

FF. Narrow lateral expansion of the pronotum sharply demarked and most commonly pale; not widened between the two lobes which are poorly differentiated from each other, merely posteriorly lightly depressed and sparsely punctate; pronotum transverse, the two sides subparallel. Head submerged to eyes; width of head across eyes much narrower than across anterior submargin of pronotum where the angles are rather abruptly rounded. Antennæ more slender. Posterior tibia with long rigid bristles. Basal segment of posterior tarsus a little longer than second and third together. Fore femora with several small subapical tubercles. Brachypterous and macropterous forms. (To include *Trapezus* Dist.).....*Cryphula* Stål.

ANOTHER *TOXOPTERA* FEEDING ON SEDGE (HOMOPTERA; APHIDIDÆ).

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During the summer of 1916, there appeared on the sedges in a little marsh at East Falls Church, some dark colored apterous aphids. These were kept under observation and some were transferred to rearing cages. From these, sexes and eggs were obtained in the fall. None of the eggs, however, hatched the following spring. Visits to the marsh were made too late to secure a supply of stem mothers. Apterous forms were secured in the second generation and from these alate forms were secured. In the key given by Davis¹ this species would fall under *aurantii* from its color and would be excluded from *scirpi* by the nature of the hairs present in that species. It is therefore recorded under a new name.

Toxoptera nigra sp. nov.

Alate vivipara.

The alate forms began to appear in the rearing cages in the third generation. It is quite possible, however, that lines from a sufficient number of stem mothers would show alate forms produced in

¹ Tech. Ser. No. 25, Pt. I, p. 8, U. S. D. A. Bur. Ent.

the second generation also. These forms are produced throughout the summer in the different generations, but toward fall they appear in very small numbers and when the sexes are appearing very few alate forms can be found. The alate forms either reproduce upon the plant on which they developed or fly to other plants of the same species.

Fourth instar (pupa). General color brownish black, the thorax somewhat pinkish or whitish brown, otherwise colored as in the apterous form. Antennæ with the following measurements: Segment III, 0.208 mm.; IV, 0.16 mm.; V, 0.16 mm.; VI (0.08+0.4 mm.); cornicles 0.192 mm.; antennal tubercles quite acute in front and armed with short stout spines; vertex similarly armed.

When cleared of the body fluids the abdomen and most of the thorax appear to be almost transparent. The antennæ, head, legs, wingpads and cauda are dusky and the cornicles dark brown.

Fifth instar (adult). General color deep brownish or purplish black. Antennæ somewhat lighter than the general body color. Abdomen and cauda sometimes of a dark greenish color. Cornicles black, sub-cylindric, slightly constricted near the tip and distinctly flanged. Legs with the base of the femora and most of the tibiae yellowish or whitish. Measurements and sensoria as given in Table I.

TABLE I. MEASUREMENTS OF ANTENNÆ AND CORNICLES OF THE ALATE VIVIPARA.

Segment III.	Sensoria of Segment III.	Segment IV.	Sensoria of Segment IV.	Segment V.	Sensoria of Segment V.	Segment VI.	Cornicle.
0.304	13	0.192	5	0.176	2	0.08 +0.4	0.24
0.304	12	0.192	6	0.176	2	0.09 +0.432	0.24
0.288	13	0.192	5	0.192	2	0.096+0.432	0.24
0.304	10	0.208	7	0.208	2	0.08 +0.448	0.24
0.304	9	0.192	6	0.192	2	0.096+0.464	0.24
0.304	11	0.192	7	0.176	1	0.08 +0.432	0.24
0.32	10	0.224	6	0.176	2	0.08 +0.448	0.24
0.288	13	0.192	6	0.176	3	0.096+0.432	0.24
0.288	13	0.208	7	0.176	3	0.096+0.432	0.224
0.304	9	0.192	4	0.192	3	0.08 +0.432	0.24

When cleared of the body fluids the chitin is found to be marked as follows: The head, thorax, antennæ, cornicles and legs are marked as indicated above. The abdomen becomes clearly transparent with the exception of a row of rather large black patches on each lateral margin, each patch surrounding a spiracle. The cauda, and genital plates are likewise dusky. In some specimens one or two narrow dusky bands are present caudad of the cornicles.

