

A Faunistic Review of the Pselaphine Species (Insecta, Coleoptera, Staphylinidae) Known from Borneo

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Abstract. A checklist of 123 species of pselaphine beetles belonging to 44 genera known from Borneo is provided with many pictures of types and identified specimens. A list of 34 pselaphine species collected in 2006 from Inobong, Crocker Range in Sabah is also given.

Key words: Pselaphinae, Staphylinidae, fauna, systematics, Borneo.

Introduction

The pselaphine beetles belonging to the staphylinid subfamily Pselaphinae are small beetles inhabiting leaf litter, decayed wood, nests of ants, caves, tree holes, etc. They are one of the most diverse subfamilies of the Staphylinidae. After Newton & Chandler (1989), 8,890 species in 1,220 extant genera are known worldwide. In the tropical Asia, they exhibit tremendous species diversity. Nomura & Idris (2003) listed up 109 species of the tribe Batrisini known from Malaysia and Singapore. Additionally, Nomura & Idris (2005) presented a list of 264 known species of the four supertribes, Batrisitae (including Batrisini), Goniaceritae, Pselaphitae and Clavigeritae from Malaysia and Singapore.

On the other hand, not so many pselaphine species have been recorded from Borneo. The first report was made by Westwood (1870) together with descriptions of two species. From 1882 to 1897, three great coleopterologists, L. W. Schaufuss, E. Reitter and A. Raffray described many pselaphine species from Borneo based on materials collected by Glabowski and Simon. Bryant (1915a, b, c) reported 13 new species from Sarawak. Löbl (1973) described 17 Bornean species of the genus *Mnia* (replaced

name for the junior homonym *Mina*) which becomes differentiated especially in Borneo. He added three new species of the genus *Cratna* (Löbl, 1975, 1986), a new genus, *Siteromina* based on the type species from Borneo (Löbl, 1979), and a new species of a new genus, *Sabarhytus* (Löbl, 2000). Burckhardt (1986) described two species of *Plagiophorus* under the generic name *Cyathiger*. Recently, Löbl & Kurbatov (2004) defined a new genus, *Brunomanseria* based on the type species from Borneo.

Up to the present, 123 pselaphine species are known from Borneo. A checklist of them is provided in the present study. Many pictures of type and authentic specimens from Borneo preserved in the Muséum National d'Histoire Naturelle, Paris (MNHN) and the Muséum d'Histoire Naturelle, Genève (MHNG) are presented. A list of the species collected from Inobong, Crocker Range, Sabah is also given.

Materials and Methods

The checklist was compiled by the first author and cross-checked with a tentative database by Newton and Thayer (pers. comm.). The pictures were taken by a digital camera Nikon Coolpix 995 attached to a binocular microscope (Nikon

SM-5) at MNHN in February to March 2007 and at MHNG in May 2004.

Pselaphine specimens were collected by the first author at Inobong, Crocker Range, Sabah in Mar. 2006 by sifting leaf litter, beating foliages and from ant and termite nests. The field work was arranged by the second author. The collected specimens were dried and mounted in usual methods as shown in Nomura & Idris (2003). They were observed using binocular microscope (Leica MZ Apo) and identified by the first author.

Institutions, museums and type depositories are abbreviated as follows: MHNG: Muséum d'Histoire Naturelle, Genève; MNHN: Muséum National d'Histoire Naturelle, Paris; NSMT: National Muséum of Nature and Science, Tokyo (formerly National Science Muséum, Tokyo); UMS: Institute for Tropical Biology and Conservation (ITBC), University Malaysia Sabah.

A Checklist of Pselaphine Species Known from Borneo

In the checklist shown below, all valid generic names are given, with the number of species in parentheses, and the synonymic list is followed. In the synonymic list, each generic name is noted the original source and the status. Each genus is commented in Remarks on its systematic position and identity among similar taxa.

All valid scientific names and some important synonyms of pselaphine species known from Borneo are listed up. The valid specific names were coded as BN01, BN02, BN03 . . . ; BN is an abbreviation of "Borneo". The important synonym(s) (indicated as Syn.) are listed after the valid name and coded as BN01A, B, C

For each scientific name of the genus and the species, author's name(s), year and the following symbols (a, b, c, . . .) which are coincident with the list of literature shown at the tail, and the page number in original description is followed. The originally combined genus (if it was changed) is shown in parentheses.

The type locality is also added and distributional range of the species is indicated in square

brackets.

Supertribe Bythinoplectitae

Tribe Dimerini

Genus *Octomicrus* Schaufuss (1)

Octomicrus Schaufuss, 1877: 14. Type species: *O. longulus* Schaufuss, by monotypy.

Singhala Raffray, 1898: 213, 255 (preoccupied).

Shingala Raffray, 1898: 255 (misspelling).

Dimelus Fiori, 1899: 103 (subgenus). Type species: *Dimelus staphylinoides* Fiori, by monotypy.

Diastictulus Raffray, 1904: 577 (replacement name for *Singhala* Raffray).

Remarks. This genus is divided into two subgenera, the nominotypical subgenus and the subgenus *Dimelus* Fiori. The nominotypical subgenus including four Asian species is known from Southeast Asia and Africa after Jeannel (1956a).

List of species:

BN 001. *Octomicrus divergens* Reitter, 1884: 420. Borneo (Telang) [Borneo] (Pl. 1: 1, 2).

Tribe Bythinoplectini

Subtribe Bythinoplectina

Genus *Zethopsus* Reitter (1)

Zethopsus Reitter, 1880: 85 (replacement name for *Zethus* Schaufuss). Type species: *Zethus opacus* Schaufuss, by subsequent monotypy in Schaufuss (1877).

Zethus Schaufuss, 1872: 246 (preoccupied).

Remarks. According to Coulon (1989), this genus is characterized by the 10-segmented antenna with simple unisegmented antennal club and the verrucose dorsal surface of the body. It includes ten Asian species including the type species, *Z. opacus* Schaufuss known from Thailand.

List of species:

BN 002. *Zethopsus simplicifrons* Reitter, 1884: 419. Telang [Borneo] (Pl. 1: 3, 4).



Plate 1. 1. *Octomicrus divergens* Reitter, syntype. 2. Ditto, type labels. 3. *Zethopsus simplicifrons* Reitter, syntype. 4. Ditto, type labels. 5. *Aphilia femorata* Reitter, syntype. 6. Ditto, type labels. 7. *Batrisodes? lateridens* (Reitter), syntype. 8. Ditto, type labels. 9. *Batrisoschema lateridentata* Reitter, syntype. 10. Ditto, type labels. 11. *Borneana biformis* Schaufuss, syntype. 12. Ditto, type labels. 13. *Siteromina dayak* Löbl, holotype (MHNG). 14. *Cratna pedestris* Löbl, holotype (MHNG). 15. *Eubatrisus pubifer* (Reitter), non type. 16. Ditto, labels.

Supertribe Euplectitae

Tribe Trichonychini

Subtribe Bibloporina

Genus *Aphilia* Reitter (1)

Aphilia Reitter, 1882b: 210. Type species: *A. femorata* Reitter, by subsequent monotypy in Reitter (1883).

Pseudozibus Jeannel, 1956b: 365. Type species: *P. simplicipennis* Jeannel, by original designation.

Aphiliopsis Besuchet, 1956: 369. Type species: *Aphiliopsis crassipes* Raffray, by original designation. Synonymized with *Pseudozibus* by Jeannel (1958: 6).

Remarks. The genus *Pseudozibus* Jeannel known from Japan, Italy, Africa, etc. was synonymized with the genus *Aphilia* by Chandler (2001).

List of species:

BN 003. *Aphilia femorata* Reitter, 1883c: 296. Borneo (Tumbang-Hiang) [Borneo] (Pl. 1: 5, 6).

Supertribe Batrisitae

Tribe Batrisini

Subtribe Batrisina

Genus *Batrisodes* Reitter (2)

Batrisodes Reitter, 1882a: 134. Type species: *Batrisodes laportei* Aubé, designated by Lucas (1920).

Remarks. In recent studies, the typical *Batrisodes* is known to be restricted to Europe to Northeast Asia (Nomura, 2007).

List of species:

BN 004. *Batrisodes? exiguus* Raffray, 1882: 61. Java [Indonesia (Java, Sumatra, Borneo)].

BN 004A. Syn. *B?. nicotianus* Schaufuss, 1882b: 393. Sumatra.

BN 004B. Syn. *B?. lateridens* (Reitter, 1884: 398) (*Batrisus*). Telang, Tameanglaiang (Borneo) (Pl. 1: 7, 8).

BN 005. *B?. incertus* Schaufuss, 1882b: 392. Borneo, Sarawak [Borneo, New Guinea].

Genus *Batrisoschema* Reitter (1)

Batrisoschema Reitter, 1884: 399. Type species: *B. lateridentata* Reitter, by monotypy.

Remarks. This genus includes the type species, *B. lateridentata* and a Japanese species *B. euplectiforme* (Sharp). It is a member of the genus-group of *Tribasodes* defined by Nomura & Idris (2003) in having the bidentulate pronotum, the male hind trochanter with a long spine and the male genitalia with an incomplete dorsal apophysis.

List of species:

BN 006. *Batrisoschema lateridentata* Reitter, 1884: 400. Barabei [Borneo] (Pl. 1: 9, 10).

Genus *Batrisus* Aubé (1)

Batrisus Aubé, 1833: 45. Type species: *Batrisus formicarius* Aubé (see remarks).

Remarks. This genus belongs to the genus-group of *Batrisus* defined by Nomura & Idris (2003). Typical species of this genus is known only from Europe. The type species of this genus was argued, but was not designated by Newton & Chandler (1989). However, it was designated *Batrisus formicarius* in Löbl & Besuchet (2004).

