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The assassin bug subfamily Tribelocephalinae (Hemiptera: Heteroptera: Reduviidae) from Japan, with descriptions of eight new species in the genera *Opistoplatys* and *Abelocephala*

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Abstract

We examined the Japanese species of the reduviid subfamily Tribelocephalinae. We identified two species of *Opistoplatys* Westwood, which is the genus with the second largest number of species, and six species of *Abelocephala* Maldonado, which to date has been referred to as a monotypic genus. All the identified species represent new species and they are described herein under the following names: *Opistoplatys minimus* sp. nov., *Opistoplatys flavolineatus* sp. nov., *Abelocephala albula* sp. nov., *Abelocephala araiorum* sp. nov., *Abelocephala nakatai* sp. nov., *Abelocephala yaeyamensis* sp. nov., *Abelocephala major* sp. nov., and *Abelocephala longiceps* sp. nov. Species of *Abelocephala* can be distinguished from each other based on multiple morphological characters such as body length, ratio of the length to the width of the head, color of the posterior pronotal lobe, shading and pattern of color in the hemelytral basal part, and acuteness or roundness in the apical angle of the outer (larger) cell on the hemelytral membranes. We confirmed that the Japanese tribelocephalines are ground inhabitants living under and within the forest leaf litter. Our results inferred that species of *Opistoplatys* have positive phototaxis but generally move by walking, whereas species of *Abelocephala* have negative phototaxis but frequently fly above the forest floor.

Key words: flight interception trap, identification key, morphological character, ground inhabitant, taxonomy

Introduction

Tribelocephalinae Stål is a relatively small subfamily in the heteropteran family Reduviidae. This subfamily contains 15 genera and approximately 120 species that are placed within three tribes originating from the Ethiopian, Oriental, and Australian regions (Maldonado Capriles 1990, 1996). Members of the subfamily Tribelocephalinae are distinguished by morphological characters such as head and body tomentose, absence of ocelli, eyes not strongly projected laterad if present, and corium narrow and elongate. Information regarding the detailed global biology of the subfamily Tribelocephalinae is lacking; however, tribelocephalines are found in leaf litter above ground and are sometimes attracted to light during night.

Prior to 2000, only a few specimens of tribelocephalines were known in Japan and this knowledge was limited to personal communications among heteropterists. The specimens were obtained by using the light trap method in the Ryukyu Islands, which have a subtropical climate; however, the taxonomic identities at the species and genus levels remained undetermined. To the best of our knowledge, the most recent published literature information regarding the subfamily Tribelocephalinae in Japan is provided by Ishikawa & Miyamoto (2012), who reported two species, *Opistoplatys* sp. and *Abelocephala* sp. along with photographs of living specimens and brief notes on morphology and ecology.

examine the holotypes of *Opisthoplatys perakensis* and *Abelocephala thai* deposited in the Natural History Museum, London, and the following entomologists for kindly providing material: Shûji Tachikawa (Association for Nature Restoration and Conservation, Japan), Mikio Takai (Kochi Pref.), Tadafumi Nakata (Okinawa Pref.), Masaaki Kimura (Ga-Show Ltd.), Itsuro Kawashima (Kanagawa Pref.), Koji and Shiho Arai (Saitama Pref.), Hiroki Mizushima (Tokyo College of Conservation and Civil Engineering), Takashi Shimada (Seikan Co., Ltd), Takashi Kurihara (Tochigi Prefectural Museum), Seidai Nagashima (Itami City Museum of Insects), Tsuyoshi Osafune (Aomori Pref.), Tomoyuki Tsuru (Echigo-Matsunoyama Museum of Natural Science), and Junnosuke Kantoh (Iriomote Wildlife Conservation Center). This research was partly supported financially by the Academic Frontier Cooperative Research Project, Tokyo University of Agriculture (2004–2009, Ishikawa), the Nakayama Foundation (1999, Tomokuni and Cai), the Natural Science Foundation of China (Nos. 30370161 and 30430100, Cai), and the Natural Science Foundation of Beijing (No 6042014, Cai).

References

- Bergroth, E. (1921) On some Opisthoplatyinae (Hem., Reduviidae). *Notulae Entomologicae*, 1, 67–70.
- Distant, W.L. (1906) Oriental Reduviidae. *Annals and Magazine of Natural History, including Zoology, Botany and Geology, Seventh Series*, 18, 363–371.
<http://dx.doi.org/10.1080/00222930608562629>
- Hsiao, T. & Ren, S. (1981) Reduviidae. In: Hsiao, T., Ren, S., Zheng, L., Jing, H., Zou, H. & Liu, S. (Eds.), *A handbook for the determination of the Chinese Hemiptera-Heteroptera. Vol. II*. Science Press, Beijing, pp. 390–538, 615–623. [In Chinese with English summary]
- Ishikawa, T. & Miyamoto, S. (2012) Family Reduviidae Latreille, 1807 Assassin bugs. In: Ishikawa, T., Takai, M. & Yasunaga, T. (Eds.), *A field guide to Japanese bugs –Terrestrial heteropterans–. Vol. 3*. Zenkoku Noson Kyoiku Kyokai, Publishing Co., Ltd., Tokyo, pp. 231–288, pls 20–51. [in Japanese]
- Maldonado Capriles, J. (1990) Systematic catalogue of the Reduviidae of the world (Insecta: Heteroptera). *Caribbean Journal of Science, Special Edition*, i–x, 1–694.
- Maldonado Capriles, J. (1996) New taxa and key to the tribes and genera in Tribelocephalinae Stål 1866 (Heteroptera: Reduviidae). *Proceedings of the Entomological Society of Washington*, 98, 138–144.
- Maruyama, M. (2003) Collecting methods of myrmecophilous and termitophilous beetles of Japan. *The Nature & Insects*, 38 (9), 43–47. [in Japanese]
- Maruyama, M. (2006) An effective and simple flight interception trap. *Coleopterists' News*, 153, 20–21. [in Japanese]
- Miller, N.C.E. (1940) New genera and species of Malaysian Reduviidae. Part 1. *Journal of the Federated Malay States Museum*, 18, 415–599.
- Stål, C. (1854a) Nya genera bland Hemiptera. *Öfversigt af Kungliga Vetenskapsakademiens Förhandlingar*, 10, 259–267.
- Stål, C. (1854b) Nya Hemiptera. *Öfversigt af Kungliga Vetenskapsakademiens Förhandlingar*, 11, 230–255.
- Stål, C. (1860) Hemiptera. Species novas descripsit. In: *Kongliga Svenska Fregattens Eugenies resa omkring Jorden under befäl af C.A. Virgin åren 1851–1853 3. Zoologi, Insecter*. Norstedt, Stockholm, pp. 219–298.
<http://dx.doi.org/10.5962/bhl.title.2467>
- Stål, C. (1862) Hemiptera mexicana enumeravit speciesque novas descripsit. *Stettiner Entomologische Zeitung*, 23, 289–325, 437–462.
- Westwood, J.O. (1835) Insectorum arachnoidumque novorum decades duo. *Zoological Journal*, 5, 440–453.