially noticeable in basal part. Elytra black. **8**
- 8** Pronotum fulvous with blackish basal margin (Fig. 10). – Head and legs fulvous. Aedeagus as in Fig. 42. Body length 1.7–2.0 mm. – Borneo (Sarawak). ***C. matangi*** n. sp.
- Pronotum black. **9**
- 9** Eyes divided by distinct stripe. Underside not entirely black (breast black, abdomen fulvous). – Head black with fulvous anterior part. Elytra black with fulvous apex (Fig. 21). Body length 1.7 mm. – Borneo (Sabah). ***C. sp. D***
- Eyes contiguous. Underside black. **10**
- 10** Eyes contiguous in upper part only. Body length 1.5 mm. Brunei. ***C. imatadei*** Chûjô, 1964
- Eyes contiguous almost along the entire inner surface (Fig. 65). Body length 1.8–1.9 mm. – Aedeagus as in Fig. 41, body as in Fig. 9. – Borneo (Sabah). ***C. cyclops*** L. Medvedev & Romantsov, 2014
(= possibly identical with *C. imatadei* Chûjô, 1964)

Melixanthus Suffrian, 1854

- 1** Pronotum black, impunctate. – Elytra black, each with 3 fulvous spots. Body black, in female sides of abdomen including apex and pygidium fulvous. Body length 2.5–2.8 mm. – Borneo (Sabah). ***M. (s. str.) sexguttatus*** Weise, 1910
- Pronotum not entirely black, with very fine and sparse punctures or entirely impunctate. **2**
- 2** Pronotum black with a large round fulvous spot on each side. – Elytra black with a reddish fulvous spot at middle of side margin (Fig. 35), rest of body black. Pronotum very

- indistinctly punctate. Body length 3.0–3.1 mm. – Borneo (W Sarawak). *M. (s. str.) moultoni* (Bryant, 1954)
- Pronotum entirely fulvous. 3
- 3 Elytra blurred piceous or black on entire surface except base and apex or middle part, or with two translucent spots placed nearer to suture than to side margin. – Body rusty red with the apical 6 antennal segments black. Pronotum with very fine and sparse punctures. Body length 3.4–3.7 mm. – Singapore, Sumatra, Sulawesi, Borneo (Sarawak), Philippines. *M. (s. str.) intermedius* Suffrian, 1854
- Elytra entirely fulvous. 4
- 4 Body and legs entirely fulvous, antennae black except 5 basal segments (Figs. 33, 34). Antennae shorter, extending just to middle of pronotum. Preapical antennal segments as long as wide. Pronotum with very fine and sparse punctures. Body length 3.0–3.7 mm. – Aedeagus as in Figs. 58, 59. – Sumatra, Flores, Borneo (Sabah) *M. (s. str.) coctus* Baly, 1865
- Body fulvous with apices of femora, tibiae and tarsi black; antennae black except basal 2 segments (Fig. 36). Antennae longer, scarcely extending to middle of elytra. Preapical antennal segments slightly elongate. Pronotum entirely impunctate. Body length 4.2–4.4 mm. – Malaysia, Borneo (Sabah, Kalimantan/Martapura). *M. (s. str.) rothschildi* Jacoby, 1894

