

Serangga 11(1-2): 45-52

ISSN 1394-5130 © 2006, Centre for Insect Systematics, UKM & Department of Museums Malaysia

***Xanthopimpla mardiensis*, A NEW SPECIES OF
PIMPLINAE FROM SARAWAK, MALAYSIA
(HYMENOPTERA: ICHNEUMONIDAE)**

Izfa Riza, H., & Idris, A.B.

Centre for Insect Systematics, Universiti Kebangsaan Malaysia,
43600 Bangi, Selangor.

ABSTRACT

A new species of Pimplinae is described from Sarawak Malaysia; *Xanthopimpla mardiensis*, n.sp. A descriptions and illustrations of the species are provided.

ABSTRAK

Satu spesies baru Pimplinae telah dijumpai dari Sarawak Malaysia; *Xanthopimpla mardiensis*, n.sp. Keperihalan dan gambaran untuk spesies tersebut telah disediakan.

INTRODUCTION

This paper presents a description of a new species of *Xanthopimpla* of the subfamily Pimplinae from Sarawak, Malaysia. *Xanthopimpla* is one of the larger genera of Ichneumonidae (Hymenoptera). Most of the species occur in the Old World Tropics, the majority of them in the Indo-Australian area. *Xanthopimpla* is relatively easy to distinguish. The body is

stout and the color yellow, usually marked with black spots or bands. The species are all internal parasites of pupae of Lepidoptera. The ovipositors of *Xanthopimpla* species vary from moderately long to quite short in correlation with the different kinds of hosts. Species with relatively long ovipositors are parasitic on pupae in tunnels or leaf rolls, those with ovipositors of medium length mostly on pupae in cocoons, and those with short ovipositors are presumably parasitic on naked pupae. Because of their abundance, the species of *Xanthopimpla* are important factors in biological control. Two species are particularly valuable for the protection of cultivated crops: *Xanthopimpla punctata* as a parasite of rice stem borers and *X. stemmator* as a parasite of borers in coarse grasses, particularly in maize and sugar cane but sometimes in rice (Townes & Chiu 1970). As such there is a possibility to use *Xanthopimpla* species for control of lepidopterous pests of tropical crops. Because of their importance in biological control, more studies need to be done especially its taxonomic aspects. However, studies on *Xanthopimpla* of Malaysia still lacking although studies on its diversity and abundance have initiated recently (Idris 1996; Idris & Kee 2002; Idris et al. 2003 and Idris & Izfa Riza 2005).

Gupta (1986) listed a number of 224 species of *Xanthopimpla* from Indo-Australian region and of these only 54 species were recorded in Malaysia (Idris 1999). Ng et al. (2003, 2004) described two new species, *Xanthopimpla pasohensis* Ng & Idris from Pasoh Forest Reserve and *X. nanasensis* Ng & Idris from Bukit Nanas Forest Reserve. A study conducted by Anthony (2003) had successfully recorded 47 species of *Xanthopimpla* from Peninsular Malaysia. Thirteen of these were new record to the Peninsular of Malaysia and three species were potentially new to science. From this study, the total number of *Xanthopimpla* species in Malaysia were up to 70 species from 54 species previously (Idris 1999).

MATERIALS AND METHODS

Xanthopimpla collections from the Centre for Insect Systematics at Universiti Kebangsaan Malaysia (CIS-UKM) were examined. Pertinent literatures by Townes & Chiu (1970) were referred to.

TAXONOMY

Xanthopimpla mardiensis Izfa & Idris, n. sp.

