

## A Small Collection of Tingidae (Insecta: Heteroptera) from Sarawak, East Malaysia, with a Checklist of the Known Species

Masaaki Tomokuni

Department of Zoology, National Museum of Nature and Science,  
3–23–1 Hyakunin-cho, Shinjuku-ku, Tokyo 169–0073, Japan  
E-mail: tomokuni@kahaku.go.jp

**Abstract.** Ten species of Tingidae in nine genera are recorded from Sarawak, East Malaysia, on the basis of the specimens in the collection of the Sarawak Forest Research Centre, Kuchin, Malaysia, and the National Museum of Nature and Science, Tokyo, Japan. Brief notes on their taxonomy and biology are given, if necessary. Of these, six species, *Cantacader quinquecostatus* (Fieber, 1844), *Pseudophatnoma denticollis* (Péricart, 1986), *Belenus dentatus* (Fieber, 1844), *Eritingis recentis* (Drake and Poor, 1937), *Physatocheila brailovskyi* Péricart, 1992, and *Trachypplus borneensis* Péricart, 1986, are new to Sarawak. A checklist of the tingid species known from Sarawak is also provided for further studies toward the full inventory of this group.

**Key words:** Heteroptera, Tingidae, new record, checklist, inventory, Sarawak, Malaysia.

### Introduction

Occupying northwestern part of Borneo Island, Sarawak is still covered by thick tropical rain forests particularly in national park areas. The biodiversity in Sarawak is, however, now decreasing rapidly by unceasing human activities. It is essential to know the species diversity for accomplishing the ideal stated in the “Convention on Biological Diversity”. Unfortunately, the tingid fauna of Sarawak has poorly been investigated and only ten species in nine genera are known to occur in this area (Tomokuni, 2005).

This paper deals with a small collection of Tingidae from Sarawak based on the material housed in the Sarawak Forest Research Centre (FRC), Kuchin, Malaysia, and collected by myself in 2002 and now housed in the National Museum of Nature and Science (NSMT), Tokyo, Japan. Most of these specimens were collected at the Lambir Hills National Park located about 20 km south of Miri. In this Park, a long term research project has been operated to pursuit the ecosystem and biodiversity in the rain forest canopy under the direction of Kyoto University,

Japan. Insect specimens obtained under this project, primarily by UV light trap, have been deposited at the FRC.

### List of Species

Subfamily *Cantacaderinae* Stål, 1873

Tribe *Cantacaderini* Stål, 1873

*Cantacader quinquecostatus* (Fieber, 1844)

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1 ♀, UV light T35, 21–25 Feb. 1993, B0072; 1 ♀, UV light T35, 22–26 Apr. 1993, B0288; 1 ♀, UV light T17, 19–23 May 1993, B0345 (all in FRC).

Distribution. China, Japan, Philippines, Vietnam, Laos, Cambodia, Thailand, Myanmar, Malaysia, Indonesia, Brunei, Palau, India, Sri Lanka.

Host plant. Unknown.

Note. This species was recorded from Peninsula Malaysia (Horvth, 1926) and Sabah (Lis, 2003), but is new to Sarawak.

***Pseudophatnoma denticollis*** (Péricart, 1986)

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1♂, UV light T35, 18–22 June 1993, B0409; 1♂, UV light T17, 22–26 Mar. 1993, B0112; 1♂, UV light T17, 19–23 May 1993, B0345; 1♂, UV light T1.01, 11–12 Aug. 2002, K0082; 1♂, UV light T2.35, 12–13 Aug. 2002, K0103 (all in FRC).

Distribution. Malaysia (Sabah, Sarawak).

Host plant. Unknown.

Note. Péricart (1986a) described this remarkable species from Sabah under his new genus *Froeschnerocader*, but later he synonymized it with *Pseudophatnoma* Blöte, 1945 transferring its tribal placement from Phatonomini to Cantacaderini (Péricart, 1991). This is the first record of this species from Sarawak.

