

A revision of the genus *Chaloenus* Westwood, 1861 (Coleoptera: Chrysomelidae: Alticinae) from Oriental region

Ревизия рода *Chaloenus* Westwood, 1861 (Coleoptera: Chrysomelidae: Alticinae) из Ориентального региона

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КЛЮЧЕВЫЕ СЛОВА. Chrysomelidae, Alticinae, *Chaloenus*, таксономия, новые виды.

ABSTRACT. A revision of Oriental genus *Chaloenus* Westwood, 1861 is proposed. A key to species is given, 5 species are new to science: *Ch. schawalleri*, *Ch. pubescens* spp.n. (Borneo), *Ch. laetus*, *Ch. giganteus* spp.n. (Sumatra), *Ch. erberi* sp.n. (Malacca, Sumatra). New synonymy is established: *Ch. capitatus* Jacoby, 1896 = *Ch. abdominalis* Jacoby, 1899 = *Ch. oculus* Jacoby, 1899 = *Ch. marginipennis* Bryant, 1943 = *Ch. latifrons* Westwood, 1861, *Ch. semipunctatus* Jacoby, 1899 = *Ch. westwoodi* Chapuis, 1875.

РЕЗЮМЕ. Предлагается ревизия ориентального рода *Chaloenus* Westwood, 1861. Дается определительная таблица, описываются 5 новых для науки видов: *Ch. schawalleri*, *Ch. pubescens* spp.n. (Борнео), *Ch. laetus*, *Ch. giganteus* spp.n. (Суматра), *Ch. erberi* sp.n. (Малакка, Суматра). Установлена новая синонимия: *Ch. capitatus* Jacoby, 1896 = *Ch. abdominalis* Jacoby, 1899 = *Ch. oculus* Jacoby, 1899 = *Ch. marginipennis* Bryant, 1943 = *Ch. latifrons* Westwood, 1861, *Ch. semipunctatus* Jacoby, 1899 = *Ch. westwoodi* Chapuis, 1875.

Introduction

A small Oriental genus *Chaloenus* Westwood, 1861 included 18 species [Bryant, 1943; Scherer, 1969; Wilcox, 1975; Seeno & Wilcox, 1982], one more species was described 2 years ago [Medvedev, 2002]. Author of this genus included it in subfamily Alticinae. On the other hand, the genus *Delocephala* Jacoby, 1884 was described as Galerucinae, but now quite correctly is united with *Chaloenus* [Wilcox, 1975]. Up to now some authors place *Chaloenus* in Galerucinae [Wilcox, 1975; Seeno, 1982], while other [Bryant, 1943; Scherer, 1969; Furth, 1992; Medvedev, 1996, 2002] include it in Alticinae. S. Kimoto placed *Chaloenus* in Alticinae [Kimoto, 2001] and *Delocephala* again in Galerucinae [Kimoto, 1990] without any explanations.

D. Furth [1992] specially investigated this problem and indicated that *Chaloenus* has a metafemoral spring and has to be a member of Alticinae, nevertheless the spermatheca and wing venation show distinct Galerucinae tendencies.

In the article proposed, I describe 5 new species and synonymize 5 other species; it means that total number of species remains 19.

Distribution of *Chaloenus* is shown in table below. It is clear that they are connected with the Malayan region and especially numerous on Borneo.

Region	Number of species	Number of endemic species
Burma	1	—
Thailand	1	—
Malacca	6	—
Sumatra	8	3
Amboina	1	—
Borneo	10	8
Philippines	1	—

In the process of preparing this publication, the types of almost all species except quite distinct *Ch. basalis* Bryant, 1943 and *Ch. doherlyi* Bryant, 1943 were examined; *Ch. apicicornis* (Jacoby, 1884) is known for me only by description.

The following abbreviations are used for depository places: BM — British Museum, London; IRSNB — Institut Royal des Sciences Naturelles de Belgique, Bruxelles; JB — collection Jan Bezdek, Brno; LM — author's collection, Moscow; MCZ — Museum of Comparative Zoology, Cambridge; NHMB — Naturhistorisches Museum, Basel; SMNS — Staatliches Museum für Naturkunde, Stuttgart.

Taxonomical part

KEY TO SPECIES

1(16) Elytra strongly and densely punctate. Upperside at least partly metallic.

