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Record of Phototactic Tenebrionidae (Coleoptera) from Lambir Hills, Borneo, with description of a new genus and twelve new species

Kiyoshi ANDO[1)], Takao ITIOKA[2)], Keiko KISHIMOTO-YAMADA[2)]

[1)] Entomological Laboratory, Faculty of Agriculture, Ehime University

[2)] Graduate School of Human and Environmental Studies, Kyoto University

ABSTRACT Fifty-two species of phototactic Tenebrionidae are recorded from Lambir Hills National Park and the secondary forests surrounding the park. One new genus and twelve new species are described under the following names: *Anognathena* gen. nov., *Anognathena neraida* sp. nov., *Amarygmus hansbremeri* sp. nov., *Cleomis purpuricollis* sp. nov., *Cryphaeus irregularis* sp. nov., *Euhemicera hutanicola* sp. nov., *Hemicera* (*Hemicera*) *vittigera* sp. nov., *Hemicera* (*Hemicera*) *parca* sp. nov., *Pseudonautes viridinitidus* sp. nov., *Psydus virgulatus* sp. nov., *Uloma* (*Uloma*) *nyctelia* sp. nov., *Uloma* (*Uloma*) *sarawakensis* sp. nov. and *Uloma* (*Uloma*) *serripunctata* sp. nov.

KEY WORDS arthropod diversity / insect fauna / Sarawak / South East Asian tropics / tropical rainforests / taxonomic study

Introduction

Biodiversity inventory is important and necessary for characterising biological communities and making policies for biodiversity conservation (Longino & Colwell 1997). Insects are considered to account for the great majority of biodiversity on the earth, and most of them are inferred to inhabit the tropical rainforests. Therefore, inventory works on various insect taxa have been required in the tropical regions.

Here, we present a species inventory of tenebrionid beetles, with description of a new genus and 12 new species, in a local area of tropical rainforest climate in Borneo, where there are extremely species-rich flora and fauna, based on the specimens that Itioka and Kishimoto-Yamada collected by light trapping from

11 August to 2 October in 2003, in order to contribute to elucidation of total biodiversity and biogeographic patterns in this taxon.

Materials and Methods

The sampling sites were placed at dipterocarp mixed forests in Lambir Hills National Park, Sarawak, Malaysia (4°2'N, 113°50'E, 150–200 m asl) and at secondary forests around the park. The climatic conditions there were typical to the lowland tropical rainforest regions in Southeast Asia and the details were described in Kato et al. (1995), Nakagawa et al. (2000), Harrison (2005) and Kumagai et al. (2009). The national park covers an area of approximately 6949 ha and is mainly covered by primary forest dominated by dipterocarp trees (Yumoto & Nakashizuka 2005). Around the park, local people (the Iban) have traditionally farmed various crops, including rice, vegetables and fruits, using swidden cultivation (Ichikawa 2004).

Around the park, three forest stands were selected as plots for light trapping in each of the following forest types: new fallows (B3, B4, B5), young fallows (T1, T4, T6), old fallows (F3, F4, F5), and rubber gardens (G0, G3, G9) as well as five stands in isolated primary forests (P1, P2, P3, P4, P7). In addition, three stands were established as light trapping plots in the preserved primary forest in the park (H1, H2, H3). The details of spatial placement, vegetational conditions and history of land use about all of the stands were described in Kishimoto-Yamada et al. (2011).

In each plot, three Pennsylvania-style light traps, which were modified for rainforest use following Nakashizuka & Stork (2002), were used. Each trap was equipped with a 8-W fluorescent tube for collecting insects with near ultraviolet radiation, two cross boards for intercepting light-attracted flying insects, a funnel and bucket to receive fallen insects, and electric power supplied by a 12-V lead acid battery. Pieces of paper impregnated with ethyl acetate were put in the bucket in order to kill the trapped insects. The details of protocol for light trapping were described in Kishimoto-Yamada et al. (2011).

We picked up all individuals of Tenebrionidae from the insects collected by

the above-mentioned light trapping, and all of the tenebrionids were identified by Ando using Microscope Leica MZ16 Planapo 1.0x.

All of the tenebrionid individuals were mounted and their data are described in a list, which is shown below. Abbreviations applied in the descriptions are as follows: EL = length of elytra along midline; EW = maximum width of elytra; IE = distance between eyes; PL = length of pronotum along midline; PW = maximum width of pronotum; TD = transverse diameter of an eye in dorsal view. The data for each specimen include the code beginning with "Z" and ID number of specimen (five-figure number following initial "LUBL-"), as well as sex, locality and the collection date. The Z-code indicates the plot (two letters following the initial "Z" indicate the plot where the insect was collected) and the identity of trap in the plot (the following one letter followed by three-digit).

Holotypes and examined specimens used in this paper are deposited in the Forest Research Centre, Forest Department Sarawak, Kuching.

A list of phototactic species of Tenebrionidae collected in and around Lambir Hills National Park, Sarawak

Family Tenebrionidae Latreille, 1802
Subfamily Tenebrioninae Latreille, 1802
Tribe Amarygmini Gistel, 1848

1. *Amarygmus baluensis* Pic, 1951

Amarygmus baluensis Pic, 1951: 15.

Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP3B-013, 22. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10301; 1♀, ditto / LUBL-10302; 1♀, ditto, ZP3A-011, 22. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10298.

2. *Amarygmus splendidulus* (Fabricius, 1801)

Chrysomela splendidula Fabricius, 1801: 440.

Specimens examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZF5B-014, 26. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10280; 1♀, ditto, ZF5A-013, 30. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10249; 1♀, ditto, ZB3A-013, 26. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10241.

3. *Amarygmus hansbremeri* Ando, sp. nov.

4. *Amarygmus ulfilatis* Bremer, 2012

Amarygmus ulfilatis Bremer, 2012: 224.

Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG9A-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10277.

5. *Gonocnemis laterufus* Pic, 1921

Gonocnemis laterufus Pic, 1921: 5. New record from Borneo.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB3B-012, 29. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10227.

6. *Pontianacus rubricus* Fairmaire, 1898

Pontianacus rubricus Fairmaire, 1898: 397.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG9A-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10207.

Tribe Bolitophagini Kirby, 1837

Subtribe Bolitophagina Kirby, 1837

7. *Atasthalus spectrum* Pascoe, 1871

Atasthalus spectrum Pascoe, 1871: 348, f. 14.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZH3C-014, 15. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10166.

8. *Boletoxenus timmi* Gebien, 1922

Bolitoxenus [sic] *timmi* Gebien, 1922: 448, t. 1, f. 1, 1a.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZT1C-013, 19. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10164.

9. *Byrsax merkli* Ando et Yamasako, 2013

Byrasax merkli Ando et Yamasako, 2013: 286, figs. 31–33, 37–39.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-012, 11. Sep–2003, Kishimoto-Yamada et Itioka leg. / LUBL-10165.

Tribe Opatrini Brullé, 1832

Subtribe Opatrina Brullé, 1832

10. *Gonocephalum aequatoriale* (Blanchard, 1853)

Opatrum aequatoriale Blanchard, 1853: 152, t. 10, f. 10–11.

Specimens examined. 2♂♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5A-011, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10259 / LUBL-10232; 3♀♀, ditto / LUBL-10233 / LUBL-10258 / LUBL-10247.

Tribe Toxicini Lacordaire, 1859

11. *Cryphaeus irregularis* Ando, sp. nov.

Tribe Ulomini Blanchard, 1845

12. *Cenoscelis lateralis* (Boheman, 1858)
Heterophaga lateralis Boheman, 1858: 94.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5B-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10153.

13. *Cenoscelis pulla* (Erichson, 1843)
Uloma pulla Erichson, 1843: 253.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5B-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10238.

14. *Cneocnemis haemorrhoa* (Fairmaire, 1893)
Uloma haemorrhoa Fairmaire, 1893: 24.
Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB4B-012, 29. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10236; 1♂, ditto, ZG9A-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10221.

15. *Uloma* (*Uloma*) *rubripes* (Hope, 1831)
Tenebrio rubripes Hope, 1831: 31.
Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZF7C-011, 26. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-00446; 1♀, ditto, ZG3B-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-00445.

16. *Uloma* (*Uloma*) *ferreri* Schawaller, 2000
Uloma ferreri Schawaller, 2000: 5.
Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5B-013, 18. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-00450; 1♀, ditto, ZP4B-011, 16. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-00447.

17. *Uloma* (*Uloma*) *scita* Walker, 1858
Uloma scita Walker, 1858: 284.
Specimens examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB3B-012, 29. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10228; 1♀, ditto, ZB5A-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10154; 1♀, ditto, ZB5C-014, 22. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10285.

18. *Uloma* sp. 1
Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZH1A-011, 12. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10170.

19. *Uloma* (*Uloma*) *sarawakensis* Ando, sp. nov.

20. *Uloma* sp. 3

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP2C-011, 20. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10244.

21. *Uloma* (*Uloma*) *nyctelia* Ando, sp. nov.

22. *Uloma* (*Uloma*) *serripunctata* Ando, sp. nov.

Subfamily Diaperinae Latreille, 1802
Tribe Diaperini Latreille, 1802

23. *Ceropria medanensis* Gebien, 1925
Ceropria medanensis Gebien, 1925 b: 269.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3A-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10296.

24. *Ceropria opulenta* von Harold, 1878
Ceropria opulenta von Harold, 1878: 354.
Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3B-014, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10299.

25. *Platydema perpolitum* Gebien, 1925
Platydema perpolitum Gebien, 1925 c: 554.
Specimens examined. 2♂♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP2C-011, 20. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10289 / LUBL-10290; 1♂, ditto, ZH1A-011, 12. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10286; 2♀♀, ditto, ZP2C-011, 20. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10303 / LUBL-10268.

Tribe Leiochrinini Lewis, 1894

26. *Ades limbatus* (Westwood, 1883)
Leiochrinus (Leiochrodes) limbatus Westwood, 1883: 74.
Specimens examined. 2 exs., LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5B-011, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10180, LUBL-10210; 2 exs., ditto, ZB4B-013, 26. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10182, LUBL-10183; 2 exs., ditto, ZT6B-013, 28. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10189, LUBL-10186; 2 exs., ditto, ZB3A-13, 26. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10184, LUBL-10185; 1 ex., ditto, ZH3C-014, 15. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10181.

27. *Ades discoidalis* (Westwood, 1883)
Leiochrinus (Leiochrodes) discoidalis Westwood, 1883: 71.
Specimens examined. 4♂♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5A-012 (2♂♂), ZB5C-012 (2♂♂), 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10218 / LUBL-10214 / LUBL-10188 / LUBL-10197, 16♀♀, ditto, ZB5A-012 (14♀♀), ZB5C-012 (2♀♀) / LUBL-10196 / LUBL-10215 / LUBL-10201 / LUBL-10198 / LUBL-10205 / LUBL-10219 / LUBL-10212 /

LUBL-10203 / LUBL-10202 / LUBL-10213 / LUBL-10216 / LUBL-10199 / LUBL-10194 / LUBL-10204 / LUBL-10187 / LUBL-10193; 5 exs., ditto, ZB5B-011, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10208 / LUBL-10192 / LUBL-10191 / LUBL-10217 / LUBL-10211; 2 exs., ditto, ZT1B-011, 18. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10209 / LUBL-10206; 1 ex., ditto, ZT6B-13, 28. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10256; 1 ex., ditto, ZT6A-013, 28. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10220; 1 ex., ditto, ZB5A-016, 19. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10195.

Subfamily Alleculinae Laporte, 1840
Tribe Alleculini Laporte, 1840
Subtribe Alleculina Laporte, 1840

28. *Anognathena neraida* Ando, gen. et sp. nov.

29. *Bolbostetha baluana* Pic, 1936

Bolbostetha baluana Pic, 1936: 29.

Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG0B-013, 30. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10223.

30. *Borboresthes* sp. 1

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB4A-011, 21. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10157.

31. *Borboresthes* sp. 2

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP3C-013, 22. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10160.

