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REVIEW OF THE AUCHENORYNCHOUS¹ HOMOPTERA OF PUERTO RICO

PART I CICADELLIDAE

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The necessity for a systematic review of the Homoptera of Puerto Rico is apparent when an attempt is made to identify specimens by means of the only available publication, the section of the "Scientific Survey of Puerto Rico and the Virgin Islands", relating to the Homoptera (Osborn 1935). This section lists 152 forms of which eight are definitely referred to the Virgin Islands. Scattered subsequent publications and additional plant quarantine records which are listed in "Insecta Borinquenses" and "Supplement" (Wolcott 1936 & 41) have added about 26 more forms for Puerto Rico. A recent faunistic treatment lists 28 species for Saint Croix, V. I. (Beatty 1944), and a similar treatise (Ramos 1947), includes 23 forms from Mona Island. While Mona Island is a political subdivision of Puerto Rico its fauna shows closer affinity to that of Hispaniola, therefore Mona Island will not be included in this review. On the other hand Saint Thomas, V. I., though politically separated, is ecologically related and forty records for this island are included herein even though these records were secured in four hours collecting and certainly are very incomplete.

The larger part of the material and data upon which this review is based was obtained by the writers during an insect survey, relating to "bunchy-top" disease of papaya, sponsored by the Agricultural Experiment Station of the University of Puerto Rico from August 1947 to mid-January 1948. The purpose of this review is to present a summation of our knowledge of the Homoptera of Puerto Rico as complete and accurate as possible. Perfection in such work is an objective never to be reached and we realize that

¹ The term Homoptera will here-in-after apply to the Auchenorynchi in which the beak is free from the sternum.

² Dr. Caldwell is responsible for the systematic data in this paper.

³ Dr. Martorell is responsible for the biologic data throughout the text.

Protalebra insularis n. sp.

Length, male 2.7 mm.; female 3 mm. General color white with yellow markings. Vertex white. Eyes greenish. Pronotum with a broad elongate yellow spot behind either eye and one medianly. Scutellum with angles yellowed. Fore wing appearing checkered with yellow; a diagonal, double, fuscous stripe present from apex of clavus to apex of costa; apex smoky; clavus with a yellow basal spot, a preapical orange spot, and a yellow median circle in the center. (See Plate 44.)

Vertex appearing acute, almost half longer than broad. Female sternite VII slightly roundedly produced posteriorly. Male pygofer rounded on either side posteriorly. Valve truncate. Plate elongate, triangular. Style simple, elongate. Aedeagus with posterior portion broad, elongate in lateral aspect; apex with a short process on left and a long process on right projected ventrolaterally; anterior-apical portion broadly bilobate latroapically. (See Plate 45.)

The generic position of this form is doubtful because the hind wing has an indistinct submarginal vein which should place it in *Alebra*. However it does not belong in *Alebra* as represented by the European type. I believe that it will cause less confusion to place *insularis* in *Protalebra* until such time a comprehensive study of the tropical Cicadellinae indicates its true position.

RECORD:

St. Thomas, Virgin Islands: Male holotype, female allotype, and paratypes of either sex from St. Thomas, Nov. 28, 1947. (E. Z. and J. S. Caldwell.)

Protalebra lenticula Osborn

1927. *Protalebra bifasciata* Dozier. Jour. Dept. Agr. P. R. **10**: 260.

1920. *Protalebra lenticula* Osborn. Jour. Dept. Agr. P. R. **13**: 103-104.

Length 2.5-3 mm. General color yellowish-white with dark transverse bands across fore wing basally and subapically. Eyes greenish. Vertex yellowed between eyes. Pronotum golden anteriorly. Scutellum black at outer edges of suture and at apex. Fore wing with black band across base of claval area sometimes preceded by gold or fuscous-yellow; apical cross veins broadly fuscous, the fuscous color continuing anteriorly and ventrally toward costa leaving a yellowish costal spot; cross veins contrastingly white in fuscous area.

Vertex about as broad as long, broadly rounded. Female sternite VII angulate posteriorly. Male pygofer with acute process posteriorly on either lateral margin. Style narrowed apically on ventral margin, apex acute. Aedeagus broad, somewhat rectangular basally; apex narrow, elongate projected dorsally. (See Plate 45.)

cies. Since the two forms are somewhat similar in appearance I believe Dozier had *lenticula* Osborn.

