

**MALE OF MEGALUROTHRIPS MUCUNAE AND  
A CHANGE IN NOMENCLATURE**  
(Thysanoptera : Thripidae)

By K. Sakimura<sup>1</sup>

*Abstract:* The male of *Megalurothrips mucunae* (Priesner, 1938) is newly described, and *Taeniothrips mucunae* var. *fijiensis* Moulton, 1944 is synonymized with *M. mucunae*. This species is distributed from Java to Samoa.

In the original description by Priesner (1938) of *Taeniothrips mucunae*, the male was not included. While a concurrent paper on *Megalurothrips distalis* (Karny) (Sakimura 1972) was under preparation, the male specimens of *mucunae* from Samoa and New Hebrides were discovered in the Bianchi Collection. It is described here. Moulton (1944) erected a variety *fijiensis* from Fiji based on his belief that the antennal formula is different. A longer series of ♀ specimens from Fiji, Samoa, and New Hebrides does not support Moulton's view. The variety *fijiensis* is therefore synonymized with *mucunae*. Grateful acknowledgements are made to F. A. Bianchi and P. H. Arnaud who allowed me to work on materials in the Bianchi and Moulton Collections.

**Megalurothrips mucunae** (Priesner)      Fig. 1-4.

*Taeniothrips mucunae* Priesner, 1938: 475.

*Megalurothrips mucunae*: Bhatti, 1969: 242.

*Taeniothrips mucunae* var. *fijiensis* Moulton, 1944: 268. **New Synonym.**

*Taeniothrips distalis*: Bianchi, 1953: 94. (Misidentification).

♂: *Diagnosis*: Dark grayish brown; entire foretibia, both tip and base of middle and hind tibiae yellowish brown; antenna I-II as head, III and basal 1/2 of IV yellowish brown, the rest light grayish brown; III-VI strongly slenderized; enlarged attachment base of inner sense cone on VI club-shaped (cf. fig. 4); wing normal for genus; sternites without either glandular area or lance-shaped hairs; tergite IX with mesial seta sub-minute, one short and very thick spur near posteroangle.

*Description*: Dark grayish brown body, head darker; all femora uniformly dark grayish brown, extreme base somewhat pale, foretibia uniformly yellowish brown, mid-hind tibiae dark grayish brown at middle and yellowish brown at both tip and base, all tarsi yellowish brown. Antenna color dimorphic for ♀; I-II dark grayish brown, III-IV yellowish brown, distal 1/2 of IV weakly brown-washed, V-VIII light grayish brown, pale sub-basal ring on IV-V. Forewing deep grayish brown at extreme base and scale, broad band at middle, and small spot at apex; sub-basal clear band conspicuous but subapical clear band quite cloudy and indistinct. All major setae dark to blackish brown; ocellar crescent red.

Body 1500-1760 (all in  $\mu$ ; unless otherwise stated denote length only; w. = width); head 130-145, w. 168-180; head shape normal for genus; eye large (88-90), occupies 2/3 head length; in-

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terocellar seta long (52-58), 25-28 apart from each other, in front of posterior ocelli in the 2 ♂♂. Antenna (fig. 1) dimorphic for ♀, 340-370, about  $2.6 \times$  as long as head; III 59-68, w. 18-20,  $3.3-3.4 \times$  as long as wide; IV 60-64, w. 17-18,  $3.4-3.6 \times$  as long as wide; V 45-47, w. 14-15,  $3.0-3.2 \times$  as long as wide; VI 55-63, w. 16-17,  $3.5-3.7 \times$  as long as wide; forked sense cones thinner and shorter than ♀, III 35-40, 59-60 % of segment length; IV 38-40, 60-67 % of segment length; enlarged attachment base of inner sense cone on VI (cf. fig. 4) normal for genus, club-shaped, 12-13 long. Prothorax 158-163, w. 225-228; posteroangular setae 55-65. Pterothorax 200-225; hind tibia 183-195; forewing 730-790, w. 53-58 at middle, seta length at middle: 43-50, 40-45, 50-55, number of setae: 25-26, 15-18 basal and 2 distal, 13-14. Abdomen 880-1040, w. 230-250 on IV; sternites without either glandular area or lance-shaped hairs; chaetotaxy and ctenidia on tergites III-VIII normal for genus, dorsal setae i-ii all minute or small, dorsal seta iii large on III-V, minute on VI-VIII, no regular ctenidia except few short rows of coarse microtrichia before spiracle on VIII; traces of comb at sides only on VIII; phallus 131-138, w. 63-65. Tergum IX (fig. 3) 78-82, X 40-43; chaetotaxy as all other congeners except *typicus* Bagnall and *sjoestedti* (Trybom); IXi sub-minute, accessory seta i wanting in the 2 ♂♂, dorsal seta i 45-55, accessory seta ii 35-38, thick spur, IXii 125-128, IXiii 93-105, clasper 100-115.