- 2(13) Prothorax without transverse impression.
- 3(8) Upperside entirely metallic. Elytra very densely and confusedly punctate, but punctures not very large or foveolate. Legs and underside blackish blue to black, antennae black with whitish apical segments.
- 4(5) 5 apical antennal segments fulvous. Head and prothorax bluish black, elytra purplish blue. Antennal segments 1–6 and legs piceous. In male head broader than prothorax, anterior legs elongate. Hind femora not thickened. Length 6.3 mm. Species from Sumatra
..... *Ch. apicicornis* (Jacoby)
- 5(4) 3 or 4 apical antennal segments fulvous. Hind femora moderately thickened. In male anterior legs not elongate. Species from Borneo.
- 6(7) 4 apical antennal segments whitish. Head and prothorax black with bluish tinge. Head of male very broad, 1.4 times as wide as prothorax. Genae with long acute process directed laterally. Legs black, more or less tinged with fulvous. Body large, length 8 mm
..... *Ch. matangensis* Bryant
- 7(6) 3 apical antennal segments whitish. Head and prothorax metallic blue. Head of male moderately broad, 1.1–1.15 times as wide as prothorax. Genae with short acute process directed almost forward. Legs entirely blackish blue. Body smaller, 6.5–6.6 mm *Ch. schawalleri* sp.n.
- 8(3) Head, prothorax, underside and legs fulvous.
- 9(12) Antennae black with basal segments fulvous and apical or preapical segments pale fulvous. Elytra with basal portion practically not raised and strongly punctate.
- 10(11) Antennal segments 9 and 10 pale flavous. Elytra aeneous, with punctures very large and foveolate, more or less arranged in rows. Length 4.7 mm
..... *Ch. furthi* L. Medvedev
- 11(10) Antennal segments 8–11 pale flavous. Elytra violaceous blue, with punctures large, but not foveolate and arranged in distinct rows. Length 6–6.4 mm
..... *Ch. laetus* sp.n.
- 12(9) Antennae fuscous with 3 basal segments fulvous. Elytra bright blue, with basal portion feebly raised and more finely punctured than remaining surface. Length 5 mm
..... *Ch. brooksi* Bryant
- 13(2) Prothorax with very distinct transverse impression. Elytra costate on sides, with large and at least partly foveolate punctures. Head, thorax, femora and underside fulvous, tibiae and tarsi blackish.
- 14(15) Elytra very roughly sculptured, strongly rugose, with 2 or 3 ridges. Antennae black with segments 1–3 fulvous and 9–10 white. Antennal furrows shallow, clypeus not ridged. Length 5 mm *Ch. subcostatus* Jacoby
- 15(14) Elytra strongly punctate, but without rough and rugose sculpture, with lateral ridge only. Antennae piceous with segment 3 reddish and 9–10 dark fulvous. Antennal furrows deep, clypeus with short ridge in upper part. Length 4.5 mm *Ch. aeneipennis* Jacoby
- 16(1) Elytra finely punctate or almost impunctate.
- 17(24) Elytra with distinct basal convexity delimited behind and from humerus with deep impression, practically impunctate except a few large punctures in the mentioned impressions. Antennae black with more or less reddish basal segments and pale flavous segments 9, 10 and half of 11.
- 18(19) Head of male very large and much broader than prothorax, clypeus much broader than long. Elytra dull, with dense microsculpture, metallic green with fulvous lateral stripe. Antennae as long as a body. Length 10 mm
..... *Ch. giganteus* sp.n.
- 19(18) Head of male mostly a little wider than prothorax, clypeus narrow, elongate triangular, much longer than broad. Elytra shining, without microsculpture, differently colored. Antennae much shorter than a body. Size smaller.
- 20(21) Elytra fulvous with basal third black. Prothorax black, head fulvous or black, underside fulvous, legs fulvous or basal two thirds of femora fulvous. Head of male broader than prothorax. Length 5.7–6 mm *Ch. basalis* Bryant
- 21(20) Elytra fulvous or metallic or combination of these two colors, but never with black basal third. Prothorax usually fulvous, very rarely blackish.
- 22(23) Head of male not narrower than prothorax. Elytra entirely metallic green or violaceous or entirely fulvous or with combination of these two colors. Mandibles of male bulbous at base. Aedeagus — Fig. 29, spermatheca — Fig. 33. Length 5.5–7.5 mm. Thailand, Malay Peninsula, Sumatra *Ch. latifrons* Westwood
- 23(22) Head of male narrower than prothorax. Dark brown, head, prothorax and legs darker and sometimes almost black. Length 5 mm *Ch. brunneus* Bryant
- 24(17) Elytra mostly with feeble basal convexity poorly delimited behind; elytral rows often distinct at least in anterior half.
- 25(26) Upperside with short light pubescence. Prothorax punctate. Elytra with 6 short rows in basal third and finely punctate interspaces; apical 2/3 dull, very dense microsculptured. Body fulvous. Length 4.5 mm
..... *Ch. pubescens* sp.n.
- 26(25) Upperside not pubescent. Elytra otherwise sculptured.
- 27(36) Elytra bicolor.
- 28(29) Elytra fulvous with apical half dark violet. Antennae reddish fulvous with segments 6–10 slightly darker. Elytra with regular rows of punctures not reaching apical slope. Length 4.3 mm *Ch. dimidiatus* Jacoby
- 29(28) Elytra otherwise marked.
- 30(33) Elytra violaceous black or black with sutural area fulvous.
- 31(32) Head narrowed anteriorly. Elytra with rhomboidal postscutellar patch. Apex of abdomen and upperside of femora black. Frons about 2.2 times as wide as eye, genae a little shorter than eyes. Length 5.5–5.8 mm. Male unknown *Ch. erberi* sp.n.
- 32(31) Head not narrowed anteriorly. Elytra with broad sutural stripe narrowed posteriorly. Abdomen and femora entirely fulvous. Frons about 3 times as wide as eye, genae as long as eyes. Length 7.1 mm *Ch. suturalis* Baly
- 33(30) Elytra fulvous with black spots.
- 34(35) Elytra with 2 spots at base, transverse band in middle, interrupted on suture and transverse preapical spot. Antennae black with segments 1–3 fulvous, 9, 10 and base of 11 white. Head, underside and legs fulvous, tibiae and tarsi more or less darkened. Length 5.5–6 mm
..... *Ch. doherlyi* Bryant
- 35(34) Elytra with piceous spot behind base touching feeble postbasal impression. Antennae piceous with segments 1–3 fulvous and 9–11 white. Head fulvous with brown frons, underside and legs fulvous with darkened tibiae. Length 6 mm *Ch. bipunctatus* Bryant
- 36(27) Elytra unicolor, fulvous or black, rarely fulvous with darkened lateral and sutural area. Tibiae and tarsi dark to black. Mandibles of male flattened above, with sharp ridge and triangular impression on outside. Elytral rows of punctures more or less distinct at least to middle of elytra.
- 37(38) Antennae fulvous or dark fulvous with 3 apical segments more light. Elytra and underside from fulvous to

- black. Aedeagus — Fig. 32. Length 5.8–6.3 mm
 *Ch. westwoodi* Chapuis
 38(37) Antennae black with 3 apical segments pale flavous.
 Elytra and underside fulvous. Length 5.8–5.9 mm
 *Ch. sp. A*

A list of species

Chaloenus apicicornis (Jacoby, 1884)

DISTRIBUTION: Sumatra (Lebong).

REMARKS. This species, unknown to me, was described as genus *Delocephala* which was quite correctly united with *Chaloenus* [Wilcox, 1975].

Chaloenus matangensis Bryant, 1943

Fig. 26.

MATERIAL. 2 ♂♂ and 1 ♀ from type series with label: Sarawak, Mt. Matang, 27.I.1914 (BM).

DESCRIPTION. Male. Body elongate, but more broad than *Ch. schawalleri* sp.n. Head 1.4 times as wide as anterior margin of prothorax, antennal grooves deep and sharp, clypeus triangular, broader than long, without central ridge, moderately concave. Genae a little shorter than eye, acutely protruding. Mandibles ridged on upperside. Eyes small, convex; frons about 7 times as wide as eye. Head strongly constricted at some distance behind eyes. Antennae nitidiform, without widened segments. Prothorax 2.2 times as wide as long. Elytra 1.5 times as long as wide. Aedeagus — Fig. 26.

Female. Head 0.9 times as wide as prothorax, frons about 3 times as wide as long. Body distinctly smaller.

DISTRIBUTION. Borneo.

Chaloenus schawalleri sp.n.

Figs. 1, 13, 27.

MATERIAL. Holotype (♂): Borneo, Sabah, Kinabalu N. P., Poring, 500 m, 23–24.XI.1996, leg. W. Schawaller (SMNS).

