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DESCRIPTIONS OF NYMPHS OF *ITZALANA SUBMACULATA* SCHMIDT (HOMOPTERA: FULGORIDAE), A SPECIES NEW TO THE UNITED STATES

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ABSTRACT

The 3rd, 4th, and 5th instar nymphs of *Itzalana submaculata* Schmidt are described from southern Texas. Previously recorded only from Surinam, this is the first record of this fulgorid from the United States and Mexico.

Itzalana submaculata Schmidt (Fig. 1) is a little-known fulgorid described from Surinam (Schmidt 1905). The two other species in the genus have been described from Mexico: *I. formosa* Distant from the Yucatan (Distant 1905) and *I. rubescens* Lallemand from Oaxaca (Lallemand 1956). No other published information is available for these species.

Adults and nymphs of *I. submaculata* were collected in Mexico and southern Texas. Adults may be separated from the eight genera and 16 species of U.S. Fulgoridae by the small, broad body (length 9–12 mm, width 5.8–7 mm); wide, short vertex bearing two transverse ridges; and frons width which is 4X its length at base and 2X its length at frontoclypeal suture. The body is yellow-brown with black bands on the anterior carina of the vertex, frontoclypeal suture, legs, and abdomen. The forewings are opaque brown with pale veins and orange spots in the basal 2/3 and transparent in the apical 1/3. The hindwings are red basally, have a brown anal area, and are transparent apically. This paper presents collecting data of adults and nymphs and descriptions of the 3rd, 4th, and 5th instar nymphs.

MATERIALS AND METHODS

The pinned specimens of the 5th instar are described in detail, but only major differences for 4th and 3rd instars are described. Comparative statements (e.g., less numerous) refer to later instars. Measurements are given in millimeters. Length was measured from apex of vertex to apex of abdomen, thoracic length along the midline from the anterior margin of the pronotum to the posterior margin of the metanotum, and width across the mesothoracic wingpads.

Collecting data are **UNITED STATES:** TEXAS: Cameron Co., Brownsville, Sabal Palm Grove, 29-IX-1976 (1♂, 1♀), coll. J. Wappes (JW) and R. Turnbow (RT); 10-X-1977 (1♀), RT; 13-X- 1977 (1♂, 1♀) JW and RT; 20-21-X-1978 (1♀), JW: 26-27-V-1979 (2♀), JW; 27-X-1979 (2♀) JW; 29-30-V-1982 (1♂, 1♀), JW and RT; all of the above on *Baccharis* sp.; 14-IX-1982 (2–5th, 4–4th, 2–3rd instars), coll. C. and L. O'Brien and G. Wibner. **MEXICO:** CHIAPAS: 33 mi. W. Tuxtla Gutierrez, Hwy. 190, 26-V-1983 (1♀), coll. G. Marshall. MORELOS: Cuernavaca, 1959, (1♀), coll. N.

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Fig. 1. *I. submaculata*: (A) dorsal view; (B) anterolateral view (body length = 10 mm; scanning photomacrograph in camera magnification 2X, f8).

Krause. SAN LUIS POTOSI: El Salto, 27-IV-1969 (1♂), coll. Cambell and Bright at blacklight. **NICARAGUA:** LA CALERA: Managua, 6-IV-1964 (1♀), "en vuelo," coll. Livio Saena M. Specimens are in the collections of L. O'Brien; S. Wilson; Zoologisches Institut und Zoologisches Museum, Hamburg; British Museum (Natural History), London; National Museum of Natural History, Smithsonian Institution, Washington, D.C.; and the Biosystematics Research Institute, Ottawa.

DESCRIPTIONS OF NYMPHS

Fifth Instar (Figs. 2–4). Length 4.2–4.4; thoracic length 2.1–2.3; width 3.3–3.6.

Form ovoid, convex dorsally, widest across compound eyes; light brown marked with darker and fuscous.

