

## Morphological and Behavioral Characters of the Two Species Groups of the Ant Genus *Myrmicaria* (Insecta: Hymenoptera: Formicidae: Myrmicinae) from Southeast Asia

Bakhtiar Effendi Yahya<sup>1,2</sup>, Seiki Yamane<sup>1</sup> and Maryati Mohamed<sup>2</sup>

<sup>1</sup>Department of Earth and Environmental Sciences, Faculty of Science, Kagoshima University, Korimoto-1, Kagoshima, 890-0065 Japan

E-mail: Bakhtiareffendi@yahoo.co.uk (BEY); sky@sci.kagoshima-u.ac.jp (SKY)

<sup>2</sup>Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, 88999 Kota Kinabalu, Sabah, Malaysia

E-mail: dmaryati@ums.edu.my; pejtbcu@ums.edu.my (MM)

(Received 23 July 2006; Accepted 21 May 2009)

The ant genus *Myrmicaria* from Southeast Asia is clearly divided into two distinct species-groups (the *M. arachnoides* and *M. brunnea* groups) based on their morphology and nesting behaviour, as was suggested by Emery in 1922. We have found many additional characters, not noticed by previous authors, that differentiate the two groups. Male genital characters have also proved useful, not only in defining the groups but also in discriminating species in some cases.

**Key Words:** Insecta, Hymenoptera, Formicidae, Myrmicinae, *Myrmicaria*, Southeast Asia, species-group.

### Introduction

The ant genus *Myrmicaria* was erected by Saunders (1842) based on *M. brunnea* Saunders, 1842 from India. Species of this genus are widely distributed in the Old World tropics, i.e., Southeast Asia, South Asia, and tropical Africa. Two species-groups were recognized in the genus by Emery (1922), the *M. arachnoides* group and *M. brunnea* group, and this classification was followed by Santschi (1925) and Karavaiev (1935). The taxa of the *M. arachnoides* group have a very slim body, smooth mandibles and head, and a promesonotum that is distinctly raised above the level of the propodeum, laterally tuberculate above, and provided with a flat pronotal dorsum. The Southeast-Asian taxa of the *M. arachnoides* group include *M. arachnoides arachnoides* Smith, 1857, *M. a. adpressipilosa* Santschi, 1928, *M. a. luteiventris* Emery, 1900, *M. a. lutea* Emery, 1900, *M. a. latinoda* Stitz, 1938, *M. birmana* Forel, 1902, and *M. melanogaster* Emery, 1900.

The taxa of the *Myrmicaria brunnea* group have more robust bodies, longitudinally striate mandibles and head, and a promesonotum that is not distinctly raised above the level of propodeum and has a slightly convex pronotal dorsum. The Southeast- and South-Asian taxa of this group include *M. brunnea brunnea* Saunders, 1842, *M. b. flava* Forel, 1913, *M. b. subcarinata* Smith, 1857, *M. vidua* Smith, 1858, *M. carinata carinata* Smith, 1857, *M. c. gagatina* Wheeler, 1919, *M. c. jacobsoni* Starcke, 1938, *M. castanea* Crawley, 1924, *M. fodica* Jerdon, 1851, *M. gibbosa* (Smith,