

THREE SPECIES OF AEOLOTHRIPS (INSECTA : THYSANOPTERA : AEOLOTHRIPIDAE), INCLUDING A NEW ONE, FROM WEST PAKISTAN AND WESTERN INDIA

By

J. S. BHATTI*

Central Regional Station, (Zoological Survey of India), Jabalpur

(With 2 Text-figures)

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I—INTRODUCTION

In this article a remarkable new thrips of the genus *Aeolothrips* has been described from West Pakistan. While the majority of species in this genus possess distinct cross bands on the forewings and the body is at least in part dark brown, the new species is completely yellow. Its nearest relation seems to be the recently described *A. intactus* Pelikan from Samarkand (U. S. S. R., Central Asia), which is also completely yellow. The material was labelled previously as "*Aeolothrips fasciatus* Linn." Two other species *A. collaris* PRCS. and *A. intermedius* Bagn. are reported from E. Punjab (India).

I am grateful to the Director, Zoological Survey of India, for enabling me to study the material.

II—SYSTEMATIC ACCOUNT

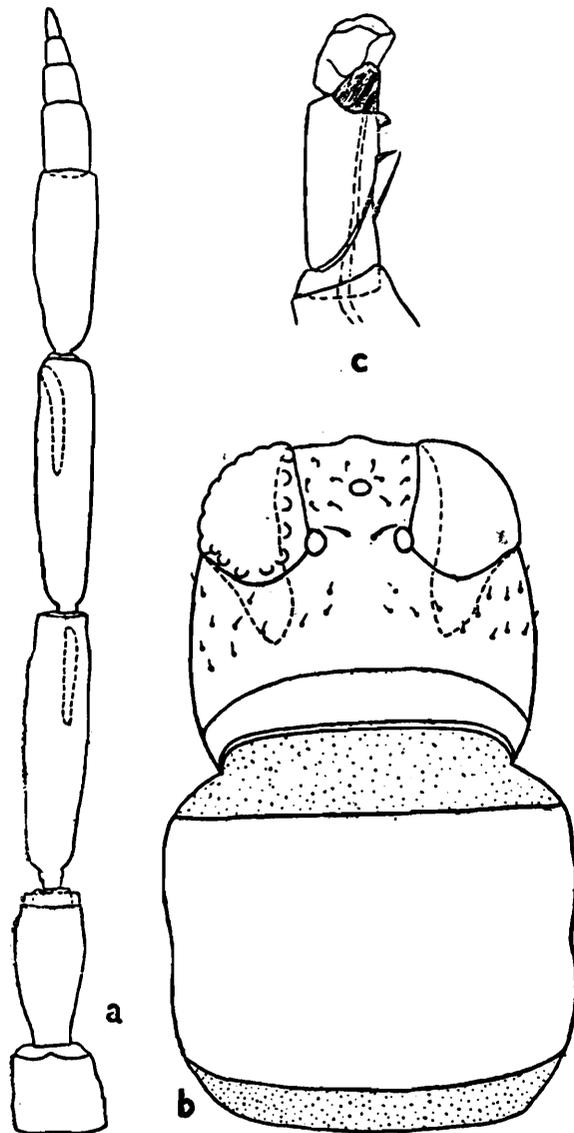
Genus *Aeolothrips* Haliday

1. *Aeolothrips novus* n.sp.

Material.—3 ♀♀, Uchhali, Salt Range (c. 2800 ft.), W. Punjab (W. Pakistan), 16-18. iv. 1931, coll. H. S. Pruthi, Z. S. I. Reg. Nos. 1102/H8 (2 exs.) and 1103/H8 (1 ex.), labelled "*Aeolothrips fasciatus* (L.)" These were preserved in alcohol and only recently (12-16. xii. 1963) mounted on slides in Canada balsam. Two of the specimens were mildly treated in NaOH, and the third mounted without that treatment.

*Now in the Department of Zoology, Hans Raj College, Delhi-7.

Description.—FEMALE (macropterous) : Total body-length 1.8-2.1 mm. *Colour* : General body more or less uniformly yellow, apex of abdomen not deeper in shade. Antecostal ridges on abdominal sterna 3-7 brownish. Eyes with opaque black pigment inside. Ocelli might have had reddish (?) crescents, but all colour completely faded due to long preservation in alcohol (over 32 years). Postoccipital rim yellowish-brown, very conspicuous in untreated specimens. Anterior ridge of probasisternum (between the two apophysial pits) somewhat shaded, otherwise sternum yellow. Mesosternum



TEXT-FIG. 1.—*Aeolothrips novus* n. sp. Female.

