



A New Species of *Neotrichoporoides* (Hymenoptera: Eulophidae) from Uttarakhand (India)

Sandeep Kumar*, B. Thangjam** and M.A. Khan**

*Department of Zoology, Kumaun University, SSJ Campus, Almora

**Department of Entomology, G.B. Pant University of Agriculture and Tech., Pantnagar (U.K.) India

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ABSTRACT : A new species *Neotrichoporoides mani* (Chalcidoidea: Eulophidae: Tetrastichinae) is described, illustrated and compared with an earlier Indian species *N. viridimaculatus* (Fullaway).

Keywords : Hymenoptera, Chalcidoidea, Eulophidae, Tetrastichinae, Uttarakhand, India.

List of Abbreviations : FSI-FS3-Funicular segments first to third, MV-Marginal Vein, SMV - Submarginal Vein, STV - Stigmal Vein, POL-Post ocellar distance, OOL - Ocellular distance.

INTRODUCTION

The Genus *Neotrichoporoides* was raised by Girault with *N. uniguttatus* Girault as the type species from Australia (Graham, 1987). Narendran et al. (2006) has described 10 species including 6 new species and provided a key to the Indian species of *Neotrichoporoides*. This Genus can be distinguished at once by the following key diagnostic characters from all other members of the subfamily Tetrastichinae; body length 1.7-3.3 mm; fore wing with MV 6-9.5x longer than STV; axillae not very strongly advanced; malar sulcus usually foveate below eye; sculpture on propodeum stronger than sculpture on scutellum; anterior pair of scutellar setae at least slightly in front of middle and equidistant from submedian and sublateral lines or near the latter occasionally; propodeum with the raised lobe of callus partially cover the outer rim of spiracle; one of the cercal setae longer than others, often sinuate. The members of this genus are Parasitoids of Diptera (e.g., Dipsosidae, Lanchaeidae and Muscidae) in stems of grasses (Boucek, 1988; LaSalle, 1994) and mainly occurred in old world tropics and subtropics with one wide spread species *Neotrichoporoides viridimaculatus* (Fullaway) also known from North and South America (LaSalle, 1994).

RESULTS AND DISCUSSION

Neotrichoporoides mani sp.nov. (Figs.1-6)

Female: Body length about 1.9 mm; body colour brownish black; head black and eyes reddish black; antennae brown; thorax brownish black, nonirridescence; wings hyaline; legs pale brown except coxae dark brown; gaster black with reddish brown apical tip.

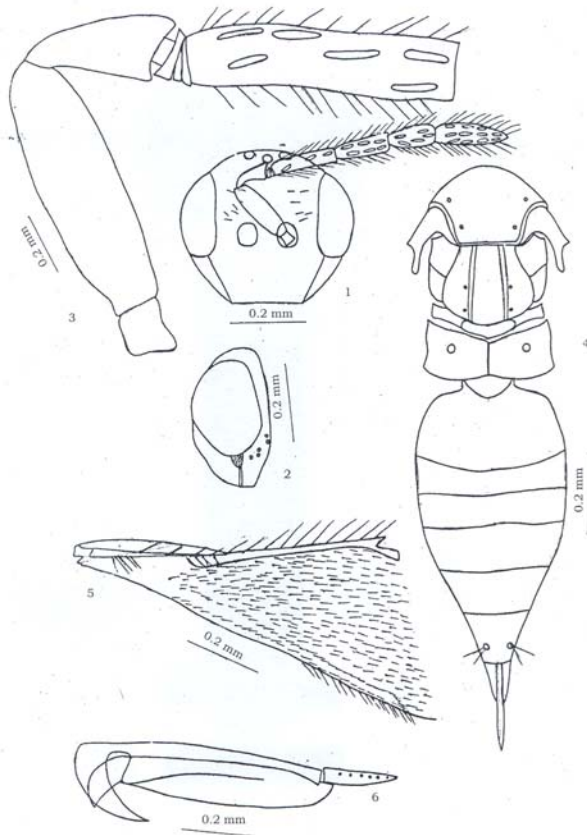
Head (Fig. 1): Wider than long in frontal aspect (0.46:0.40), smooth and sparsely setose; frontovertex wide, width more than 1/2 the total head width (0.30 : 0.46); vertex

setae short and sparse; ocelli arranged in obtuse angled triangle; POL slightly more than 1.5 times shorter than OOL(0.06:0.10); compound eyes bulged and smooth, eyes orbits round, facets uniform in shape and size; antennal toruli situated well above the lower level of eye margin, prominence between antennal toruli more than 1/5th the width of frons between eyes (0.05 : 0.266); malar sulcus straight; malar space distinctly foveated just below the lower level of eye (Fig. 2), longer than eye width (0.14:0.95); lower margin of clypeus straight; occipital carina absent.