Vertex ca. 12X broader than long, anterior margin sinuate; large dorsolaterally directed spine on each side; sinuate transverse carina forming border with frons. Frons with width ca. 3X length; oblique carina meeting transverse carina at juncture of frons and vertex and extending ventrolaterally onto anterior aspect of blunt, spoonlike lateral processes (this region between the two carinae represents the lateral aspect of the frons in other planthoppers; in *I. submaculata* it has become extended into spoonlike lateral processes); dorsal aspect of blunt processes with 14–15 knoblike structures bearing pitlike sensoria (hereafter referred to as sensoria); weak median longitudinal carina fading before juncture with clypeus; weak carina on either side originating in middle of blunt lateral process, curving ventromedially and ending as short triangular process just above juncture with clypeus. Clypeus globose basally, subclyindrical distally, heavily marked with fuscous. Beak three-segmented, extending to metatrochanters; segment 1 covered by clypeus, segment 2 ca. 1.5X length of 3. Eyes reddish with pale stripes. Antennae three-segmented; scape ringlike; pedicel ca. 3X length of scape, with numerous pitlike sensoria on dorsal aspect; flagellum whiplike distally, with small bulbous base.

Thoracic nota divided by longitudinal mid-dorsal line into three pairs of plates. Pronotal anterior margin rounded laterally, posterior margin sinuate; each plate with small dorsal triangular process near midline of notum and with large dorsposteriorly directed spikelike process ca. 1/2 distance from midline to lateral aspect of notum; ca. 28 fingerlike sensoria extending from median posterior aspect of large process to lateral border of plate; carina originating in middle of plate on anterior border, forming anterior aspect of process and extending down process to posterior border of plate; second partial carina extending laterally from just beneath compound eye to posterolateral border of plate; plate marked with fuscous behind eyes. Mesonotal median length 1.5X that of

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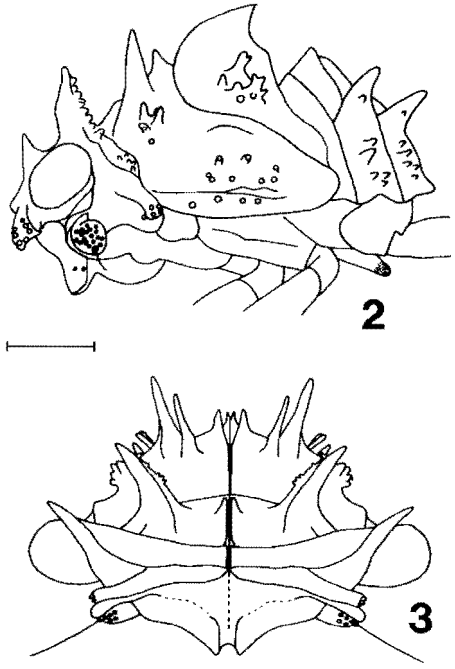

Figs. 2–3. *I. submaculata* fifth instar: (2) lateral view; (3) frontal view of head. Horizontal bar = 1.0 mm.

pronotum; each plate with short dorsally-directed triangular process near midline of notum; elongate spikelike process in median 1/4, carina extending from anterior border of plate onto anterior aspect of process and ca. 10 knoblike sensoria scattered in lateral 1/3 of plate; carina in lateral 1/4 of plate extending from anterior margin to ca. 0.7X length of plate; wingpad extending to tip of metanotal wingpad. Metanotal median length ca. 0.7X that of mesonotum; each plate with small dorsally directed triangular process near midline of notum; very large subtriangular process extending from anterior border of plate in median 1/3 to posterior border; cluster of ca. 9–10 fingerlike sensoria just lateral to large process; wingpad extending to tergite 4. Pro- and mesocoxae elongate, posteromedially directed, metacoxae fused to sternum. Profemora heavily marked with dark brown distally. Mesotibiae each with an elongate lateral spine proximally on shaft, longitudinal row of four spines on shaft and transverse row of six-seven spines apically on plantar surface. Pro- and mesotarsi each with two tarsomeres; tarsomere 1 wedge-shaped, tarsomere 2 subconical and curved. Metatarsi each with three tarsomeres; tarsomere 1 cylindrical with transverse row of eight spines apically on plantar surface; tarsomere 2 ca. 0.3X length of 1 with two tiny spines apically on plantar surface; tarsomere 3 similar to terminal tarsomere of other legs. All legs with terminal pair of dark brown curved claws and a pale median pulvillus.