List of species:

BN 007. *Batrisus? grypochirus* Schaufuss, 1882b: 379. Borneo, Sarawak [Borneo (Sarawak)].

Genus *Borneana* Schaufuss (1)

Borneana Schaufuss, 1882c: 140. Type species: *B. biformis* Schaufuss, by monotypy.

Remarks. This is a genus endemic to Borneo, including only one species shown below. It is difficult to be classified into genus-groups defined by Nomura & Idris (2003) because additional material of this genus is very poor.

List of species:

BN 008. *Borneana biformis* Schaufuss, 1882c: 140. Borneo [Borneo] (Pl. 1: 11, 12).

Genus *Mnia* Newton et Chandler (17)

Mnia Raffray, 1890: 112 (preoccupied). Type species: *M. elegans* Raffray, by subsequent monotypy in Raffray (1890).

Mnia Newton & Chandler, 1989: 38 (replacement name).

Remarks. Among 31 species of this genus (Newton & Chandler, 1989), 17 species listed below have been known from Borneo, 11 from Sarawak and 6 from Sabah. The genus was revised by Löbl in 1973, and all Bornean species were described by him at that time.

List of species:

- BN 009. *Mnia antennalis* (Löbl, 1973: 191) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 010. *M. bella* (Löbl, 1973: 194) (*Mnia*). Sabah (Umas, near Tawau) [Borneo (Sabah)].
- BN 011. *M. brevicornis* (Löbl, 1973: 164) (*Mnia*). Sarawak (Semengoh, Mt. Matang) [Borneo (Sarawak)].
- BN 012. *M. brevipilis* (Löbl, 1973: 169) (*Mnia*). Sabah (Umas, near Tawau) [Borneo (Sabah)].
- BN 013. *M. bryanti* (Löbl, 1973: 189) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 014. *M. fossulata* (Löbl, 1973: 165) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 015. *M. frontalis* (Löbl, 1973: 192) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 016. *M. gracilis* (Löbl, 1973: 170) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 017. *M. macrops* (Löbl, 1973: 175) (*Mnia*). Sabah (Sibuga Forest Reserve) [Borneo (Sabah)].
- BN 018. *M. puncticeps* (Löbl, 1973: 180) (*Mnia*). Sarawak (Kampong Segu, near Kuching) [Borneo (Sarawak)].
- BN 019. *M. simulans* (Löbl, 1973: 169) (*Mnia*). Sarawak (Kampong Segu, near Kuching) [Borneo (Sarawak)].
- BN 020. *M. soror* (Löbl, 1973: 168) (*Mnia*). Sarawak (Mt. Matang) [Borneo (Sarawak)].
- BN 021. *M. taylori* (Löbl, 1973: 172) (*Mnia*). Sarawak (Semengoh) [Borneo (Sarawak)].
- BN 022. *M. tuberculata* (Löbl, 1973: 187) (*Mnia*). Sarawak (Semengoh) [Borneo (Sarawak)].
- BN 023. *M. variabilis* (Löbl, 1973: 178) (*Mnia*). Sabah (Labuk Sepilok, near Sandakan) [Borneo (Sabah)].
- BN 024. *M. varians* (Löbl, 1973: 168) (*Mnia*). Sabah (Tawau) [Borneo (Sabah)].
- BN 025. *M. velaris* (Löbl, 1973: 176) (*Mnia*). Sabah (Tawau) [Borneo (Sabah)].

Genus *Siteromina* Löbl (1)

Siteromina Löbl, 1979: 189. Type species: *S. dayak* Löbl, by original designation.

Remarks. This genus is closely allied to the genus *Mnia* in having the prolonged antennal segment I and the elongate maxillary palpus. However, it is not similar to *Mnia* in the shape of head and body. Male feature is unknown as it was described on the basis of only one female.

List of species:

- BN 026. *Siteromina dayak* Löbl, 1979: 191. Sarawak (Semengoh) [Borneo (Sarawak)] (Pl. 1: 13).

Genus *Sathytes* Westwood (1)

Sathytes Westwood, 1870: 128. Type species: *S. punctiger* Westwood, by monotypy.

Batoxylina Jeannel, 1957: 8. Type species: *B. clavalis* Jeannel, by original designation.

Remarks. This is a characteristic genus in the Oriental Region, comprising 18 species after Newton & Chandler (1989).

List of species:

- BN 027. *Sathytes punctiger* Westwood, 1870: 128. Borneo (Sarawak) [Borneo (Sarawak)].

Genus *Cratna* Raffray (1)

Cratna Raffray, 1890: 113. Type species: *C. torticornis* Raffray, by subsequent monotypy in Raffray (1890).

Remarks. This genus is a member of the *Batrisocenus* Complex defined by Nomura (1991), which is the same as the genus-group of *Batrisocenus* defined by Nomura & Idris (2003). The genotype, *C. torticornis*, is characteristic in having the prolonged maxillary palpus. However, some *Cratna* species have short maxillary palpi. The genus differs from the other genera of the *Batrisocenus* Complex by the head generally with T-shaped sulcus connecting the dorsal tento-

rial pits, the male genitalia composed of small and tubular basal capsule and large dorsal apophysis, and the female abdominal sternite IX lacking large lateral arms.

List of species:

BN 028. *Cratna pedestris* Löbl, 1986: 223. Sarawak (Gunung Mulu) [Borneo (Sarawak)] (Pl. 1: 14).

Genus *Eubatrisus* Raffray (1)

Eubatrisus Raffray, 1890: 114. Type species: *B. pubifer* Reitter, by monotypy.

Remarks. This genus belongs to the *Batrisocenus* Complex in having the eyes situated on posterior part of the head, the pronotum with a pair of transverse sulci, and the abdominal segment IV without paratergites but with a pair of lateral carinae. It is similar to the genus *Batrisocenus*, but separable by the antennal segment I devoid of trichome.

List of species:

BN 029. *Eubatrisus pubifer* (Reitter, 1884: 397) (*Batrisus* (*Batrisodes*)). Borneo (Telang) [Borneo] (Pl. 1: 15, 16).

Genus *Batrisocenus* Raffray (19)

Batrisocenus Raffray, 1903: 48. Type species: *B. bironis* Raffray, designated by Jeannel (1949a: 149).

Remarks. The genus *Batrisocenus* and its allied groups in Japan were revised and classified into six genera by Nomura (1991). However, the fauna is still little-known in the other Asian areas. Although, 19 species shown below have been known in Borneo, they are poorly understood and classified.

List of species:

BN 030. *Batrisocenus abbreviatus* (Reitter, 1883: 285) (*Batrisus* (*Batrisodes*)). Borneo (Tumbang-Hiang) [Borneo] (Pl. 2: 17, 18).

BN 031. *B. architectus* (Reitter, 1884: 396) (*Batrisus* (*Batrisodes*)). Tameanglaiang [Borneo] (Pl. 2: 19, 20).

BN 032. *B. batavianus* (Reitter, 1883: 284) (*Batrisus*). Batavia [Borneo, Indonesia (Java)].

BN 033. *B. bipunctulus* (Reitter, 1884: 394) (*Batrisus* (*Batrisodes*)). Telang [Borneo] (Pl. 2: 21, 22).

BN 034. *B. brevis* (Schaufuss, 1882b: 396) (*Batrisus*). Borneo, Sarawak [Borneo].

BN 035. *B. cavifer* (Reitter, 1884: 395) (*Batrisus* (*Batrisodes*)). Telang [Borneo, Indonesia (Sumatra)] (Pl. 2: 23, 24).

BN 035A. Syn. *Batrisus* (*Batrisodes*) *torticornis* Raffray, 1892: 489. Bouchard (Sumatra).

BN 036. *B. claviger* (Reitter, 1884: 395) (*Batrisus* (*Batrisodes*)). Borneo (Telang) [Borneo] (Pl. 2: 25, 26).

BN 037. *B. custos* (Schaufuss, 1887: 138) (*Batrisus*). Borneo [Borneo].

BN 038. *B. erectus* (Raffray, 1896: 244) (*Batrisodes*). Borneo [Borneo] (Pl. 2: 27, 28).

BN 039. *B. fundaebraccatus* (Schaufuss, 1882a: 71) (*Batrisus*). Batavia (Sijthoff) [Singapore, Borneo (Telang Barabei), Indonesia (Java, Sumatra, Celebes), New Guinea].

BN 039A. Syn. *Batrisus physoderes* Schaufuss, 1882b: 383. Sumatra.

BN 039B. Syn. *Batrisus nephriticus* Schaufuss, 1882b: 384. Celebes, Macassar.

BN 039C. Syn. *Batrisus similis* Schaufuss, 1882b: 395. Sumatra.

BN 040. *B. indus* (Schaufuss, 1882b: 375) (*Batrisus*). Borneo, Sarawak [Borneo].

BN 041. *B. laminidens* (Reitter, 1884: 396) (*Batrisus* (*Batrisodes*)). Telang [Borneo] (Pl. 2: 29, 30).

BN 042. *B. orbicollis* (Reitter, 1884: 339) (*Batrisus*). Telang [Borneo] (Pl. 2: 31, 32).

BN 043. *B. reitteri* (Raffray, 1896: 249) (*Batrisodes*). Borneo [Borneo] (Pl. 3: 33, 34).

BN 044. *B. sarawakensis* (Schaufuss, 1882b: 381) (*Batrisus*). Borneo, Sarawak [Borneo] (Pl. 3: 35, 36).

BN 045. *B. septemdentatus* (Schaufuss, 1882b: 376) (*Batrisus*). Borneo, Sarawak [Borneo].