(a) Right antenna of holotype, dorsal view. (b) Head and pronotum (partly diagrammatic). Setae of pronotum omitted. (c) Fore-tarsus of paratype, showing armature.

anteriorly with a brownish edge medially. Antennae very light pale yellow, segment 3 completely whitish. Legs pale yellow, much lighter than body; tarsi still lighter, unguitactor plate in each tarsus very faintly brown (probably faded). Wings hyaline, but in the forewings of one paratype (No. 1103/H8) only faintly visible, almost imperceptible are two shaded areas in about the position as in *intermedius*, but shorter in length. All body state hyaline; apical abdominal setae yellowish.

Head: With extremely minute setae (5-8 μ long), these are not visible under the ordinary research microscope in specimens treated with NaOH, as also small setae on other body regions. Length 174-179 μ ; width at eyes 186-195 μ , at cheeks 200-205 μ . Interocellar setae (lying between posterior ocelli) 14-15 μ long. 'Premarginal collar' (occipital suture?) distinct. Maxillary palpi 3-segmented, their shape typical of the genus. Mouth cone neither very broad nor pointed, rather triangular; length of face (upto transclypeal suture) 128 μ , of mouth cone (from thence onward) 202 μ . **Antennae:** Total length 447 μ , about 2.51-2.56 as long as head, about 1.17 times as long as the combined length of head and pronotum (382 μ). Setae on antennal segments normal, as in *intermedius*, but in specimens treated with NaOH not visible under the ordinary microscope. Sensoria on antennal segments 3 and 4 not proximally reaching beyond the middle of each segment, only slightly bent towards apex on segment 4. Length of sensory area on segment 3, 38-53 μ long (3.5 μ wide); on 4, 47-51 μ (4-7 μ wide).

TABLE 1.—*Measurements of antennal segments (in μ) of Aeolothrips novus n. sp.*

Segment	i	ii	iii	iv	v	vi	vii	viii	ix
Length	33	60-63	109-125	101-107	72	25-27	18-19	11.6	11-11.6
Greatest width	33-38	28-33	23	23-25	23	18	14	9	6
Width at base/pedicel	33-38	16	9	8	7	—	—	—	—

Thorax: Pronotum smooth, without sculpture apparently. Disc setae extremely minute, 4-8 μ long. Length of pronotum 192 μ , width 235 μ . Width of prosternellum 114 μ . Length of pterothorax dorsally 341 μ , ventrally 372 μ , width at mesothorax 337 μ , at metathorax 305 μ . Length of mesosternum (including mesospinasternum) 219 μ , of metasternum 153 μ . Width of mesospinasternum 156 μ , width between mesosternal angles 291 μ . Length of spinula on mesosternum 123 μ , on metasternum 131 μ . **Legs:** Armature of foretarsus as in text-fig. 1c. Tarsi 2-segmented. Strong spines at apex of hind tibia 35-38 μ long, c. 1.3 μ thick. **Wings:** Setae on veins very small, 14-16 μ long, hyaline, and difficult to see. Veins rather clear, normal. Forewing 1064 μ long; c. 6.6. times as long as wide: about uniformly wide, width taken beyond middle c. 161 μ .

TABLE 2.—Measurements of legs (in μ) of *Aeolothrips novus* sp. n.

	Femur		Tibia		Tarsus	
	Length	Width	Length	Width	Length	Width
Fore-leg . .	219-237	100	223-242	56	79-81	25
Middle-leg .	216	65-67	216-219	49	73	23
Hind-leg .	296-298	74-77	338-340	47	93	23

Abdomen: Normal, somewhat vespiform. Length 1179-1345 μ , width at segment 5 (untreated paratype) 431 μ . Setae on proximal abdominal segments not clear—in untreated specimen due to fat in the body and in the treated ones due to transparency. Only in the untreated paratype the major setae on segments 9 and 10 can be seen: on 9, s.1, 84-91 μ , others broken; on 10, s.1, 70 μ , s.2, ? (broken). Ovipositor 427-430 μ long.

MALE: Unknown.