Cryptocephalus Geoffroy, 1762

- 1 Pronotum black. 2
- Pronotum fulvous. 3
- 2 Elytra fulvous with the following parts black: all margins (widened at apical third of suture), humeral spot, and spot at apical third of side margin (= possibly a band, interrupted in the middle). Head (except genae and labrum) and scutellum black, underside and legs fulvous (Fig. 24). Aedeagus as in Figs. 46, 47. Body length 4.1 mm. – Borneo (Sabah). *C. klimenkoi* n. sp.
- Elytra entirely black. Body black with abdomen and hind legs fulvous (Fig. 25). Aedeagus as in Figs. 48–50. Body length 5.8 mm. – Borneo (Sabah). *C. nigrofulvus* n. sp.
- 3 Elytra fulvous, each with 2 large dark brown spots (Fig. 27). – Rest of body fulvous. Body length 7.2–7.4 mm. – Borneo (Sabah). *C. romantsovi* L. Medvedev, 2011
- Elytra entirely fulvous or brown red. 4
- 4 Underside (except prosternum) black (only hind margin of the last sternite might be fulvous). Pronotum with impressions near hind margin. 5
- Underside fulvous or pale flavous. Pronotum with or without impressions near hind margin. 6
- 5 Scutellum black. 3rd antennal segment about 1.5 times as long as 2nd, 4th to 7th nearly equal, each about 1.5 times as long as 3rd, 8th and following joints gradually diminishing in length [according original description]. Dorsal view as in Fig. 32. Body length 5.3–6.3 mm. – Peninsular Malaysia, Borneo (Sarawak). *C. suspectus* Baly, 1865
- Scutellum fulvous. 3rd antennal segment twice as long as 2nd, 4th to 7th joints gradually enlarged in length, 8th and following joints nearly equal. Dorsal view as in Fig. 26. Aedeagus as in Figs. 51–53. Body length 5.5–5.6 mm. – Borneo (Sarawak). *C. nitidicornis* n. sp.
- 6 Punctures in elytral rows deep, all interspaces distinctly convex. Pronotum feebly impressed before scutellum and near side margin. 7
- Punctures in elytral rows shallow, not dark, all interspaces flat. Pronotum with or without impressions near hind margin. 8
- 7 Head and upperside brown red, underside pale flavous (Fig. 31). Head and pronotum strongly and densely punctate. Body length 5.6 mm. – Borneo (Kalimantan) *C. subcostipennis* n. sp.
- Body entirely fulvous (Fig. 28). Head and pronotum very finely and sparsely punctate. Body length 7.0 mm. – Borneo (Sabah). *C. sabahensis* L. Medvedev & Romantsov, 2014
- 8 Body length <4.5 mm. Pronotum without any impression. Antennae black with fulvous basal segments and with widened apical segments (about 1.5 times as long as wide). 9
- Body length >4.5 mm. Pronotum with impressions near hind margin. Antennae with widened or cylindrical apical segments. 11
- 9 Legs entirely fulvous. Body reddish fulvous with black hind part of head (Fig. 29). – Aedeagus as in Figs. 54, 55. Body length 3.0–3.2 mm. – Borneo (Sarawak). *C. sarawacensis* L. Medvedev, 2011
- Legs bicoloured. Body fulvous. 10
- 10 Legs fulvous with apices of tibiae and tarsi black. Interspaces of elytral rows very finely punctate, with feeble transverse rugosities in the anterior part of disc. Body length 4.2 mm. – Borneo (no exact data). *C. annulipes* Baly, 1865
- Legs black with base of femora fulvous (Fig. 30). Interspaces of elytral rows not punctate and without transverse rugosities. Body length 4.0 mm. – Borneo (Sabah). *C. sepilocus* n. sp.
- 11 All antennal segments cylindrical, neither compressed nor dilated. Antennae entirely yellow. Body larger (length 7.7 mm) and more elongated. Legs with tibiae and tarsi slightly darkened. Dorsal view as in Fig. 22. Body length 7.7 mm. Borneo (Sabah). *C. borneoensis* n. sp.
- Antennal segments 5–11 widened, elongate triangular. Antennae not entirely yellow. Body smaller (length 4.6–7.4 mm) and less elongated. Legs entirely fulvous. (Two externally very similar species, but clearly distinguished by the shape of the aedeagus.) 12
- 12 Aedeagus not bifurcate apically (Figs. 61–63). Antennae black except two yellow basal segments. Interocular space on frons 1.1 times width of upper half of eye. Scutellum conical with more or less truncated apex. Elytra with distinct depressions near scutellum. Dorsal view as in Fig. 60. Body length 4.6 mm. – Borneo (Sarawak). *C. subserricornis* n. sp.
- Aedeagus bifurcate at apex (Figs. 43–45). Antenna with three or more basal segments yellow. Interocular space on frons 2.35 times width of upper half of eye. Scutellum more or less triangular with rounded apex. Elytra with less deeper depressions near scutellum. Dorsal view as in Fig. 23. Body length 5.5–7.4 mm. – Borneo (Sabah, Sarawak). *C. geiseri* n. sp.

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