Subfamily Stenochiinae Kirby, 1837
Tribe Cnodalonini Oken, 1843

32. *Bradymerus spretus* Gebien, 1925

Bradymerus spretus Gebien, 1925 a: 557.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB3B-012, 29. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10246.

33. *Bradymerus crenulicollis* Fairmaire, 1882

Bradymerus crenulicollis Fairmaire, 1882: 221.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-011, 25. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10230.

34. *Cleomis purpuricollis* Ando, sp. nov.

35. *Euhemicera hayashii* Ando, 2003

Euhemicera hayashii Ando, 2003: 286. New record from Borneo.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-012, 11. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10252.

36. *Euhemicera hutanicola* Ando, sp. nov.

37. *Euhemicera laticornis* (Fairmaire, 1898)
Eucyrtus laticornis Fairmaire, 1898: 393.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-012, 11. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10295.

38. *Hemicera* (*Hemicera*) *chalcea* Gebien, 1922
Hemicera chalcea Gebien, 1922: 463.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3B-014, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10263.

39. *Hemicera* (*Hemicera*) *vittulata* (Fairmaire, 1893)
Eucyrtus vittulatus Fairmaire, 1893: 45.
Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG0C-013, 29. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10270; 1♂, ditto, ZH1B-016, 2. Oct. 2003 / LUBL-10284; 1♀, ditto, ZT6B-012, 4. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10279; 1♀, ditto, ZP9B-011, 25. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10276; 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB3A-013, 26. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10282; 1♀, ditto, ZT6A-012, 4. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10278.

40. *Hemicera* (*Hemicera*) *maculicollis* Ando, 2003
Hemicera maculicollis Ando, 2003: 474. New record from Borneo.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3B-014, 17. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10254.

41. *Hemicera* (*Hemicera*) *curvicincta* Ando, 2003
Hemicera curvicincta Ando, 2003: 437.
Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZT1A-013, 19. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10283.

42. *Hemicera* (*Hemicera*) *splendens* (Wiedemann, 1823)
Cnodalon splendens Wiedemann, 1823: 44.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZT6C-013, 28. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10281.

43. *Hemicera* (*Hemicera*) *vittigera* Ando, sp. nov.

44. *Hemicera* (*Hemicera*) *parca* Ando, sp. nov.

45. *Plamius costneri* Kulzer, 1951
Plamius köstneri Kulzer, 1951: 514.
Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9B-011, 25. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10245.

46. *Psydus virgulatus* Ando, sp. nov.

47. *Pseudonautes viridinitidus* Ando, sp. nov.

48. *Simalura tibialis* Kulzer, 1952

Simalura tibialis Kulzer, 1952: 748.

Specimens examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG0A-015, 4. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10292; 1♂, ditto, ZG3B-014, 4. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10300.

49. *Simalura elongata* Gebien, 1922

Simalura elongata Gebien, 1922: 476. New record from Borneo.

Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-012, 11. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10294.

50. *Tetraphyllus crcifer* Ando, 1992

Tetraphyllus crcifer Ando, 1992: 22.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5C-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10269.

51. *Tetraphyllus corruscus* (Fairmaire, 1882)

Artactes corruscus Fairmaire, 1882: 237.

Specimen examined. 1♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZB5A-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10190.

Tribe Stenochiini Kirby, 1837

52. *Strongylium takalaense* Masumoto et Akita, 2011

Strongylium takalaense Masumoto et Akita, 2011: 43, figs. 9, 28–31.

Specimen examined. 1♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZT1B-011, 18. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10222.

Taxonomy

Family Tenebrionidae Latreille, 1802
Subfamily Tenebrioninae Latreille, 1802
Tribe Amarygmini Gistel, 1848

Amarygmus hansbremeri Ando, sp. nov.

(Figs. 1–3, 7)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP9A-012, 11. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10250.

Measurements. Body length: 5.4 mm. ♂ (n = 1): IE/TD = 1.11; PW/PL = 1.85; EL/EW = 1.29.

Description. Body oval, distinctly convex above, very shiny. Colour dark reddish brown; head and pronotum metallic green; clypeus more or less infuscate; each elytron with a metallic blue oblique stripe from inner side of humeri to suture

before apex, linearly tinged with purple along inner margin of the stripe; elytral disc coppery in middle and yellowish green in outer side of the stripe; mouthparts, legs, and six basal antennomeres reddish brown.

Head gently convex posteriad, finely and sparsely punctate, with dense isodiametric microsculpture; clypeus moderately convex, slightly divergent and strongly produced forwards, feebly emarginate at apex; fronto-clypeal suture tenuous, distinctly impressed; genae nearly as long as wide, strongly elevated laterally; frons broad, depressed and almost flat; eyes large and transverse, very coarsely facetted, without inner ocular-sulci. Antennae long, reaching beyond base of elytra; antennomeres I to IX longer than wide and weakly dilated apically; X cylindrical; XI oblong-oval. Ultimate maxillary palpomere robust, moderately dilated. Mentum obtrapezoidal (Fig. 3), weakly elevated in anterior half of middle, distinctly emarginate at apex in V-shape, with coarsened surface.

Pronotum transversely quadrate, widest at base; disc strongly convex, and steeply sloping laterally, finely microsculptured; punctures fine and moderate in density; anterior margin arcuately and strongly emarginate, distinctly bordered; lateral margins weakly arcuate and evenly convergent forwards, narrowly bordered, tenuously sulcate inside along the borders; basal margin slightly sinuous beside median process, not bordered; anterior angles rectangular, posterior angles obtuse, not produced. Scutellum flat, finely microsculptured and sparsely punctate, sharp and acute at apex.

Elytra oval, very strongly convex, widest before middle, sharply pointed at apices, with lateral margins sinuous behind base; striae fine, rudimental in inner three striae; strial punctures rather sparse, large and coarse, becoming larger towards lateral striae and somewhat fovea-like in 5th to 8th striae; intervals almost flat in inner three, slightly convex in 4th, and weakly convex in 5th to 9th; humeral calli weakly humped; epipleuron broad and unevenly flat, with very fine microrugosities.

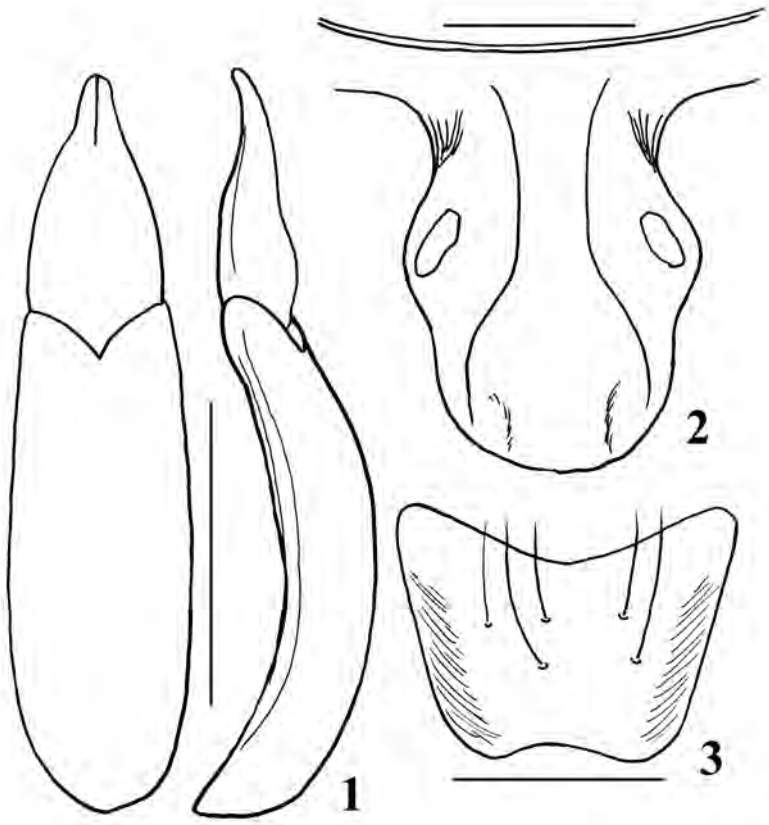
Hypomeron almost smooth, with very fine microsculpture in part. Prosternum short in front of coxae; prosternal process robust (Fig. 2), linguiform, depressed in middle and raised laterally, broadly rounded at apex, with some setae. Mesoventrite very weakly raised in middle, with a shallow U-shaped ridge short and oblique, without anterior angles. Metaventrite strongly convex, densely covered with setiferous punctures in median fourth. Abdomen finely and

moderately punctate in four basal ventrites; 1st ventrite finely microsculptured, with process thickly bordered; fifth densely punctate.

Male genitalia elongate (Fig. 1), with parameres shortened coracoid. Legs slender; posterior margins of meso- and metafemora setiferous in each basal half; tibiae long, slightly incurved.

Female. Unknown.

Diagnosis. This species is similar to *Amarygmus splendidulus* (Fabricius, 1801) from the Malay Archipelago, Sunda and Thailand, but is different from the latter in the following points: Elytra bicolour, with strial punctures coarse and much larger; intervals weakly convex in 5th to 9th; elytral lateral margins sinuous just behind



Figs. 1–3. *Amarygmus hansbremeri* sp. nov. — 1, Male genitalia in dorsal (left) & lateral (right); 2, prosternal process; 3, mentum. Scales: 0.5 mm for 1; 0.25 mm for 2 & 3.

base; genae neither narrowed nor lobate; and frons depressed, a little wider than eye (about 0.2 times as wide as eye in the latter).

Etymology. The specific name is dedicated after Dr. Hans J Bremer, who is a specialist of Amarygmini, and helped us identify this group in this study.

Tribe Toxicini Lacordaire, 1859

***Cryphaeus irregularis* Ando, sp. nov.**

(Figs. 4–6, 8)

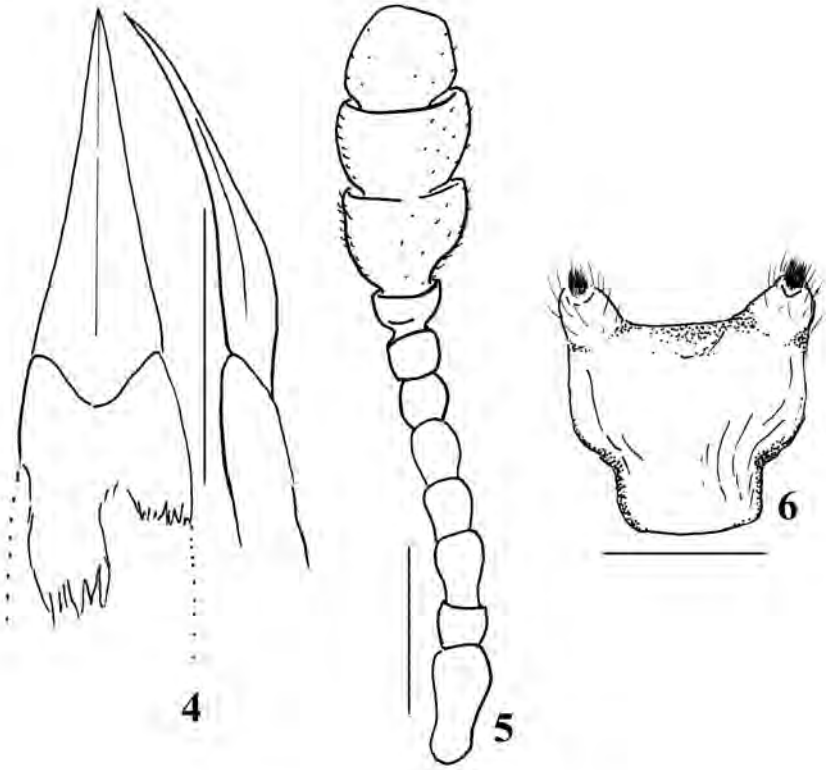
Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3A-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10224.

Measurements. Body length: 7.7 mm. ♂ (n = 1): IE/TD = 2.31; PW/PL = 1.34; EL/EW = 1.96.

