Serangga 17(2): 23-29
ISSN 1394-5130 © 2012, Centre for Insect Systematics,
Universiti Kebangsaan Malaysia

SOME CORRECTIONS ON THE CATALOGUE OF METOPIINAE (HYMENOPTERA: ICHNEUMONIDAE) FROM MALAYSIA

Nahla, M.A.I. & Idris, A.B.
Centre for Insect Systematics,
Faculty of Science and Technology,
Universiti Kebangsaan Malaysia,
43600 Bangi, Selangor, Malaysia
nahla111@yahoo.com

ABSTRACT

A preliminary taxonomic revision on the subfamily Metopiinae of Malaysia conducted in 2009, revealed 11 genera recorded. However, further revision disclosed that, three of the eleven recorded genera do not exist in Malaysia namely: *Drepanoctonus, Macromalon* and *Periope.* Thus, presently there are only eight recorded genera of Metopiinae from Malaysia.

Key words: Malaysia, Hymenoptera, Ichneumonidae, Metopiinae.

ABSTRAK

Penyemakan awal ke atas subfamili Metopiinae di Malaysia telah dijalankan pada tahun 2009 dengan merekodkan sebelas genus. Walau bagaimanapun, kajian dan penyemakan lanjutan mendapati bahawa tiga genera tidak termasuk ke dalam subfamili di Malaysia iaitu: *Drepanoctonus, Macromalon* dan *Periope.* Oleh itu, pada masa ini hanya lapan genera Metopiinae direkodkan dari Malaysia.

Kata kunci: Malaysia, Hymenoptera, Ichneumonidae, Metopiinae.

INTRODUCTION

The Metopiinae (Hymenoptera: Ichneumonidae) is a worldwide distributed subfamily (Fitton 1984). There are 26 genera of this subfamily in the world (Wahl & Sharkey 1993; Yu et al. 2012). Yu and Horstmann (1997) reported 12 genera and 108 species of Metopiinae from the Oriental region. Members of this subfamily are small to fairly large species (Baltazer 1964), with stout legs, cylindrically stout body, ovoid escape and the clypeus which is not separated from the face by a groove, the clypeus and face together forming a convex surface except in the genus of *Metopius*, where the face has a large flat or concave escutcheon-shaped area (Townes 1971).

Metopiines are koinobiont endoparasitoids of Lepidoptera, usually of those in leaf rolls or folds (Wahl 1993). Oviposition is into the larva apparently considerable time prior to pupation, while the adult emerges from the host's pupa (Townes 1971; Fiton 1984).

Horstmann et al. (1999) have recorded the following genera of Metopiinae from the Kinabalu National Park in Sabah; they are *Drepanoctonus*, *Exochus*, *Hypsicera* and *Trieces*. In 2005 Horstmann et al. recorded the previously mentioned genera as well as *Triclistus* from secondary forests near Kinabalu National Park. Subsequently, Ng (2006) has listed the following genera; *Acerataspis* from Pasoh Forest Reserve & Bukit Nanas Forest Reserve (low land of dipterocarp forests); *Macromalon* and *Priope* from Pasoh Forest Reserve.

MATERIALS & METHODS

Identified/unidentified Metopiinae specimens were gathered from the Centre for Insect Systematics, National University of Malaysia (UKM) collection and loaned specimens from overseas institutions namely; British Natural History Museum-London, United States National Museum of Natural History, Smithsonian Institute-Washington and Biozentrum, Zoologie III-Wurzburg. Carl Zeiss Stemi 2000 stereomicroscope was used for the specimens' examination. Literatures such as Townes and Townes (1959), Wahl and Sharkey (1993) and Gauld (1984) keys were all consulted for the specimens identification.

RESULTS AND DISCUSSION

The conducted systematic revision on Metopiinae collection from the Centre of Insects systematics (CIS), National University of Malaysia (UKM) and loaned specimens has revealed that: the recorded Metopiinae genera's from Malaysia at present is eight genera instead of eleven as stated at Serangga 15(1-2):25-36. The genera list is provided in Table 1.

Table 1. A list of recorded Metopiinae genera from Malaysia.

Genus	Localities
Aceratapsis sp.	**Negeri Sembilan:** Pasoh Forest Reserve; **Selangor:** Bukit Nanas Forest Reserve; **Pahang:** Tanah Rata, Cameron Highland; **Sarawak:** Gunung Mulu National Park.
Chorinaeus sp.	**Sabah:** Kinabalu National Park; **Pahang:** Hutan Kuala Lompat; **Johor:** Taman Negara, Endau Rompin; **Selangor:** Universiti Kebangsaan Malaysia.
Colpotrochia sp.	**Penang:** Penang Island; **Sarawak:** Semongoh Forest Reserve.
Exochus sp.	**Sabah:** Kinabalu National Park, Kinabalu National Park (Poring Hot Spring), Crocker Range and Gunung Mulu National Park; **Pahang:** Tanah Rata, Cameron Highland.
Hypsicera sp.	**Selangor:** Batu Cave; **Sabah:** Kinabalu National Park, Kinabalu National Park (Poring Hot Spring) & Lumu Lumu, Crocker Range, Gunung Mulu National Park.
Metopius sp.	**Sabah:** Quoin Hill, Kinabalu National Park (Poring Hot Spring), Kudat, Layang Layang; **Pahang:** Fraser's Hill.

