

**STUDIES OF THE GENUS EMPOASCA**  
(Homoptera, Cicadellidae)

PART VIII<sup>1</sup>

SIX NEW SPECIES OF EMPOASCA FROM SOUTHWESTERN UNITED  
STATES, MEXICO, AND CHILE

RALPH H. DAVIDSON  
AND  
DWIGHT M. DELONG

**Empoasca lauta** n. sp.

Resembling *pallidula* in color and appearance but smaller in size and with characteristic dorsal spine. Length 3 mm.

*External characters*.—Vertex broadly rounded, almost transverse, and slightly less than twice as wide between eyes as median length. Color whitish, mottled with darker spots. Vertex with a whitish median line and a pale spot next to each eye. Pronotum whitish, with two large median spots and two smaller spots on each side which are light yellow. Scutellum pale yellow. Elytra whitish, subhyaline, with darker smoky spots, especially near the apices. Female last ventral segment roundedly produced.

*Internal male genitalia*.—Lateral processes rather short, apical fourth narrowed and pointed at the apex. Aedeagus enlarged a little more than half its length forming an anteriorly projecting process and a dorsally produced portion which is rounded at the apex. Spine of ninth segment broad, narrowed on anterior and posterior margins to form a short narrow apical portion which extends ventrally and bears three teeth at apex. The anterior tooth is longer and sharp pointed, the median tooth short and blunt, and the posterior one is also blunt and much shorter.

Holotype male, allotype female, and one female paratype from Palm Springs, California, 5-19-41; and one female paratype from Tucson, Arizona, 5-13-41; all collected by Professor and Mrs. J. N. Knull and deposited in the collection of the authors.

**Empoasca ulusa** n. sp.

Resembling *unca* in size and appearance but with characteristic dorsal spine and much smaller but similar type of lateral processes. Length 3.5 mm.

<sup>1</sup>Previous parts of this study have appeared as follows: Ohio Jour. Sc., 32: 393-401; 35: 29-39; 36: 225-230; 38: 90-96; 39: 110-118; and Ann. Ent. Soc., 27: 604-609; 33: 608-611.

*External characters.*—Vertex blunt, pointedly produced, and about two-thirds as long at middle as basal width between the eyes. Color pale yellow to milky white. Vertex, pronotum and scutellum pale yellow, anterior portion of pronotum with three or more broad white blotches. Elytra milky white, subhyaline. Female last ventral segment roundedly produced.

*Internal male genitalia.*—Lateral processes short, slender, with a short spine-like tooth on outer margin of apex. Aedeagus abruptly enlarged two-thirds its length on inner margin forming a pointed triangular apical process which has a pointed basal angle extending anteriorly and a pointed dorsal apex. Spine of ninth segment broad, with a short, pointed tip directed downward on ventro-anterior portion.

Holotype male and allotype female collected in Santa Rita Mountains, Arizona, by Professor and Mrs. J. N. Knull on August 16, 1940. Male and female paratypes from the type locality and from the following sections of California: Chester, (6-12-41); Monterey County, (6-24-41); and San Benito County, (8-9-40); all collected by Professor and Mrs. Knull. Types in the collections of the authors.

***Empoasca arqu*** n. sp.

Resembling *pallidula* in coloration but smaller in size and with characteristic internal male genitalia. Length 2.5 mm.

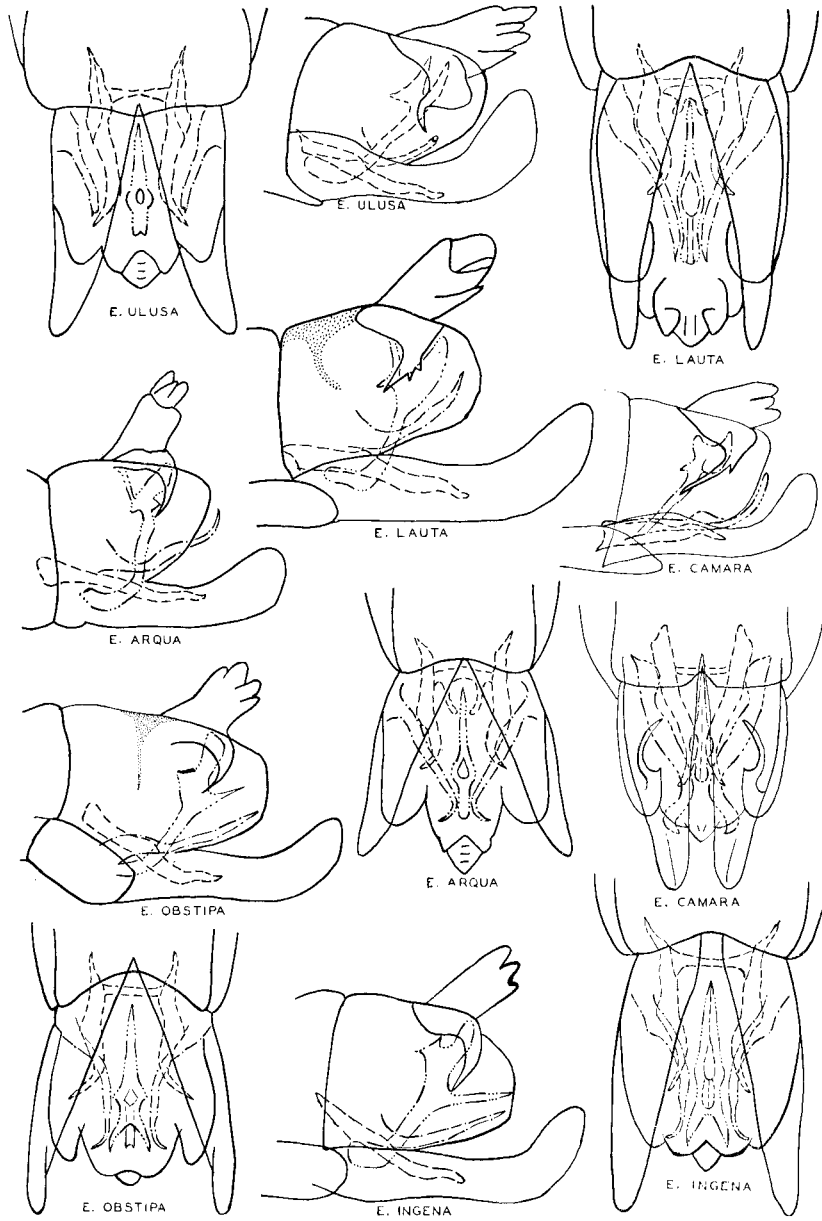
*External characters.*—Vertex blunt at apex, not strongly produced, a little wider between eyes at base than median length. Color greenish with dark mottled areas. Vertex greenish to yellow, with a whitish spot at apex and a median white line continuous to pronotum, and a pale spot next each eye at base. Pronotum dull smoky green, with three pale areas on anterior margin and a pale median stripe. Scutellum pale green. Elytra very pale green with rather large areas margined with smoky pigmentation. Apical portion smoky with pale veins. Female last ventral segment produced and broadly rounded on posterior margin.

