

## NOTES ON SOME CRYPTOTHRIPINE SPECIES FROM POLYNESIA, WITH DESCRIPTION OF A NEW SPECIES (PHLAEOTHRIPIDAE: THYSANOPTERA)

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*Abstract:* Notes are presented on several thrip species in the tribe Cryptothripini. A new species from Fiji is described and illustrated, 3 new synonymies are given and redeterminations are made from material previously misidentified. New collection data from 3 species from Palm and Norfolk Islands of Australia and Tahiti are reported.

Since Mound's papers (1974a, b) on Idolothripinae in the Pacific region were published, the materials accumulated in the California Academy of Sciences (CAS) and the Bishop Museum (BISHOP) collection have been intermittently scrutinized by me. Notes accumulated to date are reported here. This work is related to my interest on the Hawaiian group of cryptothripine species (Sakimura & Bianchi 1977).

Material for comparison was also received from the Natur-Museum und Forschungsinstitut Senckenberg (SMF) and the British Museum of Natural History (BMNH).

### **Diaphorothrips kraussi** Sakimura, new species      FIG. 1-6

*Diaphorothrips hamipes*: Moulton, 1944: 308 (not *D. hamipes* Karny) (misidentification).

Moulton (1944: 308) reported *Diaphorothrips hamipes* Karny from Fiji. A direct comparison with the type of *D. hamipes*, loaned by SMF, and the specimen reported by Moulton revealed that Moulton's specimen was misidentified. It is, in actuality, a new species and is described below.

♀ (*holotype*). Dark grayish brown body with antenna III including distal part of II and fore tibia yellowish brown, major setae yellowish brown, wings fumate; sculpture indiscernible except on pelta (poorly cleared specimen). Head (FIG. 1) 1.4× as long as wide, front not produced; cheeks long, nearly parallel, slightly constricted before broad basal collar, with about 12 short stiff setae; eye small, not distended posteriad on venter; ocellar triangle located forward on vertex, posterior ocelli contiguous with eye, far apart from each other (94 μm); postocellar setae developed, 0.4× as long as postocular seta, preocellar setae developed, more than ½ as long as postocellar, postocular setae moderately long, 0.5× as long as head; mouth cone long, pointed, maxillary stylets broad, retracted in long V reaching base of postocular setae. Antenna very slender, 1.9× as long as head, III 2.4× as long as wide, VIII 3.6× as long as wide, slender spindle-shaped; sense cones: III 2, IV 5, V 4, VI (FIG. 6) 2, outer cone unusually large, ½ as long as the segment, angled, arising from ¾ height of the segment, VII 1. Pronotum 0.6× as long as head, epimeral suture complete; setae moderately long and all blunt at apex, anteromarginal reduced, epimeral and coxal longer than the others; praepectus present, mesopraesternum (FIG. 3) strongly degenerated in lateral areas, with a prominent median hump, posterolateral angle very obtuse; fore leg (FIG. 5) with prominent tibial subapical tooth (33 μm long) and tarsal tooth (84 μm long), fore femur incrassate; fore wing broad, with 29 double fringes, subbasal seta i very small. Pelta (FIG. 2) large, deeply reticulate; tergites III-VII with a pair of sigmoid setae; tube (FIG. 4) long and slender, 1.25× as long as head, 3.3× as long

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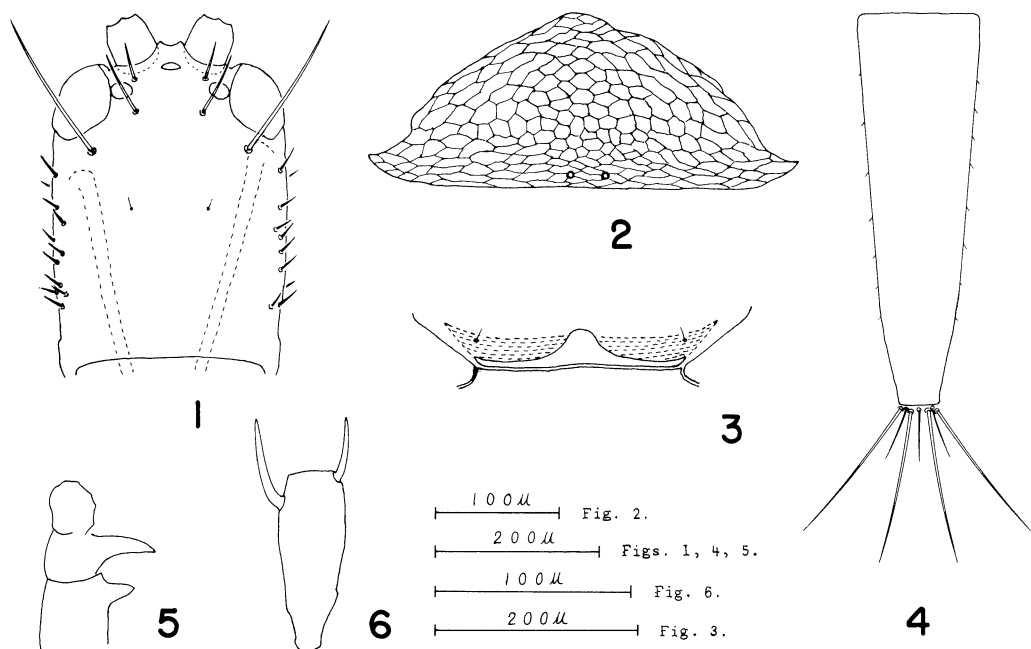


