

A NEW SPECIES AND A KEY TO SPECIES OF *EUDEROMPHALE* GIRAULT (HYMENOPTERA: EULOPHIDAE) FROM INDIA

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ABSTRACT

A new species, *Euderomphale stomale* Narendran & Hayat belonging to the hymenopteran family Eulophidae, is described from Hoskote in Karnataka, India. A key to separate the Indian species is provided.

KEYWORDS

Chalcidoidea, Eulophidae, key, Indian subcontinent, new species

ABBREVIATIONS

Cl1 - basal segment of clava; Cl2 - second segment of clava; Cl3 - apical segment of clava; OOL - ocellular distance; POL - postocellar distance; MV - Marginal vein; PMV - Postmarginal vein; STV - Stigmal vein; NPCI - National Pusa Collection. Division of Entomology, Indian Agricultural Research Institute, New Delhi

The genus *Euderomphale* was erected by Girault in 1916 based on the type species *Euderomphale fuscipennis* Girault (which is a junior synonym of *E. flavimedia* (Howard) La Salle & Schauff, 1994). From the Oriental region only two species are recorded so far. They are *E. secunda* (Mani) (Mani, 1939; Hussain & Khan, 1986), and *E. longipedicelus* Shafee, Rizvi & Khan (1988). *E. postmarginalis* Shafee, Rizvi & Khan (1988), was recently transferred to *Entedonastichus* Girault by Hayat and Perveen, in Hayat *et al.* (2005). In this paper we describe a third species, which is new to science from India. The holotype is deposited at NPCI, New Delhi.

Euderomphale stomale sp. nov.

(Figs. 1-7)

Material examined

Holotype: Female (on slide under 4 coverslips), 15.xii.2006, Hoskote, Karnataka, India, coll. Ankita (NPCI 13/6/53/1).

Etymology

Species name is an arbitrary combination of letters.

Description

Female: Length *ca.* 0.8mm. Head and mesosoma black, shiny, apparently smooth; gaster yellow with brown to dark brown bands as in figure 7; ovipositor sheath brown; scape nearly black, distally white; Cl3 largely brown, rest of antenna white.

Legs: coxae black, shiny as mesosoma; fore femur (except apical third), and mid femur, including trochanters, black; hind femur whitish with brown suffusions especially in upper half, tibiae white with upper margin of fore tibia, basal half or so of mid tibia, and basal two thirds and upper margin of hind tibia dark brown. Fore wing pale infuscate especially below venation.

Head: (Fig. 4) in front view, length: width 22.5:34; POL 2x OOL; antennal toruli situated at level of ventral margin of eyes. Antenna (Fig. 1) with relative length and maximum width of segments: Scape 48:11; pedicel 24:10; F1 - 4:6; F2 - 7:7; clava: Cl1 - 12:16; Cl2 - 13:16; Cl3 - 22:14. Mandibles bidentate (Fig. 5). Palps as in Figure 6.

Mesosoma: a little broader than long (35:30.75), pronotum with one seta on each corner; mesonotum with 1+1 seta along anterior margin, one at each lateral corner; each axilla with one seta at basal outer margin; scutellum 2x as broad as long, with one pair of longer setae on disc, one pair at posterior margin. Fore wing 2.76x as long as broad, marginal fringe 0.34x of wing width; setation and venation as in Figs. 2 and 3; hind wing 6.38x as long as broad; marginal fringe slightly shorter than wing width (9:10.5). Mid tibia slightly shorter than hind tibia (22:23).

Gaster: longer than mesosoma; ovipositor length about 1.3x length of hind tibia (29:23).

Male: Unknown.

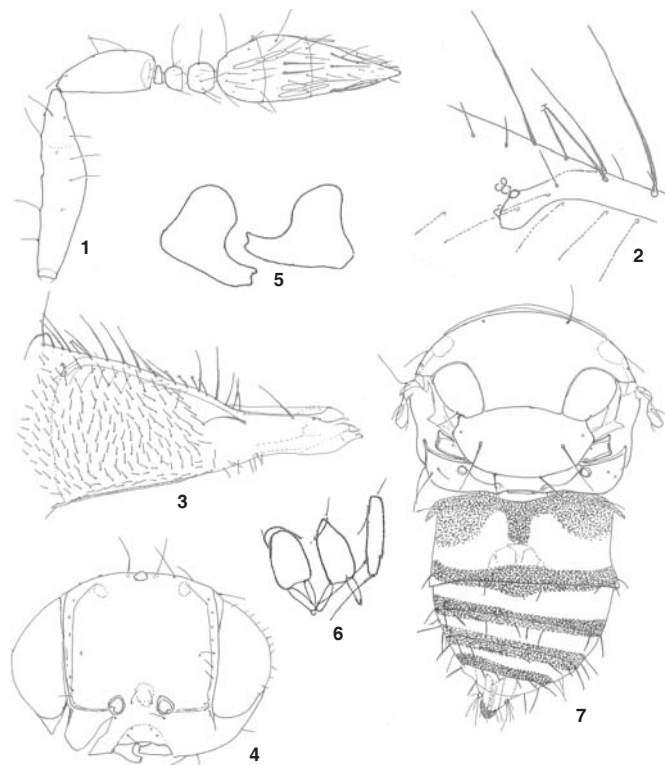
Host: Unknown.

