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TWO NEW SPECIES OF *PSEUDOTORYMUS* MASI (HYMENOPTERA : TORYMIDAE) FROM INDIA

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INTRODUCTION

Members of the genus *Pseudotorymus* Masi are parasitic on gall midges and weevil larvae. They are distributed in Palaearctic, Afrotropical, Nearctic and Oriental regions. From the Oriental region only five species are so far reported. These five species are *P. leguminosae* (Risbec), *P. indicus* (Mani), *P. salemensis* Narendran, *P. harithavarnus* Narendran and *P. amuthae* Narendran (Narendran, 1994, Grissell, 1995 and Noyes, 2004). In this paper two new species are described from South India. Type specimens are deposited in Systematic Entomology Laboratory, Department of Zoology, University of Calicut (DZUC) for the time being but eventually will be transferred to the Western Ghats Regional Station, Zoological Survey of India, Kozhikode (ZSIK).

The following abbreviations are used in the text : DZUC–Department of Zoology, University of Calicut; F1-F7–Funicular segments 1 to 7; MV–Marginal vein; OOL–Ocellocular distance; PMV–Postmarginal vein; POL–Postocellar distance; SMV–Submarginal vein; STV–Stigmal vein; T1–Gastral tergite 1; ZSIK–Western Ghat Regional Station, Zoological Survey of India, Kozhikode.

Pseudotorymus annamalaicus Narendran sp. nov.

(Figs. 1-4)

Holotype : Female : Length 4.51 mm. Liver brown with metallic violet blue and green reflections on head, dorsum of mesosoma and parts of gaster; eyes brick red; ocelli reflecting pale yellow; antenna with scape and pedicel pale yellow, remaining segments slightly darker; all tibiae and tarsi

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pale yellow; ovipositor sheath pale brown; ovipositor pale yellow. Wings hyaline, veins pale yellow; pubescence silvery.

Head : Width in dorsal view (Fig. 3) a little wider than 3.3x its median length; its width in anterior view (Fig. 2) about 1.2x as wide as its length; frons and vertex rugoso-reticulate, with moderately dense pubescence; scrobe rugulose-shine, reaching front ocellus, deep, margins ecarinate; interantennal projection with pubescence; area below antennal toruli with a broad median ridge. Occipital carina distinct, its lateral edges extending down to hypostoma; POL 3.33x OOL; clypeal margin entire; malar sulcus complete. Antennal formula 11173 (Fig. 1); scape not reaching front ocellus. Relative length : width of antennal segments : scape = 30:7; pedicel = 12:8; F1 = 8:9; F2 = 8:9.5; F3 = 8:9; F4 = 8:9.2; F5 = 9:10.5; F6 = 9:12; F7 = 7.8 : 12.5; clava = 20:13.

Mesosoma : (Fig. 1) Length subequal to metasoma; dorsum strongly punctate and reticulate; prepectus smooth; mesepisternum reticulate; mesepimeron smooth and shiny with a median transverse groove; median length of pronotum a little more than half length of mesoscutum; notauli distinct and complete; scutellum a little shorter than mesoscutum, a little longer than its maximum width, apex rounded; frenal line distinct; frenal area similarly sculptured as that of scutellum; propodeum with weak median carina, surface weakly reticulate, spiracle oval, spiracular sulcus indistinct. Forewing length a little more than 2x its maximum width. Relative lengths of forewing veins : SMV 75; MV 55; STV 8; PMV 13. Hind coxa dorsally reticulate with a few widely spaced dorsal setae; hind femur (Fig. 4) with dorsal and ventral margins subparallel, length a little more than 3x its maximum width, ventral margin slightly and faintly serrate; hind tibia with two distinct straight spurs at apex.

Metasoma : (Fig. 1) posterior margin of T1 sinuate medially; length of ovipositor 2x length of gaster.