Description. Body oblong-elongate, parallel-sided, gently convex, opaque. Colour mat-black; three distal antennomeres, coxae and legs dark reddish brown, mouthparts and eight basal antennomeres reddish brown.

Head transversely elliptical, coarsely covered with large and dense punctures, with a pair of vertical horns on frons, the vertical horns thick and robust, closely contact with each eye, weakly curved forwards and tapering to apex, densely covered with ruguloso-punctures, with a minute unciform protuberance which is curved backwards at each apex; clypeus semicircular, convex in middle, gently emarginate at apex, and triangularly produced forwards at each lateral terminal; fronto-clypeal suture very fine and obscure, visible only lateral parts; genae large and oblique, unevenly flat, reflexed and bisinuate in outer margins; frons broad, deeply depressed and almost impunctate between vertical horns; eyes weakly convex, devoid of inner ocular-sulci. Antennae reaching middle of pronotum (Fig. 5); antennomeres II and V to VIII moniliform; antennomeres IX to XI strongly dilated and forming a club, which bears fine and minute sensory pores; XI oval. Ultimate maxillary palpomere thick, rather weakly securiform. Mentum (Fig. 6) obtrapezoidal, broadened forwards, and distinctly emarginate at apex, unevenly depressed and coarsely ruguloso-punctate; anterior corners roundly produced, each with a sharp tooth fimbrillate at apex. Gula with dense and fine transverse microscopical lines; outsides of gular suture densely covered with large punctures which are filled with microscopical sculpture.

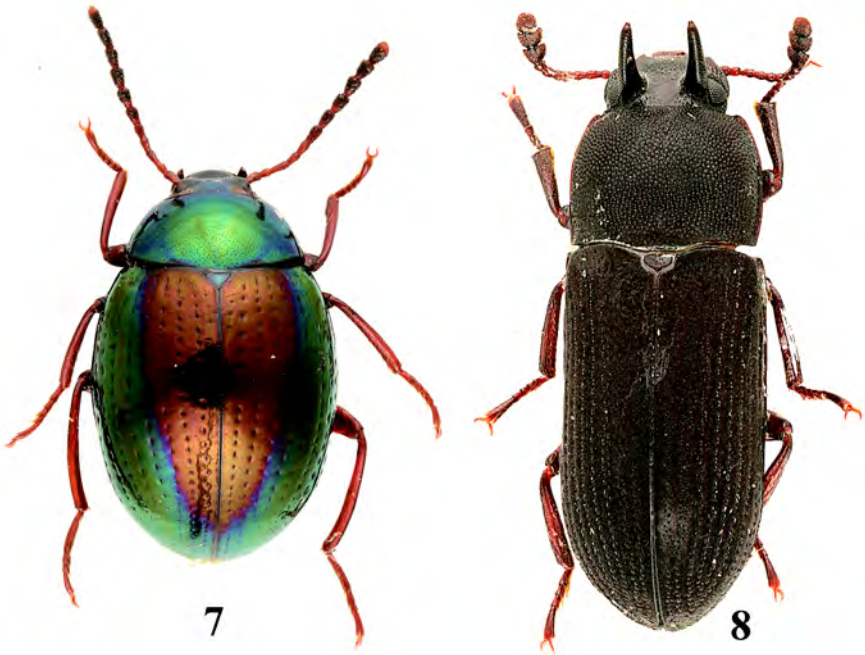
Pronotum quadrate, widest behind middle; disc strongly convex, steeply



Figs. 4–6. *Cryphaeus irregularis* sp. nov. — 4, Parameres in dorsal (left) and lateral (right) view; 5, antenna; 6, mentum. Scales: 0.5 mm for 4 & 5; 0.25 mm for 6.

slanting laterally, punctures extremely dense, irregular in size, rather small in middle, becoming larger laterad, and smaller anteriad and posteriad; anterior margin gently emarginate, not bordered; lateral margins very weakly and evenly arcuate, narrowly bordered; basal margin gently bisinuate, unbordered; anterior angles obtusely rounded, slightly produced, posterior angles obtuse, not produced. Scutellum transversely quadrate, flattened, with some coarse punctures.

Elytra elongate, parallel-sided, gently convex, not striate, with rows of punctures; inner three rows each becoming into two or three irregular rows of small punctures in basal two-thirds, and the punctures in the remaining rows large and sparse, but quite irregular in size and density, 8th row branched between middle and apical fourth, short accessory row bearing in basal two-fifths between



Figs. 7–8. Habitus of Tenebrionidae spp. — 7, *Amarygmus hansbremeri* sp. nov.; 8, *Cryphaeus irregularis* sp. nov.

8th and 9th rows; intervals flat in inner four intervals, slightly convex in the rest; humeral calli very weakly humped; epipleuron unevenly flat, impunctate, weakly rugulose apically and complete to apex.

Hypomeron compactly filled with extremely large punctures, the punctures contact with each other, and pit of each puncture densely covered with isodiametric microsculpture. Prosternum moderately raised posteriad, thickly bordered at apex, densely covered with large, same kind of punctures as on outsides of gular suture; prosternal process gently cuneate, adunc posteriorly and curved downwards near apex, thickly bordered at sides, with punctures dense, a little smaller than those on prosternum. Mesoventrite raised medially in lower part, densely and coarsely punctate; posterior ridge weak and oblique forwards, hardly raised. Metaventrite strongly convex, finely and sparsely with setiferous minute punctures. Abdominal ventrites moderately convex; three basal ventrites sparsely with setiferous punctures; 4th and 5th densely and minutely punctate.

Parameres (Fig. 4) of male genitalia (basal piece broken entirely) elongate triangular, slightly incurved, sharply and evenly tapering towards apices.

Legs robust; tibiae short, outer margins weakly ancipital; tarsi simple.

Female. Unknown.

Diagnosis. This species is similar to *Cryphaeus gazella* (Fabricius, 1798), but easily separable from the latter in having antennal club consists of three distal antennomeres; inner three rows of punctures on elytra each separated into two or three irregular rows; pronotum extremely densely and compactly punctate; vertical horns on frons with a minute unciform protuberance at each apex; mentum different in shape, and more sparsely setiferous. Also this species resembles very much in elytral punctures to *C. diversepunctatus* (Schaufuss, 1885) inhabiting Sulawesi, but the latter has dilated antennomeres VIII to X in his description (not mentioned about 11th).

Etymology. The specific name refers to the character of inner three rows of elytral punctures.

Tribe Ulomini Blanchard, 1845

***Uloma* (*Uloma*) *sarawakensis* Ando, sp. nov.**

(Figs. 9–12, 30)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZF7C-012, 12. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10237.

Measurements. Body length: 8.7 mm. ♂ (n = 1): IE/TD = 2.35; PW/PL = 1.34; EL/EW = 1.63.

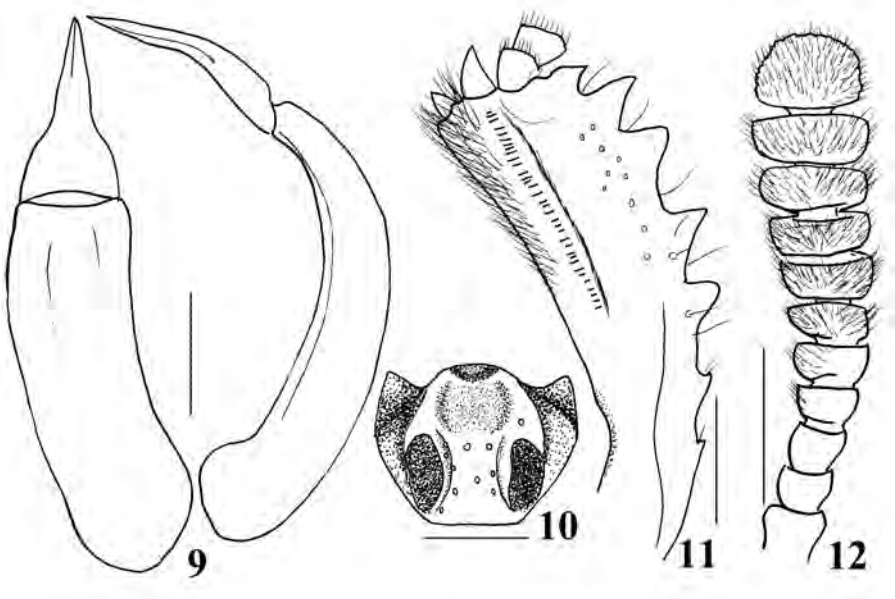
Description. Body elongate, narrow and parallel-sided, convex, lustrous. Colour dark reddish brown; venter, mouthparts, antennae and legs reddish brown.

Head transversely hexagonal, weakly convex, densely punctate; clypeus obtriangular, weakly convex, sloping forwards, truncate at apex, punctures minute, denser in median portion, coarse and large in posterior portion which is invaded part by median ypsiloid depression; fronto-clypeal suture fine laterally and vestigial posteriorly; genae convex, strongly produced laterad, distinctly sinuate in outer margins, punctures minute, larger than those on the anterior part of clypeus; frons moderately convex, with a large and deep median ypsiloid depression, of which surface is filled with sparse, coarse and very large punctures; eyes weakly transverse, distinctly convex, inner ocular-sulci distinct, moderate in depth. Antennae moniliform (Fig. 12); antennomeres V to XI strongly dilated;

VIII to X extremely transverse; XI transversely semicircular. Ultimate maxillary palpomere weakly dilated, subconical. Mentum transverse (Fig. 10), distinctly raised in T-shape, excavate at sides in basal half, sinuate at apex, the T-shaped surface flattened, gently depressed along middle, with a pair of C-shaped tufts of short villosities. Gula arcuately emarginate at sides.

Pronotum quadrate, strongly convex, steeply descendant laterally, widest before base, with a median depression moderate in size and depth, punctures dense and coarse, as large as or a little larger than those on ypsiloid depression of head, those in the median depression larger than on the other part of pronotum; anterior margin gently arcuate, slightly sinuate in middle, narrowly bordered; lateral margins gently and evenly rounded, tickly bordered; basal margin very feebly bisinuate; anterior angles obtuse, posterior angles obtusely rounded. Scutellum transversely elliptical, depressed, with some minute punctures.

Elytra subparallel-sided, slightly divergent posteriorly, widest at apical third, with anterior angles distinctly produced forwards; striae distinct and tenuous;



Figs. 9–12. *Uloma* (*Uloma*) *sarawakensis* sp. nov. — 9, Male genitalia in dorsal (left) & lateral (right); 10, mentum; 11, right protibia in dorsal view; 12, antenna. Scales: 0.5 mm for 9, 11 & 12; 0.25 mm for 10.

strial punctures distinct, sparse and even, hardly becoming minute apically; intervals moderately convex, slightly more strongly so apically, sparsely and minutely punctate; humeral calli scarcely humped; epipleuron depressed and coarsely punctate anteriorly, finely punctate and weakly convex posteriorly, oblique in apical four-fifths.

Hypomeron evenly and densely punctate. Prosternum strongly and longitudinally elevated in middle, thickly bordered at apex, with dense punctures at sides of elevation; prosternal process parallel-sided, distinctly adunc behind coxae, with a tenuous sulcus along inner margin of each lateral border. Mesoventrite coarsely punctate, with a pair of oval excavations at middle behind apex, devoid of posterior ridge. Metaventrite moderately convex, finely punctate in median flattened area, coarsely and sparsely so in lateral portions. Abdominal ventrites strongly convex towards middle, coarsely punctate and densely rugose in three basal ventrites, rather finely punctate in two apical ventrites.

Male genitalia short, strongly curved ventrad (Fig. 9); parameres steeply narrowed towards middle, thence strongly produced to apices in beak-shape.

Legs short; femora thick and robust; protibiae with a row of transverse tubercles behind spur-like process to basal third (Fig. 11), outer margin with five large teeth and two small basal teeth.

Female. Unknown.