Subfamily **Tinginae** Laporte, 1833Tribe **Tingini** Laporte, 1833? ***Agramma gibbum*** Fieber, 1844

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak: 6♂, 6♀, 5 Dec. 1998, M. Tomokuni leg. (NSMT).

Host plant. Unknown.

Note. *Agramma* is a large and taxonomically difficult group in the Tingidae comprising nearly 70 nominal species. According to insufficient original description and illustrations by Fieber (1844), present specimens can be identified with *A. gibbum*. However, the final decision should be refrained until comparative material, including types, become available.

***Agramma*** sp.

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak: 4♂, 1♀, 5 Dec. 1998, M. Tomokuni leg. (NSMT).

Host plant. Unknown.

Note. This species is very remarkable in having elongate ovate body, biseriate costal areas, and reddish-brown coloration of the head, pronotum, and anterior half of elytra. It possibly belongs to an undescribed species.

***Belenus dentatus*** (Fieber, 1844)

Specimen examined. Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1♀, UV light T35, 22–26 Apr. 1993, B0288 (FRC).

Distribution. China, Japan, Taiwan, Philippines, Vietnam, Thailand, Malaysia, Indonesia, India, Sri Lanka, Mariana Islands.

Host plant. Unknown.

Note. Distant (1909) listed Borneo, without detailed locality, as the distribution of this species. This is, therefore, the actual first record of this species from Sarawak.

***Diconocoris hewetti*** (Distant, 1908)

Specimen examined. Bau–Lundu, Sarawak: 1♀, 1 Dec. 1969, Host Pepper, H. Hasegawa leg. (NSMT).

Distribution. Malaysia (Sarawak), Indonesia (Sumatra, Bangka Islands).

Host plant. Pepper (Drake & Ruhoff, 1965).

Note. Distant (1908) described this species from Kuching, Sarawak.

***Eritingis recentis*** (Drake and Poor, 1937)

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1♂, UV light T35, 21–25 Jan. 1993, B0032; 1♂, UV light T35, 22–26 Apr. 1993, B0288 (all in FRC).

Distribution. Vietnam, Singapore, Malaysia, Indonesia, New Guinea, New Britain.

Host plant. Unknown.

Note. Drake & Ruhoff (1965) recorded this species from Sabah, but it is new to Sarawak. The specific epithet of this species was emended from “recentis” to “recens” by Drake (1947), but this is considered to be an “unjustified emendation” under Article 33.3. of ICZN.

***Physatocheila brailovskyi*** Péricart, 1992

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1♂, UV light T35, 23–27 Nov. 1992, A0145; 1♀, UV light T35, 21–25 Jan. 1993, B0032; 2♂, 1♀, UV light T35, 22–26 Apr. 1993, B0288; 1♂, UV

light T35, 19–23 May 1993, B0346 (all in FRC).

Distribution. Nepal, Thailand, Malaysia (Sarawak).

Host plant. Unknown.

Note. Present material from Sarawak agree with the original description and illustrations (Péricart, 1992) of *Physatocheila brailovskyi* known from Nepal and Thailand in its small (ca. 2.8 mm long) and elongate-oval body, slightly elevated outer margins of the paranota, well developed and uniserial pronotal carinae, uniserial costal areas, biserial subcostal areas, narrow (5-serial) discoidal areas, brownish coloration without conspicuous markings, and so on; however a little doubt is still remain on their specific identity from the distributional view point (Nepal and Thailand vs. Sarawak). If the identification is really correct, this is the first record of this species from Borneo.

***Trachypeplus borneensis* Péricart, 1986**

Specimens examined. Lambir Hills National Park, nr. Miri, Sarawak: 1♂, 2♀, canopy, 9 Mar. 2002, M. Tomokuni leg. (NSMT). Lambir Hills National Park, nr. Miri, Sarawak, Canopy Biology Prog.: 1♂, UV light T35, 21–25 Feb. 1993, B0072 (FRC)

Distribution. Malaysia (Sabah, Sarawak).

Host plant. Unknown.

