



Research Note

First record of *Brachymeria jambolana* Gahan (Hymenoptera: Chalcididae) as a pupal parasitoid of *Graphium doson* (C. & R. Felder) (Lepidoptera: Papilionidae)

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ABSTRACT: *Brachymeria jambolana* Gahan is recorded for the first time from pupae of *Graphium doson* (C. & R. Felder) (Lepidoptera: Papilionidae) near Bangalore, Karnataka. *B. jambolana* is also a new distribution record from Karnataka. Brief diagnostic details of the parasitoid and different stages of host are given.

KEY WORDS: *Brachymeria jambolana*, pupal parasitoid, *Graphium doson*

(Article chronicle: Received: 03.09.2010; Sent for revision: 04.09.2010; Accepted: 07.09.2010)

INTRODUCTION

During exploration trips for parasitoids, larvae and pupae of *Graphium doson* (C. & R. Felder) (Lepidoptera: Papilionidae) (= *Zetides doson* C. & R. Felder) were collected on *Michelia champaca* from Raogodlu village near Bangalore. The larvae and pupae were reared in the Biosystematics Laboratory of NBAII, Bangalore, India. Twenty five parasitoids of *Brachymeria jambolana* Gahan were collected from pupae of *G. doson*. The identity of the parasitoids was confirmed based on the description given in Joseph *et al.* (1973). The specimens of the present study were dry mounted and deposited in the reference collections of NBAII, Bangalore.

Brachymeria jambolana belongs to the family Chalcididae of Hymenoptera. The members of the family Chalcididae are very promising primary parasitoids of Lepidoptera (many families), Orthoptera (Acrididae), Hemiptera, Diptera (Sarcophagidae) and Coleoptera. Majority of the species of the genus *Brachymeria* are pupal parasitoids of Lepidoptera. This species is distributed in India, Bangladesh and Indonesia. A brief systematic account is given below:

Brachymeria jambolana Gahan

Brachymeria jambolana Gahan, 1942: 41, F. India (USNM)

Diagnosis

Female: Body black; flagellum black; tegulae, apical half of anterior femur, apical one third of median femur, a

large spot at apex of hind femur and all tarsi yellow (Fig. 1). Hind tibia yellow with a blackish band at extreme base along with blackish infuscations in middle and entire ventral carina black.

Head with preorbital carinae absent; postorbital carinae present and well developed. All antennal segments except first slightly broader than long, antennal club distinctly less than twice preceding segment. Hind coxa without an inner ventromesal tooth. Hind femur without a distinct tooth at inner basal side and with 10 teeth at ventral margin; the 3 teeth nearest base shorter than rest.

Metasoma subacute and ovate; sixth tergite with strong pits (Plate I).

This species fits well in the key to oriental species of *Brachymeria* Westwood given by Narendran (1989) and the description given by Joseph *et al.* (1973), except for the presence of blackish infuscations on hind tibia. *B. jambolana* resembles *B. euploeae* Westwood except antennal club distinctly less than twice length of preceding segment in the former. It differs from *B. lasus* Walker mainly in having no ventromesal tooth on the hind coxa in female.

Distribution

India: Karnataka (New distribution record), Kerala, Meghalaya, Tamil Nadu, Bangladesh and Indonesia.



Fig. 1. *Brachymeria jambolana*



Fig. 2. Pupae of *Graphium doson* with emergence hole

Material examined

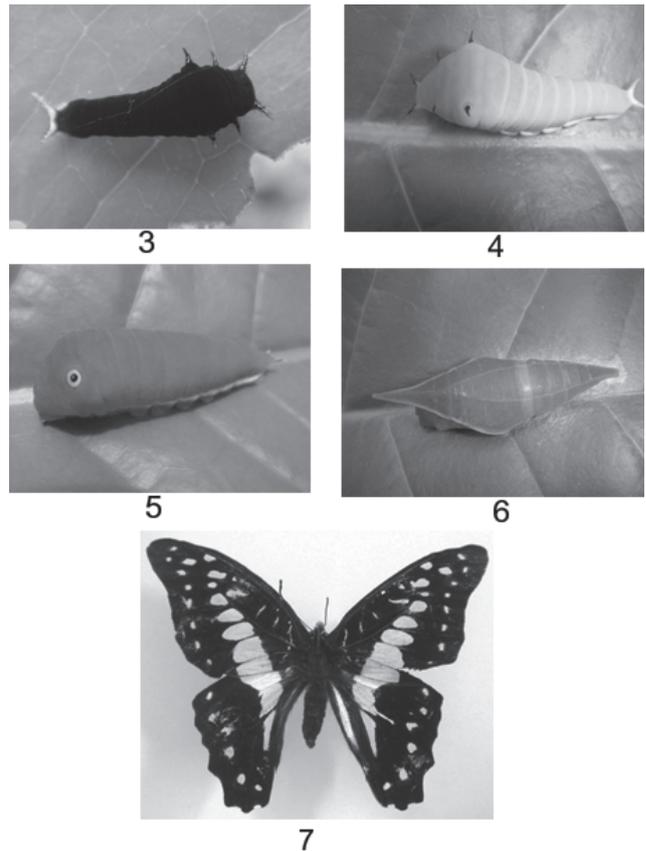
24 (females & males); Karnataka: Raogodlu, 10. viii. 2010, ex. pupa of *Graphium doson* C & R Felder (Papilionidae) on *Michelia champaca*, Coll. Ankita.

Hosts

The known primary hosts include *Danaus* sp. (Nymphalidae); *Orgyia postica* (Lymantriidae); *Carea subtilis* Walker (Noctuidae) infesting *Eugenia jambolana* (Mani, 1989); *Papilio* sp. and *G. agamemnon* (Linn.) (= *Papilio agamemnon* (Linn.) (Papilionidae) (Noyes, 2003; Narendran, 1989; Joseph *et al.*, 1973). *B. jambolana* is also found parasitising a fly larva on *Sarcophaga misera* Walker in Bangladesh (Howlader, 1979).

Graphium doson is a new host record for *B. jambolana*. *G. doson* is commonly known as Common Jay. The common Jay is common in the thick riparian, moist deciduous, semi-evergreen and evergreen forests. It is well distributed in south-east Asia. The young larvae possess a broad white line above the prolegs

(Fig. 3 & 4). The grown caterpillar is grassy green, with spines on the 4th segment short, conical and blue centered. They are surrounded by broad lemon yellow rings, which in turn are surrounded by thin black rings. The caterpillar feeds on *Annona lawii*, *Cinnamomum macrocarpum*, *Magnolia grandiflora*, *Michelia champaca*, *Miliusa tomentosum* and *Polyalthia longifolia* (Kunte, 2000). The pupa is pale green with a dark purplish median line from the head to the thoracic horn and a yellow line from the tip of the horn to the cremaster (Fig. 6). The parasitoids emerge from parasitized pupa leaving an emergence hole. The adult butterfly is black with a pale blue, semi-transparent central band that is formed by large spots and there is a marginal series of smaller spots (Fig. 7).



Figs. 3-4. Young caterpillar; 5 - Grown caterpillar; 6 - Pupa; 7 - Adult of *Graphium doson*

ACKNOWLEDGEMENTS

The author is thankful to Dr. R. J. Rabindra, Director, NBAIL, Bangalore, and Dr. J. Poorani, Principal Scientist, NBAIL, Bangalore, for providing necessary facilities for carrying out this research work. The author is highly grateful to Peter Smetacek, Lepidoptera specialist, Uttarakhand, India, for identification of the host.

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