

paler than above, more ochreous brown. Legs yellow-brown with paler tarsi; femora with a small median purple brown spot, rather indistinct and not forming the longitudinal dark dash which is characteristic of most species in the group. First joint of fore tarsi about one-fifth the length of the second one. Wings hyaline with brown venation, the crossveins fine and not well-marked, especially in costal region; in the pterostigmatic area they anastomose as usual to form a network. Length of body and forewing 7 mm.

Holotype—♂, Knowlton, Que., June 22 (G. S. Walley); No. 2656 in the Canadian National Collection, Ottawa.

Paratype—♂, S. Bolton, Que., June 17 (W. J. Brown).

The species very much resembles *jejuna* Eaton (*fusca* Wlk.) and *impersonata* McD. but differs in the male genitalia, the penes possessing a short, blunt spine with slightly serrate edge, situated ventrally about midway between apex and base of each lobe; the inner apical edge of each penis-lobe is also distinctly serrate.

OBSERVATIONS ON THE CHERMIDAE (HEMIPTERA: HOMOPTERA). PART V.¹

BY G. F. FERRIS,

Stanford University, California.

Genus *Leuronota* Crawford.

1914. Crawford, U. S. Nat. Mus. Bull. 85:67.

As far as I am aware, there are known at the present time but four species which are referred to this genus. Of these, one is recorded from Florida, one from Texas and Arizona, one from Nicaragua and one from Brazil.

Two species are at hand in my Mexican material. One of these I am, with hesitation, referring to a named form and the other—with greater hesitation—I am describing as new. Both species are represented by nymphs as well as adults and these nymphs prove to be extremely interesting forms.

The genus is referred by Crawford—and apparently quite correctly—to the Triozinae, but the nymphs depart rather widely from the characteristic triozine form. In this typical form, as I have indicated in earlier papers of this series, the wing-pads are produced forward, the head, as it were, being sunken into the shoulders. In the nymphs of these two species of *Leuronota* there is but the faintest indication of this feature. They remain, however, typically triozine in certain other respects. In all the triozine nymphs that I have examined practically the entire dorsum, excepting only the sutural lines and a small area at the base of the abdomen is sclerotic, the wing pads being continuous with a sclerotic area that is interrupted only by the mesal suture which ruptures at the time of molting. This condition does not appear in any nymphs other than triozines that I have seen.

Leuronota maculata (Crawford).

1914. *Leuronota maculata* (Crawford), U. S. Nat. Mus. Bull. 85:68:figs.

MATERIAL EXAMINED. Nymphs and adults from *Celtis iguanea*, near Sihuatenejo, Guerrero, Mexico, Feb. 1926 (G. F. Ferris). The species has previously been recorded, on the basis of adults only, from *Condalia obovata* and

Colubrina texana from Texas, and without indication of host from Texas and Arizona.

Notes. The adults at hand differ slightly in their wing markings from the figure given by Crawford and Crawford's figures do not deal with certain other characters, so that the identification of my specimens with *L. maculata* is somewhat problematical.

The nymphs cause a distortion and folding of the leaves of the host. They are apparently identical with the nymphs of *L. michoacana*, which I am describing below.

***Leuronota michoacana* n. sp.**

Fig. I.

MATERIAL EXAMINED. Nymphs and adults from undeterminable host near Chinicuila, Michoacan, Mexico, Feb. 1926 (*G. F. Ferris*). The nymphs cause a folding and distortion of the leaves.

ADULT. Length, including folded wings, 4 mm. A slender species of a generally dark brown color with pale markings on head and thorax and a pale area along the costal border of the wing. With the general characteristics of the genus well developed.

Head slightly wider than prothorax, only slightly deflexed; with the genal cones slightly below the plane of the vertex, acute and quite divergent. Antennae slender, about as long as head and thorax.

Thorax (Fig. I *M*) with the pronotum less than half as long as the praescutum and with a distinct anterior median epiphysis, the derm smooth and not at all hairy. Posterior legs with two large and several smaller teeth at the base of the tibia (Fig. I *C*) and with a comb of small setae and four stout teeth at the apex. (Fig. I *J*). Anterior wings (Fig. I *K*) three times as long as wide, rather acutely pointed, deeply pigmented except for a hyaline area along the anterior border and a pale anal area. Posterior wings (Fig. I *L*) with the venation quite well developed and with the entire surface beset with minute points.

Abdomen with the plates strongly sclerotic, the sternites bordered by an area in which the pigment is laid down in a mosaic of minute plates. Genitalia of female (Fig. I *D*) short and blunt, the dorsal valve exceeding the ventral, the circum-anal pore ring composed of an irregularly double row of pores (Fig. I *E*) Genitalia of the male (Fig. I *I*) with the proctiger not greatly exceeding the claspers in length.