RECORDS:

Puerto Rico: Cayey, Peñón del Collao, altitude 2000-2200 ft., Sept. 13, 1947, from underbrush of coffee plants; Doña Juana, Toro Negro Mts., altitude 2600 ft., Oct. 9, 1947, from weeds; Aibonito, Dec. 30, 1947, from weeds.

Protalebra maculata Baker

1903. *Protalebra maculata* Baker. Invertebrata Pacifica 1: 6-7.

Length 2 mm. General color black with larger ivory spots on vertex, pronotum, scutellum, and basal and subapical areas of fore wings; apex of fore wing fuscous-hyaline with yellow venation. (See Plate 43.)

Vertex slightly produced, broadly rounded, about as long as broad. Pronotum slightly concave caudad. Female sternite VII broad, convex on posterior margin. Male pygofer with ventrolateral processes on either side; apices acute, convergent. Aedeagus horizontal, broadly triangular in basal portion; apical portion directed dorsad, very long, slender, slightly S-shaped. (See Plate 45.)

RECORD:

Caja de Muertos Island: One female specimen from the island of Caja de Muertos, Dec. 5, 1947. (Martorell.) Sketch of male from material from Santa Engracia, Mexico.

Protalebra montana n. sp.

Length of male 3.7 mm. General color white. Fore wing with indefinite yellowish dash in claval area along base of suture and a dash just out side of clavus in median third; cross veins narrowly edged with fuscous; apical cells clear. (See Plate 43.)

Vertex produced, obtuse apically, about as long as broad. Fore wing not especially elongate. Male pygofer with either latroposterior margin rounded, with an acute posterior process at center. Valve short. Plate long, with a series of setae in line from base to apex. Style simple, apex acute, bent outward. Aedeagus quadrate in lateral aspect; apex with a short posterior process and an elongate curved anterior process; base with anterior processes. (See Plate 45.)

Differing from *aureonittata*, which it resembles by the fuscous edged cross veins of the fore wing and male genitalia as noted in the description.

RECORD:

Puerto Rico: Male holotype from Maricao Insular Forest, at middle altitudes, Oct. 10, 1947. (Caldwell and Martorell.)

Protalebra similis Baker

1899. *Protalebra similis* Baker. Psyche 8: 403.

Length 2.5-3 mm. General color orangish with black stripes. Vertex orange, yellow apically with a black band just over anterior margin. Pronotum orange, with a submarginal black band posteriorly. Fore wing greenish-yellow in basal half, fuscous in apical portion; a black band present across center of clavus followed by a white band beyond which the veins are broadly yellowed; clavus with two longitudinal black stripes; claval suture black with whitish basal area just outside. (See Plate 44.)

Vertex bluntly angularly produced; surface flat. Female sternite VII with posterior margin gently sinuate. Male pygofer with deeply forked ventrolateral process on either side. Plate with apex directed dorsally. Aedeagus inverted from apparent normal position; ventral portion short, broad, strongly narrowed from dorsal margin to an acutely dorsal projected process; dorsal portion bifid from base, long, slender, greatly curved ventrally, bifid pieces crossed before apex; a short rectangular structure present at base of bifid pieces. (See Plate 45.)

RECORDS:

Puerto Rico: Most commonly taken on sweet potato, *Ipomoea batatas*, at Rio Piedras and Peñón del Collao, 2400 ft., high, Sept. 13, 1947, also collected at the Cambalache Experimental Forest, Nov. 6-7, 1947, on morning glory, *Ipomoea rubra*.

Protalebra tabebuiae Dozier

1927. *Protalebra tabebuiae* Dozier. Jour. Dept. Agr. P. R. 10: 260.

1928. *Protalebra bicincta* Osborn. Ann. Carnegie Mus. 18: 259.

Length 3-3.7 mm. General color whitish-yellow marked with orange and fuscous. Vertex white with a broad, median, indistinctly limited, yellowish-orange stripe. Pronotum white with lateral margins and an elongate median spot orange. Scutellum yellow with a black spot on center of either lateral margin. Fore wing whitish-yellow; inner margin of clavus fuscous to center where a double fuscous band crosses the entire wing; a single band of fuscous present from apex of clavus to costa; outer apical cells usually infuscate. (See Plate 43.)

Vertex longer than broad, roundedly produced. Female sternite VII sinuate posteriorly. Male pygofer produced posteriorly into acute dorsal