DESCRIPTION. Metallic blue, scutellum, legs and underside blackish blue, antennae black with segment 11 white.

Body comparatively narrow, elongate and parallel-sided. Head 1.1–1.15 times as wide as prothorax (Fig. 1), impunctate, antennal grooves deep and sharp, clypeus broadly triangular, broader than long, without central ridge, with oblique depression on each side. Genae almost as long as eye, acutely protruding. Mandibles ridged on upperside. Eyes small, but convex: frons about 5–6 times as wide as eye. Antennae (Fig. 13) reach behind middle of elytra, proportions of segments are as 23-4-10-10-8-8-7-6-6-5-6, 1st segment claviform, 5–8 segments feebly widened. Prothorax twice as wide as long, broadest near anterior angles, strongly narrowed to behind and emarginate before acute hind angles, surface convex, without impressions, shining and practically impunctate. Elytra 1.8 times as long as wide, without postbasal impression, very densely and rather strongly, partly rugosely punctate; interspaces narrow, convex and shining. Tarsal segments not widened in male. Aedeagus (Fig. 27) with longitudinal groove on underside, ridged on each side. Length 6.5–6.6 mm.

DIAGNOSIS. Very near to *Ch. matangensis*, differs in different color of antennae, head, prothorax and legs as well as in smaller size.

DISTRIBUTION. Borneo.

Chaloenus furthi L. Medvedev, 2002

Fig. 2, 14.

MATERIAL. Holotype (♀): Philippines, S. Palawan, Singapan Basin, Taut Batu Reservation, 210 m, 11.XII.1990–5.I.1991, leg. P. Lays (LM).

DESCRIPTION. Fulvous, antennal segments 1–3 dark fulvous with piceous apices, 4–8 and 11 black, 9 and 10 white; elytra greenish bronze. Head as wide as prothorax (Fig. 2), impunctate; clypeus vertical, as long as wide, with oblique lateral grooves for reception basal antennal segment, interantennal space moderately broad and flat, frontal tubercles convex, triangular, delimited behind with impression. A space between eyes 3.5 times as wide as diameter of eye. Antennae (Fig. 14) reach behind middle of elytra, proportions of segments are as 16-3-9-8-7-6-5-5-5-4-6. Prothorax twice as wide as long, narrowed to base, side margins almost right, hind angles distinct, anterior angles rounded, surface convex, shining and impunctate. Elytra 1.6 times as long as wide, with very feeble basal elevation, with not quite regular rows of large and deep punctures and impunctured apical slope. Length 4.8 mm.

DISTRIBUTION. Philippines: Palawan.

Chaloenus laetus sp.n.

MATERIAL. Holotype (♂): Sumatra, Palembang (LM).

Paratype: 1 ♀, same locality (LM).

DESCRIPTION. Fulvous, antennae black with 3 basal segments fulvous and 4 apical segments pale flavous (in holotype segment 7 dark fulvous), elytra metallic violaceous blue.

Head 1.2 times as wide as prothorax, constricted behind, impunctate, antennal furrows shallow, clypeus transverse, triangular, sharply delimited on sides. Genae as long as eyes, acutely protruding laterally. Eyes almost round, moderately convex, frons 4.6 times as wide as eye. Antennae reach middle of elytra, proportions of segments are as 20-5-11-10-8-7-5-5-5-5-8, segment 1 clavate, intermediate segments not widened. Prothorax twice as wide as long, broadest at anterior legs, strongly narrowed posteriorly, surface shining, impunctate, evenly convex. Elytra 1.5 times as long as wide, without postbasal impressions, with confused rows of large punctures, interspaces narrow, partly rugose, finely punctate. Aedeagus with acute apex, on underside with preapical impression divided with longitudinal ridge. Length 6.4 mm.

Female. Head 0.9 times as wide as prothorax, frons 2.5 times as wide as eye. Length 6 mm.

DISTRIBUTION. Sumatra.

Chaloenus brooksi Bryant, 1943

Fig. 28.

MATERIAL. ♂ and 2 ♀♀ from type series with label: Sarawak, Bidi, 1908–1909 (BM).

DESCRIPTION. Male. Head 1.2 times as wide as anterior margin of prothorax, antennal grooves distinct, but poorly delimited, clypeus triangular, broader than long, without central ridge, flat. Genae a little shorter than eyes, with acutely produced apical angles. Mandibles sharply ridged on upperside. Eyes small, feebly convex; frons 4 times as wide as eye. Head narrowed posteriorly and moderately constricted at some distance behind eyes. Prothorax 2.3 times as wide as long. Elytra 1.5 times as long as wide, with feeble basal convexity poorly delimited behind. Aedeagus — Fig. 28.

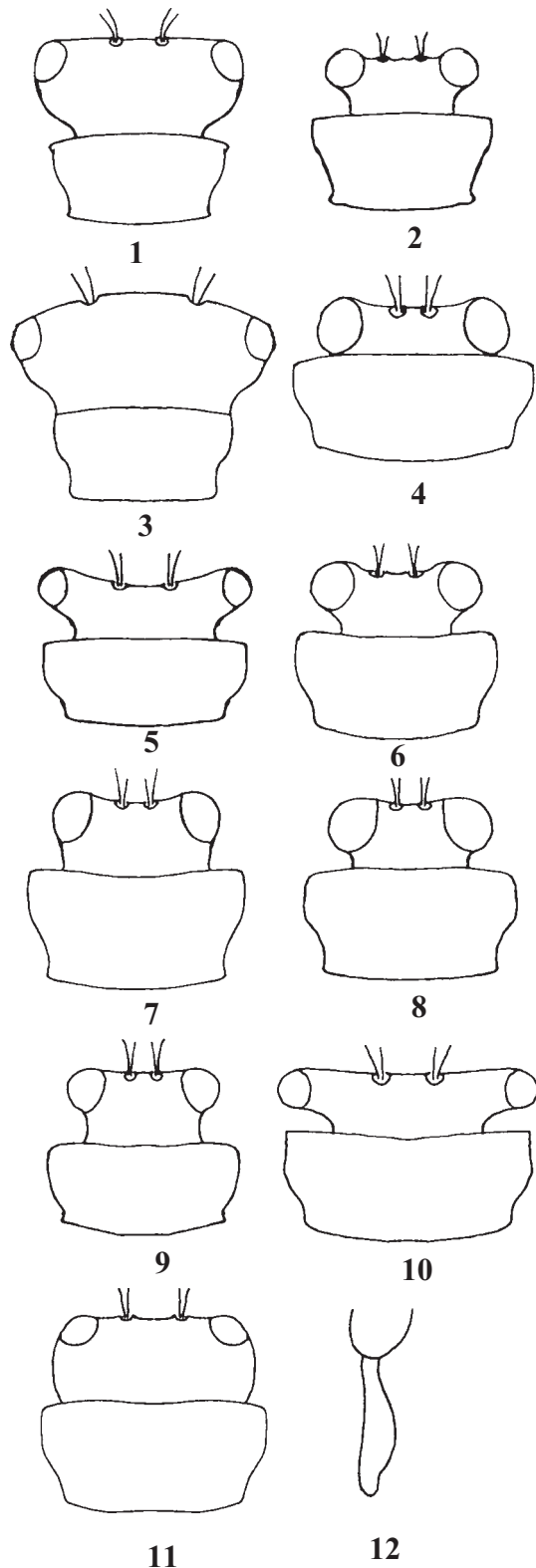
Female. Head 0.9 times as wide as anterior margin of prothorax, frons about 3 times as wide as eye.