NYMPH. (Fig. I *A*). Length on slide 2 mm. Departing from the typical triozone form in that the wing pads are not produced anteriorly, but otherwise of this general type, the entire dorsum sclerotic except for the sutural areas and a narrow basal area on the abdomen. Antennae (Fig. I *F*) short, seven-segmented, the third segment curiously swollen and constricted. Setae occurring only in a marginal series, very small, slender and sharply pointed (Fig. I *G*) and interspersed with small, simple setae. Dorsum with very few, small, simple setae. Tarsi with the empodium present (Fig. I *B*). Circum-anal pore ring confined to the ventral side of the abdomen but much expanded and consisting of

an extremely sinuous single row of pores (Fig. 1. H).

Notes. The nymph of this species is apparently identical with that of *L. maculata*. The adult, however, approaches very closely *L. leguminicola* Crawford, which is recorded from Brazil, from which it differs apparently in a num-

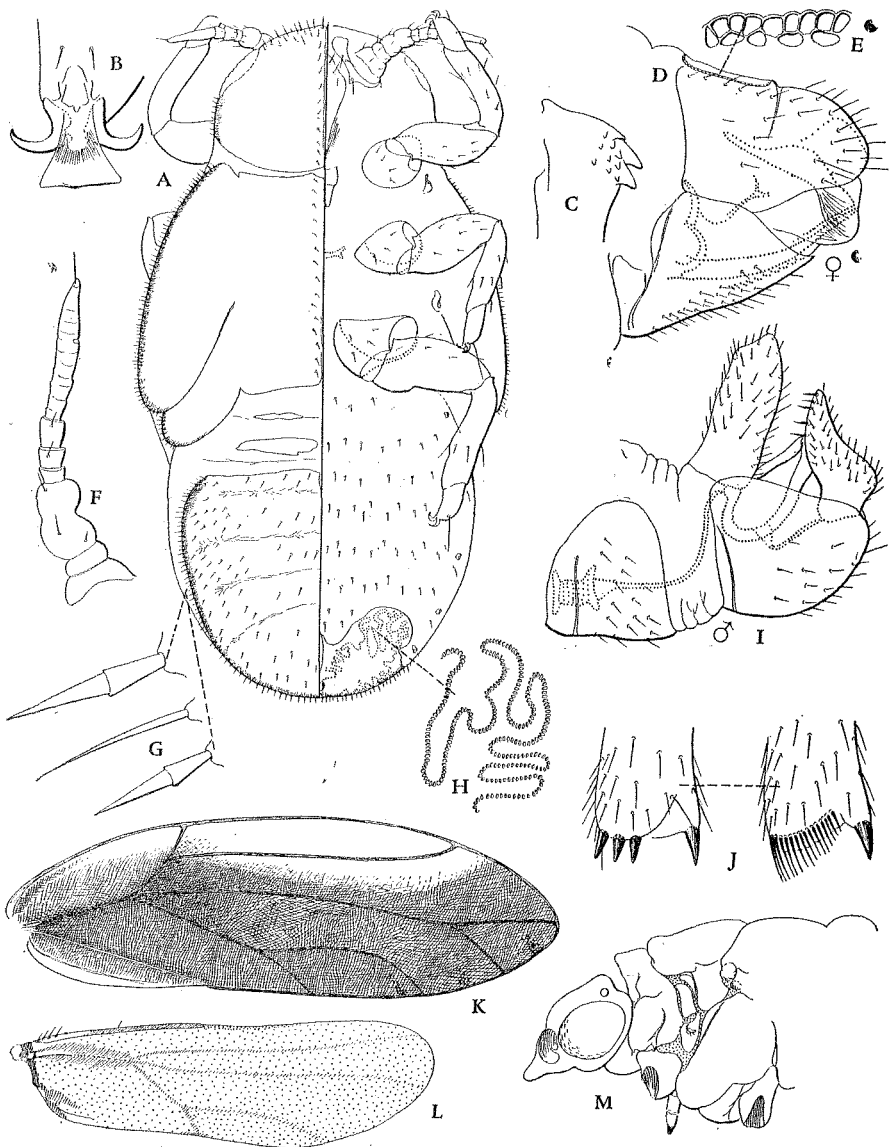


Fig. 1. *Leuronota michoacana* n. sp. A.—Mature nymph; B.—apex of tarsus of nymph; C.—base of posterior tibia of adult; D.—genitalia of female; E.—portion of circum-anal pore ring of female; F.—antenna of nymph; G.—seta and sectasetae from margin of nymph; H.—portion of circum-anal pore ring of nymph; I.—genitalia of male; J.—apex of posterior tibia of adult; K.—fore wing; L.—posterior wing; M.—profile of head and portion of thorax of adult.

ber of details, the latter species being described as having the wings four times as long as wide and being apparently without the pale markings of head and thorax.

Genus *Carsidara* Walker.