BN 046. *B. spinidens* (Reitter, 1884: 398) (*Batrisus* (*Syrbatus*)). Borneo (Telang) [Borneo] (Pl. 3: 37–39).

BN 047. *B. tarsalis* (Reitter, 1884: 396) (*Batrisus* (*Batrisodes*)). Barabei, Telang [Borneo]



Plate 2. 17. *Batrisocenus abbreviatus* (Reitter), syntype. 18. Ditto, type labels. 19. *Batrisocenus architectus* (Reitter), syntype. 20. Ditto, type labels. 21. *Batrisocenus bipunctulus* (Reitter), syntype. 22. Ditto, type labels. 23. *Batrisocenus cavifer* (Reitter), syntype. 24. Ditto, type labels. 25. *Batrisocenus claviger* (Reitter), syntype. 26. Ditto, type labels. 27. *Batrisocenus erectus* (Raffray), syntype. 28. Ditto, type labels. 29. *Batrisocenus laminidens* (Reitter), syntype. 30. Ditto, type labels. 31. *Batrisocenus orbicollis* (Reitter), syntype. 32. Ditto, type labels.



Plate 3. 33. *Batrisocenus reitteri* (Raffray), syntype. 34. Ditto, type labels. 35. *Batrisocenus sarawakensis* (Schaufuss), syntype. 36. Ditto, type labels. 37. *Batrisocenus spinidens* (Reitter), syntype. 38. Ditto, legs enlarged. 39. Ditto, type labels. 40. *Batrisocenus tarsalis* (Reitter), syntype. 41. Ditto, type labels. 42. *Batrisocenus vestigifer* (Reitter), syntype. 43. Ditto, type labels.

(Pl. 3: 40, 41).

BN 048. *B. vestigifer* (Reitter, 1884: 394) (*Batrisus* (*Batrisodes*)). Telang, Tameanglaiang [Borneo] (Pl. 3: 42, 43).

Supertribe Goniaceritae

Tribe Arnylliini

Genus *Harmophorus* Motschulsky (3)

Harmophorus Motschulsky, 1851: 490. Type species: *H.*

gibboides Motschulsky, by monotypy.

Arnyllium Reitter, 1884: 391. Type species: *A. pectinatum* Reitter, designated by Jeannel (1952b: 101).

Emanuelia Blattný, 1925: 204 (unnecessary new name for *Harmophorus*).

Remarks. The tribe Arnyllini is a small pselaphine group including two genera, *Harmophorus* and *Awas*. The genus *Harmophorus* is unique to East to Southeast Asia, which is characterized by the stout body, the apical spine on the inner

side of fore femur and the almost symmetrical male genitalia with large and ovoid basal bulb.

List of species:

- BN 049. *Harmophorus parviceps* (Reitter, 1884: 392) (*Arnyllium*). Barabei [Borneo].
 BN 049A. Syn. *Arnyllium longipile* Raffray, 1892: 490. Sumatra.
 BN 050. *H. ensipes* (Reitter, 1884: 392) (*Arnyllium*). Telang [Borneo].
 BN 051. *H. pectinatum* (Reitter, 1884: 392) (*Arnyllium*). Telang, Tameanglaiang [Singapore, Borneo, Indonesia (Sumatra), Taiwan?].

Tribe Brachyglutini

Subtribe Brachyglutina

Genus *Comatopselaphus* Schaufuss (1)

Comatopselaphus Schaufuss, 1882b: 368. Type species: *C. opacicollis* Schaufuss, by monotypy.

Remarks. This brachyglutine genus is known from Tropical Asia and New Guinea including seven species after Newton & Chandler (1989). It is very similar to the genus *Atenisodus* in having the medium-sized body and the large maxillary palpus with long and slender terminal spine and very large and ovoid segment IV.

List of species:

- BN 052. *Comatopselaphus opacicollis* Schaufuss, 1882b: 369. Borneo, Sarawak [Borneo]

Genus *Reichenbachia* Leach (13)

Reichenbachia Leach, 1826: 451. Type species: *Bryaxis juncorum* Leach, designated by Bowman (1934).

Remarks. More than 70 species of the genus *Reichenbachia* have been known from the Tropical Asia and New Guinea. Although some of them have been transferred to the other genus *Trissemus*, they are poorly classified.

List of species:

- BN 053. *Reichenbachia affinissima* Reitter, 1884: 402. Telang [Borneo].
 BN 054. *R. amica* Reitter, 1884: 405. Tameanglaiang, Barabei [Borneo, Indonesia (Sumatra)].
 BN 055. *R. grabowskyi* Reitter, 1883: 289. Bor-

neo (Tumbang-Hiang) [Borneo] (Pl. 4: 44).

- BN 056. *R. ingrata* Reitter, 1884: 403. Telang [Borneo] (Pl. 4: 45).
 BN 057. *R. integrostriata* Reitter, 1884: 403. Telang [Borneo] (Pl. 4: 46).
 BN 058. *R. invalida* Reitter, 1883: 288. Borneo (Tumbang-Hiang) [Borneo] (Pl. 4: 47).
 BN 059. *R. lamellicornis* Reitter, 1883: 290. Borneo (Tumbang-Hiang) [Borneo] (Pl. 4: 48, 49).
 BN 060. *R. negligens* Reitter, 1884: 403. Pengaron [Borneo] (Pl. 4: 50).
 BN 061. *R. punctithorax* Reitter, 1883: 290. Java (Batavia), Borneo (Tumbang-Hiang) [Indonesia (Java), Borneo]
 BN 062. *R. schaufussi* Reitter, 1883: 289. Java (Batavia), Borneo (Tumbang-Hiang) [Singapore, Indonesia (Java, Sumatra), Borneo, Sri Lanka] (Pl. 4: 51).
 BN 062A. Syn. *Reichenbachia extuscurvata* Schaufuss, 1887: 114. Sumatra [Indonesia (Sumatra)].
 BN 063. *R. subvalida* Reitter, 1884: 404. Telang [Borneo] (Pl. 4: 52).
 BN 064. *R. telangensis* Reitter, 1884: 402. Telang [Borneo].

Genus *Reichenbachella* Jeannel

Reichenbachella Jeannel, 1949b: 80. Type species: *Bryaxis punctulata* Raffray, by original designation.

Remarks. This genus was separated from the genus *Reichenbachia* by having the small body, the coarsely punctate pronotum and the elongate and narrowed parameres with sensory hairs in some species.

List of species:

- BN 065. *R. rufa* (Schmidt-Göbel, 1838: 6) (*Bryaxis*). Ostindien [Singapore, India, Sri Lanka, Thailand, Vietnam, Borneo, Indonesia (Java, Celebes), Phillipines].

Genus *Rybaxis* Saulcy (4)

Rybaxis Saulcy, 1876: 96. Type species: *Bryaxis sanguinea* Leach, designated by Bowmon (1934).