Table 1 continue...

Table 1 continued...

Triclistus sp.	**Sabah:**	Kinabalu National Park, Sandakan;
	Selangor:	Serdang, Universiti Kebangsaan Malaysia, Hutan Simpan Kuala Langat Selatan;
	Pahang:	Hutan Kuala Lompat;
	Perak:	Simpan Sungkai;
	Negeri Sembilan:	Nilai, Ladang Kelapa Sawit; Penang Island.
Trieces sp.	**Sabah:**	Kinabalu National Park, Kinabalu National Park (Poring Hot Spring), Crocker Range.

The taxonomic revision on metopiines collections revealed some previous misidentifications which are: the *Drepanoctonus* species recorded by Horstmann et al. (1999) was re-identified as a *Chorinaeus* species (Both are metopiines). Whilst the specimens recorded by Ng (2006) as a *Macromalon* species was re-identified as a member of the subfamily Acaenitinae (Ichneumonidae) instead of subfamily Metopiinae, the subfamily Acaenitinae is noticeably distinguishable by the small subapical tooth on the male pro and mesotarsal claws (Wahl & Sharkey 1993). Furthermore, *Periope* species that determined by Ng (2006) was re-identified as a member of the subfamily Phygadeuontinae (Gelinae/Cryptinae): Phygadeuontini (It is a species of *Palpostilpnus*) instead of Metopiinae, which is identifiable from Metopiinae by the groove separating the convex clypeus from the face and the complete sternaulus, reaching the mesocoxa (Wahl & Sharkey 1993).

The misidentification between *Drepanoctonus* and *Chorinaeus* genera was due to the identification done by a non-taxonomist. Whilst, the confusion between Metopiinae and other Ichneumonids subfamilies such as Acaenitinae and Phygadeuontinae, which were not recorded as related subfamilies to Metopiinae, due to the presence of some common characters other than the key characters that lead to theses misidentifications.

CONCLUSION

Ongoing taxonomic revision on the subfamily Metopiinae of Malaysia disclosed that, there are eight recorded genera of Metopiinae from Malaysia at present.

ACKNOWLEDGMENTS

We would like to thank the staff and postgraduate students of the Centre for Insect Systematics (UKM) for their unlimited support. Special thanks also go to Dr. Gavin Broad of the British Natural History Museum and Dr. Robert Kula of United States National Museum of Natural History for providing us with Metopiinae loans. We are also indebted to Dr. Gavin for identifying the Phygadeuontinae specimen. Our highly appreciation goes also to the Malaysian government who sponsored this work through a research grant E-Science Fund 02-01-02-SF0601.

REFERENCES

Baltazar, C.R. 1964. The genera of parasitic Hymenoptera in the Philippines, Part 2. *Pacific Insects*. 6(1): 15-67.

Fitton, M.G. 1984. Subfamily Metopiinae. In: Gauld ID. (Ed). *An introduction to the Ichneumonidae of Australia.* Natural History Museum, London: 353-363.

Gauld, I.D. 1984. *An introduction to the Ichneumonidae of Australia.* British Museum (Natural History) Publication. 413 pp.

Horstmann, K., Floren, A. & K.E. Lensenmair. 1999a. High Species Richness of Ichneumonidae (Hymenoptera) From the Canopy of a Malaysian Rain Forest. *Ecotropica.* 5: 1-12.

Horstmann, K., Floren, A. & K.E. Lensenmair. 2005b. Ichneumonidae (Hymenoptera) From the Canopy of Tropical Forests in Sabah, Malaysia: A comparison Between Primary and Secondary Forests. *Ecotropica.* 11: 41-52.

Nahla, M.A.I and Idris, A.B. 2010. A Catalogue of Metopiinae (Hymenoptera: Ichneumonidae) from Malaysia. *Serangga*, 15 (1-2): 25-36.

Ng, Y.F. 2006. Flight Phenology, Diversity and Systematic of the Ichneumonid Wasps (Hymenoptera: Ichneumonidae) in Lowland Dipterocarp Forest. PhD thesis. Universiti Kebangsaan Malaysia.

Townes, H.K. 1971. The genera of Ichneumonidae, Part 4. *Memoirs of the American Entomological Institute.* 17. 372 pp.

Townes, H. & M. Townes. 1959. Ichneumon-flies of America north of Mexico: 1. Subfamily Metopiinae. *United States National Museum Bulletin* 216(1): 1-318.

Wahl, D.B. 1993. Family Ichneumonidae. In Goulet, H. & Huber, J. (eds). *Hymenoptera of the World: an identification guide to families.* Research Branch, Agriculture Canada, Ottawa, Canada, 668 pp.

Wahl. D.B. and J.S. Sharkey. 1993. Superfamily Ichneumonidea. in: *Hymenoptera of the World: An Identification Guide to Families*, eds. H. Goulet. & J.T. Huber. Research Branch, Agriculture Canada, Ottawa, Canada, pp. 358-448.

Yu, D.S., C. van Achterberg and K. Horstmann. 2012. *World Ichneumonoidea 2011. Taxonomy, biology, morphology and distribution.* CD/DVD. Taxapad, Vancouver, Canada.