Apterous Vivipara.

The apterous viviparous forms occur upon the sedges during most of the year. They produce large numbers of young, some of which become alate and others continue the apterous lines throughout the summer.

Fifth instar (adult). General color dark greenish black, some specimens dull while others are glossy. Antennæ, eyes and cornicles black. Distal extremities of the femora and tibiæ and the tarsi black, remainder of the legs yellowish. When mounted in balsam the abdomen appears greenish in color, and when cleared the abdomen and thorax are transparent with the exception of the cauda, anal and genital plates and small dots along the sides of the abdomen. Measurements of the appendages are given in Table II.

TABLE II. MEASUREMENTS OF ANTENNÆ AND CORNICLES OF
APTEROUS VIVIPARA.

Segment III.	Segment IV.	Segment V.	Segment VI.	Cornicle.
0.288 mm.	0.192	0.16	(0.064+0.384)	0.288
0.272	0.192	0.176	(0.084+0.4)	0.288
0.288	0.176	0.176	(0.08 +0.416)	0.272
0.32	0.176	0.176	(0.096+0.432)	0.288
0.32	0.176	0.176	(0.096+0.432)	0.288
0.272	0.176	0.16	(0.08 +0.416)	0.272
0.256	0.192	0.176	(0.08 +0.432)	0.272
0.304	0.192	0.176	(0.096+0.368)	0.272
0.256	0.192	0.176	(0.096+0.368)	0.288
0.272	0.176	0.16	(0.08 +0.384)	0.272

Male.

The males of this species appeared in the breeding cages during the early part of November and remained in considerable numbers until cold weather put a check to their activities. In connection with these males a reference to those of *muhlenbergiae* Davis will be of interest. Davis (l.c.) described the males of that species as apterous and gave an excellent figure. Baker and Turner¹ in referring to the male stated their belief that the individuals were intermediates. The structure of the thorax and the ocelli are well shown in the figure. Males of the present species indicate that this view is correct. Several specimens, evidently indicating the normal condition of the male, resemble the condition met with in the males of *muhlenbergiae*. They possess more or less of the thoracic structure of the alate form and also the head, while the wings are entirely absent. Other specimens, however, are more distinctly intermediate in nature, having small pad-like structures representing the wings. One specimen was obtained in which fully formed wings were present. The entire life cycle as observed at Falls Church is spent upon the sedge and the eggs are laid upon these plants in the fall. The presence of alate forms in the viviparous generations and more particularly this peculiar intermediate condition of the males would seem to indicate that this habit of remaining upon the one host has not been of very long duration in this species. No truly apterous males have been observed and it appears from the intermediate nature of the wingless males that the species has not yet developed to the condition in which truly apterous males may be found. For the sake of convenience the wingless males will be called apterous though they still retain the muscles of flight and other related alar structures.

Apterous male: General color deep brownish black, the abdomen somewhat paler than the rest of the body, base of the femora and most of the tibiae yellowish. Cornicles, anal and genital plates black.

Antennae with the following measurements: Segment III, 0.384 mm.; IV, 0.192 mm.; V, 0.192 mm.; VI (0.08+0.4 mm.); Segment III, with 12 or 13 small circular sensoria in an uneven row, Segment IV with about the same number and Segment V with 9

¹Proc. Ent. Soc. Washington, vol. 18, p. 10-14.

or 10. Cornicles 0.176 mm. long, tapering near the base, then very slightly enlarged, then again slightly tapering; distal extremity with a distinct flange and the entire cornicle distinctly imbricated. Hind tibiæ 0.656 mm. long. Ocelli present, thoracic structure suggesting that of an alate form. Length from vertex to tip of cauda 0.944 mm.