Diagnosis. This new species is similar to *Uloma laesifrons* Fairmaire, 1882 in the shape of parameres, but is readily separated from the latter in having antennomeres not pointed endo-apical corners; mentum different in shape; protibia bearing rows of transvers tubercles; elytral intervals distinctly convex, and pronotum more rounded at sides.

Etymology. The new species is named after the state of Sarawak in Malaysia, where the holotype was collected.

***Uloma* (*Uloma*) *nyctelia* Ando, sp. nov.**

(Figs. 13–16, 31)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZH2B-014, 15. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10168.

Measurements. Body length: 9.8 mm. ♂ (n = 1): IE/TD = 2.50; PW/PL = 1.43; EL/EW = 1.66.

Description. Body elongate, parallel-sided, moderately convex above, lustrous.

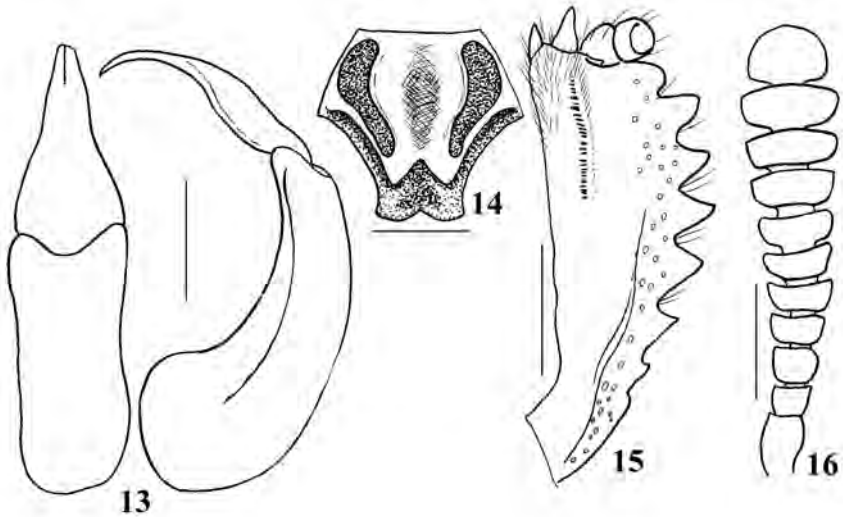
Colour dark reddish brown; antennae and legs more or less paler.

Head transversely elliptical, convex posteriad; clypeus gently convex, truncate at apex, minutely punctate, with median elliptic area compactly filled with large setiferous punctures; fronto-clypeal suture narrow and distinct laterally, obscure in middle; genae weakly convex, produced laterad, finely punctate; frons broad, gently convex, with a strong ypsiloid depression in middle, the depression reaching posterior part of clypeus, densely covered with large and irregular punctures; eyes transverse, produced laterad without inner ocular-sulci. Antennae reaching before middle of pronotum (Fig. 16); antennomeres V to XI dilated; VIII to X strongly transverse, ultimate antennomere semicircular. Ultimate maxillary palpomere weakly securiform. Mentum hexagonal (Fig. 14), truncate at apex, distinctly depressed in middle, longitudinally excavate at sides before base, with a pair of C-shaped tufts of short villosities. Gula arcuately rounded at sides.

Pronotum roundly quadrate, strongly convex, widest at middle, and as wide as elytra at base; anterior margin emarginate in V-shape, distinctly bordered; lateral margins arcuate, strongly ampliate and narrowly bordered; basal margin feebly bisinuate, not bordered; anterior and posterior angles obtuse; disc highest just behind median impression, steeply descendant laterally, tenuously sulcate along lateral margins, punctures coarse and dense, becoming smaller beside lateral margins, median impression broad and distinct, with coarse punctures larger than the other part of pronotum. Scutellum transverse and flat, minutely and coarsely punctate.

Elytra subparallel-sided, feebly divergent posteriad and widest at apical third; striae tenuous and distinct; strial punctures rather sparse and even in density; intervals strongly convex, with punctures minute, sparse on anterior half and dense on posterior half; humeral calli very weakly humped; epipleuron convex, coarsely punctate.

Hypomeron evenly and coarsely punctate. Prosternum longitudinally and strongly elevated in middle, coarsely punctate at both sides of the elevation which is finely punctate; prosternal process constricted in basal half, divergent and adunc in apical half, distinctly sulcate along lateral margins, moderately punctate. Mesoventrite coarsely and densely punctate, with V-shaped ridge nearly vertical. Metaventrite convex, flattened and microscopically punctate in middle, coarsely punctate laterally.



Figs. 13–16. *Uloma* (*Uloma*) *nyctelia* sp. nov. — 13, Male genitalia in dorsal (left) & lateral (right); 14, mentum; 15, right protibia in dorsal view; 16, antenna. Scales: 0.5 mm for 13, 15 & 16; 0.25 mm for 14.

Abdominal ventrites similar to *U. sarawakensis* sp. nov., 2nd to 4th ventrites with distinct longitudinal impression along each lateral margin.

Male genitalia robust, strongly curved ventrad (Fig. 13); parameres gently convergent base to middle, strongly incurved and thick beak-shaped in apical half.

Legs short and thick; protibiae with a row of transverse tubercles behind spur-like process to middle (Fig. 15), outer margin with five large teeth and two small basal teeth.

Female. Unknown.

Diagnosis. This new species is similar to *Uloma masumotoi* Schawaller, 2000, but is easily separable from the latter in the following characteristics: Head with deep ypsiloid depression; mentum entirely different in shape; protibiae with different shape and numbers of teeth; antennomeres with endo-apical corners not produced; elytra with intervals strongly convex.

Etymology. The specific name refers to the noctivagant ecospecies.

Uloma (*Uloma*) *serripunctata* Ando, sp. nov.

(Figs. 17–20, 32)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP3B-012, 16. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10163.

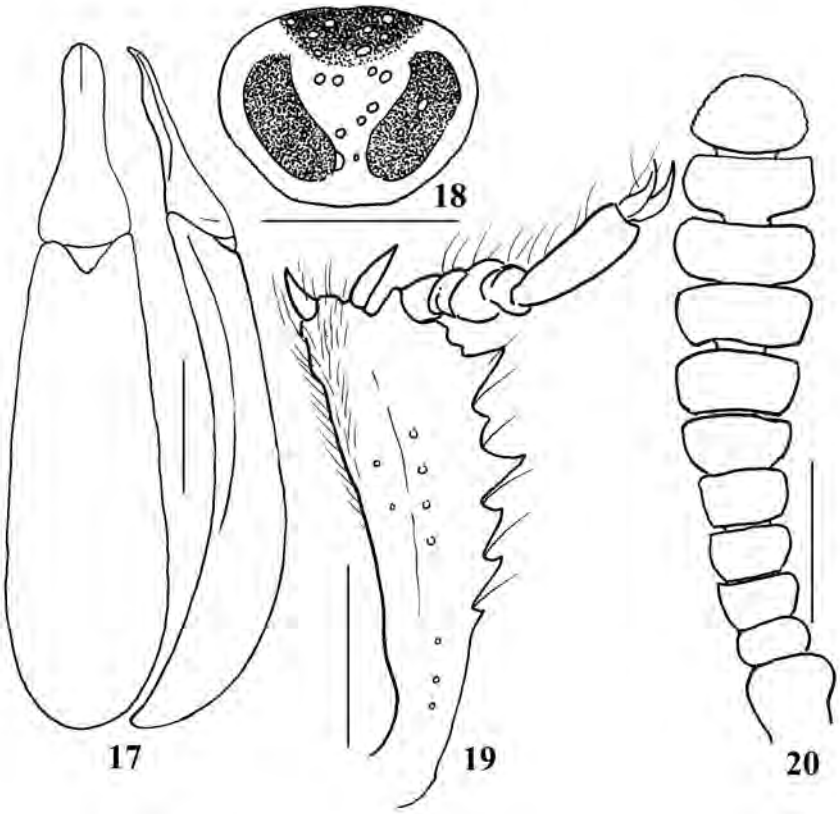
Measurements. Body length: 8.0 mm. ♂ (n = 1): IE/TD = 2.22; PW/PL = 1.53; EL/EW = 1.46.

Description. Body oblong, weakly convex above, shiny. Colour dark reddish brown; antennae, mouthparts and legs more or less paler, head and pronotum blackish brown, elytra black.

Head transversely elliptical, shortened, very coarsely and densely punctate, the punctures becoming smaller in anterior portions of clypeus and genae; clypeus convex forwards, slightly rounded at apex; fronto-clypeal suture obscure, visible laterally but not engraved; genae transverse, produced laterad, and sinuate anteriorly; frons broadened, with a strong transverse ridge, and depressed behind the ridge; eyes convex above, weakly produced laterad, devoid of inner ocular-sulci. Antennae dilated, reaching middle of pronotum (Fig. 20); antennomeres VII to X quadrate, very short and extremely dilated; XI transversely fusiform. Ultimate maxillary palpomere more or less conical, weakly securiform. Mentum transversely oval (Fig. 18), coarsely punctate, obtriangular and flattened in middle, deeply excavate at sides, depressed and oblique in middle of apical fourth.

Pronotum trapezoidal, gently convex, widest before base, steeply slanting laterad, and distinctly sulcate along lateral margins, sparsely and coarsely punctate, the punctures very smaller than on head, becoming minuter in marginal portions; anterior margin weakly emarginate, finely bordered; lateral margins subparallel-sided in basal half, steeply narrowed in apical third, thickly bordered, and the surface of borders inclined into almost vertical; basal margin obliquely straight on both sides, not bisinuate, unbordered; anterior and posterior angles obtusely rounded. Scutellum flat, almost glabrate, with some microscopic punctures.

Elytra oblong, slightly divergent posteriad and widest behind middle, rounded at apices; striae distinct and tenuous; strial punctures large and sparse, serrate, becoming larger, denser and coarsened in lateral 4th to 8th striae and in all of apical declivity; intervals strongly convex, finely and sparsely punctate; humeral calli small, moderately humped; epipleuron flat and oblique, sparsely



Figs. 17–20. *Uloma* (*Uloma*) *serripunctata* sp. nov. — 17, Male genitalia in dorsal (left) & lateral (right); 18, mentum; 19, right protibia in dorsal view; 20, antenna. Scales: 0.5 mm for 19 & 20; 0.25 mm for 17 & 18.

punctate, with inner margin distinctly sulcate between middle of 1st abdominal ventrite and behind middle of 3rd one.

Hypomeron coarsely and irregularly punctate. Prosternum longitudinally elevated in middle, with punctures coarse and very dense, the elevation sloping forwards; prosternal process convex, gradually dilated posteriad, roundly acute at apex, distinctly adunc behind coxae. Mesoventrite coarsely punctate, devoid of posterior ridge. Metaventrite short, strongly convex, finely and sparsely punctate in median portion, densely with coarse and large punctures along lateral margins.

Abdominal ventrites gently convex, with punctures moderate in density and

irregular in size; three basal ventrites densely and longitudinally rugose.

Male genitalia gently curved (Fig. 17), strongly curved at basal third of basal piece, flattened in apical two-thirds in dorsal view; parameres strongly narrowed forwards in basal third, thence spatulately and feebly divergent to rounded apices.

Legs robust, setaceous; protibiae (Fig. 19) with outer teeth consist of four large and three small teeth, devoid of median linear transverse tubercles, with three weak teeth along ventral ridge, inner margin of metatibiae weakly sinuate at apical third.

Female. Unknown.

Diagnosis. The new species resembles *Uloma rufilabris* Fairmaire, 1882, but is readily separable from the latter in having the following characteristics: Head with distinct transverse ridge on frons, mentum roundly excavate in middle of anterior margin, with a pair of excavations in middle; elytra with intervals distinctly convex, strial punctures serrate; pronotum more broadened, and body larger.

Etymology. The specific name refers to the serrate strial punctures on elytra.

Subfamily Alleculinae Laporte, 1840
Tribe Alleculini Laporte, 1840
Subtribe Alleculina Laporte, 1840

***Anognathena* Ando, gen. nov.**

Type species: *Anognathena neraida* Ando, sp. nov.