Remarks. The genus *Rybaxis* is easily dis-

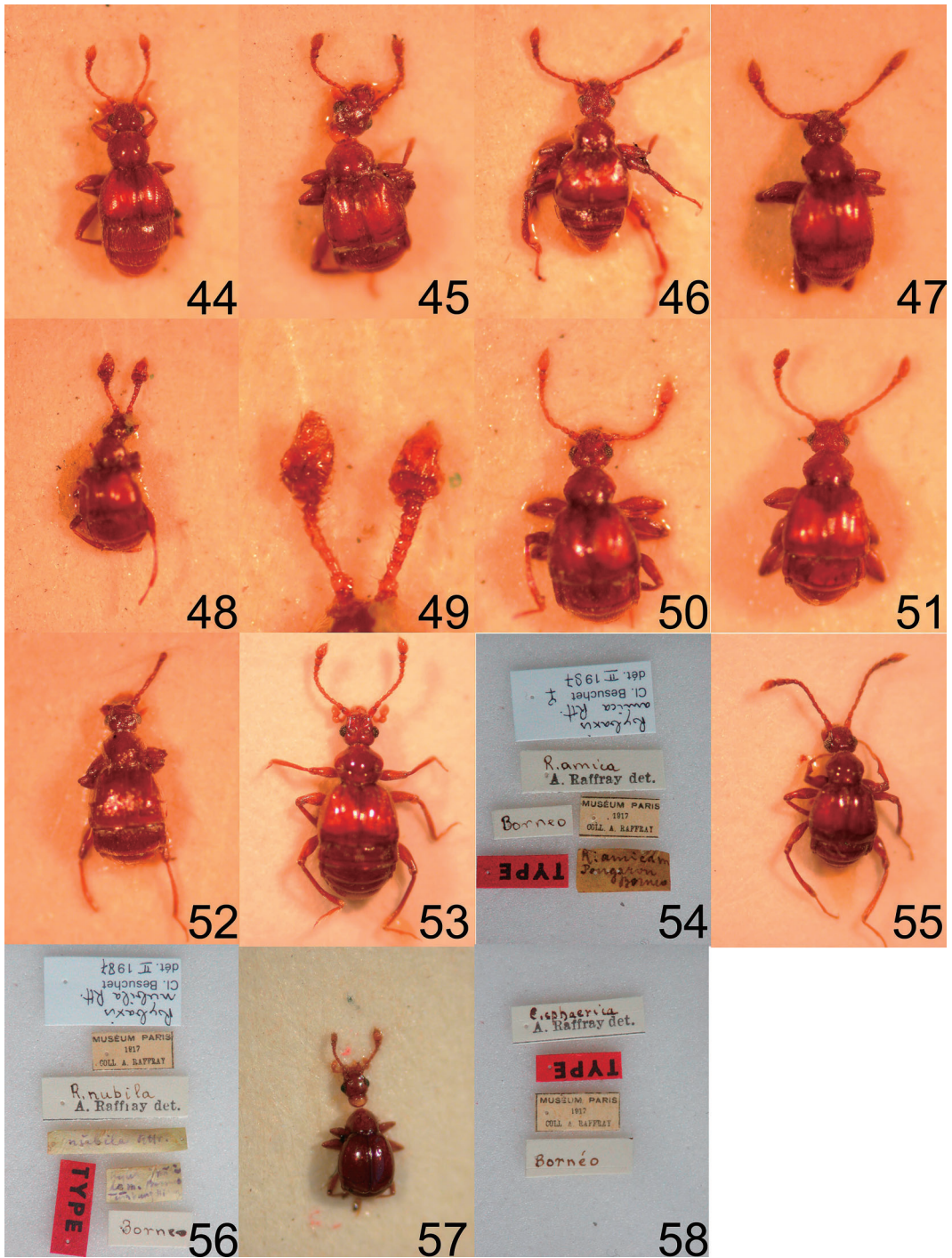


Plate 4. 44. *Reichenbachia grabowskyi* Reitter, syntype. 45. *R. ingrata* Reitter, syntype. 46. *R. integrostriata* Reitter, syntype. 47. *R. invalida* Reitter, syntype. 48. *R. lamellicornis* Reitter, syntype. 49. Ditto, antennae enlarged. 50. *Reichenbachia negligens* Reitter, syntype. 51. *R. schaufussi* Reitter, syntype. 52. *R. subvalida* Reitter, syntype. 53. *Rybachia amica* Reitter, syntype. 54. Ditto, type labels. 55. *R. nubila* Reitter, syntype. 56. Ditto, type labels. 57. *Eupines sphaerica* (Motschulsky), non type. 58. Ditto, labels.

tinguished from *Reichenbechia* and *Trissemus* by having the pronotum with a pair of short transverse sulci connecting lateral and basimedial foveae.

List of species:

- BN 066. *Rybaxis amica* Reitter, 1884: 405. Pengaron [Borneo] (Pl. 4: 53, 54).
 BN 067. *R. imperatrix* (Schaufuss, 1882b: 363) (*Bryaxis*). Borneo, Sarawak [Borneo].
 BN 068. *R. nubila* Reitter, 1883: 292. Borneo (Tumbang-Hiang) [Borneo] (Pl. 4: 55, 56).
 BN 069. *R. sarawakensis* (Schaufuss, 1882b: 364) (*Bryaxis*). Borneo, Sarawak [Borneo].

Genus *Eupines* King (1)

Eupines King, 1866: 309. Type species: *Bryaxis clavatula* King, designated by Jeannel, 1952b.

Remarks. More than 100 species of this genus have been described from Asia and Oceania. However, not so many species are known from Tropical Asia. Only one widely distributed species shown below was recorded from Borneo.

List of species:

- BN 070. *Eupines sphaerica* (Motschulsky, 1851: 492) (*Bryaxis*). Indes or. [Singapore, Borneo, India, Sri Lanka, Myanmar, Indonesia (Sumatra, Java, Sulawesi), New Guinea, Japan (Ishigaki-jima Is., Iriomote-jima Is.)] (Pl. 4: 57, 58).

Tribe Iniocyphini

Subtribe Natypleurina

Genus *Bythinophanax* Reitter (3)

Bythinophanax Reitter, 1884: 405. Type species: *Bythinophanax bicornis* Reitter, designated by Lucas (1920).

Remarks. In the system by Newton & Chandler (1989), this and the next genera were classified into the tribe Proterini. However, they were transferred to the tribe Iniocyphini, the subtribe Natypleurina with some Japanese genera, *Morana*, *Takaorites*, *Nipponobythus*, etc. Actually, these Bornean genera are closely allied to those Japanese genera in having the male modifications on head and the predominantly large ab-

dominal segment IV.

List of species:

- BN 082. *Bythinophanax bicornis* Reitter, 1884: 407. Telang [Borneo] (Pl. 5: 59–62).
 BN 083. *B. exilis* Reitter, 1884: 406. Tameanglaiang [Borneo] (Pl. 5: 63–66).
 BN 084. *B. latebrosus* Reitter, 1884: 406. Telang [Borneo] (Pl. 5: 67–70).

Genus *Bythinoderes* Reitter (1)

Bythinoderes Reitter, 1884: 407. Type species: *B. grabowskyi* Reitter, by monotypy.

Remarks. This genus is very similar to the genus *Bythinophanax*. Only one species shown below is known from Borneo.

List of species:

- BN 085. *Bythinoderes grabowskyi* Reitter, 1884: 408. Telang [Borneo] (Pl. 5: 71–73).

Genus *Brunomanseria* Löbl et Kurbatov (1)

Brunomanseria Löbl et Kurbatov, 2004: 363. Type species: *B. faceta* Löbl et Kurbatov, by original designation.

Remarks. This recently defined genus is distinct in having the transverse and flat head and the longitudinally carinated elytra. However, it is apparently allied to the Japanese genus *Takaorites* in the similarity of the male genitalia.

List of species:

- BN 086. *Brunomanseria faceta* Löbl et Kurbatov, 2004: 366. Borneo (East Malaysia, Sabah, Crocket (Crocker) Range, km 51–52 Kota Kinabalu-Tanbunan, 1,600 m) [Borneo].

Tribe Cyathigerini

Genus *Plagiophorus* Motschulsky (11)

Plagiophorus Motschulsky, 1851: 496; Burckhardt & Löbl, 2002: 400 (revalidated). Type species: *P. paradoxus* Motschulsky, designated by Newton & Chandler (1989).

- Cyathiger* King, 1865: 174; . Jeannel, 1951b: 109; Burckhardt & Löbl, 2002: 400 (synonymized). Type species: *C. punctatus* King, by monotypy.
Cyathigerodes Jeannel, 1951b: 110; Burckhardt & Löbl, 2002: 400 (synonymized). Type species: *C. machadoi*

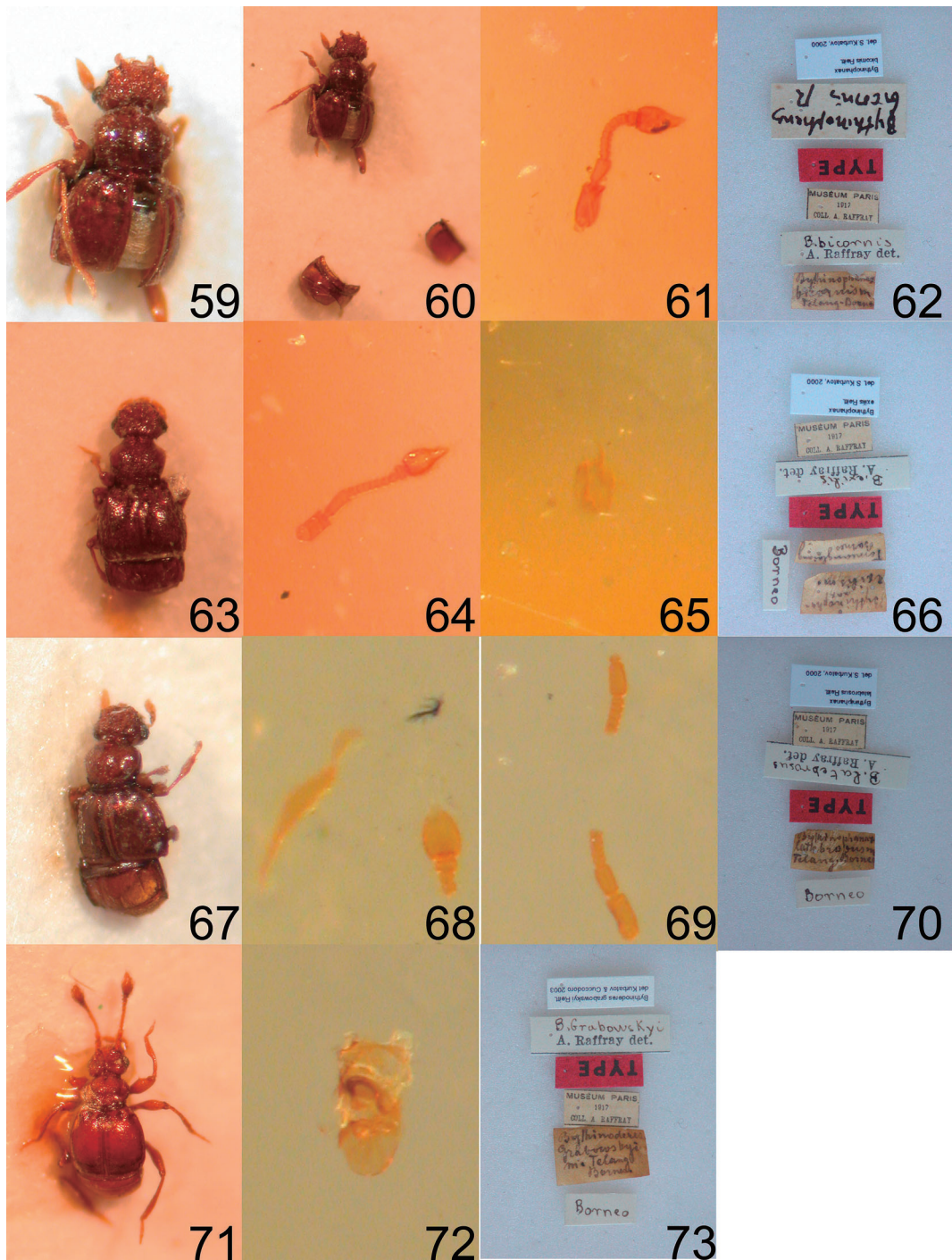


Plate 5. 59, 60. *Bythinophanax bicornis* Reitter, syntype. 61. Ditto, antenna enlarged. 62. Ditto, type labels. 63. *Bythinophanax exilis* Reitter, syntype. 64. Ditto, antenna enlarged. 65. Ditto, male genitalia enlarged. 66. Ditto, type labels. 67. *Bythinophanax latebrosus* Reitter, syntype. 68. Ditto, antenna and fore leg enlarged. 69. Ditto, antennal funicle enlarged. 70. Ditto, type labels. 71. *Bythinoderes grabowskyi* Reitter, syntype. 72. Ditto, male genitalia enlarged. 73. Ditto, type labels.