Intermediate male: General color similar to that of the apterous form, the abdomen, however, appears to be slightly lighter. Antennæ with the following measurements: Segment III, 0.304 mm.; IV, 0.192 mm.; V, 0.192 mm.; VI (0.08+0.416). Sensoria present as follows: Segment III, with about 22 circular sensoria not arranged in a row, IV, with about 20 sensoria, V, with about 16. Cornicle 0.192 mm. long, similar in shape to the cornicle of the apterous form. Wings represented by leaf-like structures about 0.368 mm. long and about 0.192 mm. wide. These structures sometimes show one or two veins. Head and thorax like that of the alate form. Hind tibiæ 0.672 mm. Length from vertex to tip of cauda 1.04 mm.

Alate male: Color similar to that of the forms previously described. Wings hyaline, veins and stigma dark. Antennæ with the following measurements: Segment III, 0.32 mm.; IV, 0.256 mm.; V, 0.256 mm.; VI (0.096 mm.+0.448 mm). Sensoria as follows: Segment III, with about 17 circular ones more or less in a row; IV, with about 17; V, with about 17. Forewing with the stigma near the distal extremity of the wing, so that it is quite curved on its costal margin, media once branched, cubitus distinct, anal absent, length 1.152 mm. Hind wing about 0.656 mm. long and with one oblique vein. Cornicles 0.16 mm. long, similar to those of the other forms already described. Hind tibia 0.672 mm.; length from vertex to tip of cauda 0.96 mm.

Found on the sedge in company with the oviparous females, often very close to the ground.

Ovipara.

The oviparous form occurs on the sedge at the same time as the males, and these forms are present depositing eggs until cold weather.

First instar. General color dusky with dark appendages. Antennæ of four segments with measurements as follows: Segment I,

0.032 mm.; II, 0.032 mm.; III, 0.128 mm.; IV (0.032 mm. + 0.176 mm.). Beak reaching to the hind coxæ, cornicles 0.048 mm.

Second instar. Similar to the last in general color. Antennæ of five segments with the measurements as follows: Segment I, 0.048 mm.; II, 0.048 mm.; III, 0.112 mm.; IV, 0.08 mm.; V (0.048 mm. + 0.224 mm.). Cornicles 0.08 mm. Beak reaching beyond the second coxæ. Hind tibia 0.272 mm.

Third instar. General color similar to that of the previous instar, excepting that it is somewhat darker in color. Antennæ of five segments, with measurements as follows: Segment I, 0.064 mm.; II, 0.048 mm.; III, 0.176 mm.; IV, 0.112 mm.; V (0.048 mm. + 0.272 mm.); cornicles 0.112 mm. Hind tibia 0.368 mm.

Fourth instar. General color similar to that of the last instar. Antennæ of six segments with measurements as follows: Segment III, 0.224 mm.; IV, 0.16 mm.; V, 0.144 mm.; VI (0.08 mm. + 0.368 mm.). Segments imbricated but without secondary sensoria. Cornicles 0.192 mm. long, tapering, but slightly swollen on the distal third and distinctly imbricated and flanged. Hind tibia 0.64 mm. long; slightly swollen and thickly covered with nearly circular, tuberculate sensoria; length from vertex to tip of cauda 1.76 mm. Type in U. S. National Museum.

A NEW SPECIES OF EVANIA FROM THE CAMEROONS (HYMENOPTERA; EVANIIDÆ).

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In working over a collection of Evaniidæ from South Africa, I have had occasion to examine a very interesting species from Western Africa. This was contained in a collection of Parasitic Hymenoptera given me by Prof. R. Thaxter, and the type has been deposited in the Museum of Comparative Zoölogy in Cambridge.

Evania flavocoxalis sp. nov.

Length 5 mm. Black, the antennæ brown at the base; palpi, four anterior coxæ and trochanters, anterior side of anterior tibiæ and posterior coxæ below, except at apex, yellow. Wings hyaline with a brown tinge. Body very thinly pubescent, almost



Baker, A. C. 1918. "Another Toxoptera feeding on sedge (Homoptera: Aphididae)." *Psyche* 25, 88–93.

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