DISTRIBUTION. Borneo.

Chaloenus subcostatus Jacoby, 1899

MATERIAL. 2 type specimens, possibly male and female from Sumatra, Soekaranga (BM); 1 ♀, Borneo, Brunei, leg. Waterstradt (MCZ).

DESCRIPTION. Fulvous, antennae black with segments 1–3 fulvous and 9–10 white, elytra dark aeneous, tibiae and tarsi piceous to black.



Figs. 1–12. *Chaloenus* spp., head and prothorax (1–11), hind tibia (12): 1 — *schawalleri*, ♂, 2 — *furthi*, ♀, 3 — *giganteus*, ♂, 4 — *basalis*, ♀, 5 — *latifrons*, ♂, 6 — *latifrons*, ♀, 7 — *pubescens*, ♀, 8 — *erberi*, ♀, 9 — *dobertyi*, ♂, 10 — *suturalis*, ♂, 11 — *westwoodi*, ♂, 12 — *dimidiatus*.

Рис. 1–12. *Chaloenus* spp., голова и переднеспинка (1–11), задняя голень (12): 1 — *schawalleri*, ♂, 2 — *furthi*, ♀, 3 — *giganteus*, ♂, 4 — *basalis*, ♀, 5 — *latifrons*, ♂, 6 — *latifrons*, ♀, 7 — *pubescens*, ♀, 8 — *erberi*, ♀, 9 — *dobertyi*, ♂, 10 — *suturalis*, ♂, 11 — *westwoodi*, ♂, 12 — *dimidiatus*.

Head 0.9 times as wide as prothorax, feebly narrowed behind eyes, impunctate, antennal furrows feeble, clypeus in form of equidistant triangle, convex, without impressions, finely microsculptured. Genae a little shorter than eyes, not protruding laterally. Eyes small, convex, but not protruding laterally, frons 1.9 times as wide as eye. Antennae reach behind middle of elytra, proportions of segments are as 19-5-13-13-12-10-9-7-7-6-9, all segments thin, segment 1 distinctly clavate. Prothorax twice as wide as long, broadest at rounded anterior angles, narrowed posteriorly and emarginate before hind angles, surface shining, impunctate, with transverse depression. Elytra 1.65 times as long as wide, with postbasal impression, very roughly sculptured and ridged from humerus along lateral margin. Length 5.0–5.1 mm.

DISTRIBUTION. Sumatra, Borneo.

Chaloenus aeneipennis Jacoby, 1896

MATERIAL. Type specimen (♂) marked as holotype: Sumatra, Si-Rambe (BM); 2 ♀♀, Malaysia, Perak, Bukit Larut, 5 km E Taiping, 600–900 m, 3.VIII.1993, leg. Schuh (LM).

DESCRIPTION. Fulvous, antennae piceous with segment 3 fulvous and segments 9–10 dark fulvous, elytra dark aeneous green, tibiae and tarsi piceous, vertex darkened, with metallic sheen.

Head 0.9 times as wide as prothorax, not constricted behind, impunctate; antennal furrows deep, clypeus narrow triangular, longer than broad, flat, with longitudinal ridge in upper half. Genae a little shorter than eyes, not protruding laterally. Eyes strongly convex, not protruding laterally, frons twice as wide as eye. Antennae reach behind middle of elytra, proportions of segments are as 21-4-15-15-13-12-10-8-7-6-10, segments 1, 3 and 4 clavate, intermediate segments not widened. Prothorax twice as wide as long, broadest at anterior angles, narrowed posteriorly and emarginate before hind angles, surface shining, impunctate, with deep transverse depression. Elytra 1.7 times as long as wide, with distinct basal elevation and postbasal impression, strongly punctate throughout in irregular rows, punctures near suture are especially deep, almost foveolate; there is ridge going from humerus along side margin. Length 4.5 mm.

DISTRIBUTION. Sumatra, Malay Peninsula. This species might be identical with *Ch. subcostatus*.