Type-specimens.—All specimens in the collection of the Zoological Survey of India, Calcutta. *Holotype*: ♀, Uchhali, Salt Range, West Punjab, West Pakistan, 16-18.iv.1931, coll. H. S. Pruthi (Z.S.I. Reg. No. 1102/H8). Treated with NaOH before mounting. *Paratypes*: (i) 1 ♀ (data as for holotype); antennae missing. (ii) 1 ♀ (same data as above; Z.S.I. Reg. No. 1103/H8), untreated; segments 5-9 in both antennae, and middle and hind-legs missing.

Comparison.—*Aeolothrips novus* can be compared only with the Central Asian species *A. intactus* Pelikan, since that is the only other completely yellow species in the genus. Both species have the body uniformly yellow with the apex of abdomen not darkened and both lack dark shadings on wings, but *A. novus* can be readily separated as follows:—(i) Antennae uniformly yellow (segments 3 and 4 at apex, and 5-9 completely light gray in *intactus*). (ii) Longer antennae (447 μ vs. 352-354 μ). (iii) Antennal segments 3 and 4 longer (109-125 and 101-107 μ vs. 90 and 75 μ). (iv) Segment 3 much more slender (4.7-5.4 as long as wide vs. 4.0). (v) Ovipositor 427-430 μ long (vs. 365 μ). In general the measurements of *novus* are greater than those in *intactus*.

2. *Aeolothrips collaris* Priesner

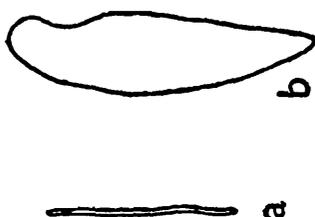
1919. *Aeolothrips fasciatus* var. *collaris* H. Priesner, *Sitz. Ber. Akad. Wiss. Wien*, 128, p. 119.

Material.—1 ♀, India, East Punjab, Manali to Kote (Stn. II), on broad leaves of plant in the stream, 24.v.1955, coll. A. P. Kapur; with a label "*Aeolothrips fasciatus* Linn, syn. *fulvicollis* Bagn.", Z.S.I. Reg. No. 1775/H8. (The alcohol material was mounted on slide in Canada balsam recently, 12.xii.1963.)

Remarks.—As stated elsewhere (Bhatti, in press), *fulvicollis* is a synonym of *collaris*, not of *fasciatus*. Antennal segments 3-5 measure as follows: Length/width of iii, 104/23; iv, 93-101/23; v, 70/22 μ . Sensory area on segment 3, 35 μ long; on 4, 41-49 μ ; in width varying from 4 μ proximally to 7 μ distally. I believe it to be a typical example of *collaris*.

3. *Aeolothrips intermedius* Bagnall

1934. *Aeolothrips intermedius* R. S. Bagnall, *Ent. Mon. Mag.*, London, 70, p. 123.



TEXT-FIG. 2.—*Aeolothrips intermedius* Bagn. Female. Manali to Kote, E. Punjab
(a) Abnormal sensory area on antennal segment 3. (b) Abnormal sensory area on segment 4.

Material.—1 ♀, India, Punjab, Manali to Kote (Stn. II), on broad leaves of plant in the stream, 24.v.1955, coll. A. P. Kapur; with a label "*Aeolothrips fasciatus* Linn. syn. *fulvicollis* Bagn.", Z.S.I. Reg. No. 1775/H8. (The alcohol material was mounted on slide in Canada balsam recently, 16.xii.1963, after treatment with NaOH.)

Remarks.—Length/width of antennal segments 3-5: iii, 104/28; iv, 102/28; v, 73/25 μ . Segments 6-9 together measure 70 μ in length. Sensoria on antennal segments 3 and 4 abnormal (Text-figs, 2a, b); on segment 3 an exceptionally thin area, 40 μ long, 1 μ wide; on 4 an exceptionally broad area, 58 μ long, 16 μ wide. One antenna broken.

III—SUMMARY

1. A new species, *Aeolothrips novus*, is described from W Punjab (W. Pakistan).
2. Two species of *Aeolothrips*, *A. collaris* Priesner and *A. intermedius* Bagnall, are recorded from East Punjab, India.

IV—REFERENCES

- BHATTI, J. S. 1964. Studies on the Indian species of the genus *Aeolothrips* Haliday.—*Bull. Ent.*, Madras, No. 5, pp. 17-23, 5 figs.
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