PSYCHE

VOL. XIX. AUGUST, 1912. No. 4

A NEW GENUS AND THREE NEW SPECIES OF NORTH AMERICAN THYSANOPTERA.

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Heliothrips phaseoli sp. nov. (Plate 8, Figs. a, b, and c.)

Female.—Length about 1.1 mm. General color yellowish brown; head and thorax paler than abdomen, the former nearly yellow (vertex almost white by reflected light) and shaded with brown at base; legs brown, with the femora and tibiæ paler at extremities; tarsi pale; abdomen slightly paler at tip.

Head about 1-4 times as wide as long and about equal in length to prothorax; cheeks slightly arcuate; dorsal surface distinctly but not conspicuously reticulate, roughened between the lines of reticulation; frontal costa nearly or quite as wide as first antennal segment; vertex subcarinate in front of ocelli. Eyes twice as long as their distance from posterior margin of head, not protruding, setose. Ocelli approximate, opposite center of eyes. Antennæ about 2.4 times as long as head; segment 1 subspherical; 2 broadest, a little longer than wide; 3 and 4 urn-shaped, the former about 2.2 times as long as wide; 5 clavate; 6 and 7 together of same form as 5, but inverted; 8 very long and slender. Segments 1, 2, 6, 7, and 8 brown; intermediate segments nearly white, brownish in apical half. Maxillary palpi two segmented.

Prothorax nearly twice as wide as long, about equal in length to head, and with similar reticulation; a band of about eight short bristles across middle, and a few scattered ones near posterior and anterior margins. Pterothorax somewhat broader than prothorax, the membrane and mesoscutum yellow, other plates brown. Wings long, surpassing the abdomen; fore wing thirteen times as long as width at middle, and with two veins nearly or quite attaining tip; principal vein at base with four spines, of which the distal is longer, nearly black, and situated at the fork; anterior vein with one spine at base and two near apex, the last nearly black; posterior vein with five or six equidistant spines at middle, of which three are usually black; hind wings brownish, with darker median vein.

Abdomen broadly ovate, pointed at tip; notum of segments 1-8 closely striate laterally, the striæ transverse toward middle of segment and longitudinal at sides. Segment 10 without longitudinal dorsal suture, though sometimes irregularly weakened toward tip.

Measurements: Length 1.10 mm.; head, length .108 mm., width .175 mm.; prothorax, length .108 mm., width ,210 mm.; mesothorax, width .280 mm.; abdomen, width .336 mm. Antennal segments: 1, 21μ; 2, 36μ; 3, 50μ; 4, 42μ; 5, 38μ; 6, 27μ; 7, 14μ; 8, 26μ; total, .25 mm.

Male.—Length about .77 mm. Sternum of abdominal segments 3–7 each with a large, pale, transverse area about nine times as wide as long. Segment 9 with two pairs of dorsal spines, of which the basal is much shorter and stouter than the apical.

Described from many specimens of both sexes, taken on bean plants at Brownsville, Texas, and Matamoras, Mexico, in June and July, by Charles A. Hart.

Type locality.—Brownsville, Texas.

It is easily distinguished from its ally, *H. fasciatus* Pergande, by the abdominal sculpture, and, in the male, by the broad, pale areas of the abdominal sterna; in *fasciatus* these areas are not more than two or three times as wide as long.

According to Mr. Hart, this species was very injurious in 1908 to beans in the region of Brownsville, Texas. Its ravages were so severe that the plants became yellowish and the crop was greatly diminished. Across the Rio Grande in Mexico, near Matamoras, it was found on a species of wild bean which grew along the river bank; and for this reason it would appear that the species is a native one which has lately turned its attention to the cultivated bean. It may become a serious pest to truck gardening in the south.

Zygothrips americanus sp. nov. (Plate 8, Fig. d.)

Zygothrips minutus, Hood, Bull. Ill. State Lab. Nat. Hist., Vol. VIII, Art. II, p. 364 (1908). Misidentification.

Female: forma brachyptera.—Length about 1.1 mm. Color yellowish brown to brownish black, with maroon hypodermal pigmentation which is denser along sides of pterothorax and abdomen; tibiæ, tarsi, and segments 1–3 of antennæ usually paler. Surface shining.

Head about 1.1 times as long as wide, broadest slightly behind eyes, thence narrowing very slightly to base; vertex rounded and evenly declivous; dorsal and lateral surfaces almost free from lines of sculpture and with the spines few and very inconspicuous; postocular bristles capitate, fully as long as eyes. Eyes about one fourth as long as head, not protruding. Anterior ocellus not overhanging; posterior ocelli situated in front of middle of eyes. Antennæ about twice as long as head, moderately slender, often uniform dark blackish brown, but usually with segments 1–3 (sometimes only 3) paler; segment 3 broadly subconical, with a short pedicel; 4–6 oval, briefly pedicellate, subequal in length; 4 scarcely broader than 3; 5 slightly the longest of distal segments; 7 oblong, pedicellate, truncate at apex and broadly united to 8, which is subconical and about twice as long as wide; sense cones slender, transparent. Mouth cone blunt, reaching well beyond middle of prosternum; labrum not surpassing labium.