Abdomen presumably nine-segmented as in other planthoppers (e.g., Wilson and McPherson 1981, Wilson and Tsai 1982, Wilson and Wheeler 1984); tergum heavily marked with dark brown and fuscous, median carina forming two highly elevated processes on either side of midline; tergite 1 not visible, 2 and 3 short, 5 and 6 each with a large subtriangular process in median 1/2 on either side of midline; tergites 5–7 each

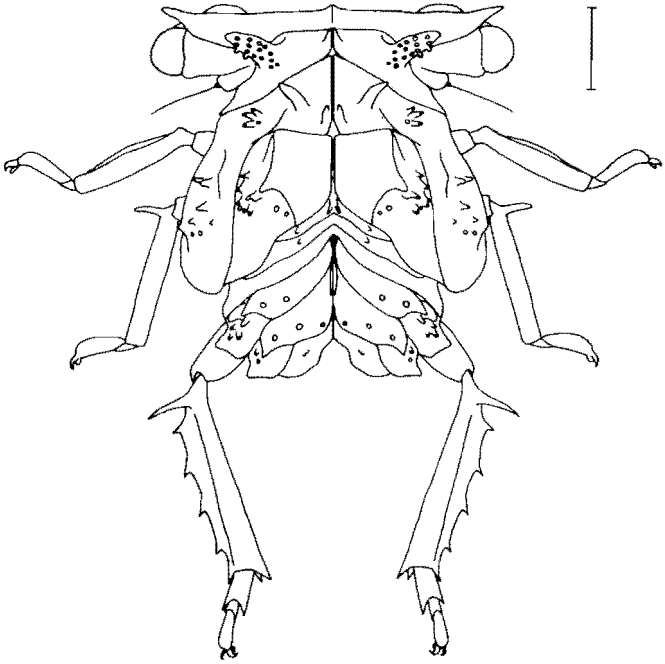

Fig. 4. *I. submaculata* fifth instar, dorsal view; vertical bar = 1.0 mm.

with numerous fingerlike and pitlike sensoria laterally on either side; terminal segments telescoped anteriorly.

Fourth Instar. Length 3.2–3.5; thoracic length 1.6–1.8; width 2.6–2.7.

Vertex ca. 8.5X broader than long. Frons width 2X length; carinae more strongly defined; blunt processes with 13–14 more strongly defined knoblike sensoria. Clypeus almost entirely fuscous. Antennal pedicel ca. 2X length of scape, sensoria less numerous.

Pronotal plates each bearing ca. 25 fingerlike sensoria. Mesonotal median length ca. 1.3X that of pronotum; ca. eight knoblike sensoria scattered in lateral 1/3; wingpad covering ca. 1/2 of metanotal wingpad laterally. Metanotal plates each bearing posterolaterally directed, elongate, slender, sinuate spine in lateral 1/4 and 3 knoblike sensoria surrounding base of spine; wingpad extending to tergite 3. Legs more heavily marked with fuscous. Metatarsomere 1 with transverse row of seven spines apically; tarsomere 2 less well-defined.

Abdomen with sensoria less numerous.

Third Instar. Length 2.3–2.4; thoracic length 1.2–1.4; width 1.8.

Vertex ca. 6X broader than long. Antennal pedicel ca. 1.2X length of scape, sensoria less numerous.

Pronotal plates each bearing ca. 21 fingerlike sensoria. Mesonotal wingpads weakly lobate and covering ca. 1/4 of metanotal wingpads laterally. Metatibiae each with transverse row of six spines apically. Metatarsomere 1 with transverse row of five spines at apex.

Abdominal tergal processes smaller and sensoria less numerous.

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