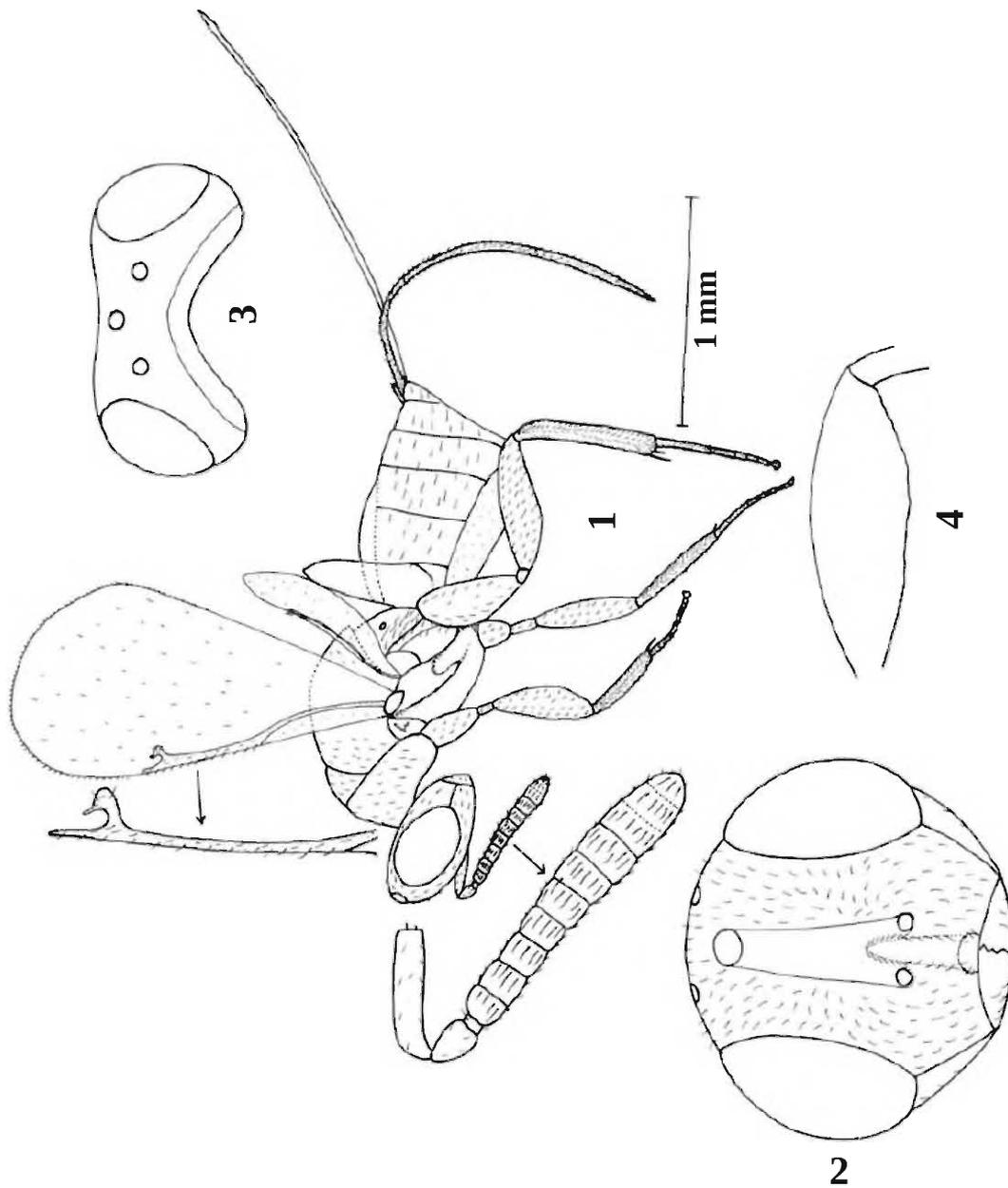
Male : Unknown.

Host : Unknown.

Holotype : Female, INDIA : Tamil Nadu, Annamalai (12°18' N; 79°4' E), 10.X.2000, Coll. R. Kanagaraj (DZUC).

Etymology : The species is named after its collection locality.

Discussion : This new species does not fit in the key to species of *Pseudotorymus* published by Narendran (1994). *Pseudotorymus amuthae* Narendran comes near this new species in general appearance but differs from it in having : (1) length of ovipositor 1.1x length of gaster (in *P. annamalaicus* length of ovipositor 2x length of gaster); (2) scutellum wider than its length (in *P. annamalaicus* scutellum longer than its width); (3) metallic green colour well pronounced (not well pronounced in *P. annamalaicus*); (4) MV about 2.4x as long as PMV (in *P. annamalaicus* MV 4.23x as long as PMV) and in several other features.