♀: Range of measurements of 16 ♀♀ from Samoa, Fiji, and New Hebrides is as follows: Body 1840-2420; head 135-160, w. 168-190; interocellar seta 55-83, variable in position from front of posterior ocelli to upon common tangent of the same; antenna (fig. 2) 375-418,  $2.5-2.8 \times$  as long as head: III 66-79, w. 24-29,  $2.5-2.9 \times$  as long as wide; IV 73-85, w. 23-28,  $3.0-3.3 \times$  as long as wide; V 49-57, w. 16-18,  $2.9-3.3 \times$  as long as wide; VI 62-70, w. 18-20,  $3.3-3.7 \times$  as long as wide; necks of III-IV longer and more constricted than any other congener; forked sense cone broad and heavy, longer than any other congener, III 53-68, 76-94 % of segment length, IV 53-68, 71-82 % of segment length; in the specimen in fig. 2, forked sense cones on III-IV both do not attain maximum in the range; enlarged attachment base of inner sense cone on VI (fig. 4) 13-17; prothorax 140-188, w. 195-255, posteroangular setae 53-105; pterothorax 200-260; forewing 770-990, number of setae on hind vein 16-18; major setae on abdominal IX-X 133-210; ovipositor 268-365.

**SPECIMENS EXAMINED:** Western Samoa, Island of Upolu: 7 ♀♀ (Bianchi), Apia, beatings at 2200 feet, 16.VI.1940, E. C. Zimmerman. American Samoa, Island of Tutuila: 5 ♀♀, 1 ♂ (Bianchi), Vailoatai, *Erythrina* flowers, 15.VIII.1951, F. A. Bianchi. Fiji, Island of Viti Levu: 6 ♀♀ (holotype in Bishop and paratypes in Bishop and CAS of *mucunae* var. *fijiensis*), Singatoka, no host data, 17.IV.1941, N. L. H. Krauss (Moulton 5628). New Hebrides: Island of Efate: 1 ♀, 1 ♂ (Bianchi), Vila, legume vine flowers, VIII.1950, N. L. H. Krauss; Island of Santo: 1 ♀ (Bianchi). Second Channel, *Erythrina* flowers, VIII.1950, N. L. H. Krauss.

**Discussion:** Priesner's description of *mucunae* ♀ must have been based on an extra large specimen with antenna as long as 424-433  $\mu$ . He stated antenna V is  $3.2-3.3 \times$  as long as wide, and forked sense cones on III and IV are as long as 97 % and 83 % of the respective segment lengths. Moulton in describing the variety *fijiensis*, considered that none of his 6 ♀♀ had long middle segments and long sense cones as Priesner described. The newly determined ranges from the 16 ♀♀ now reveal that antenna is 375-418  $\mu$  long, V is  $2.9-3.3 \times$  as long as wide, and forked sense cones on III and IV are as long as 76-94 % and 71-82 % of the respective segment lengths. These maxima in the ranges manifestly approach those given by Priesner, and *fijiensis* is obviously not a subspecies but is synonymous. In the color of ♀, no discrepancy from the Javanese specimens was found among the specimens studied, on which, however, the yellow basal and distal extremes of the mid and hind tibiae are more pronounced than Priesner

described.

In Samoa, the species was once confused with *distalis* (Karny) by Bianchi. In New Guinea, a species referred to as *nigricornis* Schmutz and compared with *sjustedti* by Mound (1968: 59) is likely to be *mucunae*. What he called marginal spines on ♂ tergite IX are referable to accessory seta i, which is wanting in *mucunae* (fig. 3). *M. mucunae* is, however, a valid sp., and not synonymous with *usitatus* (Bagnall) (= *nigricornis*). There are distinct color differences in antenna and foreleg of ♀ and ♂, and abdominal IX and X of larva II, as well as distinct structural differences in antenna of ♀ and ♂.

The male of *mucunae* is indistinguishable in color from *formosae* (Moulton), of which the entire type series (Moulton 1928: 298) was examined. Even in structure, the interocellar seta position, abdominal IX chaetotaxy, and lack of the sternal lance-shaped hairs are same in both spp. In antenna (fig. 1, 5), the length width ratios of III and