Description. Body narrowly elongate, *Allecula*-like. Dorsal side, rather densely setaceous.

Head punctate, with extremely large eyes closely adnate with each other, and barely separated by lineate very narrow frontal low ridge; clypeus produced forwards; genae transversely oblique. Mandibles bifid at apex. Maxillary palpi long; ultimate palpomere with membranous appendages at the apex (Figs. 18–20), the appendages symmetrical in mode between right and left. Antennae rather long, filiform; each antennomere dilated apicad, with endo-apical angle acute; antennal insertion invisible by genae from dorsal aspect; antennomere XI lanceolate. Mentum broadly flattened. Gula and gular suture distinct.

Pronotum campanulate, strongly convergent anteriad, widest at base and a little narrower than elytral base, strongly slanting laterally, anterior angles indistinct, posterior angles not produced; surface punctate and setiferous, microsculpture weak. Scutellum visible, setiferous.

Elytra elongate, tapering apicad, dehiscent at apices, with dense and long setation bearing in punctures on intervals; punctate-striate; intervals punctate and microsculptured; borders of lateral margins very tenuous; epipleuron oblique, with inner margins bordered.

Hypomeron punctate anteriorly. Prosternum long and broad, longer than procoxae, with punctation; prosternal process weak, not produced beyond coxae. Mesoventrite asperate, scarcely ridged. Metaventrite strongly convex, punctate, posterior process distinct. Abdominal ventrites strongly convex towards middle, with punctation.

Male genitalia short and simple; parameres combined with each other.

Legs slender; femora thin, distinctly diated from base to apical third; tibiae slim and almost straight; tarsomeres neither incrassate in weed nor flabellate, penultimate tarsomere very small, antepenultimate and penultimate tarsomeres each with lamellate semi-transparent membrane in apical part, and the membrane produced below the succeeding tarsomere.

Diagnosis. This new genus is similar to *Mycetocharina* Seidlitz, 1891, but different from the latter in having the extremely dilated ultimate maxillary palpomeres with distinct membranous appendages and quite minute antepenultimate and penultimate tarsomeres, slimmer body and acute endo-apical angles of antennomeres.

Etymology. The generic name is derived from *áno gnáthos* (άνω γνάθος) in Greece (means maxillary). Gender is Feminine.

Anognathena neraida **Ando, sp. nov.**

(Figs. 21–27)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP3B-011, 22. Aug. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10175.

Measurements. Body length: 6.5 mm. ♂ (n = 1): TD/IE = 45.00; PW/PL = 1.33; EL/EW = 2.30.

Description. Body oblong-elongate, slender, narrowly tapering posteriad, almost shiny, densely covered with yellow setae. Colour yellowish orange, head and

pronotum a little darker.

Head transversely elliptical, strongly convex, coarsely and moderately punctate, slightly rugulose among the punctures; clypeus transversely quadrate, depressed, distinctly sloping along truncate anterior margin and rounded at posterior margin, devoid of fornto-clypeal suture; genae transversely oblique, almost flat, gradually raised laterad, narrower than clypeus (17:22); frons consisting lineate and weakly raised tenuous ridge, which is narrower than a facet of eye; vertex and post head strongly convex and unevenly flat; eyes extremely large and convex, with large facets, occupying major part of dorsal head, closely contact with each other, but separated each other only by a lineate low ridge of frons. Antennae long and slender, reaching before middle of elytra, each antennomere dilated apicad; antennomere I robust, longer than III; II shortest; III shorter than IV; IV to X with endo-apical angles acutely pointed; XI elongate knife-shaped, sharply pointed at apex. Maxillary palpi long (Figs. 23–25); ultimate palpomere extremely transverse and thin, with apical margin twisted, endo-apical margin with two membranous and densely cirrate-napped tubes, basal tube ypsiloid, jointed with strongly lunulate tube at apex, the lunulate tube nearly twice as long as the width of ultimate maxillary palpomere under dried condition, and ante-basal tube small and oblong-oval, situated beside ypsiloid tube and strongly embowed. Mentum transversely obtrapezoidal (Fig. 26), flattened, transversely depressed before base, weakly and unevenly truncate at apex and evenly truncate at base.

Pronotum campanulate, gently convex, steeply slanting laterally, densely setiferous, with dense umbilicate punctures, interstices between the punctures very finely microsculptured; anterior margin almost straight, a little sinuate in middle, narrower than head and about half as wide as base, not bordered; lateral margins barely visible from above, subparallel-sided in basal half and roundly narrowed to apices in apical third, finely bordered; basal margin weakly bisinuate, not strongly produced in middle; anterior angles obtuse, contact with neck, posterior angles a little acuter than rectangular, with corners rounded. Scutellum linguiform, flattened and coarsely punctate.

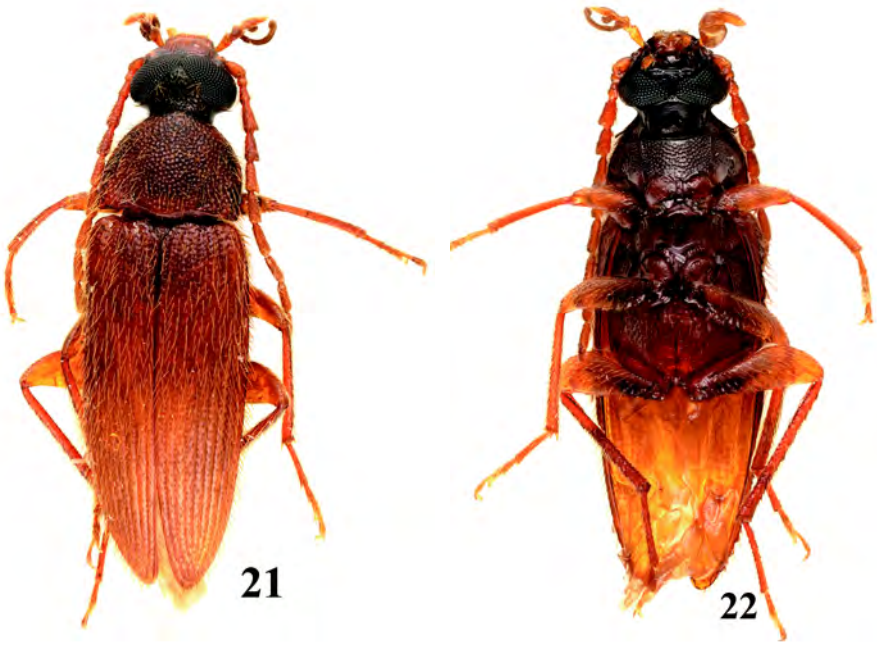
Elytra elongate, slender, dehiscent at apices, densely covered with long setae, inner half of base roundly produced forwards; humeral calli gently humped; striae distinctly impressed, strial punctures minute and dense, but irregular in density,

and smaller than those on intervals; intervals gently convex, densely and coarsely punctate, obscurely with asperulate microsculpture; epipleuron almost vertical, unevenly flat.

Hypomeron with very large and coarse punctures in major anterior part. Prosternum long and broad, very densely punctate; prosternal process parallel-sided, suddenly divergent apically and not produced beyond coxae. Mesoventrite scarcely ridged, densely punctate posteriorly. Metaventrite strongly raised towards middle, flattened in median fifth, coarsely punctate, with a median broad longitudinal furrow; posterior process strongly produced, distinctly dehiscent at apex.

Abdominal ventrites strongly convex towards each middle, finely punctate, with very fine rugulose microsculpture, punctures on fourth and fifth ventrites sparse.

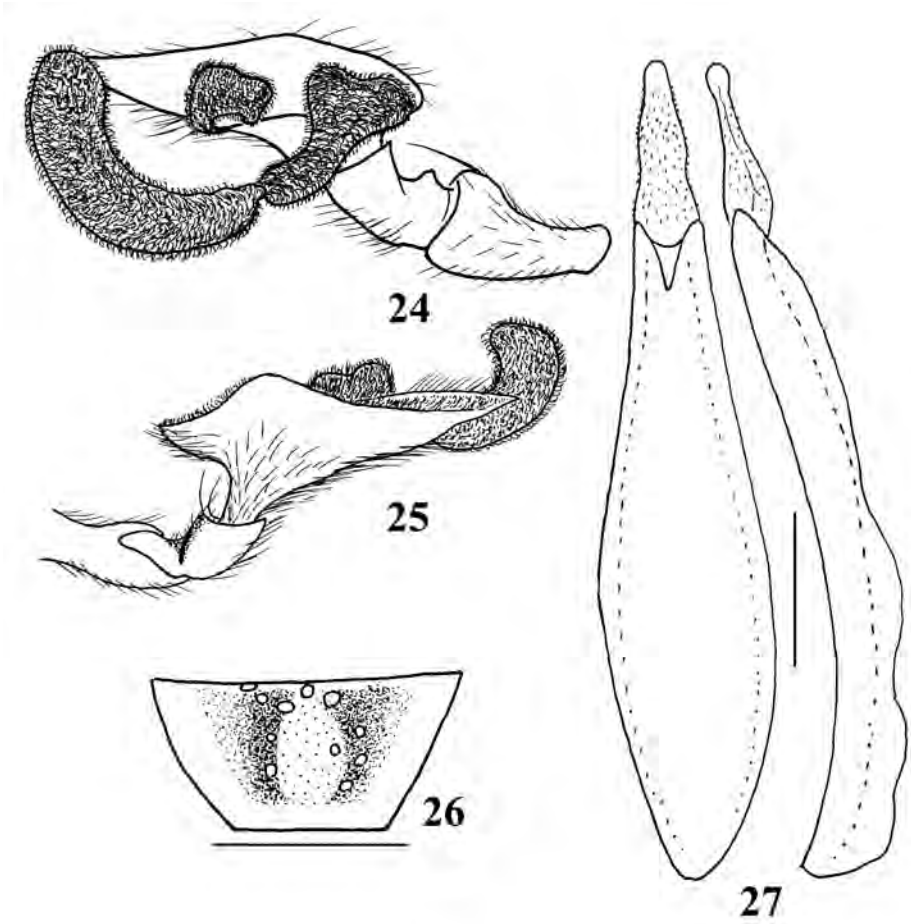
Male genitalia fusiform as in Fig. 27; parameres fused with each other, evenly mulicate, rounded at apices.



Figs. 21–22. *Anognathena neraida* gen. et sp. nov. — 21, Habitus, in dorsal view; 22, ditto, in ventral view.

Fig. 23. *Anognathena neraida* gen. et sp. nov. — anterior half of venter, showing maxillary palpi and their appendages, which are under absorbing condition.

Legs slender; femora rather flat, gently dilated apicad, widest at apical third; tibiae slender and entirely straight; penultimate and antepenultimate tarsomeres very small and short, each with lamellate semi-transparent and spatulate



Figs. 24–27. *Anognathena neraida* gen. et sp. nov. — 24, maxillary palpus under dried condition in ventral view; 25, ditto in dorsal view; 26, mentum; 27, male genitalia in dorsal (left) & lateral (right). Scales: 0.5 mm for 27; 0.25 mm for 24–26.

membrane which is produced below the succeeding tarsomere.

Female. Unknown.

Diagnosis. See the generic diagnosis.

Etymology. The specific name is derived from *neraida* (νεράίδα) in Greece, means nymph.

Subfamily Stenochiinae Kirby, 1837
Tribe Cnodalonini Oken, 1843

Euhemicera hutanicola Ando, sp. nov.

(Figs. 28–29, 33)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG9A-013, 21. Sep–2003, Kishimoto –Yamada et Itioka leg. / LUBL-10291.

Measurements. Body length: 14.7 mm. ♂ (n = 1): IE/TD = 1.25; PW/PL = 1.89; EL/EW = 1.51.