Jeannel, by original designation.

Denicyathiger Jeannel, 1951b: 109; Burckhardt & Löbl, 2002: 400 (synonymized). Type species: *Cyathiger bironis* Raffray, by original designation.

Paracyathiger Jeannel, 1951b: 109; Burckhardt & Löbl, 2002: 400 (synonymized). Type species: *Cyathiger heterocerus* Raffray, by original designation.

Manuleiger Jeannel, 1961: 449; Burckhardt & Löbl, 2002: 400 (synonymized). Type species: *M. remyi* Jeannel, by original designation.

Remarks. This genus has long been known as *Cyathiger*, which was synonymized with *Plagiophorus* by Burckhardt & Löbl (2002). It is diversified in Tropical Asia including many species. Eleven species of this genus have been known from Borneo as shown below.

List of species:

BN 071. *Plagiophorus baumeisteri* (Reitter, 1884: 388) (*Cyathiger*). Telang, Tameanglaiang [Borneo] (Pl. 6: 74).

BN 072. *P. borneensis* (Raffray, 1895: 55) (*Cyathiger*). Borneo [Borneo] (Pl. 6: 75).

BN 073. *P. bulbifer* (Bryant, 1915b: 254) (*Cyathiger*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

BN 074. *P. dispar* (Bryant, 1915b: 251) (*Cyathiger*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

BN 075. *P. elongatus* (Bryant, 1915b: 252) (*Cyathiger*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

BN 076. *P. matangensis* (Bryant, 1915b: 253) (*Cyathiger*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

BN 077. *P. mirandus* (Bryant, 1915b: 250) (*Cyathiger*). Sarawak (Mt. Merinjak) [Borneo (Sarawak)].

BN 078. *P. myrmecophilus* (Bryant, 1915b: 250) (*Cyathiger*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

BN 079. *P. sarawakensis* (Bryant, 1915: 253) (*Cyathiger*). Sarawak (Quop) [Borneo (Sarawak)].

BN 080. *P. schaufussi* (Reitter, 1884: 385) (*Cyathiger*). Telang [Borneo] (Pl. 6: 76, 77).

BN 081. *P. simonis* (Reitter, 1884: 387) (*Cyathiger*). Telang, Tameanglaiang [Borneo] (Pl.

6: 78, 79).

Tribe Tychini

Genus *Atychodea* Reitter (4)

Atychodea Reitter, 1884: 412. Type species: *A. simoniana* Reitter, designated by Newton & Chandler (1989).

Remarks. This is the only genus of the tribe Tychini known from Tropical Asia. It is closely allied to the genus *Tainochus* known from Japan and Korea in having the elytra each with three basal foveae. It is endemic to Borneo.

List of species:

BN 087. *Atychodea lenticornis* Reitter, 1884: 414. Telang, Tameanglaiang [Borneo].

BN 088. *A. raffrayi* Reitter, 1884: 414. Telang [Borneo].

BN 089. *A. simoniana* Reitter, 1884: 413. Telang [Borneo].

BN 090. *A. singularis* Reitter, 1884: 414. Tameanglaiang [Borneo].

Supertribe Pselaphitae

Tribe Arhytodini

Genus *Sabarhytus* Löbl (1)

Sabarhytus Löbl, 2000: 145. Type species: *S. kinabalu* Löbl, by original designation.

Remarks. This is the only genus of the tribe Arhytodini from Asia. It includes only the type species shown below.

List of species:

BN 091. *Sabarhytus kinabalu* Löbl, 2000: 147. Sabah (Mt. Kinabalu) (MHNG) [Borneo (Sabah)].

Tribe Odontalgini

Genus *Odontalgus* Raffray (1)

Odontalgus Raffray, 1877: 286. Type species: *O. tuberculatus* Raffray, designated by Jeannel (1949a).

Remarks. This genus is known from Asia and Africa and includes about 50 species.

List of species:

BN 092. *Odontalgus vestitus* Schaufuss, 1886: 243. Sumatra [Borneo?, Sumatra] (Pl. 6: 80,



Plate 6. 74. *Plagiophorus baumeisteri* (Reitter), syntype. 75. *P. borneensis* (Raffray), syntype, type labels. 76. *P. schaufussi* (Reitter), syntype. 77. Ditto, type labels. 78. *P. simonis* (Reitter), syntype. 79. Ditto, type labels. 80. *Odontalgus vestitus* Schauffuss, syntype. 81. Ditto, male genitalia enlarged. 82. *Apharina borneensis* Raffray, syntype. 83. Ditto, type labels. 84. *A. fuscipennis* Reitter, syntype. 85. Ditto, type labels. 86. *Hybocephalodes dentiventris* (Reitter), syntype. 87. Ditto, type labels. 88. *H. telangensis* (Reitter), syntype. 89. Ditto, type labels.

81).

Tribe Ctenistini

Genus *Ctenistes* Reichenbach (1)

Ctenistes Reichenbach, 1816: 75. Type species: *C. palpalis* Reichenbach, by monotypy.

Remarks. This genus is distinguished from the other similar genera by having the middle-sized body, the elongate head and each penicillate palpal segments II to IV.

List of species:

BN 093. *Ctenistes mitis* Schaufuss, 1882a: 74. Batavia (Sijthoff) [Vietnam (Saigon, Hiep Hoa), Borneo, Indonesia (Java, Sumatra)].

Tribe Hybocephalini

Genus *Apharina* Reitter (2)

Apharina Reitter, 1882b: 209, 1883c: 295. Type species: *A. simonies* Reitter, designated by Jeannel, 1949b.

Remarks. This genus is separated from the other hybocephaline genera by having the antennal club formed by the antennal segments X and XI.

List of species:

BN 094. *Apharina borneensis* Raffray, 1896: 270. Borneo [Borneo] (Pl. 6: 82, 83).
BN 095. *A. fuscipennis* Reitter, 1884: 415. Telang [Borneo] (Pl. 6: 84, 85).

Genus *Hybocephalodes* Raffray (3)

Hybocephalodes Raffray, 1908: 322. Type species: *Hybocephalus dentiventris* Reitter, designated by Lucas, 1920.

Remarks. This genus is characterized by the antennal club formed by the antennal segments IX to XI, and the elytra without longitudinal sulcus. It is endemic to Borneo.

List of species:

BN 096. *Hybocephalodes dentiventris* (Reitter, 1884: 416) (*Hybocephalus*). Telang [Borneo] (Pl. 6: 86, 87).
BN 097. *H. informis* (Reitter, 1884: 417) (*Hybocephalus*). Telang, Tameanglaiang [Borneo].
BN 098. *H. telangensis* (Reitter, 1884: 417)

(*Hybocephalus*). Telang, Tameanglaiang [Borneo] (Pl. 6: 88, 89).

Genus *Pseudapharina* Raffray (1)

Pseudapharina Raffray, 1890: 136. Type species: *Filiger primus* Reitter, by monotypy.

Remarks. This is a genus endemic to Borneo and includes only one species shown below. It is characterized by the antennal club formed by the terminal three segments and the elytra with longitudinal sulci.

List of species:

BN 099. *Pseudapharina prima* (Reitter, 1884: 415) (*Filiger*). Telang [Borneo] (Pl. 7: 90–91).

Tribe Pselaphini

Genus *Pselaphidius* Jeannel (1)

Pselaphidius Jeannel, 1951a: 9. Type species: *Pselaphus filipalpis* Reitter, by original designation.

Remarks. The Asian species of this tribe have been poorly studied. This genus was regarded as a species group (?) of the next genus by Besuchet (1999), and as a junior synonym of *Pselaphus* in Löbl & Besuchet (2004). However, it is well defined by the elongate palpal segment IV with a short longitudinal sulcus on the external side of the apex.

List of species:

BN 100. *Pselaphidius parvipalpis* (Reitter, 1883: 294) (*Pselaphus*). Batavia [Borneo, Indonesia (Java, Sumatra), Singapore, Thailand, Vietnam (Saigon)] (Pl. 7: 92, 93).
BN 100A. Syn. *Pselaphus bivestitus* Schaufuss 1888: 295.

Genus *Pselaphus* Herbst (7)

Pselaphus Herbst, 1792: 106. Type species: *Pselaphus heisei* Herbst, designated by Shuckard (1839) etc. (see Newton & Chandler, 1989).

Remarks. This genus was redefined by Besuchet (1999). It includes many Asian species and six species has been recorded from Borneo



Plate 7. 90. *Pseudapharina prima* (Reitter), syntype. 91. Ditto, type labels. 92. *Pselaphidium palvipalpis* (Reitter), syntype. 93. Ditto, type labels. 94. *Pselaphus unipunctatus* Reitter, syntype. 95. Ditto, type labels. 96. *P. lativentris* Reitter, syntype. 97. Ditto, type labels. 98. *P. sexstriatus* Reitter, syntype. 99. Ditto, type labels. 100. *Centrophthalmus divisus* Reitter, syntype. 101. Ditto, type labels. 102. *Centrophthalmus laevis* (Raffray), syntype. 103. Ditto, type labels. 104. *Enantius rostratus* Reitter, syntype. 105. *Colilodion inopinatus* Besuchet, holotype.

as shown below. Typical species of this genus is characterized by the long and slender palpal segment IV thickened and rounded at apex.

