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NEW RECORD OF THRIPS (INSECTA: THYSANOPTERA) FROM WEST BENGAL, INDIA

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INTRODUCTION

Thrips are fringed insects, ranging from 1 mm to 15 mm in size, belongs to the order Thysanoptera. The order Thysanoptera is subdivided into two suborders Terebrantia and Tubulifera with 9 families (Mound, Heming and Palmer, 1980). It includes approximately 6000 species across the globe (ThripsWiki, 2014), of which 700 species are reported from India (Ananthakrishnan & Sen 1980, Bhatti 1990). Thrips are one of the sucking pests of many agricultural crops and also have been reported as predators of other insects (Ananthakrishnan & Sen 1980). About 60 species of thrips have economic importance to agricultural and horticultural crops, and cause crop damage either by direct feeding or by transmission of plant pathogenic tospoviruses as vectors (German *et al*., 1992). So far 124 species of thrips have been reported from West Bengal state of India (Sanyal et al., 2012). During a recent survey (2013-2014) undertaken in West Bengal, three species of thrips have been collected and identified and are being reported here for the first time. The species are *Franklinothrips megalops* Trybom 1912 (Aeolothripidae), *Stenchaetothrips spinulae* Tyagi & Kumar 2008 (Thripidae) and *Androthrips flavitibia* Moulton 1933 (Phlaeothripidae).

MATERIAL AND METHODS

Specimens were collected by the beating method and preserved in collecting fluid (9 parts 10% alcohol + 1 part glacial acetic acid + 1 ml Triton X-100 in 1000ml of the mixture) and mounted in Canada balsam (Bhatti 1999). Photographs were taken through a Leica stereo zoom Microscope (Leica DM-1000) using Leica software application suite (LAS EZ). Species were identified with the help of the keys from Ananthakrishnan & Sen (1980), Mound & Reynaud (2005) and Tyagi and Kumar (2008). Voucher specimens were deposited in the National Zoological Collections of Zoological Survey of India, Kolkata.

Suborder TEREBRANTIA

Family AEOLOTHRIPIDAE

1. ***Franklinothrips megalops*** Trybom
(Figs. 1-2)

1912. *Franklinothrips megalops* Trybom: 147.

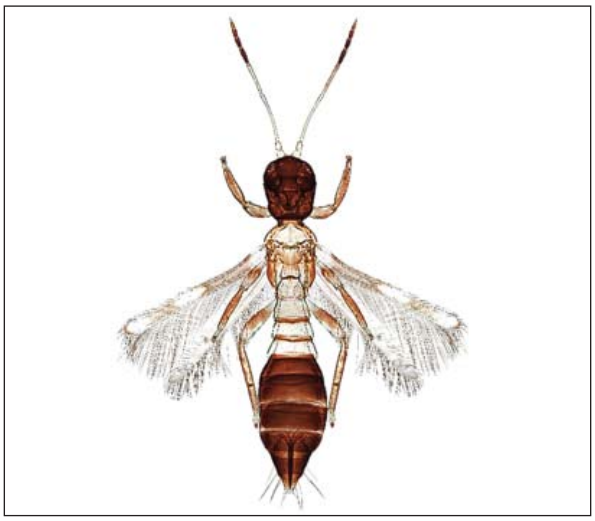

Fig. 1. *Franklinothrips megalops*, female

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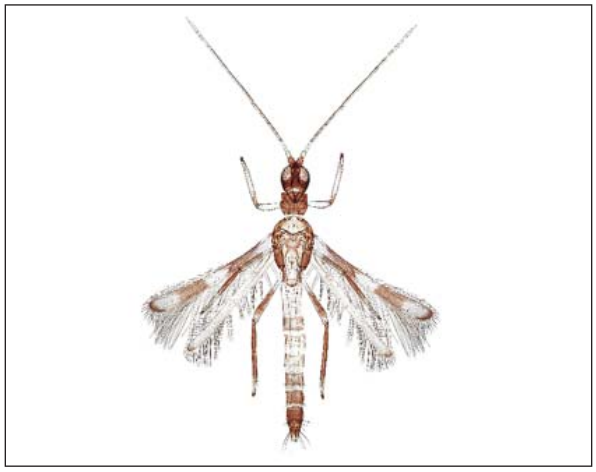

Fig. 2. *Franklinothrips megalops*, male

Diagnosis: Macropterous, sexually dimorphic, ant- like appearance, bicoloured species. Female with abdominal segments I–IV pale and more or less constricted and with dark line near to anterior margin. Antennal segments III–IV exceptionally long and slender, III at least 8 times as long as wide and with elongate and sinuous or multifacetted sensoria. Head without long setae. Abdominal segment I constricted; tergites III–VI with median setal pair small and wide apart; sternites with two pairs of setae close to posterior margin and one or twopairs of discal setae laterally, tergite X with small paired trichobothria. Male smaller than female, abdomen slender.

Material Studied: 2♂, India: West Bengal, Kolkata, New Alipore, *Clerodendron* sp., 8.i.2014 (Reg. No. 5424/H17 to 5425/H17); 6♀, 2♂, 25.ix.2013 (Reg. No. 5428/H17 to 5435/H17), Devkant.

Distribution: India: Tamil Nadu, West Bengal, new record; *Elsewhere*: Bhutan.