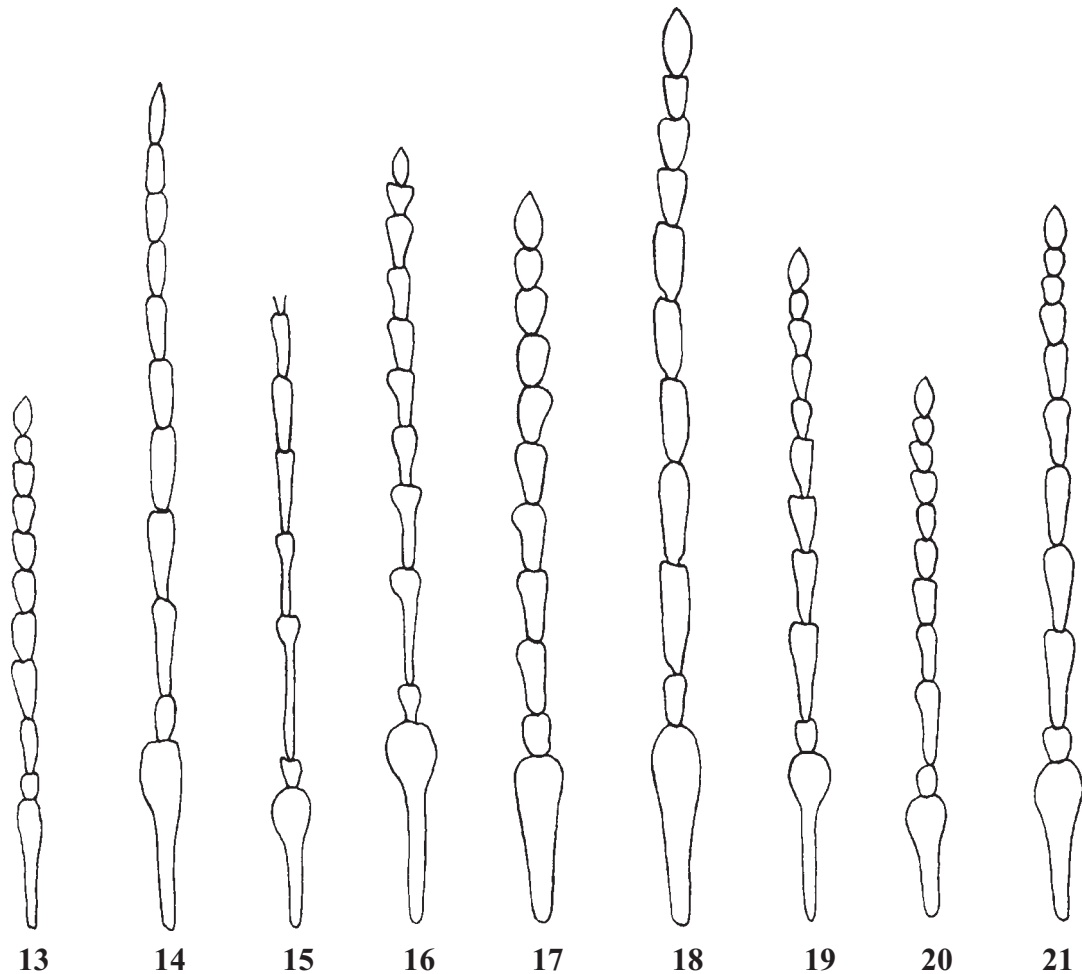
Chaloenus giganteus sp.n.

Figs. 3, 15.

MATERIAL. Holotype (♂): Central Sumatra, Tavang-Taloo (LM).

DESCRIPTION. Flavous, antennae darkened from the 6th segment, elytra metallic dark green with lateral margin and apex flavous.

Body robust, parallel-sided. Head 1.3 times as wide as prothorax (Fig. 3), impunctate, antennal grooves indistinct, clypeus broadly ovate, almost flat, without central ridge. Genae about twice as long as eye, with rounded anterior margin. Mandibles large, broadly flattened above, with sharp ridge on outer margin and longitudinally concave on outer surface. Eyes small, feebly convex, frons about 10 times as wide as eye. Antennae (Fig. 15) thin and long, 7th segment reach apical slope of elytra, proportions of segments are as 25-5-25-15-15-13-11 (rest segments absent); segments 1, 3 and



Figs. 13–21. *Chaloenus* spp., antennae: 13 — *schawalleri*, ♂, 14 — *furthi*, ♂, 15 — *giganteus*, ♂, 16 — *latifrons*, ♂, 17 — *pubescens*, ♀, 18 — *erberi*, ♀, 19 — *suturalis*, ♂, 20 — *dobertyi*, ♂, 21 — *westwoodi*, ♂.

Рис. 13–21. *Chaloenus* spp., усики: 13 — *schawalleri*, ♂, 14 — *furthi*, ♂, 15 — *giganteus*, ♂, 16 — *latifrons*, ♂, 17 — *pubescens*, ♀, 18 — *erberi*, ♀, 19 — *suturalis*, ♂, 20 — *dobertyi*, ♂, 21 — *westwoodi*, ♂.

4 clavate. Prothorax twice as wide as long, broadest near anterior angles, narrowed to base and emarginate before rectangular hind angles, surface impunctate, without distinct impression. Elytra 1.4 times as long as wide, dull, with postbasal impression, impunctate except two short rows between humerus and basal convexity. Tarsal segments not widened in male. Legs thin and long, especially anterior ones. Length 10 mm.

Diagnosis. Differs well specific color of elytra, large body and very long and thin antennae.

DISTRIBUTION. Sumatra.

Chaloenus basalis Bryant, 1943

Fig. 4.

MATERIAL. 1 ♀, Thailand, Khao Sok National Park, 12.XI.1995, leg. M. Mostovski (LM).

DESCRIPTION. Black, antennal segments 9, 10 and basal half of segment 11, apical two thirds of elytra, underside fulvous, sometimes head and basal two thirds of femora fulvous.

Female. Head 0.8 times as wide as prothorax (Fig. 4), frons about 3.3 times as wide as eye. Clypeus triangular, as long as wide, feebly convex. Proportions of antennal segments are as 17-4-8-9-6-6-5-5-4-4-5. Prothorax 2.1 times as

wide as long. Elytra with deep postbasal impression, having large punctures, rest surface impunctate. Length 5.7–6 mm.

According description [Bryant, 1943] head of male is broader than prothorax.

DISTRIBUTION. Burma, Thailand.

Chaloenus latifrons Westwood, 1861

Figs. 5, 6, 16, 29, 33.

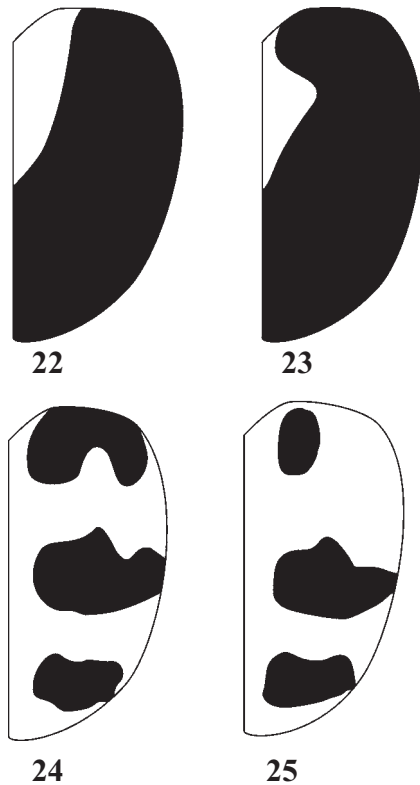
Chaloenus capitatus Jacoby, 1896, **syn.n.**