REFERENCES

Girault, A.A. (1916). A new genus of omphaline eulaphid [sic] chalcis-

Key to Indian species of *Euderomphale* Girault

1. PMV absent; gaster yellow with brown to dark brown bands (Fig. 7); scape nearly black; Cl3 largely brown; rest of antenna white; fore wing pale infuscate especially below venation ***E. stomale* sp. nov.**
- PMV present; other characters not as above 2
2. Gaster distinctly longer than head + mesosoma, basally light brown and apically dark brown; clava 1.5x as long as pedicel; body length 0.75mm ***E. secunda* (Mani)**
- Gaster as long as head + mesosoma, and yellowish brown; clava about 1.7x as long as pedicel; body length *ca.* 0.9mm ***E. longipedicelus* Shafee, Rizvi and Khan**



Figures 1-7. *Euderomphale stomale* sp. nov. (Female)
1 - antenna; 2 - stigmal vein and part of marginal vein;
3 - basal half of fore wing; 4 - head front view;
5 - mandibles; 6 - palps; 7 - mesosoma and gaster dorsal view

flies from Maryland. *Canadian Entomologist* 48: 410.

Hayat, M., H. Aftab & S. Perveen (2005). Taxonomic notes on Indian Eulophidae (Hymenoptera: Chalcidoidea) - 2. On the types of some Eulophinae, Entedoninae and Euderinae. *Oriental Insects* 39: 1-14.

Husain, T. & M.Y. Khan (1986). Family Eulophidae, pp.211-245. In: Subba Rao, B.R. & M. Hayat (eds.). *The Chalcidoidea (Insecta: Hymenoptera) of India and adjacent countries. Part II. A catalogue of Chalcidoidea of India and the adjacent countries.* *Oriental Insects* 20: 1-430.

LaSalle, J. & M.E. Schauff (1994). Systematics of the tribe Euderomphalini (Hymenoptera: Eulophidae): parasitoids of whiteflies (Homoptera: Aleyrodidae). *Systematic Entomology* 19: 235-258.

Mani, M.S. (1939). Descriptions of new and records of some known chalcidoids and other hymenopterous parasites from India. *Indian Journal of Entomology*, 1: 69-99.

Shafee, S.A., S. Rizvi & M.Y. Khan (1988). A new tribe and three new species of Eulophidae (Hymenoptera: Chalcidoidea). *Indian Journal of Systematic Entomology* 5: 1-4.

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FIRST REPORT OF A HITHERTO UNKNOWN LARVAL FOOD PLANT OF THE THREE-SPOT GRASS YELLOW *EUREMA BLANDA* (BOISDUVAL) (LEPIDOPTERA: PIERIDAE)

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Grass yellows are among the most polyphagous of butterflies in their larval stages. Their larval food plants are leguminous and belong to the families Mimosaceae, Caesalpiniaceae and Fabaceae. New host plants are constantly being added to the existing list of larval food plants known for these species. In the present communication, we are reporting *Calliandra calothyrsus* Meissner (Family: Fabaceae) as a host plant of the Three-spot Grass Yellow (*Eurema blanda* Boisduval) for the first time.

While working on the butterflies of the southern Western Ghats, we came across many larvae of Three-spot Grass Yellow, *Eurema blanda* feeding on *Calliandra calothyrsus* near a garden at Narikuni, about 24km north-east of Kozhikode town, on 12 November 2005. This plant is popularly known as 'powder puff plant' due to its powdery, puffy nature of flowers. It is an exotic shrub introduced from Central America during the early part of the last century. We reared as many as 12 larvae of the Three-spot Grass Yellow in the laboratory by feeding *Calliandra calothyrsus* leaves. All emerged successfully after a pupal period of 6-9 days.

The caterpillars of the Three-spot Grass Yellow *Eurema blanda* (Boisduval) are known to feed on *Albizia* spp., *Acacia* spp., *Cassia fistula*, *Delonix regia*, *Moulluva spicata*, *Pithecelobium dulce* of the families Caesalpiniaceae, Fabaceae and Mimosaceae (Wynter-Blyth, 1957; Kunte, 2000).

Of the six species of Grass Yellows (Common Grass Yellow, *Eurema hecabe* (Linnaeus), Small Grass Yellow, *E. brigittia* (Cramer), One-spot Grass Yellow, *E. andersonii* Moore, Three-spot Grass Yellow, *E. blanda* (Boisduval), Spotless Grass Yellow, *E. laeta* Boisduval and Nilgiri Grass Yellow, *E. nilgiriensis* Yata) known from Kerala (Gaonkar, 1996), the Three-spot Grass Yellow is locally common and restricted to the wet evergreen forests and well wooded countryside including sacred groves of northern Malabar.

REFERENCES

- Gaonkar, H. (1996).** Butterflies of the Western Ghats, including Sri Lanka. A biodiversity assessment of a threatened mountain system. A report submitted to the Centre for Ecological Sciences Bangalore (Unpublished).
Kunte, K. (2000). *Butterflies of Peninsular India*. University Press (India) Limited, Hyderabad. 254pp.
Wynter-Blyth, M.A. (1957). *Butterflies of Indian Region*. Bombay Natural History Society, Bombay. 523pp.

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