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New Records of Genus *Xanthopimpla* (Hymenoptera: Ichneumonidae) from Peninsular Malaysia, with Corrections on Previous Records

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Abstract Fourteen *Xanthopimpla* species, one species with 3 subspecies, were new records from Peninsular Malaysia. Re-examination of specimens collections from Centre for Insect Systematics, Universiti Kebangsaan Malaysia and from Department of Agriculture, Malaysia revealed that the previously reported new records were misidentified specimens. Details on the examined specimens, photographs, corrections and remarks were presented.

Key words new records, Peninsular Malaysia, *Xanthopimpla*

Introduction

The genus *Xanthopimpla* from Peninsular Malaysia was first studied and documented by Townes and Chui (1970) in "The Indo-Australian Species of *Xanthopimpla* (Ichneumonidae)". Later, this was indexed by Idris (1999). Discoveries of new records were then further documented (Azidah, 2000; Idris and Azura, 2001). Aside from Townes and Chui (1970), no further taxonomic work was done for this genus from Peninsular Malaysia, neither were new species discovered. Based on previous records, there are 33 species of *Xanthopimpla* from Peninsular Malaysia, 21 from Townes and Chui (1970), 5 from Azidah (2000) and 7 from Idris and Azura (2001). However, due to lack of available type materials, the new records listed by Idris and Azura (2001) need some re-examinations. With this, there is a need for additional taxonomic work for the genus *Xanthopimpla* in Peninsular Malaysia.

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Materials and Methods

Xanthopimpla collections from the Centre for Insect Systematics at Universiti Kebangsaan Malaysia (CIS-UKM) and the Department of Agriculture, Malaysia (DOA) were examined. Pertinent literature by Townes and Chiu (1970), Yu and Horstmann (1997), and Gauld (1984a and 1984b) were consulted. Type and non-type specimens were loaned from the following museums abroad to further check and compare with the local collections.

- Bishop Museum, 1525 Bernice Street, Honolulu, HI 69817-0916 USA (BPBM)
- Deutsches Entomologisches Institut Schicklerstrasse 5D-16225 Eberswalde, Germany (DEI)
- Hope Entomological Collections, The University Museum, Parks Road, Oxford OX1 3PW UK (OUMNH)
- Institut Royal des Sciences Naturelles de Belgique, Département d'Entomologie, Rue Vautier 29, B-1000 Bruxelles, Belgique (RBIN)
- Muséum National d'Histoire, Laboratoire d'Entomologie, 45 rue de Buffon, F-75005 Paris, France (MNHN)
- Museum Victoria Science Program, GPO BOX 666E, Melbourne, Victoria 3001 Australia (MVSP)
- National Museum of Natural History, Naturalis, P.O. Box 9517, 2300 RA Leiden, The Netherlands (RMNH)
- Naturhistorisches Museum Wien, Burgring 7, A-1014 Wien, Austria (NHM)
- Systematic Entomology, Faculty of Agriculture, Hokkaido University 060-8589, JAPAN (SEHU)
- The Natural History Museum, Cromwell Road, London SW7 5BD, UK (BMNH)
- Universiteit van Amsterdam, Zoölogisch Museum Amsterdam, Afdeling Entomologie, Plantage Middenlaan 64, 1018 DH Amsterdam, Nederland (ZMAN)

- Zoological Museum, University of Copenhagen, Universitetsparken 15 DK-2100 Copenhagen, Denmark (UZMC)
- Zoologisches Museum an der Humboldt-Universität zu Berlin, 10115 Berlin, Invalidenstraβe 43, Germany (ZMHU)

New records were noted. Using CarlZeiss AxioCam MR (Version 5.05.10) Image Analyser, photographs of the habitus, face, areolet of forewings, propodeum, gaster, second tergite and ovipositor tip of each species were taken.

Results and Discussion

Re-examination of DOA collections and comparisons with loaned specimens revealed that the 5 out of 7 new records reported by Idris and Azura (2001) were actually misidentified. These specimens are as follows:

- *X. bitaeniata* Townes and Chiu (1970) - the correct identity is *X. flavolineata* Cameron (1907).
- *X. prolixa* Townes and Chiu (1970) - male specimen. The identity is doubtful. Carina on propodeum revealed that it is more close to *X. gampsura*. This species belongs to Regina group, where differences among species are slightly and based on taxonomic characteristics of the female.
- *X. dystichus* Townes and Chiu (1970) - the correct identity is *X. pusilla* Krieger (1914).
- *X. terminalis* Brullé (1846) - the correct identity is *X. flavolineata* Cameron (1907).
- *X. stricta* - there is no *X. stricta*, probably this is either *X. striata* Townes and Chiu (1970) or *X. sticta* Townes and Chiu (1970) but the specimen is missing from the collection.

The new records are: *X. ansata* ansata Krieger (1914), *X. calva* sexcincta Townes and Chiu (1970), *X. despinosa* leipephelis Townes and Chiu (1970), *X. diplonyx* Townes and Chiu (1970), *X. flaviceps* Townes and Chiu (1970), X. honorata honorata Cameron (1899), *X. leviuscula* Krieger (1914), *X. melanacantha melanacantha* Krieger (1914), *X. minuta* (with 3 subspecies: *X. m. minuta* Cameron (1905), *X. m. lita* Townes and Chiu (1970), and *X. m. lotipes* Townes and Chiu (1970), *X. mucronata* Krieger (1914), *X. nigritarsis nigritarsis* Cameron (1903), *X. polyspila* Cameron (1907), *X. pumilio* Krieger (1914), and *X. tricapus impressa* Townes and Chiu (1970). With the additional 14 new records, there are now 47 species of *Xanthopimpla* from Peninsular Malaysia.

Key to the New Records of *Xanthopimpla* from Peninsular Malaysia

1. Largest bristle on hind and middle tarsal claws not widened next to apex, or rarely slightly widened but pale colored near apex and gradually tapered to end.....2

   Largest bristle on hind tarsal claws widened next to apex, either blunt, truncate or abruptly narrowed near end and often with a mucronate tip, which usually black in color.....4

2. The part of mesoscutum between tegulae with moderately dense hairs, most of the hair sockets closer together than the length of the hairs..... ..... *X. mucronata* Krieger

   The part of mesoscutum between tegulae with very sparse hairs or without hairs.....3

3. Hind tibia with 4 to 7 preapical bristles..... ..... *X. honorata honorata* Cameron

   Hind tibia with 0 to 3 preapical bristles..... ..... *X. despinosa leipephelis* Townes and Chiu

4. Areolet open on outer side, the second intercubitus completely absent. Central part of mesopleurum entirely or almost entirely without hairs..... ..... *X. melanacantha melanacantha* Krieger

   Areolet closed or partly closed, the second intercubitus present or partly present. Central part of mesopleurum with hairs that are moderately dense to quite sparse, but evenly distributed.....5

5. Apical carina of propodeum absent or represented by stubs on the lateral longitudinal carina. Areola not all defined, the place where the areola would be defined without side or lower carinae..... ..... *X. pumilio* Krieger

   Apical carina of propodeum distinct across the midline. Areola usually bounded laterally as well as apically by distinct carinae.....6

6. Lateral longitudinal carina of propodeum higher at its juncture with basal carina than at its juncture with apical carina..... *X. leviuscula* Krieger

   Lateral longitudinal carina of propodeum not higher at its juncture with basal carina than at its juncture with apical carina.....7

7. Lower front corner of pronotum a sharp angle,