FIG. 1-6. *Diaphorothrips kraussi*, ♀, holotype: 1, head (transverse reticulations presumably present on occiput, but not shown); 2, pelta; 3, mesopraesternum; 4, tube (minor setae and pores not shown); 5, left fore tibia and tarsus (minor setae not shown); 6, left antennal segment VI (minor setae not shown). (Del. KS.)

as wide at base, evenly tapered and subapically constricted; tergite IX with setae i-ii about  $0.9\times$  as long as tube, seta iii much shorter, terminal setae about  $0.4\times$  as long as tube.

*Measurements* (in micrometers unless otherwise specified), length(width). Body 4.4 mm. Head 400(290), cheek 285 below eye; eye 94(69); setae: postocellar 80, preocellar 47, postocular 194; antennal segments: 58(54), 89(46), 122(50), 117(50), 108(42), 93(34), 83(29), 69(19), total 770; pronotum 242(500), setae: anteroangular 40, mid-lateral 50, posteroangular 70, epimeral 160, coxal 97; pterothorax 480(600); fore wing 1620(128 at middle); abdomen 3150(670 on IV); tube 500(150 at base, 54 at apex); setae: IX i-ii 440, iii 340, terminal 200.

Holotype ♀ (BISHOP 11,085), FIJI IS: Viti Levu: Singatoka, 17.IV.1941, N. L. H. Krauss (Moulton No. 5622).

*Discussion.* *D. kraussi* is closely allied to *D. unguipes* Karny and *D. hamipes*, with which it was confused because of the similarity in color. *D. hamipes* differs in the reduced postocellar setae and stouter tube ( $2.3-2.8\times$  as long as wide at base). *D. unguipes* differs in the reduced preocellar setae, slenderer tube (about  $3.6\times$  as long as wide at base), and dark grayish brown antennal segment III and fore tibia. Two other specimens of *D. hamipes* from Malaysia (BMNH) were also available for comparison.

This species is named after N. L. H. Krauss, who collected the specimen, in honor of his outstanding contributions through his extensive collecting of thrips in Polynesia over many years.

**Neosmerinthothrips fijiensis** (Moulton)

*Gastrothrips fijiensis* Moulton, 1944: 286.

*Neosmerinthothrips fructuum*: Moulton, 1944: 308 (not *N. fructuum* Schmutz) (misidentification).

*Neosmerinthothrips fijiensis*: Mound, 1974b: 152.

Moulton (1944: 308) reported *Neosmerinthothrips fructuum* Schmutz from Fiji (Moulton No. 5412). This specimen, in the Bishop collection, was misidentified, and I have redetermined it as *N. fijiensis*.

**Neosmerinthothrips fructuum** Schmutz

*Neosmerinthothrips fructuum* Schmutz, 1913: 1052.—Mound, 1974b: 152.

*Neosmerinthothrips formosensis*: Moulton, 1944: 307 (not *N. formosensis* Priesner) (misidentification).

*Neosmerinthothrips formosensis* var. *karnyi*: Moulton, 1944: 307 (not *N. formosensis karnyi* Priesner) (misidentification).

Moulton (1944: 307) reported *Neosmerinthothrips formosensis* Priesner (2 ♀, 1 ♂: Moulton No. 3414, 3452, 5391) and *N. formosensis* var. *karnyi* Priesner (5 ♀, 2 ♂: Moulton No. 5399, 5415) from Fiji. There are 3 other specimens similarly determined by Moulton (Moulton No. 1188, 5395, 5409) but not reported by him, in the CAS and BISHOP collections. Both taxa were later synonymized by Mound (1974b: 162) with *Nesothrips brevicollis* (Bagnall). *N. fructuum* and *N. brevicollis* were often confused until Mound (1974b: 162) clarified their differentiating characters for the first time. I redetermined 12 specimens still available in the CAS and BISHOP collections as *N. fructuum*. These redeterminations indicate that *N. brevicollis*, which is widespread among the Pacific islands, apparently had not yet been collected in Fiji by 1938. These specimens of *N. fructuum* were all collected before 1938, on the islands of Viti Levu, Ovalau, and Vanua Levu.

**Nesothrips brevicollis** (Bagnall)

*Oedemothrips* (?) *brevicollis* Bagnall, 1914: 29.

*Nesothrips brevicollis*: Mound, 1968: 140.

One male of this species was discovered in the CAS collection: AUSTRALIA: Palm Island, North Queensland, no date, A. M. Lea (Moulton No. 3465). The species has heretofore not been reported from Queensland.