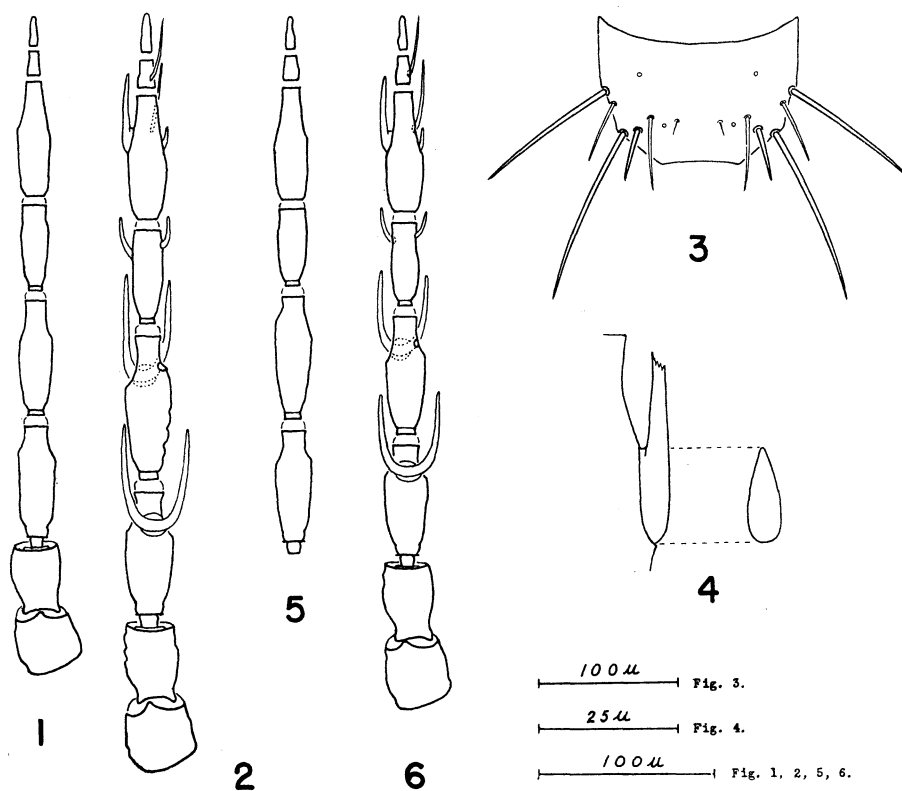


Fig. 1-4. *Megalurothrips mucunae* (Priesner): 1, antenna, ♂, right, ex American Samoa (Bianchi); 2, antenna, ♀, right, ex American Samoa (Bianchi); 3, tergite IX, ♀, ex New Hebrides (Bianchi); 4, antenna VI, ♀, left, showing enlarged attachment base of sense cone, ex American and Western Samoa (Bianchi). Fig. 5-6. *Megalurothrips formosae* (Moulton): 5, antenna, ♂, left, allotype (CAS); 6, antenna, ♀, right, holotype (CAS). Note: In Fig. 1, 2, 5, 6, striae, microtrichia, sense cones (except in Fig. 2, 6), and all setae on antennae are omitted. (del. K. S.)

IV ( $3.4 \times$  each in *formosae*), length of the forked sense cones on III and IV (54 % and 59 % of the respective segment lengths in *formosae*), and length of the enlarged attachment base of the inner sense cone of VI ( $13 \mu$  long in *formosae*) are all similar in both spp.; V is, however, decidedly more slender in *mucunae* ( $2.9-3.3 \times$  as long as wide) than in *formosae* (ca.  $2.6 \times$  as long as wide). This minor difference in antenna V is the only character which separates them.

In the ♀, however, *mucunae* is readily distinguishable in color from *formosae*, compensating for the difficulty in separating the ♂♂. The antenna is uniformly dark grayish brown, and both tip and base of the mid and hind tibiae are yellow in the former, while the antenna III and basal 1/4 of IV are yellow, and the mid and hind tibiae are uniformly dark grayish in the latter.

The length/width ratios of antenna segments (fig. 6) of *formosae* ♀ are III:  $2.8-2.8 \times$ , IV:  $3.0-3.1 \times$ , V:  $2.6-2.8 \times$  (stouter than *mucunae*), and VI:  $3.1-3.3 \times$ . The sense cones on both III and IV are similarly 64-76 % of the respective segment lengths (shorter than *mucunae*). *M. formosae* ♀ closely approaches *usitatus*, but is distinguishable by the uniformly dark grayish brown forefemur as well as mid and hind tibiae, yellow basal 1/4 of antenna IV, and longer attachment base (cf. fig. 4) of the inner sense cone on antenna VI ( $12-13 \mu$  vs.  $8-11 \mu$ ). *M. formosae* ♀ also approaches *distalis* in leg color, but is distinguishable by the yellow antenna III and basal 1/4 of IV, and the interocellar seta in front of the posterior ocelli.

The female of *mucunae* is similar to *distalis* in the uniformly dark grayish brown forefemur with the yellow foretibia, and the uniformly dark grayish brown antenna. A minor color difference is the uniformly dark grayish brown mid and hind tibiae in the latter as contrasted with the yellow tip and base of the same in the former. The structural differences are limited in antenna. Segment V is decidedly more slender in *mucunae* ( $2.9-3.3 \times$  as long as wide) than in *distalis* (only  $2.3-2.8 \times$  as long as wide). The forked sense cones on III and IV are longer in *mucunae* (71-94 % of the segment lengths) than in *distalis* (64-80 % of the segment lengths). The attachment base of the inner sense cone of VI is far more elongated in *mucunae* (fig. 4) ( $13-17 \mu$ ) than in *distalis* ( $9-11 \mu$ ). The male of *mucunae*, however, is readily distinguishable from *distalis* by the lack of the sternal lance-shaped hairs. This difference compensates well for the difficulty in separating the ♀♀. The chaetotaxy on abdominal IX is however similar in both spp. The aforementioned data on *distalis* are cited from the concurrent paper (Sakimura 1972).

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