List of species:

- BN 101. *Pselaphus unipunctatus* Reitter, 1884: 410. Barabei, Pengaron [Borneo] (Pl. 7: 94, 95).
- BN 102. *P. lativentris* Reitter, 1883: 293. Batavia [Borneo, Indonesia (Java)] (Pl. 7: 96, 97).
- BN 104. *P. calopygaeus* Schaufuss, 1888: 294. Borneo; mer. or. [Borneo].
- BN 105. *P. canaliculatus* Schaufuss, 1877: 5. Siam (Bangkok) [Thailand, Borneo (Sarawak)].
- BN 106. *P. sexstriatus* Reitter, 1884: 411. Tameanglaiang [Borneo] (Pl. 7: 98, 99).
- BN 107. *P. biocellatus* Reitter, 1884: 410. Telang, Tameanglaiang, Pengaron [Borneo].

Tribe Tmesiphorini

Genus *Chandleriella* Hlaváč (1)

Chandleriella Hlaváč, 2000: 91. Type species: *Lasinus termitophilus* Bryant, by original designation.

Remarks. This genus was established for the old known species, *Lasinus termitophilus* Bryant. It is characterized by very large body, very small and simple maxillary palpus and the long and sexually modified antenna. It is regarded as being closely allied to the genus *Pseudophanias* Raffray in the first author's study.

List of species:

- BN 108. *Chandleriella termitophila* (Bryant, 1915c: 300) (*Lasinus*). Sarawak (Mt. Matang) [Borneo (Sarawak)].

Genus *Tmesiphorus* LeConte (1)

Tmesiphorus LeConte, 1849: 75. Type species: *Pselaphus carinatus* Say, designated by Lucas (1920).

Remarks. This genus includes many Asian species but only one species has been known from Borneo as shown below. Typical species of this genus is characterized by the large maxillary palpus with each penicillate segments II and III,

and with the roundly expanded segment IV on the external side.

List of species:

- BN 109. *Tmesiphorus matangensis* Bryant, 1915c: 297. Sarawak (Mt. Matang) [Borneo (Sarawak)].

Genus *Stethothaphrus* Newton et Chandler (1)

Taphrostethus Schaufuss, 1882d: 151 (preoccupied). Type species: *Epicaris hamotoides* Schaufuss, by monotypy.

Stethothaphrus Newton et Chandler, 1989: 58 (replacement name).

Remarks. The name of this genus was recognized as a junior homonym by Newton & Chandler (1989). A new name, *Stethotaphrus* was given, and was regarded as a genus of the subtribe Somatipionina of the tribe Tyrini. Subsequently it was transferred to the tribe Tmesiphorini by Chandler (2001).

List of species:

- BN 118. *Stethotaphrus hamotoides* (Schaufuss, 1882b): 370 (*Taphrostethus*). Borneo, Sarawak [Borneo].

Tribe Tyrini

Subtribe Centrophthalmina

Genus *Centrophthalmus* Schmidt-Göbel (4)

Centrophthalmus Schmidt-Göbel, 1838: 7. Type species: *C. paria* Schmidt-Göbel, by monotypy.

Remarks. A key to the genera of Centrophthalmina (four genera) is already given by Hlaváč & Chandler (2005). This genus is characterized by the maxillary palpus with very large and externally expanded palpal segment III and very small and conical IV.

List of species:

- BN 110. *Centrophthalmus bispinus* Reitter, 1884: 390. Telang [Borneo].
- BN 111. *C. divisus* Reitter, 1884: 390. Telang [Borneo] (Pl. 7: 100, 101).
- BN 112. *C. punctipennis* Schaufuss, 1877: 21. Siam (Bangkok) [Taiwan, Vietnam (Saigon), Thailand, Singapore, Borneo, Indonesia

(Sumatra, Java, Sulawesi)].

BN 112A. Syn. *C. punctatissimus* Schaufuss, 1877: 22.

BN 112B. Syn. *C. inaequalis* Schaufuss, 1877: 22.

BN 112C. Syn. *C. quadristriatus* Schaufuss, 1877: 22. Singapore.

Genus *Centrophthalmina* Raffray

Centrophthalmina Raffray, 1908: 365. Type species: *Centrophthalmus laevis* Raffray, by monotypy.

Remarks. This genus is similar to *Centrophthalmus*, but separable by the strongly constricted pronotum in the basal half and the antenna lacking distinct club, with male sexual character on the funicle.

List of species:

BN 113. *Centrophthalmina laevis* (Raffray, 1896: 276) (*Centrophthalmus*). Borneo [Vietnam (Saigon), Sumatra, Borneo] (Pl. 7: 102, 103)

Genus *Enantius* Schaufuss (1)

Enantius Schaufuss, 1877: 18. Type species: *E. punctipennis* Schaufuss, by monotypy.

Remarks. This genus is easily separated from the other genera of *Centrophthalmina* by the maxillary palpus with very large or long palpal segment III and the triangular IV.

List of species:

BN 114. *Enantius rostratus* Reitter, 1884: 390. Tamaenglaiang [Borneo] (Pl. 7: 104).

Subtribe Tyrina

Genus *Labomimus* Sharp (1)

Labomimus Sharp, 1883: 300. Type species: *L. reitteri* Sharp, by monotypy.

Remarks. This genus is distinct in having the large and stout body, the pronotum lacking median longitudinal ridge, and the setose median fovea on the metasternum.

List of species:

BN 115. *Labomimus heterocerus* (Raffray,

1882: 16) (*Pselaphodes*). Sarawak [Borneo (Sarawak); Java, Sumatra].

BN 115A. Syn. *Pselaphodes sumatrensis* Raffray, 1896: 277. Sumatra.

BN 115B. Syn. *Pselaphodes antennatus* Bryant, 1915c: 299. Sarawak (Quop).

Genus *Pselaphodes* Westwood (1)

Pselaphodes Westwood, 1870: 129. Type species: *P. villosus* Westwood, by monotypy.

Atherocolpus Raffray, 1897: 15. Type species: *Pselaphodes heterocerus* Raffray, designated by Newton & Chandler (1989).

Remarks. This genus is very similar to *Labomimus*, but separated by the metasternum without setose median fovea after Hlaváč & Chandler (2005).

List of species:

BN 116. *Pselaphodes villosus* Westwood, 1870: 129. Borneo (Sarawak) [Borneo (Sarawak)].

Genus *Tyrus* Aubé (1)

Tyrus Aubé, 1833: 15. Type species: *Pselaphus mucronatus* Panzer, by monotypy.

Remarks. This worldwide genus includes only one Bornean species shown below, typical species of the genus being characterized by the palpal segments II and III each strongly thickened and rounded in apical part.

List of species:

BN 117. *Tyrus myrmecophilus* Bryant, 1915c: 298. Sarawak (Mt. Matang) [Borneo (Sarawak)].

Supertribe Clavigeritae

Tribe Colilodionini

Genus *Colilodion* Besuchet (3)

Colilodion Besuchet, 1991: 500. Type species: *C. inopinatus* Besuchet, by original designation.

Remarks. This is the only component genus of the tribe Colilodionini. It includes three Bornean species shown below, all of which have

three-segmented antennae. Recently, a new species was described from Vietnam by Nomura & Sugaya (2007), which is the first record of this genus from the Eurasian Continent.

List of species:

BN 119. *Colilodion incredibilis* Besuchet, 1991: 503. Sabah (Mt. Kinabalu) [Borneo (Sabah)].

BN 120. *C. inopinatus* Besuchet, 1991: 507. Sabah (Tamparuli-Ranau) [Borneo (Sabah)] (Pl. 7: 105).

BN 121. *C. mirus* Besuchet, 1991: 506. Sabah (Mt. Kinabalu) [Borneo (Sabah)].

Tribe Clavigerini

Subtribe Clavigerodina

Genus *Articerodes* Raffray (2)

Articerodes Raffray, 1890: 167. Type species: *Articerus syriacus* Sauley, by monotypy.

Remarks. From the Asian areas, four species of this genus have been known, namely, *A. kurosawai* and *A. kishimotoi* from the Ogasawara Isls., Japan, *A. quadriscopulatus* Schaufuss from Sumatra and the Bornean species shown below. Recently, the first author added three new species from Thailand and a new species from Vietnam (in press).

List of species:

BN 122. *Articerodes borneensis* Bryant, 1915a: 213. Sarawak (Mt. Matang) [Borneo (Sarawak)].

Subtribe Disarthricerina

Genus *Disarthricerus* Raffray (1)

Disarthricerus Raffray, 1895: 78. Type species: *D. integer* Raffray, by monotypy.

Remarks. This genus is easily distinguished from the other clavigerine genera by the short and thick body, the elongate head with very large eyes and the antennal club formed only by the terminal segment.

List of species:

BN 123. *Disarthricerus moultoni* Bryant,

1915 a: 212. Sarawak (Mt. Matang) [Borneo (Sarawak)].

A List of Pselaphine Species Collected from Borneo

All pselaphine species collected by the authors from Borneo in Mar. 2006 are listed below. Morphological features of each species are also commented.

Supertribe Bythinoplectitae

Tribe Bythinoplectini

Subtribe Pyxidicerina

1. *Parapyxidicerus* sp. 1 (Pl. 8: A)

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., by sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This genus is characterized by the ten-segmented antenna and the hemispherical maxillary palpus after Coulon (1989).

