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# New Thysanoptera from Florida.

By J. R. Watson, University of Florida Exper. Sta., Gaines-ville, Fla.

(Plate VI)

Cryptothrips floridensis, new species. (Plate VI, Figs. 1-4.)

Measurements: Head, length 0.25 mm., width 0.20 mm.; prothorax, length 0.17 mm., width 0.34 mm.; mesothorax, width 0.40 mm.; abdomen, width 0.44 mm.; total length of insect, exclusive of antennae, 1.89 mm.; tube, length 0.14 mm., width at base 0.075 mm.; antennae; 1,36  $\mu$ ; 2, 51.7  $\mu$ ; 3, 77.6  $\mu$ ; 4, 78  $\mu$ ; 5, 65  $\mu$ ; 6, 63  $\mu$ ; 7, 54.5  $\mu$ ; 8, 40  $\mu$ ; total 0.42 mm.

General color, black, no purple pigment; tarsi dark brown and antennae yellow.

Head, cylindrical, one and one-fourth times as long as wide; sides almost straight and parallel.

Eyes somewhat triangular,  $9x6 \mu$ , reddish brown, not pilose, about 250 facets.

Ocelli present, concolorous with the eyes to which the posterior ones are closely applied.

Mouth-cone, rather bluntly rounding, reaching three-fourths of the way across the pronotum.

Antennae with eight segments, one and two-thirds times as long as the head; segments one and two black, concolorous with the head, segments three to six clear yellow, eighth and tip of seventh yellowish-brown.

Prothorax short, a little shorter than the width of the head, triangular, narrow in front, well-developed spines on posterior angles and two on the anterior part of each lateral margin.

Mesothorax wider than the prothorax and very short, sides almost straight.

Pterothorax a little narrower than the abdomen, sides almost straight.

Legs long, concolorous with the body except the brown tarsi.

Wings: Fore-wings reaching almost to the end of the abdomen, fringed wth hairs which are nearly as long as the width of the abdomen, doubled for from 15 to 19 hairs, nerve weak and short, constriction rather slight.

Abdomen usually long and slender, usually widest at the second or third segment and tapering gradually to the seventh from which it rounds off more abruptly. A pair of bluntly-tipped hairs along the margin of each segment, becoming longer and arising from nearer the posterior angle on the posterior segments. The tube is 0.14 mm. long and about 0.075 mm. wide at the base. The end bears a circle of stiff hairs, eight of which are about two-thirds as long as the tube, six are shorter and weaker.

Males are similar but smaller.

Larvae: The very young are a uniform yellow in color; later they are straw-colored with numerous irregularly-shaped orange pigment masses, giving an orange color to the body, which is much wider in proportion to the length than is the case with the adult. The legs are dark brown. The antennae are at first purplish, turning to dark brown and later almost black. There are two dark areas on the head and two larger ones on the thorax.

Eggs 0.35 x 0.14 mm., black in color, surface reticulated in appearance, due to the fact that the wall is composed of hexagonal plates. They are placed in crevices in the bark of the host.

Described from fifty adults and numerous larvæ and eggs.

Found at Satsuma, Fla., in November and December by W. O. Richtman on camphor (*Cinnamon camphor*) seedlings. They were reported as quite numerous on the twigs and doing considerable damage.

Type in the collection of the Florida Agricultural Experiment Station. Cotypes sent to the U. S. National Museum.

Close to *C. californicus* Daniel, from which it differs chiefly in general color, color of the legs, color and length of the segments in part of the antennae and in its habitat.

Phloeothrips floridensis, new species. (Plate VI, Figs. 5, 6 and 7.) Female. Total length 2.5 mm. Head 0.26 mm. long and 0.2 mm. wide; prothorax 0.2 mm. long and 0.38 mm. wide; mesothorax 0.18 mm. long by 0.395 mm. wide; metathorax 0.23 mm. long and same width as the mesothorax; abdomen about the width of the thorax; tube 0.16 mm. long and 0.05 mm. wide at its base; antennae, total length 0.46 mm., segments, 1, 30.2 x 41.5  $\mu$ ; 2, 52.8 x 30.2  $\mu$ ; 3, 71.7 x 37.7  $\mu$ ; 4, 83x36  $\mu$ ; 5, 75.5x28  $\mu$ ; 6, 64x23  $\mu$ ; 7. 56.6x21  $\mu$ ; 8, 26.4x13  $\mu$ . General color, dark brown under the lens, black to the naked eye.

Head, rounded in front, sides slightly converging posteriorly, the warts small and completely covering the surface, spines short.

Eyes, size 0.1x0.05 mm., oval in shape.

Ocelli large, placed well forward, posterior ones barely touching margins of the eyes.

Mouth-cone comparatively short, reaching only about two-thirds of the distance across the prothorax.

Antennae with eight segments, total length 0.46 mm. Basal two segments dark brown, concolorous with the head, third yellow but a little darker at the apex, fourth, fifth and sixth have the basal third yellow and the remainder light yellowish-brown, as are all of the seventh and eighth. Spines and sense-cones long and stout.

Prothorax 0.2 mm. long, 0.38 mm. wide, narrow in front, three long knobbed spines on each lateral margin.

Mesothorax and metathorax sides converging slightly posteriorly, each bearing a number of knobbed hairs.

Legs rather long, femora concolorous with the body, tibiae and tarsi yellowish brown, fore tarsi with a strong claw.

Wings. Fore wings rather short, barely reaching the sixth abdominal segment, fringed with hairs whose length is greater than the width of the abdomen. Hind wings a little shorter and with shorter hairs.

Abdomen long and narrow, first six segments of nearly equal width. Tube, sides converging only slightly posteriorly.

Male. Total length 1.36 mm. Head 0.24 mm. long and 0.19 mm. wide.

Antennae; joint 4, 70  $\mu$  long; 5, 63  $\mu$ ; 8, 30  $\mu$ .

Front femora thicker and lighter in color than in the female and with a short, thick spine on the inner distal corner.

Abdomen markedly smaller and exceeded by the wings.

Otherwise like the female except that some other measurements are slightly less.

Larvae. Body mostly of an orange color. Anterior part of head, antennae, legs, and tube of a very light brown color. The antennae especially have a purplish tinge. Eyes small and red in reflected light. Tube relatively long and ending in two long hairs which are nearly twice its length.

Described from two males and one female. Taken from under loose bark on orange trees in the greenhouse of the Florida Experiment Station. They were found in connection with a fungus on which they were evidently feeding, January, 1913.

Types in the collection of the Florida Agricultural Experiment Sta.

# Leptothrips aspersus macro-ocellatus, n. sub. sp.

On orange leaves at Gainesville, Fla., in January, 1913, there were collected numerous specimens of a thrips, that for the most part, especially in its measurements, closely agrees with the description of *Leptothrips aspersus* Hinds, but differs in some respects and especially in the very large posterior ocelli and in having strong spines on the thorax. The ocelli measure nearly 23  $\mu$  in length, and nearly as wide.

There is considerable variation in the number of hairs on the doubled portion of the lateral fringe of the fore wings. The number in some fifty specimens examined varies from none at all to seventeen in one wing examined. From five to seven is the usual number, although quite a number had three. There is also considerable variation in the amount of constriction of the fore wings; in some, none could be detected.

I do not find any description of the young of this species. Mine are of a rich red color. The tube, preceding abdominal segment, and legs, are brownish red. The head, first joint of the antennae, and apical half of the second are yellow, the head having orange blotches. The remainder of the antennae is purplish black by reflected light, and brown by transmitted light, as are also the legs.



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