New Species, New Combination and New Records of the Genus *Mallada* Navas  
(*Neuroptera: Chrysopidae*) from Western Himalaya, India

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*Mallada euctoflagellata,* a new species is described from Western Himalaya, India. New combination is established in the case of *Chrysopida garhwalensis* Ghosh transferred to Genus *Mallada.* Three species viz. *Mallada obvia* Hötzl, *Mallada astur* (Banks) and *Mallada alectes* (Banks) are new records from Western Himalaya, India.

*Mallada* Navás is primarily an Old World genus and largest among the Chrysopidae in having 122 described species. The Indian subcontinent comprises 19 species of which 10 are from Western Himalaya.

In this paper a new species, *Mallada euctoflagellata* is described from Western Himalaya, which brings the total of 11 species now known and altogether 20 species from the Indian subcontinent. The species *Chrysopida garhwalensis* Ghosh is transferred to genus *Mallada Navás. Mallada obvia* Hötzl is recorded for the first time from India, while *Mallada astur* (Banks) and *Mallada alectes* (Banks) are recorded for the first time from Western Himalaya based on specimens studied.

1. *Mallada euctoflagellata* sp.nov. (Figs. 1-7)

Description of Holotype ♂: Medium sized lacewing, about 8.91 mm long, forewing 10.92 mm long, hindwing 9.1 mm long, antenna 13.36 mm long, leg 2.94 mm long; ground colour pale green. Head greenish; eyes black, eye margin yellow; vertex yellow; clypeus light green; mandibles and maxillae dark brown; maxillary palp brownish black; labial palp dark brown; labrum light brown; maxillary palp 4-segmented; labial palp 3-segmented. Antenna slightly longer than forewing; 97-segmented; scape light green; pedicel light green; each general segment with four rows of setae. Prothorax light green with a black spot at the middle with whitish hairs. Legs straw coloured with basally dilated claws. Forewing elongated; membrane transparent; pterostigma distinct, pale brown; venation pale yellow; cross veins faintly dark; (Sc) and (R) close at base but wide at apex; 1st and 2nd inner gradate incomplete, inner gradate not meeting pm; (im) oval. Hindwing smaller than forewing; pterostigma distinct. Abdomen pale green, euctroch with one or two long flagella like hairs.

Genitcas arched; entoprocessus absent; acesus long; paramere short with an arrow like head; tignum more or less straight at middle, with a median protuberance and very little curvature at both ends; genosaccus protruding outside the genitalia; 7th sternite straight.

Description of female: Ground colour pale green, body covered with minute white hairs. Head light green; eye black, eye margin light brown; genal black; mandibles and maxillae dark brown; maxillary palp light brown. Antenna brown; scape light green; light brown shade dorsally; pedicel light brown. Thorax pale green; 2nd thoracic segment with a median triangular light

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brown spot. Legs pale green; tarsal segment pale brown; claws dark brown. Forewing membrane transparent; veins light brown, hairs dark brown; stigmas not prominent; venation similar to male. Hindwing smaller than forewing but pterostigma indistinct; venation similar to male. Abdomen pale green, eoptocyt small.

Subgenitalia bilobed apically with two basal projections; praegenitalia absent; spermatheca broad, ovoid, ventral impression deep with long duct.

Measurements of the Holotype: $\sigma$: Forewing 10.92 mm, hindwing 9.11 mm, antenna 13.36 mm, foreleg 2.94 mm.

Material examined: Holotype: 1♂; Paratypes: 1♂, 2♀; India, Western Himalaya, Uttarakhand, Dodital, 3307 msl, 27. III. 1996. 1♂, 2♀; India, Western Himalaya, Uttarakhand, Ramikhet, 1830 msl, 03. VIII. 1996. (Coll. S. R. Dey). Types are deposited in the Department of Zoology, University of Kalyani, West Bengal, India.

Remarks: This species resembles Mallada boninensis (Okamoto) in wing venation and genital characters but in having gena and clypeus with different colouration (in boninensis black spot on gena and clypeus), flagella-like hairs on eoptocyt (in boninensis without flagella-like hairs) and externally protruded gonosaccus (in boninensis not protruded) it differs from M. boninensis (Okamoto). The shape of tignum in the male and the shape of subgenitalia in the female are also different in comparison to M. boninensis (Okamoto). The author considered it as a new species for the above reason.

Distribution: India: Western Himalaya: Uttarakhand.

2. Mallada alecestes (Banks)


Material examined: 1♂; India, Western Himalaya, Uttarakhand, Jingalchatchi, 3300 msl, 20. VIII. 1996 (Coll. S. R. Dey).

Remarks: This species here is recorded for the first time from Western Himalaya, India. Ghosh (1990) provided a redescriptions of the species from India. However the present authors found that the specimen collected from Western Himalaya with red suffusion on the frontal suture uniquely marks it different from the description provided by Ghosh (op. cit).

Biological note: Aphid body remnants were found when gut content analysis was made.

Distribution: Bonin Island, India (West Bengal, Western Himalaya: Uttarakhand).

3. Mallada astur (Banks)

Material examined: 1♂; India, Western Himalaya, Uttarakhand, Hardwar, 365 msl, 10. XI. 1997 (Coll. S. R. Dey).
Remarks: The species is reported for the first time from Western Himalaya, India.

Distribution: Philippines, India (Western Himalaya: Uttarakhand).

4. Mallada obvia (Hölzel)

Remarks: This species is recorded for the first time from Western Himalaya, India.

Distribution: India (Western Himalaya: Uttarakhand), Nepal.

5. Mallada garhwalensis (Ghosh) comb. nov. (Figs.8-12)


Redescription: Medium sized lacewing, about 11.39 mm long; forewing 18 mm long, hindwing 16 mm long; vertex yellow; labial palps brown with apex darker; maxillary palps brown with back apical segment; labrum, clypeus and frons yellow; gena with a black stripe. Pedicel and scape yellow; flagellum brownish. Thorax yellowish; pronotum with reddish shade laterally. Legs yellowish with whitish hairs; tarsal segment brown; claws dark brown. Forewing membrane hyaline and unmarked; longitudinal veins pale, greenish yellow; (bx), costalas before pterostigma, 1st radio-medial cross vein, 1st and 2nd series of gradate cross veins and the cross vein between 1st and 2nd cubial calls black; pterostigma
yellowish with a smoky patch at base; (im) cell elongate, large and its tip reaching beyond 1st radio-medial cross vein; inner gradates extended basally; number of gradates in 3 rows being 10:8:9; hairs on veins black and marginal fringes white. Hindwing costals black, all other cross veins mostly yellow; number of gradates 9:2:8; hairs mostly black. Abdomen brownish; 9th tergite and ectoproct rather short structure with rounded tip; 8th and 9th sternites elongate and its tip in lateral view rather narrow.

Genitalia: Gonapsis large; tignum arcuate; arcessus narrow.


Remarks: Ghosh (1985) originally described the species under the genus Chrysopida Navás from Western Himalaya. The present authors collected the specimen of the species also from Western Himalaya.

Though the forewing of the species has three gradate series like members of the genera Chrysopida Navás and Chrysoperla Steinmann, the presence of gonapssis prevents the inclusion of the species in such genera where the gonapsis are absent (Brooks & Bannard 1990). In addition it also has arcuate tignum and arcessus. The present authors find it therefore more proper to include and transfer the species to the genus Mallada which it defined by these three characteristics.

Distribution: India (Western Himalaya: Uttaranchal).

Acknowledgement

The authors are thankful to the Head of the Department of Zoology, University of Kalyani for providing laboratory facilities.

References