*Internal male genitalia.*—Lateral processes rather long, sinuate, and narrowed to slender apices which are curved slightly dorsally and outwardly. Aedeagus abruptly enlarged at three-fourths its length with a rounded apex. Spine of ninth segment rather long, tapered to a short pointed tip, directed ventrally and curved slightly anteriorly.

Holotype male and allotype female and four female paratypes collected in Palm Springs, California, 5-19-41, by Professor and Mrs. J. N. Knull. Types deposited in the collections of the authors.

***Empoasca ingena*** n. sp.

Resembling *obstipa* in size and shape of lateral processes but with characteristic coloration and projection on aedeagus. Length 3.5 mm.



*External characters.*—Vertex bulbous, roundedly produced, more than one-third wider between eyes than median length. Color pale to white marked with red to brownish spots. Vertex with a pair of reddish longitudinal stripes extending from ocelli to base of vertex and continuous on pronotum to scutellum. Elytra marked with large reddish blotches, with an irregular transverse brownish band across apex of clavus. Apical third of elytra smoky.

*Internal male genitalia.*—Lateral processes narrow, tapered to pointed apices which are curved outwardly. Aedeagus in ventral view with a pair of heavy, posteriorly projecting, divergent spines attached at base of apical third. In lateral view these are much longer than in *obstipa*, extending to caudal margin of pygofer. The apex of aedeagus is narrowed, produced and rounded. The spine of ninth segment is broad at base strongly concavely rounded on anterior margin and rapidly tapered to an anteriorly curved pointed apex.

Holotype male from Barranca, Mexico, 2-16-26 (Dampf); a male paratype from Coscomatepec, 9-30-24 (Dampf); and a male paratype from Toluca Rd., Mexico, 2-24-38 (Caldwell), all deposited in collection of authors.

***Empoasca obstipa* n. sp.**

Resembling *amara* in size, general appearance, and shape of lateral processes, but with characteristic posteriorly projecting portion of aedeagus. Length 3.5 mm.

*External characters.*—Vertex blunt, roundedly produced, decidedly wider between eyes than median length. Color bright green with paler green markings. Vertex with paler longitudinal green markings. Elytra with hyaline areas along veins, apical third smoky. Female last ventral segment roundedly produced.

*Internal male genitalia.*—Lateral processes long, slender, tapered to pointed apices which are curved outwardly at tips. Aedeagus narrow at base, enlarged near apical third with a pair of stout posteriorly projecting spines at base of enlargement. Apex broader than basal portion with a broadly rounded or truncated tip. Spine of ninth segment short, tapered and sharply pointed, curved ventrally and anteriorly.

Holotype male, allotype female and a large series of male and female paratypes from Barranca, Mexico, 2-16-26 (Dampf); Popotla, Mexico, 6-19-24 (Dampf); and Toluca Rd., Mexico, 2-24-38 (Caldwell), all deposited in the collections of the authors.

***Empoasca camara* n. sp.**

Resembling *mexicana* and *curveola* in shape of lateral processes but with a distinct spine which is similar to that of *curveola* Oman. Length 3.5 to 4 mm.

*External characters.*—Color similar to *curveola*, greenish washed with yellow. Elytra greenish hyaline. Vertex bluntly, bulbously produced, about twice as wide between eyes as median length. Female segment roundedly produced.

*Male internal structures.*—Lateral processes in lateral view curved upward at apex; in ventral view converging to near apex where they are abruptly curved outwardly with inwardly curved and pointed apices. Aedeagus enlarged at apex with an upwardly rounded tooth on anterior edge and a bluntly pointed posterior tooth, between which the dorsal margin is broadly concavely rounded. Spine of ninth segment long, curved sharply anteriorly tapered to a long slender pointed tip and with a pointed spur on posterior margin at about half its length.

Holotype male, allotype female, and two female paratypes, all from Santiago, Chile, and deposited in the Herbert Osborn Collection, Ohio State University.