Note. Péricart (1986b) described this species from Sabah, but it is new to Sarawak.

***Ulonemia* sp.**

Specimen examined. Lambir Hills National Park, nr. Miri, Sarawak: 1♀, canopy, 9 Mar. 2002, M. Tomokuni leg. (NSMT).

Host plant. Unknown.

Note. This species is separable from other congeners known from Southeast Asia, including Pacific islands, by its smaller body (2.7 mm long), shorter 3rd segments of antennae (less than twice as long as the 4th), and so on. But unfortunately, since only one specimen is now in my hand, I would postpone describing it as a new species until adequate number of material become available.

**Discussion**

A total of ten species of Tingidae in nine genera, including three unidentified or questionable species, are here recorded from Sarawak, Malaysia. Of these, six species, *Cantacader quinquecostatus*, *Pseudophatnoma denticollis*, *Belenus dentatus*, *Eritingis recentis*, *Physatocheila brailovskyi*, and *Trachypeplus borneensis*, are new to Sarawak. In total, 15 species in 14 genera are known to date in the tingid fauna of Sarawak (see Appendix). This number of species is extremely poor even in comparison with that in Sabah, northern part of Borneo. In Sabah 47 species of Tingidae in 31 genera have been recorded so far (cf. Tomokuni, 2005). This disparity clearly shows the insufficiency of inventory researches in Sarawak.

**Acknowledgements**

I thank Het Kaling (FRC), Takao Itioka (Kyoto University), Tomoaki Ichie (Kochi University), and Shuhei Nomura (NSMT) for their kind support to my laboratory and field works in Sarawak. This study is financially supported by the projects “Biodiversity inventory in the Western Pacific region” directed by the National Museum of Nature and Science, Tokyo, and “The development of Insect Inventory Project in Tropical Asia” conducted by Osamu Yata (Kyushu University).

**Appendix: Checklist of Tingidae from Sarawak**

Subfamily Cantacaderinae Stål, 1873

Tribe Cantacaderini Stål, 1873

Genus *Cantacader* Amyot and Serville, 1843  
*quinquecostatus* (Fieber, 1844): Entmol. Monogr., p. 41.

Genus *Pseudophatnoma* Bölte, 1945  
*denticollis* (Péricart, 1986): J. New York Ent. Soc., 94: 246.

Subfamily Tinginae Laporte, 1833

Tribe Tinginae, Laporte, 1833

Genus *Ammianus* Distant, 1903

*perakensis* (Distant, 1902): Ann. Mag. Nat. Hist., (7) 9: 355.

Genus *Aphelotingis* Drake, 1948

*mui* (Drake, 1927): Philip. J. Sci., 34: 307.

Genus *Belenus* Distant, 1909b

*dentatus* (Fieber, 1844): Ent. Mon. p. 71.

Genus *Cetiothucha* Drake and Ruhoff, 1965

*physalia* Drake and Ruhoff, 1965: Pacif. Ins., 7: 285.

Genus *Cromerus* Distant, 1902

*invarius* (Walker, 1873): Catalog. Hem. Heter. Coll. B.M., (6): 196.

Genus *Diconocoris* Mayr, 1865

*hewetti* Distant, 1908: Rec. Ind. Mus., 2 (2): 127.

Genus *Eritingis* Drake and Ruhoff, 1962

*recentis* (Drake and Poor, 1937): Philip. J. Sci., 62: 5.

Genus *Hegesidemus* Distant, 1911

*elegantulus* (Distant, 1909a): Rec. Ind. Mus., 3 (2): 167.

Genus *Pennotus* Distant, 1903

*monticollis* (Walker, 1873): Catalog. Hem. Heter. Coll. B.M., (6): 196.

Genus *Perissonemia* Drake and Poor, 1937

*bimaculata* (Distant, 1909a): Rec. Ind. Mus., 3 (2): 166.

*borneensis* (Distant, 1909a): Rec. Ind. Mus., 3 (2): 166.