Figs. 1-4. : *Pseudotorymus annamalaicus* Narendran sp. nov. Female;

1. Body profile;
2. Head front view;
3. Head dorsal view;
4. Hind femur.

Pseudotorymus grisselli Narendran and Girish Kumar sp. nov.

(Figs. 5-8)

Holotype : Female : Length 2.65 mm; head and mesosoma brownish black with metallic green reflections, gaster brown with blackish brown and green reflections on dorsum; eyes blackish brown, ocelli reflecting yellowish brown; antenna with scape yellowish brown, pedicel and anellus blackish brown, remaining segments darker; all coxae concolourous with mesosoma, all trochanters and femur blackish brown, fore and mid tibia pale brown, paler towards apex, hind tibia and all tarsi except apices pale brownish white, apical tarsi and claws pale brown; ovipositor sheath dark brown; ovipositor pale yellowish brown with apices brown. Wings hyaline, forewing veins pale yellowish brown except marginal vein yellow; pubescence silvery.

Head : Width in dorsal view (Fig. 7) 3.23x its median length; its width in anterior view (Fig. 6) about 1.34x as wide as its length; frons and vertex rugose-reticulate, with scattered pubescence; scrobe rugulose-shiny, not reaching front ocellus, basal region deep, margins not carinate; interantennal projection with pubescence; area just below antennal toruli with a slight ridge; occipital carina not distinct; POL 3.5 × OOL; clypeal margin with a faint notch in middle; malar sulcus complete. Antennal formula 11173 (Fig. 5); scape not reaching front ocellus. Relative length : width of antennal segments : scape = 27 : 5.5; pedicel = 10 : 5; F1 = 10 : 10; F2 = 9.5 : 11; F3 = 9 : 11; F4 = 7.5 : 11; F5 = 7.5 : 11; F6 = 6.5 : 12; F7 = 6 : 12; clava = 21.5 : 12.