Chaloenus abdominalis Jacoby, 1899, **syn.n.**

Chaloenus oculatus Jacoby, 1899, **syn.n.**

Chaloenus marginipennis Bryant, 1943, **syn.n.**

MATERIAL. Type of *Ch. capitatus* Jac. (♀, marked as holotype): Sumatra, Pangherang Pisang (BM); ♀, type of *Ch. abdominalis* Jac. (marked as holotype): Sumatra, Liangagas (BM); ♂, type of *Ch. oculatus* Jac. (marked as holotype): Sumatra, Soekaranga (BM); 2 ♀♀ *Ch. capitatus*, det. Jacoby: Mentawai, Sipora, V–VI.1894, leg. Modigliani (MCZ); 8 ♂♂, 12 ♀♀, W. Sumatra, Bengkulu Prov., nr. Curup, Bukit Kaba Mts. (3°29'S, 102°36'E), 1000–1500 m, 30.I.2000, leg. J. Bezdek (JB, 5 ex. — LM); 2 ♂♂, 2 ♀♀, S. Sumatra, Lampung Prov., Bukit Barisan Selatan N. P. (5°4'S, 104°4'E), 5 km SW Liwa, 600 m, 7–17.II.2000, leg. J. Bezdek (JB, 1 ex. — LM); 1 ♂, 1 ♀, W. Malaysia, E Taiping, 500–800 m, V–VI.1978, leg. H. Knorr (SMNS); 1 ♂, 1 ♀, Malaysia, Batu Pahat, W. Johore, 1901–



Figs. 22–25. *Chaloenus* spp., pattern of elytra: 22 — *suturalis*, 23 — *erberi*, 24, 25 — *dobertyi*.

Рис. 22–25. *Chaloenus* spp., рисунок надкрылий: 22 — *suturalis*, 23 — *erberi*, 24, 25 — *dobertyi*.

25, H.N. Ridley, ex. coll. Heikertinger, *Ch. latifrons* Wstw., det. Jacoby (NHMB, Frey); 1 ♂, Malaysia, Benom Mts., 15 km E Kampong Dong (3°53'N, 102°01'E), 700 m, 1.IV.1998 (LM); 1 ♀, Malaysia, Pohang, Pulau Tioman, between Juara and Tekek, lowland rainforest, 10–17.III.1995, leg. O. Merkl (NHMB); 1 ♀, Malaysia, Johor, Endau–Rompin, Pulau Jasin, 50–400 m, 19.III.1998, leg. Dembicky & Pacholatko (NHMB); 2 ♀♀, Malaysia, Tioman, Kampong Tekek — K. Juara, 400 m, 9.III.1998, leg. Dembicky & Pacholatko (NHMB, LM); 1 ♀, Mindanao, Davao, leg. Platen (LM); 2 ♂♂, 1 ♀, Thailand, Khao Sok (8°55'N, 98°45'E), 12.XI.1995, leg. M. Mostovski (LM).

DESCRIPTION. Color very variable. Head usually fulvous with black anterior part, but also entirely fulvous or entirely black; antennae black with more or less reddish basal segment and pale flavous 8–10 and basal part of 11, while its apex always black (very constant character). Prothorax fulvous, but sometimes dark piceous to almost black. Scutellum fulvous to black. Elytra from entirely metallic green or violaceous to entirely fulvous, sometimes metallic with fulvous sutural area, more broad anteriorly or fulvous with metallic patches on base and humeral area. Underside fulvous or with dark sternum, rarely entirely black. Legs from fulvous to black, but mostly black with fulvous femora.

Male. Head (Fig. 5) 1.2 times as wide as prothorax (sometimes more narrowed), strongly constricted behind eyes, impunctate; antennal furrows indistinct, clypeus elongate triangular, flat, without impression or ridges, sharply delimited on sides with narrow furrow. Genae more than twice as long as eyes, which are small, placed on long stems, frons 11 times as wide as eye, mandibles bulbous at base (very constant character). Antennae reach middle of elytra, proportions of segments are as 19-7-20-16-13-11-10-8-8-6-9, segment 1

clavate, intermediate segments moderately thickened (Fig. 16). Prothorax twice as wide as long, broadest near anterior angles, narrowed posteriorly and very feebly emarginate before hind angles, surface evenly convex, impunctate. Elytra 1.2 times as long as wide, with deep postbasal impression, containing a few large punctures; rest surface is impunctate. Aedeagus — Fig. 29. Length 7 mm.

Female. Head more narrow, about 0.8 times as wide as prothorax (Fig. 6), mandibles not bulbous at base, body a little smaller. Spermatheca — Fig. 33. Length of body 5.5–7.5 mm.

DISTRIBUTION. Thailand, Malaysia: Malacca, Sumatra, Mentawai, Philippines: Mindanao.

Chaloenus brunneus Bryant, 1943

Fig. 30.

MATERIAL. Type specimen (♂) with label: Sarawak, Quop, III.1914 was studied (BM).

DESCRIPTION. Male. Body robust. Head 0.85 times as wide as anterior margin of prothorax, antennal grooves deep, but poorly delimited, clypeus triangular, broader than long, without central ridge. Genae almost as long as eye, not producing laterally. Mandibles ridged on upperside. Eyes moderately convex, frons about 2.5 times as wide as eye, head not narrowed posteriorly behind eyes. Prothorax 1.9 times as wide as long. Elytra 1.25 times as long as wide, with distinct basal elevation delimited exteriorly and posteriorly with row of punctures, rest surface impunctate. Aedeagus (Fig. 30) with rounded apex, but without any sculpture on underside. Length 5.0 mm.

Female. Head 0.9 times as wide as prothorax, frons about 1.5 times as wide as eye.

DISTRIBUTION. Borneo.

Chaloenus pubescens sp.n.

Figs. 7, 17.

MATERIAL. Holotype (♀): Borneo, Barat, ex. Staudinger.

DESCRIPTION. Fulvous, antennae piceous with apical segments 1, 2 and 4 dark fulvous, segment 11 fulvous, 9–10 dark fulvous.

Body robust, upperside flattened and with short light pubescence. Head (Fig. 7) 0.7 times as wide as prothorax, impunctate, moderately narrowed behind eyes. Clypeus triangular, as long as wide, feebly convex, with low central ridge; antennal grooves shallow, but distinct. Mandibles short, flattened above. Genae shorter than eyes, the latter are comparatively large and convex, but not protruding, frons about 2.3 times as wide as eye. Antennae (Fig. 17) reach middle of elytra, proportions of segments are as 30-7-13-13-12-11-10-9-8-7-10, segment 1 clavate. Prothorax 1.8 times as wide as long, broadest in anterior third and strongly narrowed to base, surface without impressions, shining, distinctly punctate. Elytra 1.4 times as long as wide, postbasal depression very feeble, anterior third shining, with 6 short rows of punctures and finely punctate interspaces; apical two thirds dull, finely punctate and densely microsculptured. Length 4.5 mm.

Diagnosis. Differs immediately from all species of the genus with pubescent upperside and unusual sculpture of elytra.