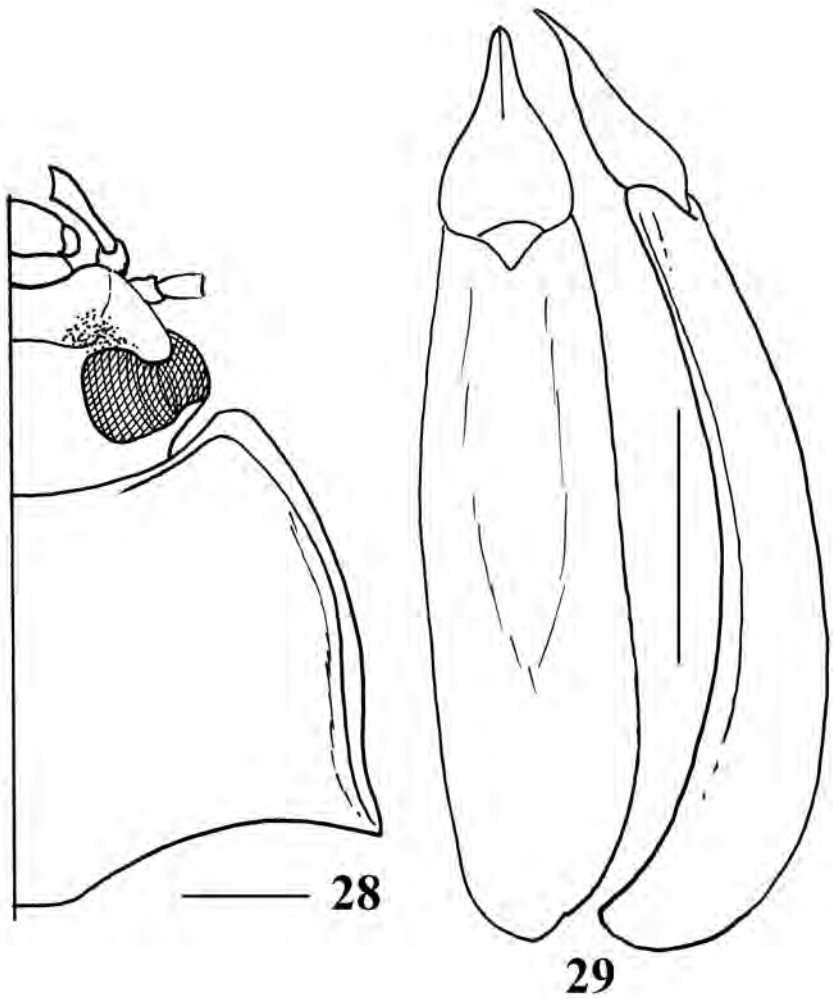
Description. Body oblong-ovate, strongly convex above, gently divergent posteriad, shiny. Colour dark reddish brown; head, pronotum, legs and part of venter strong metallic blue-green, with violet reflection; elytra dark metallic green, with marginal area purplish; antennae infuscate.

Head transverse, minutely and rather sparsely punctate, with outer margin not notched between clypeus and genae; clypeus weakly convex towards middle, deeply and angularly emarginate at apex; fronto-clypeal suture fine, hardly engraved laterally; genae weakly convex, rounded and not sinuous at sides; frons broad, weakly convex, distinctly sloping forwards, with punctures a little larger than on clypeus; eyes very large, weakly convex above, devoid of inner ocular-sulci. Antennae moderate in length, reaching before base of pronotum; antennomeres VI to XI strongly dilated and forming a club; XI subquadrate, flattened. Ultimate maxillary palpomere narrow securiform, ecto-lateral margin more than 2.5 times as long as endo-lateral margin (19:7). Mentum transversely obtrapezoidal, convex forwards, deeply emarginate at apex, with setiferous punctures medially.

Pronotum trapezoidal (Fig. 28), moderately convex, widest at base, and nearly as wide as elytra at base; anterior margin eminently and arcuately emarginate, thinly bordered in each lateral fourth; lateral margins roundly and rather strongly convergent towards apex, distinctly sinuate before base, with borders tapering towards apex; basal margin distinctly bisinuate, very finely bordered; anterior angles obtusely rounded, produced, posterior angles acutely pointed backwards; disc gently descendant laterad, shallowly and very broadly sulcate along lateral margins, punctures nearly as same in size and density as on frons. Scutellum flat and smooth.

Elytra oblong-oval, strongly convex, distinctly divergent posteriad, widest at apical third, with broad lateral fringes; striae distinctly engraved, becoming

tenuous apically but not vestigial there; strial punctures minute and rather sparse, a little larger and/or as wide as the width of striae, becoming minuter and denser apically; intervals entirely flat except for weakly convex apical portions of 9th intervals, sparsely and microscopically punctate; humeral calli weakly humped; epipleuron depressed, impunctate, with very fine microsculpture.



Figs. 28–29. *Euhemicera hutanicola* sp. nov. — 28, Pronotum, right half; 29, male genitalia in dorsal (left) & lateral (right) view. Scales: 1 mm.

Hypomeron finely microsculptured, very sparsely punctate. Prosternum short, convex medially; prosternal process cuneiform, tapering towards acute apex from middle, broadly depressed in middle. Mesoventrite with ridge U-shaped and horizontal, two anterior angles of the ridge obtusely angulate in lateral view. Metaventrite weakly convex, microscopically and densely punctate in middle, finely and obliquely rugose in major lateral portions, with a week median line. Abdomen finely punctulate, densely rugose in three basal ventrites; 5th ventrite depressed at apex.

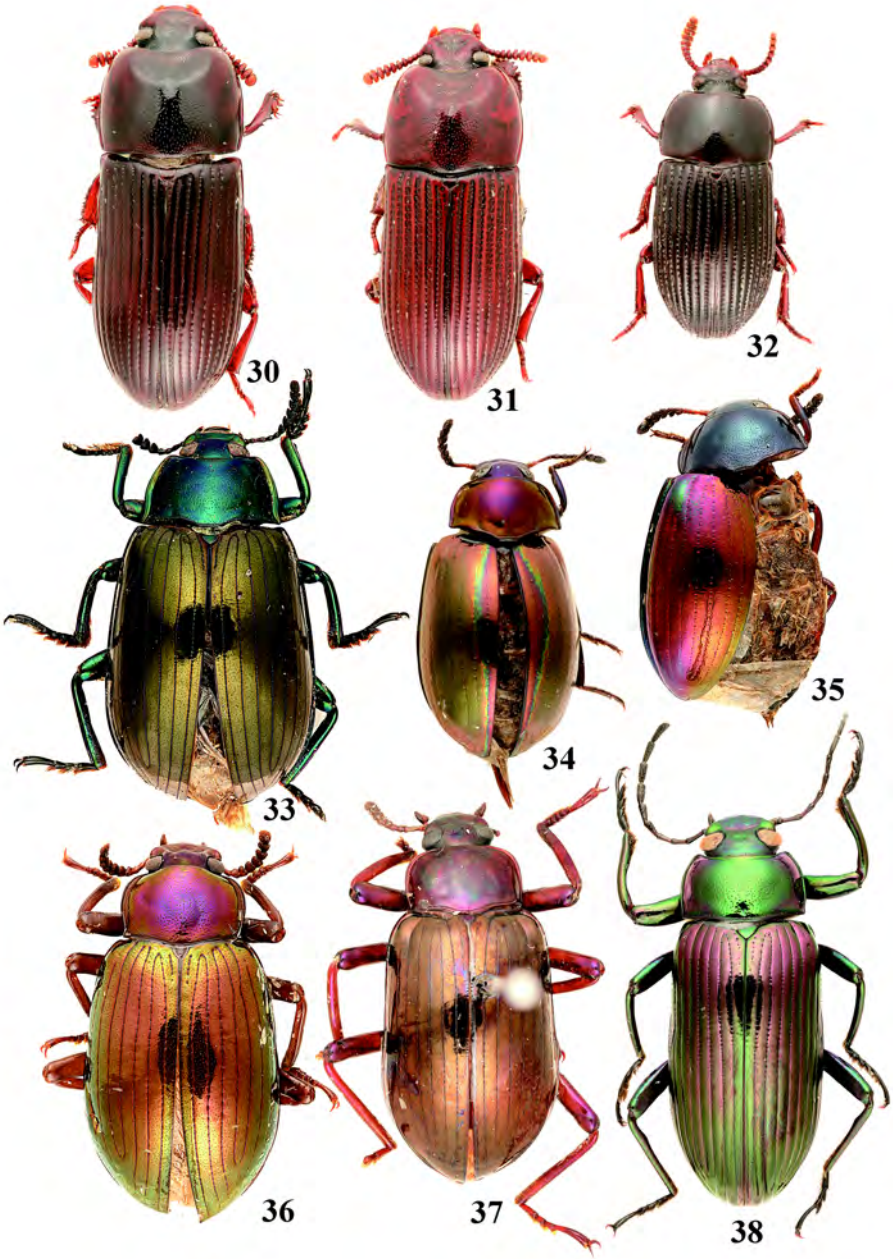
Male genitalia simple (Fig. 29); parameres very short, about 0.2 times as long as basal piece, gently tapering at sides in basal two-thirds and steeply so in apical third.

Legs robust; femora thick, pedunclate, posterior margin of metafemora with an elliptic pore before middle, the pore filled with dense tuft of long pubescence; tibiae short, inner margin of mesotibiae slightly produced inwards in basal three-fifths, weakly emarginate and densely pubescent in apical two-fifths, inner margin of metatibiae weakly emarginate in median third; protarsi with tarsomeres I to IV extremely dilated, and densely covered with pubescence in each sole.

Female. Unknown.

Diagnosis. This species is similar to *Euhemicera midas* (Kulzer, 1954), *E. baehri* Ando, 2003, and *E. aeneovirens* Ando, 2003, but readily separable from the latter three by the following points: From *E. midas* and *E. baehri*, male mesotibiae not bent inwards, and not slender in basal third, apices of parameres in male genitalia devoid of apical hooks; pronotum and legs different colour of strong metallic blue-green; and male metafemora with an elliptic pore in posterior margin. From *E. aeneovirens*, this new species having also different colour of pronotum and head; elytral striae narrower, and strial punctures distinctly larger than corresponding stria; posterior margin of male metafemora with tufted pore; male metatibiae not slender in basal third, with inner margin moderately pubescent in apical fourth while those in the latter suddenly becoming slender in basal third and densely pubescent in apical half.

Etymology. The specific name is derived from the coinage of the Malayan word, “hutan = forest” and Latin word “colus = live”.



Figs. 30–38. Habitus of Tenebrionidae spp. — 30, *Uloma* (*Uloma*) *sarawakensis* sp. nov.; 31, *Uloma* (*Uloma*) *nyctelia* sp. nov.; 32, *Uloma* (*Uloma*) *serripunctata* sp. nov.; 33, *Euhemicera hutanicola* sp. nov.; 34, *Hemicera* (*Hemicera*) *vittigera* sp. nov.; 35, *Hemicera* (*Hemicera*) *parca* sp. nov.; 36, *Cleomis purpuricollis* sp. nov.; 37, *Psydus virgulatus* sp. nov.; 38, *Pseudonautes viridinitidus* sp. nov.

Hemicera (*Hemicera*) *vittigera* Ando, sp. nov.

(Fig. 34)

Holotype: ♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZH3C-013, 25. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10251.

Measurements. Body length: 6.4 mm. ♀ (n = 1): TD/IE = 1.40; PW/PL = 1.74; EL/EW = 1.32.

Description. Body oval, strongly convex, brilliant. Colour dark reddish brown; head and legs metallic blue, mingled with violet; pronotum dark brassy with strong violet reflection; elytra metallic green, purple behind base and humeri, each elytron with a brassy-green arcuate sutural stripe and a violet semicircular latero-median spot, the sutural stripe starting beside scutellum, and arcuately produced laterad, reaching apical angle of elytron, bordered externally by yellow line, and so internally by brassy purple, the latero-median spot contact with lateral margin, and occupying 8th and 9th intervals, with narrow brassy border; antennae infuscate black; venter dark reddish brown, with violet hue in part.