**Nesothrips niger** (Moulton & Steinweden)

*Bolothrips nigra* Moulton & Steinweden, 1932: 167.

*Cryptothrips constans* Moulton & Steinweden, 1933b: 163. **New synonymy.**  
*Nesothrips niger*: Mound, 1974b: 166.

This new synonymy is based on the direct comparison of the holotype of *N. niger* (BISHOP) and the remaining 2 paratypes (Moulton No. 4589) and a nontype series (T-217, 220, 221) of *C. constans* (CAS). The holotype and allotype of *C. constans* were slated for deposition in BISHOP (Moulton & Steinweden 1933b: 165), but Bishop Museum has no record of them ever having been received. All the specimens seen of this species were badly distorted and crushed by the cover slips. The head depicted by Moulton & Steinweden (1933b: FIG. 1a) was found in an unnatural shape. Both species were collected separately from the islands of Hivaoa and Uapou in the Marquesas. The collection data of the unpublished specimens in the CAS collection: 4 ♀, 2 ♂, MARQUESAS IS: Uapou, XI.1931, G. LeBronnec (T-217, 220, 221).

***Nesothrips propinquus*** (Bagnall)

*Oedemothrips* (?) *propinquus* Bagnall, 1916: 408.  
*Nesothrips propinquus*: Mound, 1968: 141.

Several specimens of this species were discovered in the CAS collection: 4 ♀, 1 ♂, AUSTRALIA: Norfolk I, [no date] A. M. Lea (Moulton No. 3162). The species, which is widespread and common in Australia and New Zealand and also has been recorded from New Caledonia, has heretofore not been reported from Norfolk Island.

***Nesothrips* sp.**

A unique specimen from Tahiti in the CAS collection closely resembles *N. niger* (Moulton & Steinweden), but differs in having yellowish brown antennal segments III-IV, more distended ventral eye length, and shortened setae i-ii of tergite IX. The specimen is badly damaged. Until more specimens become available, this undescribed species will remain unnamed. The collection data: 1 ♀, apterous, TAHITI: Mt Olofena, 1900-2000 m, humus, 24.IX.1934, H. St. John (Moulton No. 5647).

***Scotothrips hibisci*** (Moulton & Steinweden)

*Neoheegeria hibisci* Moulton & Steinweden, 1933a: 32.  
*Neoheegeria longus* Moulton, 1944: 297. **New synonymy.**  
*Cryptothrips latus* var. *fijiensis* Moulton, 1944: 270. **New synonymy.**  
*Scotothrips hibisci*: Mound, 1974a: 92.

The new synonymies are based on the fact that the ranges of head length/width ratio are all continuous among the 3 taxa. Measurements from the 19 specimens of the 3 taxa available in the CAS and BISHOP collections showed a broad range of 1.4-1.7× as long as wide (320-480 μm long). The holotype of *N. longus* is at the maximum end of the range, and holotypes of *N. hibisci* and *C. latus fijiensis* are near the minimum end of the range. The other measurements also showed an interesting indication that

the tube is 1.0–1.1 $\times$ , eye 0.23–0.24 $\times$ , postocular setae 0.4–0.5 $\times$  and pronotum 0.4–0.5 $\times$  as long as head, regardless of the head length. There are no color, sculptural, or structural differences, except that yellowish knees of all legs tend to disappear in specimens with larger and longer heads. In Mound's key (1974a: 92) to the Australian species of *Scotothrips*, *S. hibisci* runs to *S. acanthus* (Hood), which it closely resembles and is separated from it by only a few features. *S. hibisci* has 4 sense cones on antennal segment IV, fully developed pronotal anteromarginal setae, no tarsal tooth in females and far-apart median pores on pelta; *S. acanthus* has 5 sense cones, reduced setae, tarsal tooth in females, and closely placed median pores. *S. hibisci* was frequently collected in Fiji and only once in Tahiti.

The collection data of the unreported specimens found in both collections: 5 ♀, 2 ♂, FIJI: Vanua Levu: Vanua Mbalavu, Dobo Levu, ?1924, 1938, 1942, A. M. Lea, E. C. Zimmerman, R. A. Lever (Moulton No. 3434, 5393, 5406, 5648).

*S. hibisci* is further characterized as follows: body 3.0–5.1 mm long, dark grayish brown with fore tibia and antennal III and distal part of II brownish yellow, wing pale brown, setae brown; head length variable, cheeks nearly straight, nearly parallel, eye not elongate on venter, postocellar setae reduced, maxillary stylets in long V, reaching beyond the base of postocular seta; antenna about 1.8 $\times$  as long as head, slender, VIII basally narrowed; pronotum with all setae fully developed, epimeral setae as long as pronotum; praepectus present, mesopraesternum large with prominent median hump and obtuse lateral margins; meso- and metanota finely reticulate; ♂ with fore tarsal tooth but no apical tubercle on fore tibia; pelta large pyramidal shape, reticulate; tube straight-sided, slender, 2.9–3.4 $\times$  as long as wide at base; tergite IX with setae i–iii slightly longer than tube.

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