

Short Communication

NEW RECORD OF *MOUNDINOTHRIPS ROBUSTUS* BHATTI (THYSANOPTERA: THRIPIDAE) FROM HIMACHAL PRADESH STATE OF INDIA

INTRODUCTION

Moundinothrips robustus is a rare species and was described based on one female specimen collected from dead twigs at Java, Indonesia (Bhatti 1995). Subsequently this species was reported from Punjab state of India based on single female collected on fern (Bhatti *et al.*, 2006). A female specimen was collected on fern from Himachal Pradesh state of India in our recent survey (2014-2015). The objective of this paper to report this species first time from Himachal Pradesh of India with DNA barcode data. The female are compared with the original description provided by Bhatti 1995.

Moundinothrips resembles *Taeniothrips* but can be separated by presence of dorsal apical setae on antennal segment I, elongate head with constriction behind eyes, heavily setose legs, strongly developed postocular III, number of setae on cheeks, pronotum with one pair of median setae at posterior margin between two pairs of major angulars, mesothoracic sternopleural sutures absent, spinula present on both pterygosterna, abdominal sternite VII with 2 pairs of posteromarginal setae and abdominal tergite IX with 2 pairs of well-developed setae across middle.

The photographs were taken through a Leica Trinocular Microscope (Leica DM-1000) and using Leica software application suite (LAS EZ 2.1.0).

MOLECULAR DATA

Specimen collection, DNA isolation and amplification of partial fragment of mtCOI gene

were performed as earlier protocol (Buckman *et al.*, 2013). Voucher specimen was retrieved and slide mounted in Canada balsam for morphological examination. PCR product was purified from the Agarose gel using Macherey Nagel Gel Purification Kit as per manufacturer's instructions. Sequencing of purified PCR product was carried out in both directions using 48-capillary Genetic Analyzer (Applied Bio Systems ABI 3730) using BigDye® Terminator Cycle Sequencing Kit (v3.1) at sequencing facility of Zoological Survey of India, Kolkata. The generated forward and reverse COI fragments of *Moundinothrips robustus* were analysed with SeqScape software version 2.7 (Applied Biosystems) and consensus sequences were obtained after checking deletion, insertion and stop codons. The generated sequence was submitted to NCBI Genbank to get accession numbers (KP120982) and BOLD (Barcode of Life Database) under the project titled "DNA Barcoding Thrips of India".

Moundinothrips robustus Bhatti

1995. *Moundinothrips robustus* Bhatti: 65-72.

Female macroptera. Body dark brown including legs except yellow tarsi. Antennal segments I-II and proximal ½ of VI brown, remaining segments pale. Fore wing brown with subbasal and apical area unshaded; ½ part of clavus brown proximally. Head longer than broad, constricted behind eyes; ocellar setae III longer than postocular III. Antennal segments III and IV each with forked sense cone. Pronotum with dark and thick transverse lines at posterior half, one