Head transverse, with anterior margin not sinuate between clypeus and genae; clypeus short, convex in middle, shallowly emarginate at apex, coarsely and densely punctate; genae shot and obliquely transverse, produced laterad, finely and sparsely punctate; frons narrow, divergent posteriad, almost flat, punctures sparse and irregular, nearly as large as on clypeus; eyes large and transverse, roundly produced laterad, inner ocular-sulci weak and short, situated only in posterior portions of eyes. Antennae reaching middle of pronotum; antennomeres VI to XI strongly dilated and covered with sensory punctures, forming a distinct club; XI oval. Ultimate maxillary palpomere weakly securiform. Mentum obtrapezoidal, convex forwards, a little notched in middle of apex, with dense setiferous punctures.

Pronotum trapezoidal, moderately convex, gently sloping laterad, depressed and scarcely sulcate along lateral margins, widest at base, moderately densely punctate; anterior margin almost straight, gently bordered; lateral margins weakly and evenly narrowed from base to middle, strongly so in apical half, not sinuate before base, with borders tapering forwards; basal margin quadri-sinuate, emarginate at median protrusion; anterior angles obtusely rounded, posterior angles angulate, slightly more obtuse than rectangular. Scutellum rather large, depressed, impunctate.

Elytra oblong-oval, strongly convex, widest at apical third; striae fine,

weakly impressed, rudimental in part; strial punctures rather large and sparse, but irregular in size, distinct even in apical portions; intervals flat except for the area before apex, minutely and densely punctate; humeral calli large, moderately humped; epipleuron flat and smooth.

Prosternum very shortened before coxae, shorter than the width of coxa, strongly raised in middle and acutely pointed at middle of apex; prosternal process longitudinally elliptical, horizontal, subparallel at sides and rounded a apex, distinctly raised in middle and clearly bordered at sides, sulcate in inner sides along the borders.

Legs robust, tarsomeres simple.

Male. Unknown.

Diagnosis. The new species is very similar to *Hemicera* (*H*.) *uenoi* Ando, 2003, but distinctly different from the latter in the following characteristics: Elytra with different pigmentation and arcuate sutural stripe, elytral intervals densely punctate; pronotum more sparsely punctate, scarcely sulcate along sides. Elytral pigmentation of this new species is also similar to *H*. (*H*.) *curvicincta* Ando, 2003, but quite different in sculpture, body shape and size (see Ando, 2003).

Etymology. The specific name refers to the elytral stripe.

***Hemicera* (*Hemicera*) *parca* Ando, sp. nov.**

(Fig. 35)

Holotype: ♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZT6C-013, 28. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10262.

Measurements. Body length: 5.4 mm. ♀ (n = 1): IE/TD = 1.82; PW/PL = 1.86; EL/EW = 1.25.

Description. Body oval, strongly convex, iridescent dorsally. Colour dark reddish brown, six distal antennomeres darker; head and pronotum greenish dark blue; elytra brassy purple, each with a humeral and an apical metallic green spots, both of them bordered by violet-purple, the humeral spot subquadrate, contact with lateral margin, the apical spot oblong, slightly divergent and weakly undulate anteriorly, contact with lateral margin and occupying all of intervals.

Head transversely semicircular, strongly convex, rather densely punctate, punctures larger in posterior portion of frons than on the other, outer margin not notched between clypeus and genae; clypeus transverse, weakly convex, deeply

and angularly emarginate in major distance of apex; fronto-clypeal suture clearly impressed; genae transversely triangular, flat, evenly rounded at sides; frons broad, gently convex, sloping forwards; eyes large, strongly and roundly produced laterad, coarsely facetted, inner ocular-sulci deep and short in endo-posterior portions. Antennae rather slender, reaching before base; antennomeres VI to XI dilated and forming a weak club; XI oblong-oval. Ultimate maxillary palpomere strongly securiform, more or less emarginate at apex. Mentum oval, distinctly emarginate at apex, longitudinally raised in middle and depressed at sides.

Pronotum transversely trapezoidal, weakly convex, widest at base; disc gently descendant laterad, shallowly and broadly sulcate along lateral margins, minutely and densely punctate, the punctures a little larger than on frons; anterior margin roundly and weakly emarginate, distinctly bordered except median unbordered area; lateral margins weakly convergent from base to middle, and gently so in apical half, finely bordered; basal margin hardly bisinuate; anterior angles obtusely rounded, not produced, posterior angles rectangular. Scutellum depressed, finely punctate.

Elytra oblong, strongly convex, widest at middle, thickly bordered in lateral margins; striae fine, weakly impressed; strial punctures distinct and sparse, much wider than the width of stria, but irregular in density, clearly impressed even in apical portions; intervals very slightly convex, finely and sparsely punctate; humeral calli weakly humped, minutely punctate; epipleuron unevenly flat, impunctate.

Prosternum very short; prosternal process guttiform, reaching basal margin of prosternum, distinctly depressed, bordered at sides and rounded at apex, with dense microsculpture. V-shaped ridge of mesoventrite horizontal, with anterior angles obtuse. Metaventrite convex, flattened in middle, coarsely and densely punctate medio-posteriorly. Abdominal ventrites weakly convex; three basal ventrite flattened in middle, longitudinally rugulose and scarcely punctate; two apical ventrites flat, finely and densely punctate.

Legs short and robust, simple.

Male. Unknown.

Diagnosis. This species is similar to *Hemicera (H.) pauxilla* Ando, 2003, but is readily separable from the latter in having the following characteristics: Frons

wider, nearly twice as wide as eye (1.5 times width of eye in the latter); inner ocular-sulci deep and short; pronotum quite densely punctate; elytra with intervals very slightly convex instead of distinctly so in the latter, punctures of intervals very fine and smaller than those in striae, apical spots of elytra situated in more posterior portion and contact with lateral margins.

Etymology. The specific name refers to the small body size.

***Cleomis purpuricollis* Ando, sp. nov.**

(Figs. 36, 39)

Holotype: ♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG9C-012, 14. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10266.

Measurements. Body length: 8.0 mm. ♀ (n = 1): IE/TD = 2.50; PW/PL = 1.47; EL/EW = 1.44.

Description. Body oblong-oval, weakly convex above, gently divergent posteriad, shiny. Colour reddish brown; head and pronotum violet-purple; median part of frons and clypeus with metallic green reflection in an angle of view; elytra dark purple, with marginal and sutural areas brassy-green.

Head trapezoidal, sparsely punctate, covered with loculous microsculpture; clypeus weakly convex in median portion, depressed along fronto-clypeal suture, weakly sinuate in middle of roundly produced apex, slightly rugulose, punctures dense in middle of apical portion; fronto-clypeal suture distinctly impressed throughout; genae longer than wide, ascendant towards lateral margins; frons flat, roundly depressed in middle, a little produced laterad and overlapping above inner margins of eyes, weakly and longitudinally rugose, punctures a little larger than on clypeus, obscured by dense microsculpture; eyes rather large, compactly facetted, strongly convex, inner ocular-sulci weak and shallow. Antennae moderate in length, reaching base of pronotum, compactly articulate; antennomeres V to XI dilated, forming a robust club; XI oval. Ultimate maxillary palpomere strongly securiform, outer margin 1.34 times as long as inner margin. Mentum obtrapezoidal, truncate at apex, with a strong longitudinal carina in middle, both sides of the carina depressed, with some coarse punctures. Gula triangular, densely covered with transverse microsculpture.

Pronotum transverse, subquadrate, weakly convex, and gently sloping laterad, widest before middle, very broadly sulcate along lateral margins, the sulci filled with compact microsculpture; punctures moderately dense, much larger

than on head; anterior margin almost straight, and a little produced forwards, with very thin border; lateral margins gently arcuate, weakly sinuate before base, distinctly bordered; basal margin scarcely bisinuate, narrowly bordered. Scutellum strongly depressed, microsculptured, with a few punctures.

Elytra oblong, moderately convex, distinctly divergent posteriad, widest at apical third; striae tenuous, distinct even in apical portions, with surface distinctly microsculptured; strial punctures a little wider than the corresponding stria, sparse and minute, a little denser in 8th striae; intervals almost flat, unevenly and weakly raised in 8th and 9th intervals, densely and rather coarsely punctate; humeral calli gently humped; epipleuron entirely flat, impunctate.

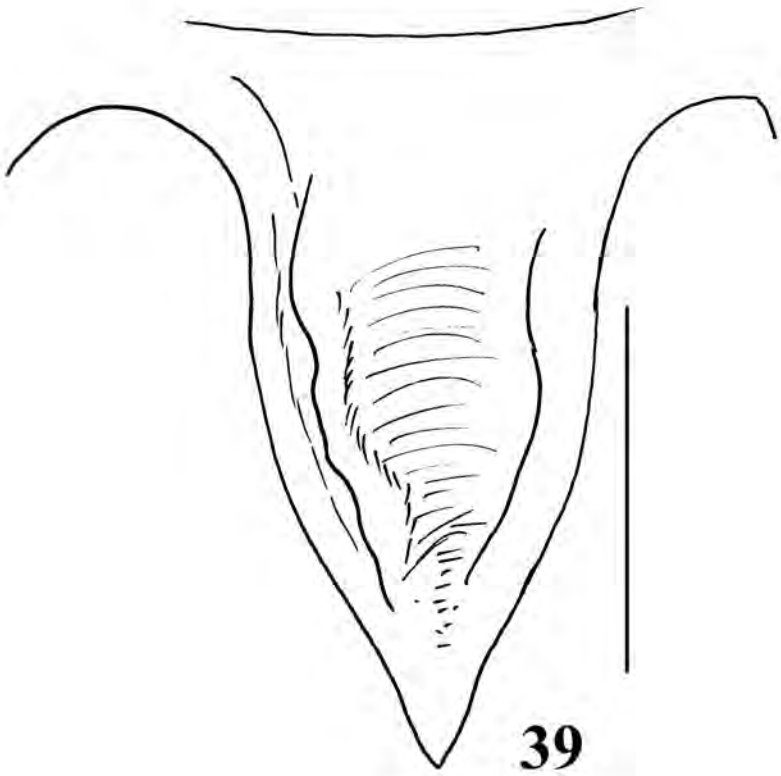


Fig. 39. Prosternal process of *Cleomis purpuricollis* sp. nov. Scale: 0.5 mm.

Hypomeron densely microsculptured, with weak rugosities. Prosternum unevenly depressed, weakly raised along rounded apex, rugulose and densely microsculptured; prosternal process oblong (Fig. 39), V-shaped, weakly adunc posteriorly, very broadened anteriorly, distinctly and roundly excavate in middle, pointed at apex, with fine isodiametric microsculpture. V-shaped ridge of metaventrite not strongly raised, a little higher than coxae, with anterior angles rectangular in lateral view. Metaventrite strongly raised towards middle, flattened in median fourth, scarcely punctate. Abdomen sparsely punctate except for densely so on median part of 1st ventrite.

Legs comparatively short; femora slender; tibiae short, not ancipital along outer margins, inner margins of mesotibiae slightly curved inwards at apical fourth; tarsi simple.

Male. Unknown.

Diagnosis. The new species is similar to *Cleomis violaceipes* Fairmaire, 1893, but is different from the latter in the following characteristics: Head with frons between eyes broadened, and densely microsculptured, more than twice as wide as an eye; pronotum densely punctate with lateral sulci compactly microsculptured instead of smooth in the latter; elytra with strial punctures not large, a little wider than striae, intervals with punctures not sparse, moderately dense; and body smaller.

Etymology. The specific name refers to the colour of pronotum.

***Psydus virgulatus* Ando, sp. nov.**

(Figs. 37, 40, 41)

Holotype: ♀, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZG3B-013, 21. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10293.

Measurements. Body length: 13.1 mm. ♀ (n = 1): IE/TD = 1.46; PW/PL = 1.60; EL/EW = 1.69.

Description. Body oblong, moderately convex, distinctly divergent posteriad, shiny. Colour dark reddish brown; head, pronotum, venter in part and legs with metallic bluish purple reflection, in which head and pronotum mingled with metallic green hue in part; antennomeres VII to XI infuscate.