Comments: *Franklinothrips megalops* has been reported as an ant-mimicking obligate predators on arthropods (Mound & Reynaud, 2005) as many of its congeneric. This species shows remarkable sexual dimorphism in body colour and size, which is also reported among other members of its genus (Tyagi, Mound & Kumar, 2007). *F. megalops* is being used for thrips control in greenhouse (Mulder *et al.*, 1999) and is commercially utilized as a bio-control agent (Lenteren, 2011) in Europe.

Suborder TEREBRANTIA

Family THRIPIDAE

2. ***Stenchaetothrips spinulae*** Tyagi & Kumar (Figs. 3-4)

2008. *Stenchaetothrips spinulae* Tyagi & Kumar: 62.

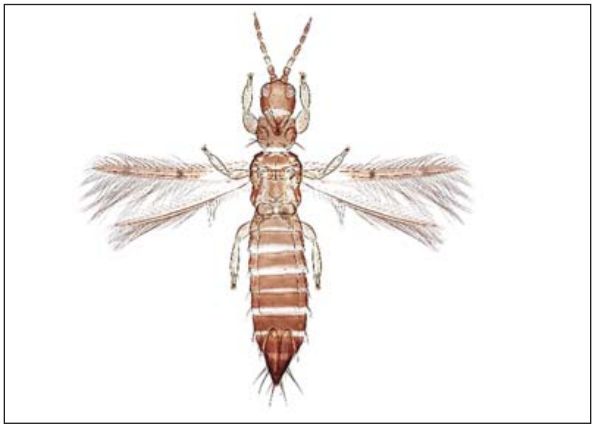

Fig. 3. *Stenchaetothrips spinulae*, female

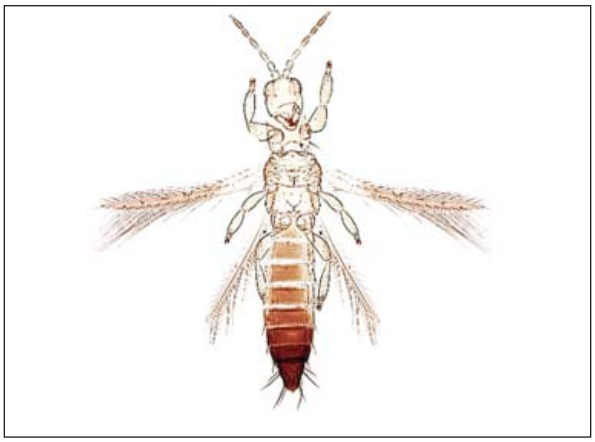

Fig. 4. *Stenchaetothrips spinulae*, male

Diagnosis: Female brown. Antennal segments I-II, IV-VII brown, III pale yellow. Fore wing brownish in distal ¾ and yellow in proximal ¼. Legs pale brownish. Ocellar seta pair III situated just inside the ocellar triangle. Postocular setae III longer than setae I, setae II and setae IV subequal. Metanotum without campaniform sensilla, with closely spaced longitudinal lines of sculpture converging posteriorly at middle; median setae slightly back of anterior margin. Spinula present on mesosternum. *Male* bicoloured, head, thorax, and legs yellow. Abdominal segments I-V yellow but tergites II-V with light brown patch in middle, rest of the segments brown. Antennal segments

I-IV yellow, V-VII light brown. Abdominal tergite VIII without posteromarginal comb. Abdominal sternites III-VII with oval pore areas.

Material Studied: 2♀, 2 ♂, India: West Bengal, Kolkata, New Alipore, *Bamboo* sp., 31.i.2014 (Reg. No. 5422/H17 to 5423/H17, 5487/H17 to 5488/H17); 7♀, 2♂, 13.ii.2014 (Reg. No. 5695/H17 to 5703/H17), Devkant.

Distribution: India: Karnataka, West Bengal, new record.

Comments: *S. spinulae*has been described from Delhi (India) based on specimens collected on bamboo plantations (Tyagi and Kumar 2008). This is the first report of this sexually dimorphic species since its original description and seems to be endemic to India. *S. spinulae*is strictly monophagous on bamboo plantations.

Suborder TUBULIFERA

Family PHLAEOTHRIPIDAE

3. ***Androthripsflavitibia*** Moulton
(Fig. 5)

1933. *Androthripsflavitibia* Moulton: 1.

Fig. 5. *Androthripsflavitibia*, female

Diagnosis: Body brown; fore femora brown, yellow in anterior third; mid and hind femora brown; all tibiae yellow. Fore tibia with weak and feeble scale. All dorsal prothoracic setae well developed.

Material Studied: 2♀, India: West Bengal, Kolkata, New Alipore, galls of *Ficus benjamina*, 31.i.2014 (Reg. No. 5422/H17), Devkant.

Distribution: India: Andaman Island, Assam, Manipur, Tripura, Uttaranchal, West Bengal, new record.

Comments: Members of the genus *Androthrips* have been reported as kleptoparasites or predators. Out of 12 species reported globally under this genus, 5 have been reported from India (Mound & Minaei 2007). *A. flavitibia*, an endemic species to India have been reported as predatory in nature (Singh &Vartharajan 2013).

SUMMARY

Three new records of thrips species of order Thysanoptera are reported first time from the state of West Bengal, India.

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