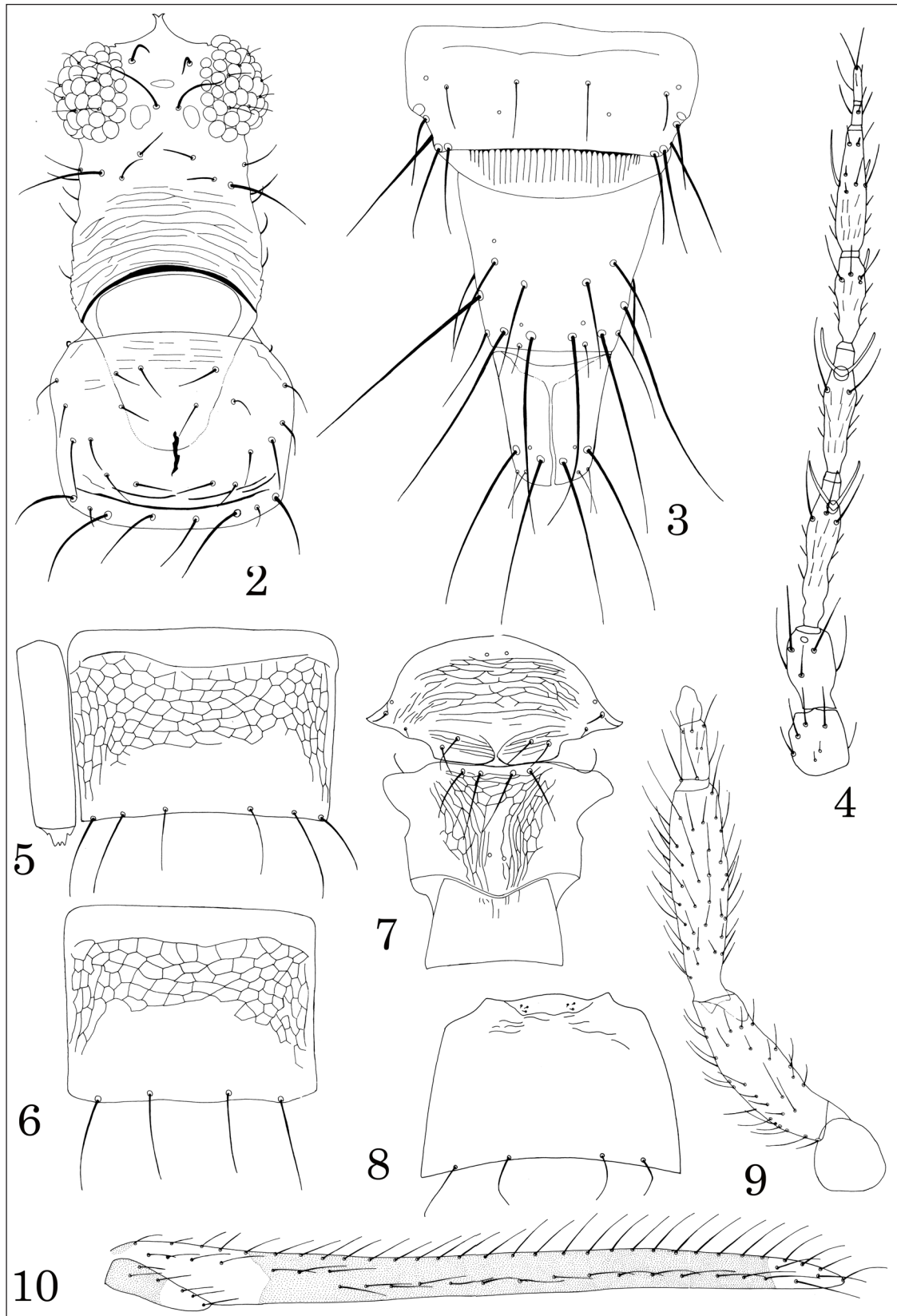


Fig. 2-10. *Moundinothrips robustus*, Female. (2) Head & pronotum; (3) Tergites VIII-X; (4) Antenna; (5) Sternite VI; (6) Sternite VII; (7) Meso-metanota; (8) Sternite II; (9) Fore leg; (10) Fore wing.

pair of median pair of setae between two pairs of well-developed major angulars. Mesonotum with transverse anastomosing striae. Metanotum with reticulate sculpture but faint sculpture medially,

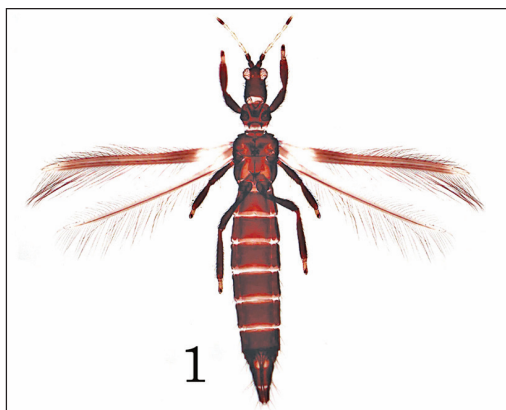


Fig. 1. *Moundinothrips robustus*, Female.

campaniform sensilla present. Fore wing costa with 31 setae, first vein with 4+3+2 setae, second vein with 16 setae. Abdominal tergite I–VII with transverse anastomosing striae in anterior half. Tergite VIII with complete microtrichia at posterior margin. Sternites II with 2 pairs of posteromarginal setae and 3 pairs of minute setae at the anterior

margin, III–VI with 3 pairs of posteromarginal setae, VII with 3 pairs of posteromarginal setae.

Material studied: INDIA, Himachal Pradesh, Shimla, fern, 1 female, (31°11' 99.3'' N 077°23' 11.8'E, 2500 m), 13.vi.2014, Vikas, Kaomud & Biswatosh.

Distribution: India (Punjab). *Elsewhere:* Indonesia.

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