Head transversely hexagonal, with outer margin slightly sinuate between clypeus and genae; clypeus slightly and evenly convex, weakly and roundly produced, almost truncate in middle of apex, very finely and sparsely punctate;

fronto-clypeal suture fine and clear; genae weakly raised laterad, gently narrowed forwards at sides, with similar punctures as on clypeus; frons broadened, weakly convex, faintly depressed in middle, punctures dense and large, irregular in size, at least much larger than on clypeus; eyes large and transverse in dorsal view, strongly convex above and laterad, inner ocular-sulci very fine and tenuous. Antennae short, reaching middle of pronotum; antennomeres VI to XI distinctly dilated and forming a club; XI oval. Ultimate maxillary palpomere transverse, strongly securiform. Mentum linguiform (Fig. 40), flattened, rounded at apex, with setiferous punctures laterally, and with a long conspecious seta bearing before each basal corner. Submentum large, smooth, a little shorter than mentum (37:46). Gula with transverse microscopic meshes; gular suture not engraved.

Pronotum subquadrate, weakly convex, widest before middle, very gently sloping laterad, scarcely punctate, with fine microsculpture; anterior margin almost straight, shallowly sinuate in middle, finely bordered; lateral margins strongly rounded forwards and gently so backwards from the widest point, not sinuate before base, thickly bordered, weakly sulcate inside along the borders, the sulci reaching lateral third of anterior margin; basal margin scarcely bisinuate, distinctly bordered; anterior angles obtuse, broadly rounded, posterior angles obtusely angulate. Scutellum flat, microsculptured, with some minute punctures.

Elytra oblong, strongly convex, gently divergent posteriorly, widest at apical third, shallowly sulcate on lateral borderes; scutellary striole fine and long, interrupted in part; striae distinctly impressed, reduced apically, 8th stria interrupted in part, strial punctures obscure, minute and sparse, a little wider than the corresponding stria, becoming elongate and sparser in posterior portions; intervals flat, slightly convex in apical declivity of 8th and 9th intervals, 8th becoming narrow and distinctly carinate before apex, punctures very sparse and microscopical, hardly visible under low magnification; humeral calli large, distinctly humped; epipleuron depressed, microsculptured, with inner margins distinctly sulcate beside 3rd and 4th abdominal ventrites.

Hypomeron impunctate, densely covered with fine isodiametric microsculpture. Prosternum very short in front of coxae, covered with microsculpture; prosternal process broadened linguiform (Fig. 41), distinctly depressed in middle, with posterior median process acute at apex. Mesoventrite strongly elevated forwards in middle for receive prosternal median process,

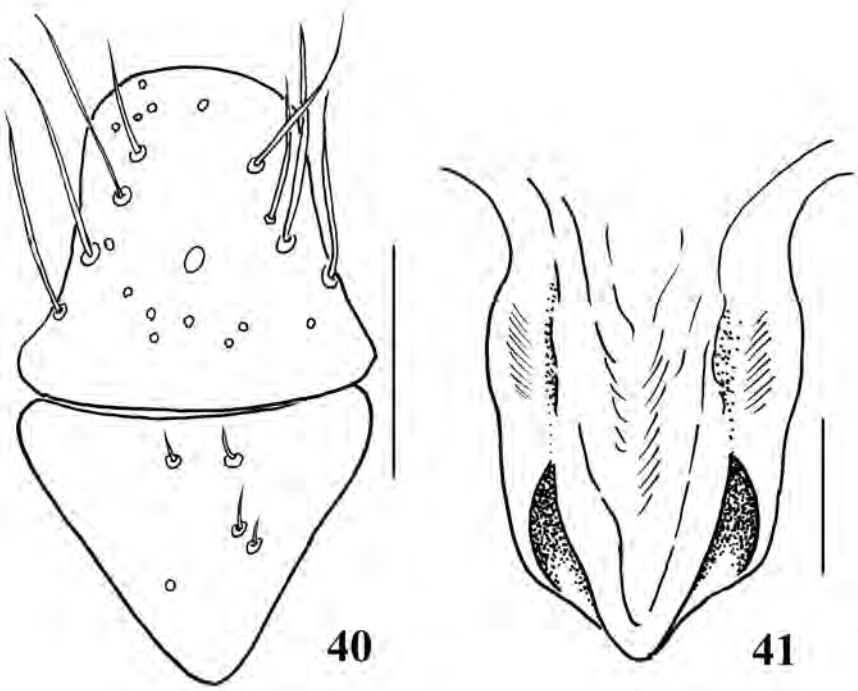
coarsely with dense setiferous punctures, posterior V-shaped ridge horizontal, slightly sloping in anterior halves. Metaventrite gently convex, irregularly rugulose, finely and sparsely punctate. Abdominal ventrites weakly convex, very finely and sparsely punctate, finely and longitudinally rugulose in three basal ventrites.

Legs slender, and long; tibiae weakly ancipital along outer margin.

Male. Unknown.

Diagnosis. The new species is very similar to *Psydus sinuaticollis* Pic, 1923, but is readily separated from the latter in having distinctly dilated six distal antennomeres; distinctly engraved elytral striae; hardly visible strial punctures, and almost impunctate elytral intervals.

Etymology. The specific name refers to the distinctly impressed elytral striae.



Figs. 40–41. *Psydus virgulatus* sp. nov. — 40, Mentum and submentum; 41, prosternal process. Scales: 0.3 mm for 40; 0.5 mm for 41.

Pseudonautes viridinitidus Ando, sp. nov.

(Figs. 38, 42–45)

Holotype: ♂, LUBL Project, Lambir National Park, Miri, Sarawak, Borneo, ZP2B-012, 2. Sep. 2003, Kishimoto-Yamada et Itioka leg. / LUBL-10297.

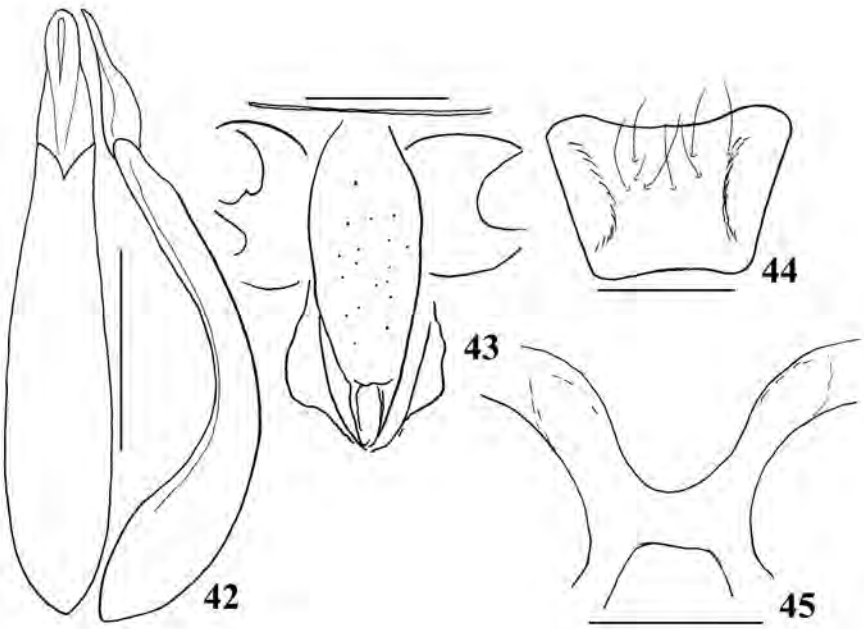
Measurements. Body length: 10.5 mm. ♂ (n = 1): IE/TD = 1.08, PW/PL = 1.94, EL /EW = 1.97.

Description. Body oblong-elongate, brilliant. Colour dark reddish brown; head, pronotum, elytra, legs and venter brilliant metallic green, head, pronotum and legs with weak purple sheen in part, elytra and venter with strong reddish purple sheen throughout, mouthparts dark reddish brown, antennae blackish brown, shiny in six basal antennomeres and infuscate in five distal antennomeres.

Head transversely elliptical, weakly convex; clypeus produced forwards in trapeziform, bent downwards in apical half, slightly convex, finely punctate; fronto-clypeal suture narrow and distinctly engraved, with area around suture strongly depressed; genae wider than long, steeply convergent in apical two-thirds; frons weakly and evenly convex, with punctures coarse and irregular, clearly larger than on clypeus; post-vertex area finely punctate; eyes large and transverse, weakly convex above and distinctly produced laterad, inner ocular-sulci narrow and deep. Antennae long and filaceous, reaching behind humeri, antennomeres longer than wide, respectively; six distal antennomeres robust, dilated apicad; XI slightly curved inwards near apex. Ultimate maxillary palpomere strongly triangular. Mentum obtrapezoidal (Fig. 44), wider than long, weakly convex, with some long setae.

Pronotum transversely quadrate, widest before base, gently convex, irregularly depressed along lateral margins, moderately and coarsely punctate as on frons; anterior margin deeply emarginate, thickly bordered; lateral margins gently arcuate and distinctly bordered, weakly sinuate before base; basal margin very tenuously bordered; anterior angles rectangular, produced, posterior angles slightly obtuse than rectangular, not produced. Scutellum large and flat, with a few fine punctures.

Elytra elongate, subparallel-sided, widest at apical third, strongly convex, and highest behind scutellum; humeral calli moderately humped; striae tenuous and distinct even on the apicalmost portion; strial punctures fine and dense, rather sparse on 1st, 6th, and 7th striae; intervals weakly convex in inner three intervals, and distinctly so in the rest, sparsely and very finely punctate; epipleuron oblique,



Figs. 42–45. *Pseudonautes viridinitidus* sp. nov. — 42, Male genitalia in dorsal (left) & lateral (right); 43, prosternal process; 44, mentum; 45, posterior ridge of mesoventrite. Scales: 1.0 mm for 42; 0.5 mm for 43 & 45; 0.25 mm for 44.

unevenly depressed, almost smooth.

Prosternum extremely short, suddenly sloping and almost vertical in front of coxae; prosternal process navicular (Fig. 43), flat and not bordered at sides, pointed a little downwards at apex, sparsely with pubescent punctures. Mesoventrite deeply excavate, longitudinally ridged anteriorly, with U-shaped posterior ridge almost horizontal, and obtusely rounded at anterior angles (Fig. 45). Metaventrite moderately convex, finely rugulose and obscurely punctate. Abdomen finely punctate and densely rugulose in three basal ventrites, a little coarsely punctate in apical two; abdominal process of 1st ventrite large and flattened, distinctly produced.

Male genitalia oblong, strongly curved (Fig. 42); parameres depressed dorsally, spatulate apically.

Legs long; protibiae gently incurved, with inner margin roundly emarginate between basal fifth and middle, and densely pubescent in apical half, metatibiae

almost straight, with inner margin produced at basal fifth.

Female. Unknown.

Diagnosis. This species very is similar to *Pseudonautes fimbriatus* Gebien, from Philippines, but is different from the latter in having protibiae shorter and more distinctly incurved; inner margin of metatibiae slightly pubescent, distinctly produced behind base, and not tuberclate in median third; pronotum with weak purple sheen; elytra with strong reddish purple reflection, punctures on elytral intervals very fine and sparse; eyes distinctly transverse instead of elliptic in the latter, and inner ocular-sulci narrower.

Etymology. The specific epithet refers to the body colour.

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Addresses of the Authors:

(Mr) Kiyoshi Ando, Dr. 安藤 清志
Entomological Laboratory, Faculty of Agriculture, Ehime University
Tarumi 3–5–7, Matsuyama, 790–8566, Japan
tenebrio@entom.biz-web.jp

(Mr) Takao Itioka, Dr. 市岡 孝朗
Graduate School of Human and Environmental Studies, Kyoto University
Yoshida-nihonmatsu-chô, Sakyo-ku, Kyoto 606-8501, Japan
ichioka.takao.5m@kyoto-u.ac.jp

(Ms) Keiko Kishimoto-Yamada, Dr. 岸本 圭子
Center for Toki and Ecological Restoration, Niigata University
1101-1 Niibo-katagami, Sado, Niigata, 952-0103, Japan
kishimot@cc.niigata-u.ac.jp