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A NEW TABANUS (DIPTERA) FROM FLORIDA¹

By G. B. FAIRCHILD

TABANUS CAYENSIS n. sp.

FEMALE. Length 9 mm., length of wing 7 mm., width of head 3 mm. Frons unusually broad, about three times as high as wide, parallel-sided, greyish pollinose. Basal frontal callus about as high as wide, rounded, chestnut brown, connected with the large, oval, median callus. Vertex bare and shiny, the shiny area extending downward on each side of the frons next the eyes, and joined mesially to the median callus. Subcallus greyish pollinose. Face and cheeks silvery grey pollinose with sparse white hairs. Palpi white with scattered black hairs, hardly swollen basally and with a rather blunt apex. Third antennal segment about four times as long as the greatest width, the annulate portion about as long as the basal; dorsal angle pronounced though blunt, placed about midway of the basal portion. First two and basal portion of the third antennal segment yellowish, annulate portion darker, the first two segments and apex of the dorsal angle with black hairs. Dorsum of thorax black with whitish grey pollinosity, giving it a steel grey appearance; usual lines obsolete. Antealar tubercle reddish. Scutellum and pleurae of the same color as the dorsum. Eyes bare, bronzy, with a single horizontal dark band (from relaxed specimen) similar to but broader than that found in *nigrovittatus* Macq. Abdomen with a broad dark median band, expanding to cover the fifth and succeeding segments. This band is overlaid by a narrower band of grey pollinosity. Sides of first to fourth segments yellowish, overlaid with sparse grey pollinosity. Posterior margins of all tergites narrowly yellowish, with scattered pale hairs. Ventrally, the abdomen is yellowish on the first few segments, becoming darker apically. The legs, except the proximal half of the fore tibiae, and the middle and hind femora, are blackish. The wings are faintly smoky, the veins narrowly edged with brown, the costal cell very distinctly brownish, and the large stigma conspicuously yellowish brown. There is no appendix on the third vein.

¹ Contribution from the Dept. of Entomology of the Fla. Ag. Exp. Sta.

HOLOTYPE, female, M. C. Z. No. 20134. Stock Island, near Key West, Monroe Co. Fla. VII-1-34.

PARATYPE, U. S. N. M. No. 50803. Big Pine Key, Monroe Co. Fla. VII-1-34.

This species seems nearest to *conterminus* Walker, from which it may be distinguished by its much smaller size, smoky wings, and the structure of the frons and antennae. From Hine's description, it would also seem rather close to his *fulvistriatus* from Mexico, except for the color.

EFFECT OF A FREEZE ON SOME CITRUS INSECTS

During the nights of December 12 and 13 Florida was swept by a cold wave of unprecedented severity for so early a date. A minimum temperature of 16° was recorded at Gainesville on the 12th, 23° at Lake Alfred on the 13th and 26° near Vero Beach, at which places most of the following notes were made. This afforded an opportunity to observe the effects of these temperatures upon certain citrus insects and mites under natural conditions.

Florida Red Scale (*Chrysomphalus aonidum*). Of all the insects observed this scale insect suffered the highest mortality. On the campus at Gainesville where 16° was recorded, the mortality was 98%. Of the 2% which survived all were on trees, such as camphor, which, because of their canopy of leaves or their situation near a building, doubtless were not exposed to as low a temperature as that recorded in the open.

At Vero Beach in a low place in a grove where the citrus trees were half defoliated by the cold no live scales were found on the grapefruit still clinging to the trees. On higher ground where there was little defoliation the mortality among these scales was about 75%. A thermometer situated in the same depression about a quarter of a mile away registered 26°.

The Purple Scale (*Lepidosaphes beckii*). Scale insects of this species from the same grapefruit on which the mortality of 100% of the Florida red scale was recorded, showed a mortality of about 80%. Those which escaped were in a protected situation such as under other scales. But about half of the eggs of this species escaped even where the scale insects themselves were killed. Under many females the eggs near the outside of the scale were killed while those in the middle of the mass escaped.

Cottony Cushion Scale (*Icerya purchasi*). On January 9 the writer and Dr. Berger visited a tung grove near Gainesville which had been infested with this scale. The adults and larvae on the tung trees had all been killed but the eggs had mostly survived and many had hatched and the old cottony masses were swarming with young scales. The Vedalia lady-beetles (*Rodolia cardinalis*) were present in all stages but chiefly as adults and pupae.

J. R. W.