Antennae (Fig. 1 and 3): hairy, 8 segmented excluding 3 anelli, apical tip of antenna with small spicule, antennal formula 1, 1, 3, 3, 1; scape cylindrical, more than 3 times as long as wide (0.183 : 0.053), pedicel with 4 long setae, more than 1.5 times as long as wide (0.067 : 0.041) and distinctly more than 2.5 times shorter than FS1(0.175 : 0.067); funicle 3 segmented, FS1 to FS3 gradually decreasing in length, FS1 more than 4 times as long as wide (0.175 : 0.041), FS2 a trifle less than 3 times as long as wide (0.145 : 0.050), FS3 more than almost 2 times as long as wide (0.12 : 0.06); club unsegmented, more than 3 times as long as wide (0.19:0.06), shorter than preceding two funicle segments combined.

Thorax (Fig. 4): Pronotum with reticulated sculpture, its posterior margin with 3 pairs of setae, antero-lateral arms moderately long, anterior margin concave in the middle; mesoscutum with fine sculpture and more than 1.5 times as wide as long (0.340 : 0.205); mesoscutum having 2 pairs of adnotaular setae, notauli complete, deep and grooved, median longitudinal groove absent; axilla moderately advanced; scutellum slightly convex with fine sculpture and longer than mesoscutum, less than 2 times as wide as long (0.400 : 0.225) with submedian longitudinal grooves and 1 pairs of setae situated on the scutellum, grooves deep and straight; dorsellum smooth; metanotum narrow; propodeum with median carina and without paraspiracular carinae, propodeal spiracles round and moderate in size, spiracle rim fully exposed.

Fore wings (Fig. 5) Elongate in shape, more than 3 times as long as wide (1.425:0.425), less than 1.5 times longer than hind wing length, densely setose; costal cell moderate in size and bare; SMV with 2 Setae directed upwards; MV bearing 10 long setae on front edge; PMV more than 2 times shorter than SV (0.03 : 0.07); SV long (0.07) more than 1/5th of the length of MV (0.40); basal vein with 3 setae, basal cell bare; speculum absent; cubital vein straight, subcubital line of hairs arising from the base of cubital vein.



Figs. 1-6: *Neotrichoporoides mani* sp. nov.
1. Head in frontal view; 2. Head in lateral view 3. Part of Antenna; 4. body in dorsal view; 5. Forewing 6. Female genitalia

Hind wings: slightly more than 7 times as long as wide (1.135 : 0.160) with acute apex; vein length (0.54) more than one half the length of wing.

Gaster (Fig. 4): Elongate and compressed, more than 2 times as long as wide (0.85 : 0.40), gaster surface smooth, 1st gasteral tergum large in size, gasteral apical tip

reddish brown and tapering; gaster sessile; metasoma 1.5 times longer than mesosoma; ovipositor originated from the above mid of gaster, ovipositor sheaths moderately exerted; first valvifers semicircular, (Fig. 6); anterior margin of basal part of second valvifers curved; third valvulae not movably articulated with second valvifers, a trifle less than 5 times as long as wide (0.20 : 0.042), TV more than 1/3rd times the length of SV (0.66); outer plates of ovipositor slightly longer than second valvifers, with a ridge along basal half of dorsal margin (Fig. 6); cercal setae small.

Male: Not known.

Holotype: ♀, India, U.K., Paurigarhwal, Host not known, sweepnet collection on natural vegetation, Sweepnet collection, 15.05.07, Hym. Eulo. Nr 101 (Sandeep Kumar).

Paratype: 8 ♀♀, same data as holotype Hym. Eulo Nr (Sandeep Kumar).

Remarks: this new species is easily distinguished from the related species *N. viridimaculatus* (Fullaway) by the following key.

1. Body yellow with characteristics patterns of metallic green or black markings which tend to form broken longitudinal stripes; scape as long as or longer than eye; marginal vein $8-9.5 \times$ length of stigmal vein; submedian line of scutellum absent or faintly indicated in part, gaster slightly longer than head + mesosoma, $2.6-3 \times$ as long as broad.

... *Neotrichoporoides viridimaculatus* (Fullaway)

* Body brownish black without any marking; scape distinctly longer than eye; marginal vein almost $5.7 \times$ length of stigmal vein; sub median line of scutellum prominent; gaster shorter than head + mesosoma; less than $2.5 \times$ as long as broad.

... *N. mani* sp. nov.

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