

Thysanoptera Hawaiiensis—I

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Studies on the Thysanoptera of Hawaii during the last few years indicate clearly that the subject is nowhere near exhaustion and that further investigation of it is bound to result in much new knowledge. The share of that knowledge which may result from my own investigations in the future, I propose to publish annually, or at a rate which will not result in papers of unwieldy length. To provide a suitable title indicative of the continuity of these prospective papers, I propose to number them consecutively under the serial name heading this, the first paper of the series.

Here are now presented descriptions of two new and probably endemic Tubulifera from Mt. Haleakala, Maui, and record is made of other recent findings in both the *Tubulifera* and the *Terebrantia*.

Suborder Tubulifera

Family Phloeothripidae Uzel

Subfamily Phloeothripinae Priesner

Haplothrips sesuvii Priesner.

Priesner, Records of the Indian Museum 35: 363; 1933.

This species has not been previously recorded from the Territory. It was found rather abundant on *Sesuvium portulacastrum* Linn. and on a species of amaranth at Barber's Point, Oahu, on March 12, 1946. Later I was informed by Mr. Kay Sakimura that about the same time the species had been found by him on beach plants along the road between Waialua and Kaena Point, on the windward side of the island.¹ Further search more recently has failed to turn up the species at either of the mentioned localities, but it will probably appear again from time to time.

Haplothrips fissus sp. nov. (Plate I; Figs. A, B, D.)

Female holotype (apterous): Body length 1.36 mm. Color by transmitted light uniformly dark brown; eyes black; subhypodermal pigment red; all major setae light brown.

Head without inter-antennal costa 1.2 as long as wide, widest in middle. Ocelli absent. Eyes small, very slightly protruding, more or less semi-circular in dorsal outline, their ventral aspect smaller and more or less oval, their facets large and regular, five or six along the outer outline of eye, with only 2 or 3 microsetae between them. Cheeks pronouncedly arched from back of eyes to base. Vertex evenly declivous. Postocular setae set back about .6 the eye length from their hind margins; one and a half times as long as the eyes. A row of 4 or 5 minute setae arching along antero dorsal margin of eyes; a

¹ See p. 7.

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transverse row of 2 or 3 on vertex; a few others on cheeks. Mouth cone large, broadly rounded at end, not reaching hind margin of mesosternum; labrum not surpassing labium. Maxillary palpi long and thick; labial palpi small.

Antennae almost twice as long as head; inserted very slightly back of vertex; shaped as illustrated. Inter-antennal costa barely surpassing vertex, almost straight in front, only about a fifth as wide as a basal antennal segment. Sense cones tapering but not sharply pointed, one on each side of segments 3, 4, 5, 6, maybe a very thin one dorsally on each of segments 7 and 8, which are broadly joined.

Pronotum as long as head, its fore and hind margins weakly arched, if at all; mid-dorsal suture vestigial medianly; all the usual major setae present, pointed, strong, the coxals equal in length to the antero marginals. Legs normal, with fore femora only slightly incrassate. Fore tarsi with a strong outer and a minute inner claw.

Abdomen, unexpanded and not including tube, more than 1.6 as long as rest of body; narrowing gradually from segment 4 to base of tube; poster angular setae long and pointed on all tergites; sternites 2 to 8 with an intermarginal row of 6 to 10 very minute setae. Major setae of segment 9 nearly 1.5 as long as tube. Tube about 2/3 as long as head, about 2/3 as wide at end as at base, widened abruptly at basal fifth and evenly tapering thence to end. Terminal hairs arranged in usual manner; the strictly laterals on each side extremely long, more than 1.5 as long as tube; those on either side of postero median bifurcate at about distal third.

Measurements of holotype in mm.: Head length .151; head width .131; eye length .041; postocular setae .061; prothorax length .127; antero angular setae .028; antero marginal setae .041; midlateral setae .049; postangular setae .061; epimeral setae .061; coxal setae .041; tube length .094; tube width at base .053; tube width at end .032; lateral terminals on tube .16; dorsal terminals on tube .074 (bifurcate about .021 mm. from terminal end); longest setae on segment 9, .143.