2. Gen. et sp. indet. 1 (Pl. 8: B)

Specimen examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., by sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. In the subtribe Pyxidicerina, eleven-segmented antenna is recognized in *Hugia*, *Megalocalpus* and *Orlandia*. This species is not coincident with these genera in other morphology. Therefore, it should not be identified with an already known genus of Pyxidicerina.

Supertribe Euplectina

Tribe Trichonychini

Subtribe Bibloporina

3. *Aphilia?* sp. 1 (Pl. 8: C)

Specimen examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.

Remarks. This species is similar to the Bornean species *A. femorata* Reitter, but is separable by having the transverse head.

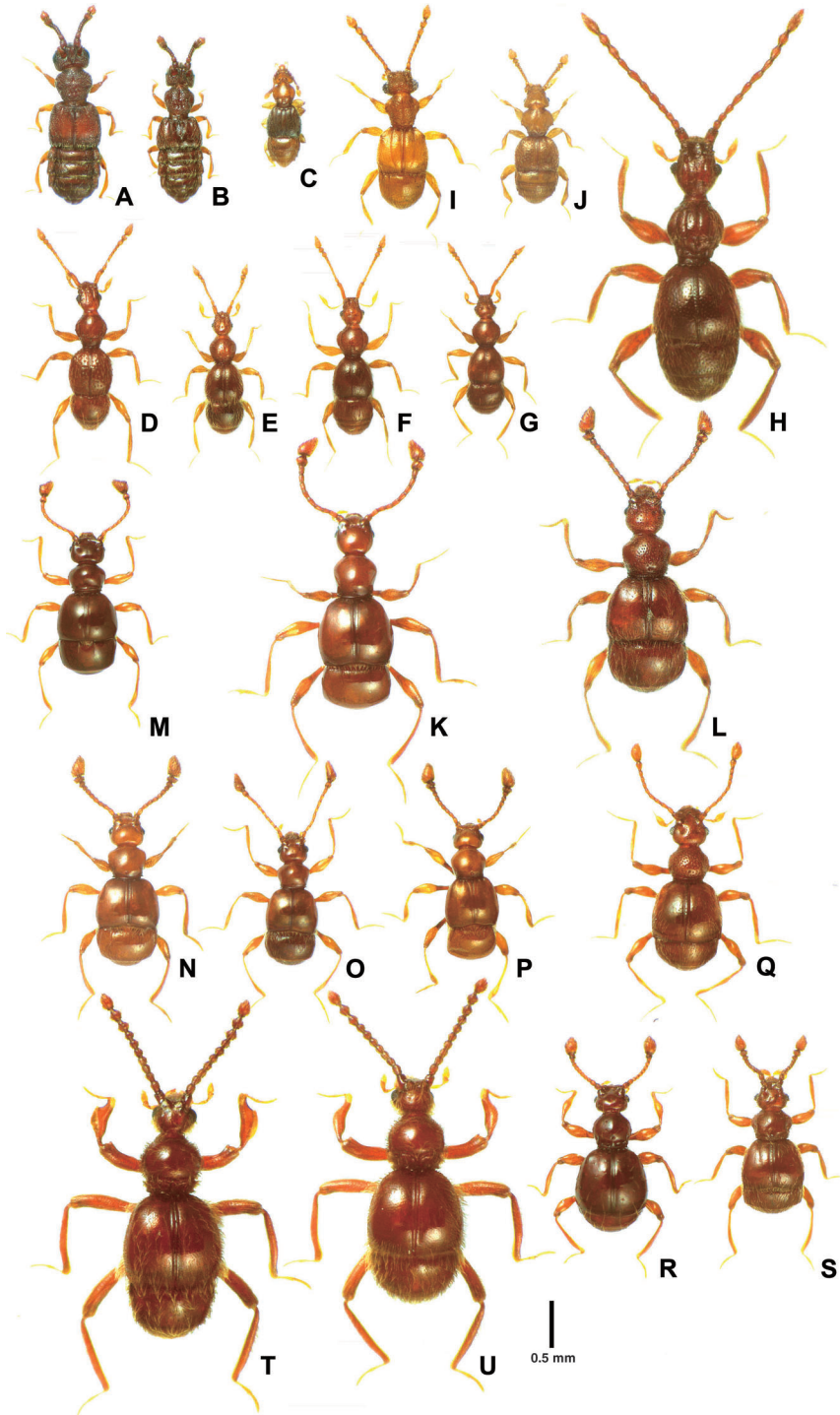


Plate 8. A. *Parapyxidicerus* sp. 1; B. *Pyxidicerina*, gen. et sp. undet. 1; C. *Aphilia?* sp. 1; D. *Mnia* sp. 1; E. *Mnia* sp. 2; F. *Mnia* sp. 3; G. *Mnia* sp. 4; H. *Batrisodes?* sp. 1; I. *Batrisoplilus* sp. 1; J. *Batrisoplastus* sp. 1; K. *Batraxis* sp. 1; L. *Batraxis* sp. 2; M. *Batraxis* sp. 3; N. *Batraxis* sp. 4; O. *Batraxis* sp. 5; P. *Batraxis* sp. 6; Q. *Atenisodus* sp. 1; R. *Natypleurus* sp. 1; S. *Natypleurina*, gen et sp. undet. 1; T. *Harmophorus* sp. 1, male; U. ditto, female.

Supertribe Batrisitae

Tribe Batrisini

Subtribe Batrisina

4. *Mnia* sp. 1 (Pl. 8: D)

Specimens examined. 1 male, 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 8 males, 5 females, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. In the subtribe Batrisina, the genus *Mnia* is distinct in having the prolonged antennal segment I. This species is easily separated from the other species by having the short antebasal spine on the pronotum.

5. *Mnia* sp. 2 (Pl. 8: E)

Specimens examined. 2 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 3 males, 5 females, same data as above, but 15. iii. 2006; 2 males, 4 females, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is characterized by the pronotum with coarse punctures on its posterior part.

6. *Mnia* sp. 3 (Pl. 8: F)

Specimens examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt. sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 3 males, 7 females, same data as above, but 15. iii. 2006; 2 males, 7 females, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is separable from the other congeneric species by having the pronotum with a pair of lateral longitudinal sulci.

7. *Mnia* sp. 4 (Pl. 8: G)

Specimens examined. 2 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 4 females, same data as above, but, 15. iii. 2006.

Remarks. In this genus, this species is distinguished by having the uniformly pubescent pronotum covered with fine punctures.

8. *Batrisodes?* (*quinquesulcatus*) sp. 1 (Pl. 8: H)

Specimens examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 6 females, same data as above, but, 15. iii. 2006; 2 females, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. The related species, *Batrisodes? quinquesulcatus* Raffray, was described from Singapore. It is not a member of the genus *Batrisodes* as shown in Nomura (2005) but belongs to an undescribed genus. This species is closely allied to *B.? quinquesulcatus*, though the male character is unknown.

9. *Batrisoplisus* sp. 1 (Pl. 8: I)

Specimens examined. 2 males, 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 2 males, 1 female, same data as above, but, 15. iii. 2006.

Remarks. This species is similar to the typical species of the genus *Batrisoplisus* in structure of the pronotum and the abdominal tergite IV. However, the antennal segment IX is not dilated in the male, almost the same as that of the female.

10. *Batrisoplastus* sp. 1 (Pl. 8: J)

Specimens examined. 1 male, 1 female, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is similar to the type species of the genus, *B. rugulosus* Raffray, described from Penang Is., Malaysia in having the small body, rudimentary eyes and the smooth pronotum on the dorsal surface with a pair of lateral spines. However, it differs from the type species by the slightly larger body.

Supertribe Goniaceritae

Tribe Brachyglutini

Subtribe Brachyglutina

11. *Batraxis* sp. 1 (Pl. 8: K)

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is characterized by the large and stout body, the smooth dorsal surface and the distinct and oblique antennal club.

12. *Batraxis* sp. 2 (Pl. 8: L)

Specimen examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is similar to *Batraxis* sp. 1 in having the large and stout body. However, the body is slightly wider than in sp. 1, and the dorsal surface is coarsely punctate, and the antenna is longer than that of *Batraxis* sp. 1.

13. *Batraxis* sp. 3 (Pl. 8: M)

Specimens examined. 9 exs., Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 32 exs., same data as above, but, 15. iii. 2006; 28 exs., Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is easily distinguished from the other species in the same genus by having the small-sized and blackish body, the very smooth dorsal surface and the slender antenna with nodulate terminal segment.

14. *Batraxis* sp. 4 (Pl. 8: N)

Specimens examined. 2 exs., Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 19 exs., same data as above, but, 15. iii. 2006.

Remarks. This is similar to *Batraxis* sp. 3, but separable by the moniliform antenna with ovoid and oblique terminal segment.

15. *Batraxis* sp. 5 (Pl. 8: O)

Specimens examined. 2 exs., Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species differs from the other species by the small body and very slender antenna.

16. *Batraxis* sp. 6 (Pl. 8: P)

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This is similar to *Batraxis* sp. 5, but it is separable by the thick antenna.

17. *Eupines?* sp. 1

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.

Remarks. This species is characterized by the middle-sized body and the very smooth dorsal surface.

18. *Atenisodus* sp. 1 (Pl. 8: Q)

Specimens examined. 2 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.; 1 male, same data as above, but, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt.

Remarks. This is an isolated species by having the middle-sized body and the coarsely punctate dorsal surface.

Tribe Iniocyphini

Subtribe Natypleurina

19. *Natypleurus* sp. 1 (Pl. 8: R)

Specimens examined. 2 males, 1 female, Waterfall Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is closely allied to the type species, *N. malayanus* known from the Malay Peninsula in having the bulbous body and the dorsal surface coarsely covered with punctures and long setae, but it is separated from *N. malayanus* by lacking a small denticle on the

fore femur in the male (denticulate in the male of *N. malayanus*).