DISTRIBUTION. Borneo.

Chaloenus dimidiatus Jacoby, 1885

Fig. 12.

MATERIAL. Type specimen (♂) N 19330 with a label: Borneo, Sarawak, 1865–66, coll. G. Doria (MCZ).

DESCRIPTION. Male. Fulvous, apical half of elytra except extreme margins dark violet, antennae reddish fulvous with segments 6–10 slightly darker.

Head 0.75 times as wide as prothorax, not constricted behind, impunctate; antennal furrows deep, but not sharply delimited, clypeus triangular, broader than long, moderately convex, with longitudinal ridge. Eyes small, feebly convex, not protruding laterally, frons 2.8 times as wide as eye. Genae a little shorter than eyes, not protruding laterally. Antennae reach anterior third of elytra, proportions of segments are as 24-7-7-7-8-7-7-7-10, segment 1 clavate, segments 5-9 slightly widened. Prothorax twice as wide as long, broadest in middle, not emarginate before obtuse hind angles, surface shining, evenly convex, very finely and sparsely punctate. Elytra 1.35 times as long as wide, broadest in shoulders, with explanate lateral margin and feeble basal convexity, with regular rows of deep punctures, not reaching apical slope; 3 inner rows start from hind margin of basal convexity, 4th row is going from base between humerus and basal convexity, 2 outermost rows are distinct only in middle part; interspaces microsculptured and feebly convex. All tibiae, especially hind ones short, broad and flattened, with straight inner margin and arcuate outer margin, about 4.3 times as long as wide (Fig. 12). Aedeagus parallel-sided, but its apex broken. Length 4.3 mm.

DISTRIBUTION. Borneo.

Chaloenus erberi sp.n.

Figs. 8, 18, 23, 34.

MATERIAL. Holotype (♀): Indonesia, Sumatra, Pasor Manduge (P. Siantar), 30.VIII.1979, leg. D. Erber (LM).

Paratype: 1 ♀, Malaysia, W. Perak, 25 km NE of Ipoh, Banjaran Titi Wangsa mts.; Korbu Mts., 1200 m, 27.I-2.II.1999, leg. P. Pacholatko (NHMB).

DESCRIPTION. Head, prothorax and scutellum red fulvous with more pale labrum, antennae black with 3-4 apical segments flavous, elytra dark violaceous with rhomboidal postscutellar patch fulvous (Fig. 23), underside and legs fulvous, 3 apical abdominal segments, upperside of femora, tibiae and tarsi more or less darkened, piceous to black.

Body robust. Head 0.7 times as wide as prothorax (Fig. 8), antennal grooves feeble. Clypeus triangular, wider than long, convex, microsculptured and finely punctate. Genae a little shorter than eyes. Mandibles short, flattened above, with obtusely ridged outer margin. Eyes large and convex, frons about 2.2 times as wide as eye. Frontal tubercles large subquadrate, vertex with a few punctures. Antennae almost reach apical slope of elytra, proportions of segments are as 35-9-20-17-15-14-13-10-9-8-12, segments 5-10 slightly thickened (Fig. 18). Prothorax twice as wide as long, broadest in anterior third and emarginate before acute hind angles, surface convex, without any impression, shining, impunctate. Elytra 1.35 times as long as wide, with very feeble postbasal impression and 3-4 short rows reaching middle of elytra, lateral and posterior surface impunctate, shining. Spermatheca — Fig. 34. Length 5.5-5.8 mm.

DISTRIBUTION. Malacca, Sumatra.

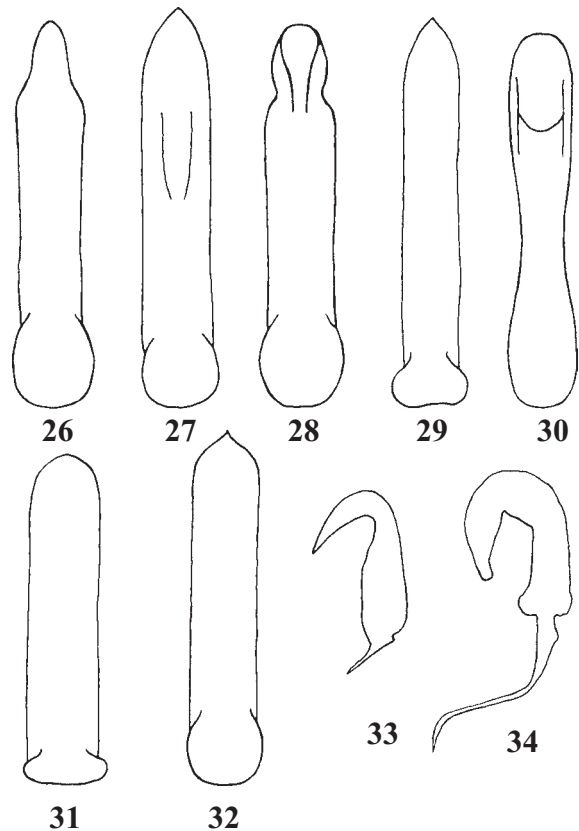
Chaloenus suturalis Westwood, 1861

Figs. 10, 19, 22.

MATERIAL. Type specimen marked as holotype from Amboina (BM); ♂, Singapore (LM).

DESCRIPTION. Male. Fulvous, labrum pale flavous, antennae piceous with 3 apical segments fulvous, elytra violaceous black with broad fulvous sutural stripe narrowed to behind (Fig. 22), tibiae and tarsi piceous.

Body broad, elongate ovate. Head (Fig. 10) 0.8 times as wide as prothorax, not narrowed behind eyes, very finely punctate, antennal furrows very feeble, almost indistinct, clypeus quadrangular, broader than long, slightly convex, without any ridges or impressions. Mandibles feebly ridged



Figs. 26-34. *Chaloenus* spp., aedeagus (26-32), spermatheca (33-34): 26 — *matangensis*, 27 — *schawalleri*, 28 — *brooksi*, 29, 33 — *latifrons*, 30 — *brunneus*, 31 — *dohertyi*, 32 — *westwoodi*, 34 — *erberi*.