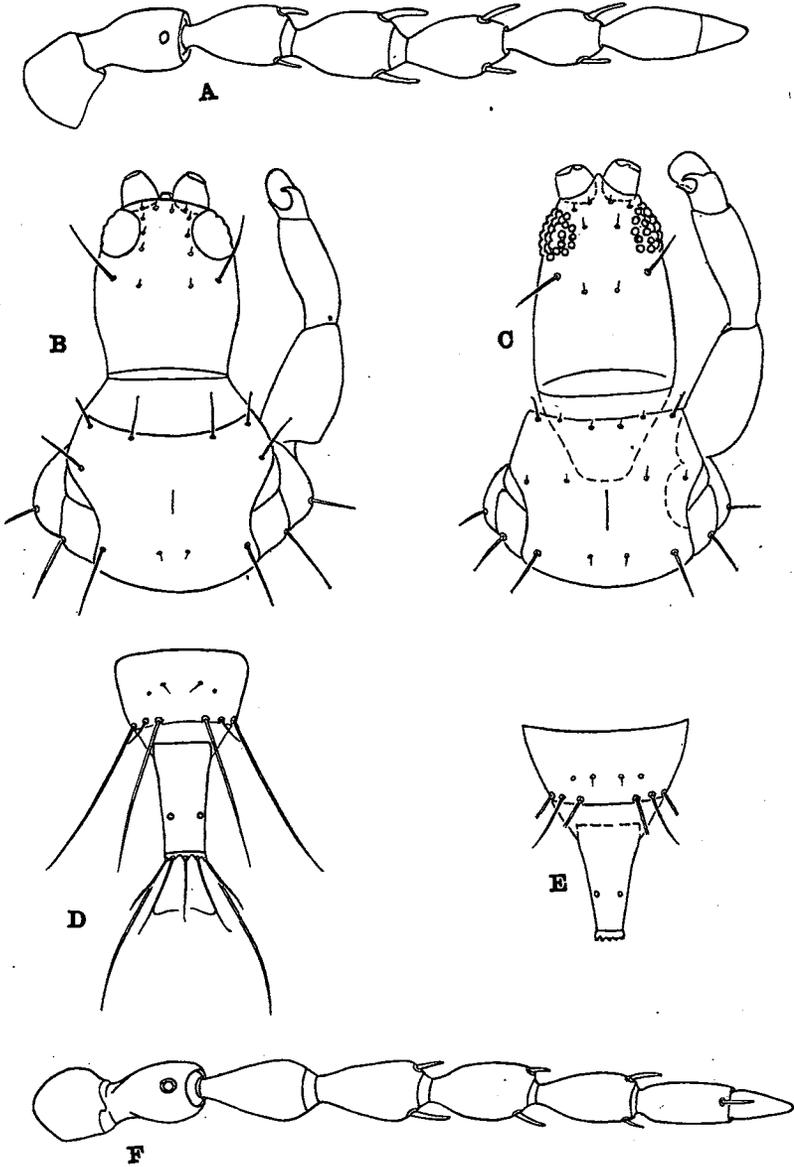
Antennal segments	1	2	3	4	5	6	7	8	Total
	.032	.045	.036	.036	.041	.036	.036	.024	.286

Described from the holotype, collected by E. C. Zimmerman on April 28, 1945, near Puu Luau (5,500 ft. elev.) on Mt. Haleakala, Maui. The male is unknown.

This new species is in all other respects a typical *Haplothrips*, but the unique bifurcation of the dorso lateral terminal setae at once distinguishes the species from all other members of the genus, both in Hawaii and elsewhere. This character has suggested the specific name "fissus," split.

LEGEND FOR PLATE I

- A *Haplothrips fissus* sp. nov. Right antenna of apterous female with all setae omitted.
- B *Haplothrips fissus* sp. nov. Head, prothorax and right fore leg of apterous female, with some minor setae omitted.
- C *Pseudocryptothrips remotus* sp. nov. Head, prothorax and right fore leg of apterous female.
- D *Haplothrips fissus* sp. nov. Ninth and 10th abdominal segments of apterous female, showing bifurcated setae.
- E *Pseudocryptothrips remotus* sp. nov. Ninth and 10th abdominal segments of apterous female, with setae omitted or abbreviated.
- F *Pseudocryptothrips remotus* sp. nov. Right antenna of apterous female, with setae omitted.



***Pseudocryptothrips remotus* sp. nov. (Plate I; Figs. C, E, F.)**

Female holotype (apterous): Body length 1.2 mm.; color by transmitted light dark brown; base of antennal segment 3, tarsi, and extreme end of tibiae, particularly on fore legs, lighter. Eyes black. Subhypodermal tissue red.

Head distinctly produced in front of eyes, from base to anterior corner of eyes 1.4 as long as wide, widest at about posterior fourth; cheeks weakly arched and distinctly divergent to posterior fourth, thence almost parallel; vertex flat, evenly declivous. Ocelli lacking. Eyes small, between a third and a fourth of cheek length, protruding only posteriorly, with inner posterior angle broadly rounded; the facets irregular in shape and without microsetae among them; eyes in ventral aspect similar in shape but smaller than in dorsal aspect. Postocular setae .75 as long as eye, set about .5 the eye length from their posterior margin and about same distance from cheek. A pair of minute setae between eyes on transverse median line; other microsetae on vertex and cheeks. Mouth cone rounded at end and .5 as long as head exclusive of part produced in front of eyes; maxillary palpi relatively small; labial palpi almost minute; labrum not surpassing labium.