Genus *Physatocheila* Fieber, 1844

*brailovskiyi* Péricart, 1992: Ent. Basil., 15: 71.

Genus *Stephanitis* (*Norba*) Horváth, 1912

*typica* (Distant, 1903): Ann. Soc. Ent. Belg., 47: 47.

Genus *Trachypeplus* Horváth, 1926

*borneensis* Péricart, 1986: Rev. Suisse Zool., 93: 652.

## References

- Distant, W. L., 1908. Rhynchota Malayana, part 1. *Records of the Indian Museum*, 2: 127–151, pls. 7–8.
- Distant, W. L., 1909. Rhynchota Malayana, part 2. *Records of the Indian Museum*, 3: 163–181, pls. 10–11.
- Drake, C. J., 1947. Tingidae (Hemiptera) from the Orient and South Pacific. *Musée Heude Notes d'Entomologie Chinoise*, 11: 225–231.
- Drake, C. J. & Ruhoff, F. A., 1965. Lacebugs from New Guinea, Borneo, Solomons, and other islands of the South Pacific and Indian Oceans (Hemiptera: Tingidae). *Pacific Insects*, 7: 243–290.
- Fieber, F. X., 1844. Entomologische Monographien. 138 pp., 9 pls. Barth, Prag.
- Horváth, G., 1926. Hemipterologische notizen aus Niederländisch-Indien. *Treubia*, 8: 327–333.
- Lis, B., 2003. Revision of the genus *Cantacader* Amyot et Serville, 1843 (Hemiptera: Heteroptera: Cantacaderidae). *Polskie Pismo Entomologiczne*, 72 (Suppl. 2003): 1–222.
- Péricart, J., 1986a. *Froeschnerocader denticollis* (Heteroptera: Tingidae): a new genus and species of Cantacaderinae from Borneo. *Journal of the New York Entomological Society*, 94: 245–248.
- Péricart, J., 1986b. Hémiptères Tingidae du nord de Bornéo et de l'île de Palawan (Philippines). *Revue Suisse de Zoologie*, 93: 647–660.
- Péricart, J., 1991. Cantacaderinae de Thaïlande, Bornéo et Palawan: genres nouveaux especes nouvelles ou intéressantes ainsi qu'une nouvelle synonymie (Hemiptera, Tingidae). *Revue Suisse de Zoologie*, 98: 33–50.
- Péricart, J., 1992. Tingidae (Tinginae) d'Arabie, de la région Orientale et d'Australie, avec la description d'un genre nouveau et de 14 especes nouvelles. *Entomologica Basiliensia*, 15: 45–86.
- Tomokuni, M., 2005. Towards a full inventory of the heteropterous insects in Borneo. In: Yata, O. (ed.) A Report on Insect Inventory Project in Tropic Asia (TAIIV). Pp. 241–246. Kyushu University, Fukuoka.

サラワク産ゲンバウムシ科（昆虫綱：異翅目）の小コレクションと  
全既知種のチェックリスト

友国雅章

国立科学博物館のプロジェクト「西太平洋地域の生物多様性インベントリー」により得られた標本とサラワク州森林研究センターに保管されている標本から、マレーシア、サラワク州産のゲンバウムシ科として、3種の未同定もしくは疑問種を含め9属10種を報告した。うち6種、*Cantacader quinquecostatus* (Fieber, 1844), *Pseudophatnoma denticollis* (Péricart, 1986), *Belenus dentatus* (Fieber, 1844), *Eritingis recentis* (Drake and Poor, 1937), *Physatocheila brailovskyi* Péricart, 1992 および *Trachypeplus borneensis* Péricart, 1986, はサラワク初記録である。これにより、同地からは14属15種が知られることになった（チェックリスト参照）。ボルネオ島の北の一角を占めるマレーシアのサバ州からは31属47種のゲンバウムシが記録されていること (Tomokuni, 2005) と比較すると、サラワク州のゲンバウムシに関するインベントリー調査がきわめて遅れていることが明白に示された。