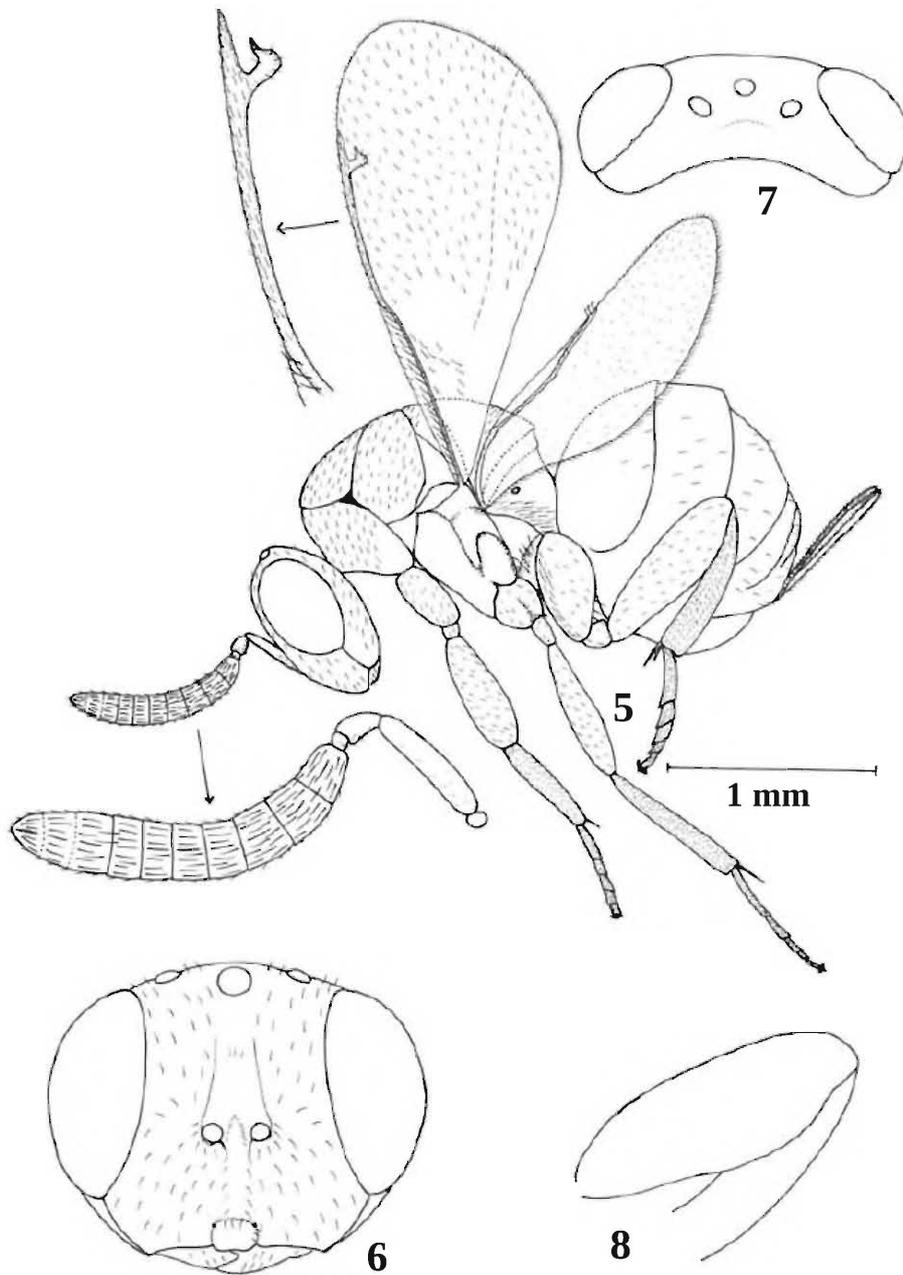
Mesosoma : (Fig. 5) length subequal to metasoma; dorsum strongly punctate and reticulate; prepectus and mesepisternum reticulate; mesepimeron with a median transverse groove, smooth and shiny except lateral sides of lower half near to mesepisternum reticulate; median length of pronotum 0.14x mesoscutum; notauli distinct and complete; scutellum 0.73x shorter than mesoscutum, 0.86x longer than its maximum width, apex rounded; frenal line distinct, frenal area similarly sculptured as that of scutellum; propodeal surface finely reticulate, spiracle oval, spiracular sulcus indistinct. Forewing length 2.11x its maximum width. Relative lengths of forewing veins : SMV 41; MV 27; STV 6; PMV 6.5. Hind coxa strongly reticulate dorsally with a few widely spaced dorsal setae. Hind femur (Fig. 8) with dorsal and ventral margin subparallel, length 3.4x its maximum width, ventral margin slightly and faintly serrate; hind tibia with two distinct straight spurs at apex.

Metasoma : (Fig. 5) posterior margin of T1 sinuate medially; length of ovipositor 0.61x length of gaster.

Male : Unknown.

Host : Unknown.

Holotype : Female, INDIA : Kerala, Wayanad Dt., Thirunelli (11°41' N; 76°16' E), shola forest, 17.xii.2003, Coll. Sabu K. Thomas (DZUC).



Figs. 5-8. : *Pseudotorymus grisselli* Narendran and Girish Kumar sp. nov. Female;

- 5. Body profile;
- 6. Head front view;
- 7. Head dorsal view;
- 8. Hind femur.

Etymology : The species is named after Dr. E.E. Grissell, US Department of Agriculture, National Museum of Natural History, Washington D.C., USA for his significant contributions to the study of Chalcidoidea.

Discussion : This species does not fit in the key to species of *Pseudotorymus* published by Narendran (1994). *Pseudotorymus indicus* (Mani) comes near this new species but differs from it in having : (1) hind femur with subapical tooth distinct (in *P. grisselli* hind femur without subapical tooth); (2) propodeum smooth (in *P. grisselli* propodeum finely reticulate); (3) ovipositor almost equal in length to that of gaster (in *P. grisselli* ovipositor distinctly shorter than that of gaster (0.61x) and in several other features.

SUMMARY

Two new species of *Pseudotorymus* Masi viz., *P. annamalaicus* Narendran sp. nov. and *P. grisselli* Narendran and Girish Kumar sp. nov. are described from India and their affinities are discussed.

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