Antennae 1.6 as long as head, shaped as illustrated; inter-antennal costa straight in front and only .25 as wide as a basal antennal segment; setae and sense cones colorless, thin, inconspicuous; sense cones tapering to blunt point, none on segment 3, one on each fore angle of segments 4, 5, 6, one dorsally on segment 7. Segment 8 not pedicillate but narrower than segment 7.

Pronotum $\frac{7}{8}$ as long as head and about 1.12 as wide as head length. Paired setae on posterior prothoracic angles about equal to post oculars; those on anterior angles and the coxals little more than half as long; other setae minute. Mid-dorsal suture medianly vestigial. Legs normal; fore legs not incrassate; fore tarsi with small, sharp, inner and outer claws.

Abdomen, unexpanded and not including tube, more than 1.5 as long as rest of body; about equally wide from base to segment 6, narrowing evenly from segment 7 to base of tube. Tube about .6 as long as head, about twice as wide at base as at end, tapering more rapidly from basal fourth, which is sculptured with faint anastomosing lines. All abdominal setae pale and weak; those on segment 9 somewhat longer than tube and about equal to longest terminals on tube. Sternites 2 to 7 with a median transverse row of 6 to 10 minute setae.

Measurements of holotype in mm.: Head length .178; head width .123; post ocular setae .036; prothorax length .143; prothorax width .188; antero angular setae .02; postangular and epimeral setae .036; tube length .09; tube width at base .06; tube width at end .03; lateral terminals on tube .11; dorso lateral setae on abdominal segment 9, .10.

Antennal segments	1	2	3	4	5	6	7	8	Total
	.020	.041	.036	.041	.041	.041	.036	.020	.276

Described from the holotype and two female paratypes found by E. C. Zimmerman resting on a species of *Dubautia*, on the crater rim of Mt. Haleakala, Maui, on April 25, 1945. The male of the species is unknown.

Only two other species of *Pseudocryptothrips* have been described: the genotype, *P. meridionalis* Priesner, from South Europe, and *P. proximus* Faure, from South Africa. While obviously congeneric with these two species, which according to description are very nearly alike, *remotus* differs from them in several respects: mainly in being of uniformly brown color, in having smaller and more numerous eye facets, in having no sense cones on antennal segment 3, and in possessing only pointed setae. This

comparatively distant relationship to the other members of the genus has suggested the specific name "*remotus*."

Suborder Terebrantia

Family Aeolothripidae Uzel

Aeolothrips fasciatus Linn.

This species is not common in the Territory. It has been previously recorded from occasional collections on Oahu and from one collection by Dr. O. H. Swezey on Mt. Haleakala, Maui, but is here recorded for the first time from the island of Hawaii. E. C. Zimmerman and the author found it unusually abundant by beating grasses and ferns at Humuula and at Kilauea, on August 3, 4, and 8 of this year.

Family Thripidae Uzel

Hercothrips fasciatus Pergande

This potential pest appears now to be firmly established in the Territory, where it is now known from Molokai, Hawaii, and Oahu. It was first found on Oahu by J. S. Rosa and the author at Barber's Point on February 20, 1946, feeding on *Heliotropium curassavicum*. Since then it has been recorded by Mr. Sakimura on the same host and on *Sonchus oleraceus* on the windward side of the island, at Kaena Point. The list of hosts from which the species has been recorded in the Territory comprises only the weeds *Argemone glauca*, *Sonchus oleraceus* and *Heliotropium curassavicum*, and as yet includes no cultivated plants. It is interesting to note that on the island of Hawaii the species has been collected on the first two hosts at Naalehu, only 200 feet or so above sea level, and on the Saddle Road, at an elevation of approximately 6,000 feet.

Chirothrips patruelis Hood

Revista de Entomologia, 11: 550, 1940.

In a recent paper ("Additions to the Thysanoptera from the Island of Hawaii"; *Haw. Ent. Soc.*, 12: 503, 1945) I recorded the presence of *Chirothrips mexicanus* Crawford on the island of Hawaii. On further study of the material originally available, and on comparison of it with much additional material which I have since obtained, I am now forced to amend that record. *Chirothrips mexicanus*, it appears now, has not been collected on the island of Hawaii. The two species of the genus which have been collected there are *Chirothrips fulvus* Moulton, which is evidently quite scarce, and *Chirothrips patruelis* Hood which is abundant.

Chirothrips patruelis has not been previously recorded from the Territory. In addition to the specimens recorded as *C. mexicanus*

(loc. cit.), I now have a long series of the species collected by E. C. Zimmerman and myself by beating grasses at Kilauea and Humuula, early in August, 1946.

Plesiothrips panicus (Moulton)

During August of this year I found one female of this species on Sudan grass, at Naalehu, Hawaii. This constitutes a new island record for the species.