(Figs. 1-4)

Description

Male. Clypeus weakly convex. Face convex; with big punctures; rough in texture, hairy. Mesoscutum with small punctures, moderately smooth in texture. Submarginal carina complete. Notauli short; deep. Mesoscutal crest present. Scutellum weakly convex. Lateral flange reaching apex of scutellum. Anterior lower corner of pronotum rounded angle, making 90-135. Mesopleurum with small punctures, smooth in texture; lateroventral with small punctures; smooth in texture. Subtegular ridge rounded; outer profile in dorsal view weakly convex. Sternaulus not distinct. Postpectal carina simple; median notch absent. Metapleurum lower and upper division hairy. Submetapleural carina complete. Pelural area not divided. Tubercle absent. Propodeal carina strong. Costula present. Apical transverse carina complete. Areola completely surrounded by carina. Preapical bristles 15. Apical bristles 7. Apical hair on the inner side of tarsal claws wide, curve and blackened at the tip. Dorso-lateral carina of first tergite reaching towards apex. Gastral tergites 2 to 6 coarse. Areolet of forewings partly close. Second recurrent vein before or at the middle of areolet. Nervulus directly opposite of basal vein. Discoidella reaching wing margin. Brachiella not reaching wing margin. Antennae with 34 flagellar segments. Face about 0.91x wide as high. Mesoscutum about 0.87x wide as long. Forewing about 9.44 mm long. Areola in propodeum about 0.67x wide as long. First tergite about 0.82x wide as long.

Color pattern: Antennae dark brown. Scapus dorsal black, ventral yellow. Pedicel dorsal black, ventral yellow. Frons yellow. Occiput with a pair of black spots. Post occiput yellow. Pronotum yellow. Mesopleurum yellow. Mesoscutum with a black band. Tegulae yellow. Propodeum with a black band. Hind coxa yellow. Trochanter yellow. Hind femur yellow. Hind tibia yellow. Tarsal segment yellow. Tarsal claws yellow, black at tip. Stigma and wing veins black. Gastral tergite 1-8 with a black band.

Etymology:

The new species, *mardiensis*, is named after the locality, MARDI Station where the specimen was collected.

Diagnosis:

Xanthopimpla mardiensis Izfa & Idris, n. sp. differs from *Xanthopimpla modesta modesta* Smith in a number of significant characteristics as indicated in Table 1.

Holotype: Male: MALAYSIA, MARDI Sessang Station, 20iv-11v 2004, Izfa Riza, Ruslan, Fauzi, (UKM).

Table 1 Differences in characters of *Xanthopimpla modesta modesta* Smith and *Xanthopimpla mardiensis* Izfa & Idris, n. sp.

| Characters | <i>Xanthopimpla modesta modesta</i> Smith | <i>Xanthopimpla mardiensis</i> Izfa & Idris, n. sp. |
|-----------------------|---|--|
| Face | Strongly convex; with small punctures; rough in texture | Convex; with big punctures; rough in texture |
| Notauli | Short; shallow | Short; deep |
| Mesopleurum | Small punctures; smooth in textures; latoreventral with small punctures; smooth in texture. | Small punctures, moderately smooth in texture; latoreventral with small punctures, rough in texture |
| Apical bristles | 3 - 4 | 7 |
| Preapical bristles | 12 | 15 |
| Face | About 1.29x wide as high. | About 0.91x wide as high. |
| Areola | About 1.2x wide as long. | About 0.67x wide as long. |
| Antennae | Black | Dark brown |
| Frons | Black | Yellow |
| Occiput | Black | A pair of black spots |
| Mesoscutum | Yellow | With a black band |
| Gastral tergites | 1 – 8 yellow | 1 – 8 with a black band |