Prothorax .7 to .8 as long as head and (inclusive of coxæ) about twice as wide as long; surface smooth; sides slightly concave in front of middle; posterior margin

lobed; all spines present, capitate, moderate in size, the pair at the posterior angles longest. Pterothorax slightly narrower than prothorax, broadest in front, sides nearly straight. Legs rather short and stout; fore tarsi armed with a very small, acute tooth; femora concolorous with body; tibiæ usually paler, shaded in basal half with brownish ; tarsi pale.

Abdomen usually broadest at segments 5 and 6, thence the sides converge roundly to base of tube. Tube about two thirds as long as head, twice as long as basal width, and a little more than half as wide at apex as at base; terminal bristles two fifths longer than tube.

Measurements: Total length 1.14 mm.; head, length .144 mm., width .127 mm.; prothorax, length .102 mm., width (inclusive of coxæ) .216 mm.; pterothorax, width .210 mm.; abdomen, width .256 mm.; tube, length .098 mm., width at base .051 mm., at apex .029 mm. Antennal segments: 1, 30μ; 2, 42μ; 3, 36μ; 4, 38μ; 5, 41μ; 6, 36μ; 7, 38μ; 8, 23μ; total length of antenna, .29 mm.; width at segment 4, .040 mm.

Female: forma macroptera.—Differs from the brachypterous form only in the presence of wings (which are clouded with brownish and narrowed at middle) and the increased development of the pterothorax.

Male: forma brachyptera.—Length about .98 mm. Fore femora slightly swollen; tarsal tooth scarcely larger than that of female. Abdomen slender; tube with scale at base.

Described from fifty-three females—three of which are macropterous—and sixteen males, from the following localities:—Illinois: Boskydell, Carbondale, Dubois, Hillery, Lyons, Pulaski, Sumner, Urbana. Michigan: Baldwin. Missouri: Wittenberg. Nebraska: Lincoln. Maryland: Plummer's Island (in the Potomac, near Washington, D. C.). Specimens were kindly contributed by Charles A. Hart, Lindley M. Smith, Robert D. Glasgow, James Zetek, Henry E. Ewing, W. L. Mc Atee, A. G. Vestal, and G. H. Coons.

Type locality.—Urbana, Illinois.

This little species is one of the commonest and widely distributed North American Phlœothripids, and occurs throughout the year under loose bark of apple, cherry, cottonwood, hickory, maple, oak, osage-orange, sycamore, and willow. The long-winged form is found from January to July, occasionally in flight.

From *Z. minutus* Uzel, the common Old World species to which it is closely related, it may readily be distinguished by the longer prothorax which is lobed behind, the armed fore tarsi, and the predominance of short-winged individuals. In *minutus* the short-winged female is unknown.

Glyptothrips gen. nov.

(γλυπτὸς, carved; θριψ, a wood worm.)

Body very broad; dorsal surface reticulate. Antennæ stout, seven-segmented; intermediate segments with long pedicels; spines and sense cones long, slender, subparallel to axis of antenna. Eyes subpedicellate, coarsely facetted, separated from genæ and dorsum of head by a deep furrow. Anterior ocellus overhanging, directed forwards; posterior ocelli directed laterally and protected by the overhanging edge of the vertex. Mouth cone much shorter than its basal width; labrum not surpassing tip of broadly rounded labium; palpi very short, stout. Pterothorax transverse (as wide as length of antenna) and much broader than prothorax. Wings of equal width throughout, not closely fringed. Tube long and heavy.

Type.—Glyptothrips flavescens sp. nov.

Glyptothrips is one of the most sharply characterized genera of the Phlœothripidæ. Together with the monotypic genera *Polyphemothrips* and *Allothrips*,—also confined to the Americas, it is remarkable for its seven-segmented antennæ. This condition is approached in representatives of the genera *Trichothrips*, *Cryptothrips*, *Neothrips*, *Kladothrips*,[1] and *Onychothrips*, but here the fusion of the two apical segments is incomplete and a more or less distinct suture is always visible. Although the antennal structure suggests *Allothrips* very strongly, the genus above described is probably closely related to *Eurythrips* Hinds, and should be placed after it in a linear arrangement of the genera.

Pactothrips flavescens sp. nov. (Plate 9, Figs. a, b, and c.)

Female.—Length about 1.3 mm. Color bright brownish yellow, with thorax, vertex, and sides of head darker, due to maroon pigmentation; legs, antennal segments 3–7, and tip of tube more or less darkened with blackish. Dorsal surface reticulate.