20. Gen. undet. sp. 1 (Pl. 8: S)

Specimens examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.; 1 female, same data as above, but, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt..

Remarks. This undetermined genus is similar to the Japanese genera, *Takaorites* and *Nipponobythus*, in having the predominantly large fourth abdominal segment, but it differs in the thick body and the small head without sexual setiferous patch.

Tribe Arnyllini

21. *Harmophorus* sp. 1 (Pl. 8: T, U)

Specimens examined. 3 males, 5 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is closely allied to *A. ensipes* and *A. parviceps* known from Borneo in having the almost symmetrical antenna, but it is separable by having the strongly thickened fore tibia with dense brush on the external side in the male.

Tribe Cyathigerini

22. *Plagiophorus* sp. 1 (Pl. 9: A)

Specimens examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 1 female, same data as above, but, 15. iii. 2006; 2 females, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is very similar to *P. impar* (Raffray) known from Singapore and Penang Is., though the male sexual character of this species is unknown.

23. *Plagiophorus* sp. 2 (Pl. 9: B)

Specimen examined. 1 male, Main Trail, In-

obong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.

Remarks. This species is characterized by the middle-sized body and the large and round antennal club in the male. The female is unknown.

24. *Plagiophorus* sp. 3 (Pl. 9: C)

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This is similar to *Plagiophorus* sp. 2 in the middle-sized body, though it is separable by the large head with small eyes and the angulate antennal club in the male.

25. *Plagiophorus* sp. 4 (Pl. 9: D)

Specimen examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. *Plagiophorus* sp. 4 to sp. 7 are similar to one another in having small body and seven-segmented antenna in the male. This species is different from the other species by the round antennal club and the large eyes in the male. The female is unknown.

26. *Plagiophorus* sp. 5 (Pl. 9: E, F)

Specimens examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.; 1 male, 2 females, same data as above, but 15. iii. 2006.

Remarks. This species is distinct in the angulate and thick antennal club in the male.

27. *Plagiophorus* sp. 6 (Pl. 9: G, H)

Specimens examined. 5 males, 4 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This is similar to *Plagiophorus* sp. 4 in having the round antennal club. However, it has small antennal club with short rims around the internal cavity in the male.

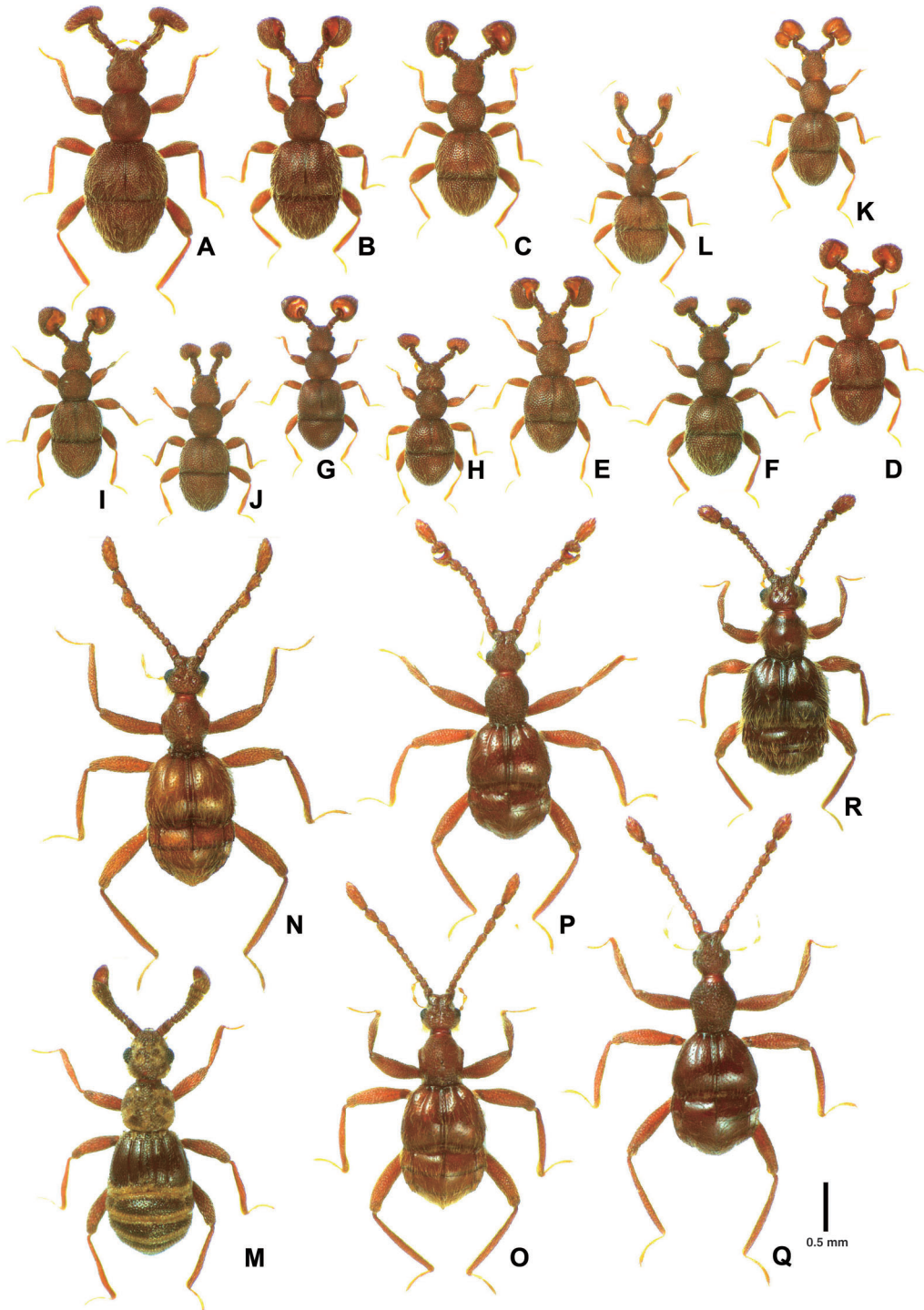


Plate 9. A. *Plagiophorus* sp. 1; B. *Plagiophorus* sp. 2; C. *Plagiophorus* sp. 3; D. *Plagiophorus* sp. 4; E. *Plagiophorus* sp. 5, male; F. Ditto, female; G. *Plagiophorus* sp. 6, male; H. Ditto, female; I. *Plagiophorus* sp. 7, male; J. ditto, female; K. *Plagiophorus* sp. 8; L. *Plagiophorus* sp. 9; M. *Apharinodes* sp. 1; N. *Ancystrocerus* sp. 1, male; O. ditto, female; P. *Ancystrocerus* sp. 2, male; Q. ditto, female; R. *Tmesiphorus* sp. 1.

28. *Plagiophorus* sp. 7 (Pl. 9: I, J)

Specimens examined. 2 males, 2 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 14. iii. 2006, S. Nomura leg.

Remarks. This is very similar to *Plagiophorus* sp. 4, but it is separable by the slightly smaller body and the small eyes in the male.

29. *Plagiophorus* sp. 8 (Pl. 9: K)

Specimen examined. 1 male, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. The male of this species is easily separated from those of the other species by the bilobed antennal club; the female is unknown.

30. *Plagiophorus* sp. 9 (Pl. 9: L)

Specimen examined. 1 female, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is distinct in the Bornean species of this genus by having the ten-segmented antenna. The male sexual character is unknown.

Supertribe Pselaphitae

Tribe Hybocephalini

31. *Apharinodes* sp. 1 (Pl. 9: M)

Specimen examined. 1 male, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is similar to the female type of *A. squamosus* Raffray described from Singapore in having the small body and the successively thickened antenna. However, it is slightly smaller than *A. squamosus* and incomparable because the female of this species is unknown.

Tribe Tmesiphorini

32. *Ancystrocerus* sp. 1 (Pl. 9: N, O)

Specimens examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting

leaf litter, 14. iii. 2006, S. Nomura leg.; 2 females, same data as above, but, 15. iii. 2006; 1 male, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. The genus *Ancystrocerus* is very different from *Tmesiphorus* by the long and slender antenna and the small and simple maxillary palpus. This species is closely allied to the type species *A. sumatrensis*. However, it is easily separable by the longitudinally carinated abdominal tergites V to VIII and the slender antennal segments I to II.

33. *Ancystrocerus* sp. 2 (Pl. 9: P, Q)

Specimens examined. 1 male, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.; 1 male, 3 females, same data as above, but, Waterfall Trail, Inobong Nature Reserve, Sabah, 500 m alt.

Remarks. This species is also similar to *A. sumatrensis* in the abdominal structure. However, it is separable by transverse antennal segments IX to X in the male.

34. *Tmesiphorus* sp. 1 (Pl. 9: R)

Specimens examined. 3 females, Main Trail, Inobong Nature Reserve, Sabah, 550 m alt., sifting leaf litter, 15. iii. 2006, S. Nomura leg.

Remarks. This species is similar to *T. matangensis* described from Sarawak by Bryant (1915c) in having the middle-sized body and the short and thick antennae. However, it is easily separable by the less coarsely punctate head, pronotum and elytra, and the rounded postgenae (bispinulate in *T. matangensis*).

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ボルネオ産アリツカムシ相の概観

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ボルネオから知られる44属123種のアリツカムシについて、パリ国立自然史博物館およびジュネーヴ自然史博物館に所蔵されるタイプ標本や同定標本を再調査し、分類学的整理を行った。また、サバ州クロッカー山脈イノボンで採集したアリツカムシ34種のリストを付した。