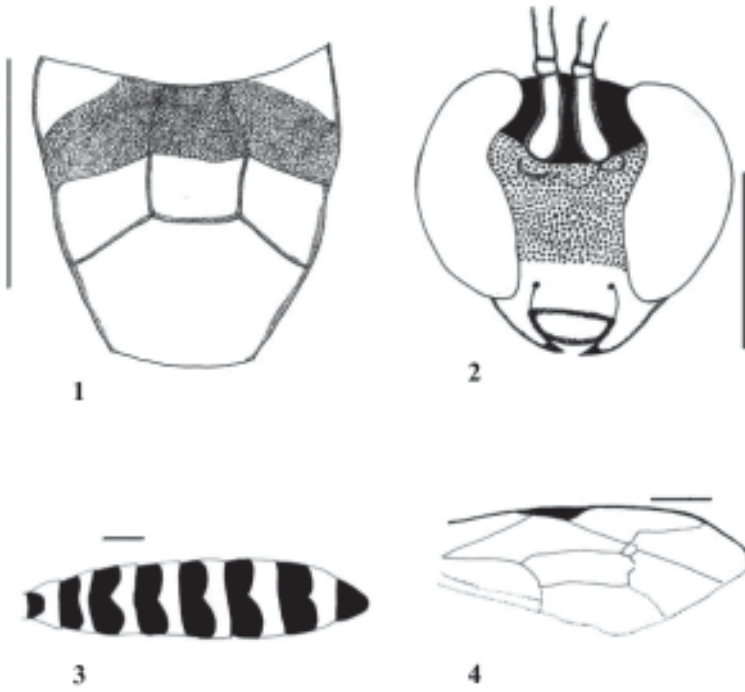
ACKNOWLEDGEMENT

I would like to thank to the staff of the CIS and postgraduate student at the CIS. This research are so partially funded by MOSTI under IRPA 09-02-02-0017-EA-072.

REFERENCES

- Idris, A.B. & Izfa-Riza B.H. 2005. The Abundance and Diversity of Ichneumonidae of the Endau Rompin Forest and MARDI Sessang Forest with special emphasis on the subfamily Cryptinae and genus *Xanthopimpla*. Paper presented at the proceedings of the 8th Symposium of Applied Biology. Marriot Putrajaya Hotel, Putrajaya.
- Idris, A.B., Hainidah, J., Gonzaga, A.D. & Nur Azura. 2003. Diversity, Abundance, Species Composition and Similarity of Genus *Xanthopimpla* (Ichneumonidae: Pimplinae) in Logged and Fragmented Forest of the Langat Basin in Selangor, Malaysia. *Journal Asia-Pacific Entomol.* 6 (1) : 55-62.
- Idris, A. B. & Kee, K.S. 2002. Horizontal and vertical diversity of Ichneumonid wasps (Hymenoptera: Ichneumonidae) in the Sungkai Wildlife Forest Reserve in Perak, Malaysia. *Journal Asia-Pacific Entomol.* 5: 85-89.
- Idris, A.B. 1999. Catalogue of Pimplinae (Hymenoptera: Ichneumonidae) from Peninsular Malaysia. *The Pan-Pacific Entomol.* 75: 73-81.
- Idris, A. B. 1996. Kajian kepelbagaian serangga Hymenoptera dengan penumpuan khas kepada Hymenoptera Parasitika di Hutan Simpan Kekal Universiti Kebangsaan Malaysia. Technical Report. UKM B/6/96. 44 pp.

- Ng, Y.F., Idris, A.B., Maimon, A., Nur Supardi, M.N. 2003. A new species of *Xanthopimpla* Saussure (Hymenoptera: Ichneumonidae: Pimplinae) from Bukit Nanas Forest Reserve, Kuala Lumpur. *Serangga* 8(1-2): 33-38.
- Ng, Y.F., Idris, A.B., Maimon, A., Nur Supardi, M.N. 2004. A New Species of *Xanthopimpla* Saussure (Hymenoptera: Ichneumonidae: Pimplinae) from Pasoh Forest Reserve, Negeri Sembilan. *Serangga* 9(1-2): 161-169.
- Townes, H. & Chiu, S.C. 1970. *The Indo-Australian species of Xanthopimpla (Ichneumonidae)*. Memoirs of America Entomological society. USA: The American Entomological Institute.



Figs. 1-4 *Xanthopimpla mardiensis*, 1. Propodeum; 2. Face; 3. Abdomen tergite; 4. Fore wing. Scale: 1mm.