Head about one and one sixth times as long as greatest width, deeply reticulate above, more finely beneath; vertex elevated, its lateral margins shelf-like and slightly protecting the posterior ocelli; its front margin concave and bearing the anterior ocellus, which is directed forwards; cheeks somewhat rounded, converging slightly to base and very abruptly to posterior margins of eyes, and set with a few, short, anteriorly-directed spines; postocular bristles short, clavate, situated well towards sides of head. Eyes small, subglobose, less than one fourth as long as head, subpedicellate, coarsely facetted. Antennæ twice as long as head, stout,

reticulate; segments 1 and 2 concolorous with head; 3–7 dark blackish brown, pedicels yellowish; segments 3–6 subglobose, with abruptly narrow pedicels, that of segment 3 very long; 7 lanceolate, pedicellate, without trace of suture; sense cones long, slender, scarcely distinguishable from the spines, of which at least a dorsal pair on segments 3 and 4 are widened in apical half.

Prothorax about .7 as long as head and, inclusive of coxæ, about twice as wide as long; dorsal surface subreticulate; coxæ only slightly projecting, without spine; all bristles rather short, dilated at apex, only one pair on anterior margin; the pair at the posterior angles arises from the apex of a more or less evident tubercle. Pterothorax nearly 1.4 times as wide as prothorax, sides subparallel; anterior angles shoulder-like, broadly rounded. Wings of both pairs uniform brownish; fore pair without double fringe on posterior margin near apex. Legs not long, reticulate, sparsely and inconspicuously spinose; fore tarsi armed with short, acute tooth standing at right angles to the tarsus.

Abdomen narrowing slightly to segment 8, thence tapering roundly to tube; sides reticulate, the lines of reticulation cuspidate posteriorly. Tube about 1.1 times as long as head and 2.5 times as broad at base as at apex, sides perfectly straight. Marginal abdominal bristles on segments 2–8 short, dilated, curved; segment 9 with upper pair capitate or blunt, two thirds as long as tube; lower pairs pointed, about equal to tube in length; terminal bristles about half as long as tube.

Measurements: Length 1.34 mm.; head, length .192 mm., width .164 mm.; prothorax, length .131 mm., width .271 mm.; pterothorax width .372 mm.; abdomen, width, .389 mm.; tube, length .210 mm., width at base .086 mm., at apex .034 mm. Antennal segments: 1, 51μ; 2, 54μ; 3, 59μ; 4, 50μ; 5, 51μ; 6, 50μ; 7, 80μ; total length of antenna .39 mm.; width at segment, 4.039 mm.

Described from three females, all macropterous, taken by Mr. Charles A. Hart in sweepings, as follows: Grand Tower, Illinois, June 30 and July 10, 1909; Pulaski, Illinois, June 28, 1909.

Type locality: Grand Tower, Illinois.

This is doubtless the long-winged form of some species which spends the greater part of the year in seclusion at the base of grasses, under bark, or in turf. It may easily be known by the long heavy tube,—which is fully half as wide at its base as the greatest width of the head,—the peculiar vertex, the seven-segmented antennæ, the strongly projecting eyes, and the dorsal reticulation. The general appearance of the upper part of the head is much like that of *Heliothrips hæmorrhoidalis* Bouché.

EXPLANATION OF PLATES.

Plate 8.

Fig. a. *Heliothrips phaseoli* sp. nov., female.—Right fore wing, x 131.

Fig. b. *Heliothrips phaseoli* Right antenna, x 361.

Fig. c. *Heliothrips phaseoli* Right half of tergum of second abdominal segment, x 361.

Fig. d. *Zygothrips americanus* sp. nov.—Head and prothorax of female, x 99.

PLATE 9.

Fig. a. *Glyptothrips flavescens* gen. et sp. nov., female.—Head and prothorax, x 117.

Fig. b. *Glyptothrips flavescens* Right antenna, x 255.

Fig. c. *Glyptothrips flavescens* Portion of occiput, showing sculpture, x 515.

THE STANFORD EXPEDITION TO BRAZIL, 1911.

J. C. BRANNER, *Director.*

LIST OF HISTERIDÆ AND BUPRESTIDÆ.

BY WM. M. MANN,
Bussey Institution, Harvard University.

Among the material collected by the Expedition many families are represented by only a few species. These lots, as well as those more extensive, have been placed in the hands of specialists in the respective groups for identification. When these have been returned without notes, it seems advisable to list the species to supply data on distribution, most of the specimens being from regions in which few collections have been made.

The Histeridæ were determined by Mr. George Lewis of Tunbridge Wells, England, the Buprestidæ by Mr. Charles Kerremans of Brussels, Beligum.

HISTERIDÆ.

Oxysterus maximus L.

Abuná, and Madeira-Mamoré R. R. Camp 39. Taken flying in evening.

Lioderma devium Mars.

Madeira-Mamoré R. R. Camp 39. One specimen.

Lioderma 4-dentatum Fab.

Abuná, Rio Madeira.

Hololepta jamarii Mars.

Madeira-Mamoré R.R. Camp 39.

Trypanæus spiniger Mars.

Abuná. Beneath bark.