Рис. 26-34. *Chaloenus* spp., аедегус (26-32), сперматека (33-34): 26 — *matangensis*, 27 — *schawalleri*, 28 — *brooksi*, 29, 33 — *latifrons*, 30 — *brunneus*, 31 — *dohertyi*, 32 — *westwoodi*, 34 — *erberi*.

on upperside. Genae as long as eyes, not protruding laterally. Eyes small, feebly convex, not protruding laterally, frons 3 times as wide as eye. Antennae reach behind middle of elytra, proportions of segments are as 25-7-18-17-15-13-11-6-6-5-9, segment 1 claviform, segments 3-7 distinctly widened to apex (Fig. 19). Prothorax twice as wide as long, broadest in anterior third and emarginate before acute hind angles, surface convex, without distinct impressions, shining, with very fine microsculpture. Elytra 1.3-1.4 times as long as wide, with very feeble postbasal impression containing 3 short rows, rest surface impunctate, finely microsculptured. Segment 1 of anterior tarsus feebly widened in male. Length 7.1 mm.

DISTRIBUTION. Amboina, Malay Peninsula (Singapore).

Chaloenus dohertyi Bryant, 1943

Figs. 9, 20, 24, 25, 31.

MATERIAL. 1 ♀, Borneo, Sabah, Kinabalu N. P.: Sayap, 1000 m, 25-29.XI.1996, leg. W. Schawaller (SMNS); 1 ♀, Borneo, Sabah, Crocker Range N. P., Maear waterfall, 17.VI.1996, leg. J. Kodala, (LM); 1 ♂, Borneo, Sabah, Poring Hot Springs, 600 m, 1-28.VIII.1994, leg. A. & C. Noellert (LM).

DESCRIPTION. Fulvous, antennae black with 3 basal segments red fulvous, segments 9, 10 and base of 11 white. Elytra a little paler than prothorax, each elytron with 3 black bands: basal, median and preapical; basal band almost divided on humeral and scutellar spot; in specimen humeral spot absent (Figs. 24, 25).

Male. Body ovate. Head about 0.85 times as wide as prothorax (Fig. 9), impunctate, constricted behind eyes and narrowed anteriorly. Clypeus elongate triangular, flat, with trace of longitudinal ridge; antennal grooves distinct. Genae a little longer than eye. Mandibles flattened above and concave on outside. Eyes convex, frons about 3.5 times as wide as eye. Antennae reach apical slope of elytra, proportions of segments are as 21-5-15-10-8-7-6-6-5-5-7, segment 1 clavate (Fig. 20). Prothorax twice as wide as long, broadest in anterior third and feebly narrowed to behind, surface convex, shining and impunctate. Elytra 1.3 times as long as wide, without distinct postbasal depression, with 1–2 short rows inside humerus, rest surface impunctate. Segment 1 of mid and especially fore tarsi widened. Aedeagus — Fig. 31. Length 5.5 mm.

DISTRIBUTION. Borneo.

Chaloenus bipunctatus Bryant, 1943

MATERIAL. Male (in bad condition and without head) and female from type series with label: Sarawak, Kuching (BM).

DESCRIPTION. Male. Prothorax 2.4 times as wide as long. Elytra 1.25 times as long as wide, with distinct basal elevation delimited posteriorly and exteriorly with impression and row of punctures; rest surface impunctate.

Female. Head 0.9 times as wide as anterior margin of prothorax, antennal grooves narrow and sharp, clypeus triangular, a little longer than broad, feebly concave, without central ridge. Genae 1.1 times longer than eyes, not produced laterally. Mandibles bulbous in basal part, without dorsal ridge. Eyes strongly convex, frons almost 4 times as long as eye. Head strongly constricted just behind eyes.

DISTRIBUTION. Borneo, possibly also Malacca (one syntype was indicated for Perak, but in the introduction Bryant [1943] indicated distribution only as Borneo).

Chaloenus westwoodi Chapuis, 1875

Figs. 11, 21, 32.

Chaloenus semipunctatus Jacoby, 1899 — **syn.n.**

MATERIAL. Type of *Ch. westwoodi* Chap. (♂), designated as lectotype: Malaisie, Malacca, coll. Castelnau, coll. Chapuis (in original description a locality was given as "Indian Archipelago" (IRSNB); type of *Ch. semipunctatus* Jac. (♀) marked as holotype: West Sumatra (BM); 1 ♀ (with entirely black elytra), Sumatra, Mana Rieng, Rapau, Palembang, IV.1890, 2-3000', leg. I.Z. Kannegieter (MCZ); 1 ♂ (with entirely fulvous upperside), S. Sumatra, Lampung prov., Bukit Barisan Selatan N. P. (5°4'S, 104°4'E), 5 km SW Liwa, 600 m, 7-17.II.2000, leg. J. Bezdek (LM), 1 ♀ with bicolor elytra (JB); — Borneo, Sarawak, Agric. Rs. Cent., Semongok, 15-19.II.1974 (LM).

DESCRIPTION. Fulvous, 3 apical antennal segments more light, elytra fulvous (typical *Ch. westwoodi*) or black (typical *Ch. semipunctatus*), rarely fulvous with darkened lateral and sutural area, underside fulvous (typical *Ch. westwoodi*) or with black metasternum, or entirely black (typical *Ch. semipunctatus*), tibiae and tarsi darkened to black.

Male. Head 0.85–0.9 times as wide as prothorax (Fig. 11), not constricted behind eyes. Antennal furrows moderately deep, clypeus triangular, broader than long, not delimited sharply on sides, with short longitudinal ridge posteriorly. Genae about 0.9 times as eye's length. Eyes moderately convex, not protruding laterally, frons 2.8–3 times as wide as

eye. Mandibles flattened above, with ridged exterior margin and triangularly concave exterior surface. Antennae (Fig. 21) reach anterior third of elytra, proportions of segments are as 22-5-13-12-11-10-9-8-7-5-9, segment 1 slightly clavate, intermediate segments feebly thickened. Prothorax about twice as broad as long, broadest in anterior quarter, narrowed posteriorly, not emarginate before hind angles, surface evenly convex, shining, practically impunctate. Elytra 1.35 times as long as wide, with basal convexity and very feeble, almost indistinct postbasal impression; there are 4–5 rows of punctures which start from basal convexity and disappear behind middle or before apical slope. Aedeagus — Fig. 32.

Female. Head 0.75–0.8 times as wide as prothorax, frons 2–2.2 times as wide as eye, genae about 0.6–0.8 times as eye's length.

Length 5.8–6.3 mm.

DISTRIBUTION. Malay Peninsula, Sumatra, Borneo.

Chaloenus sp. A

MATERIAL. 1 ♀, Sumatra, Hanrufan Lake (LM); 1 ♀, Sarawak, Agric. Res. Centre, Semongok, 15-19.II.1974 (LM), 1 ♂ from same locality is included in *Ch. westwoodi*.

Morphologically identical with *Ch. westwoodi*, differs only with black antennae.

DISTRIBUTION. Sumatra.

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