1882. Scott, Trans. Ent. Soc. London, p. 466.

1914. Crawford, Bull. U. S. Nat. Mus. 85:57.

Of this genus, as understood by Crawford, I have at hand a single species represented by both nymphs and adults. As far as I am aware no nymphs of any species have here-to-fore been described.

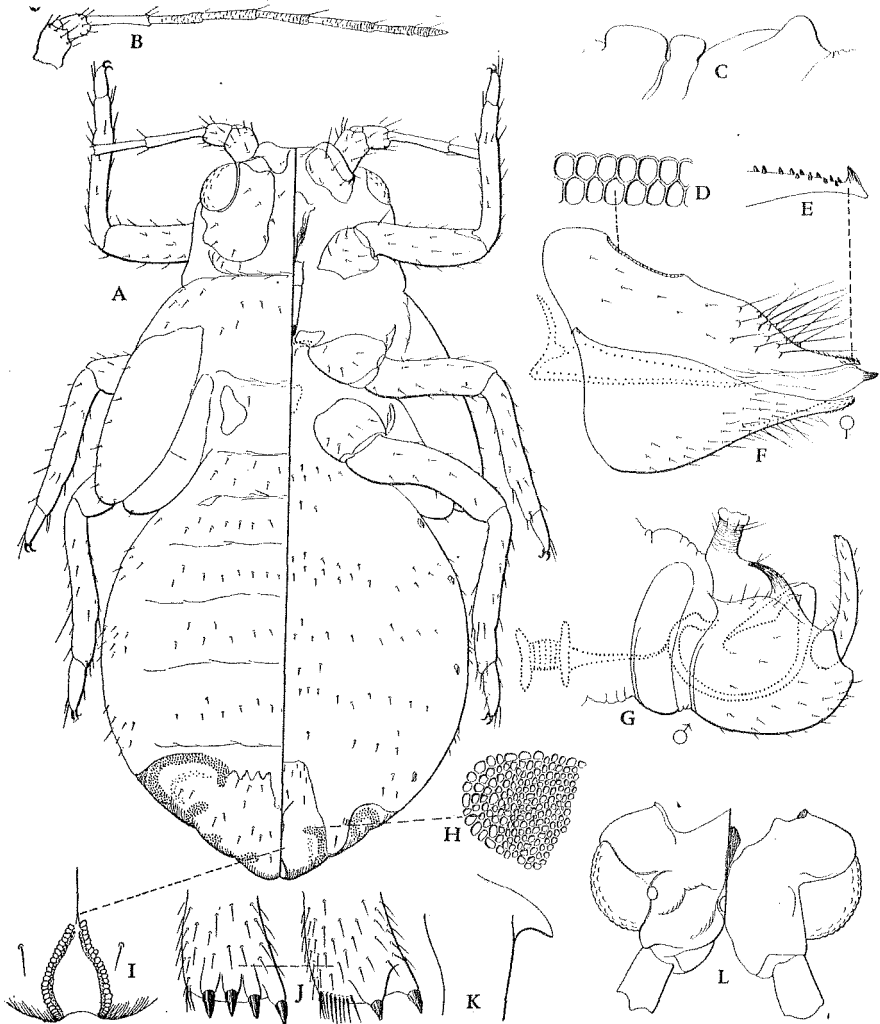


Fig. 2. *Carsidara gigantea* Crawford. A.—mature nymph; B.—antenna of nymph; C.—profile of portion of notum of thorax, showing post-scutellar elevations; D.—portion of circum-anal pore ring of female; E.—apex of dorsal valve of genitalia of female; F.—genitalia of female; G.—genitalia of male; H.—portion of pore area of nymph; I.—anus of nymph; J.—apex of posterior tibia of adult; K.—base of posterior tibia of adult; L.—head of adult.

On the basis of the nymphs Crawford's assignment of this genus to the same group as *Freysuila* is entirely justified, the nymphs of the two genera being very similar. The adult of *Carsidara*, however, possess but a single claw-like spine on the posterior tarsus, while in *Freysuila* there are two such spines.

Carsidara gigantea Crawford.

Fig. II.

1914. *Carsidara gigantea* Crawford, Crawford, U. S. Nat. Mus. Bull. 85:57; figs.

MATERIAL EXAMINED. Nymphs and adults from *Ceiba* sp., Manzanillo, Colima; Petatlan, Michoacan; mouth of the Balsas River, Guerrero; and Minatitlan, Vera Cruz, Mexico (*G. F. Ferris*).

ADULT. I add the following notes to the description of Crawford. Post-scutellum of the metathorax (Fig. II. *C*) with a pair of low, rounded prominences. Posterior tibiae with an extremely large spur (Fig. II. *K*) at the base and with stout, spur-like setae at the apex as indicated in Fig. II. *J*. Genitalia of female (Fig. II. *F*) with the circum-anal pore ring composed of two rows of pores (Fig. II. *D*) and with the dorsal valve acutely pointed, terminating in a recurved spur and bearing numerous small, black teeth. Genitalia of the male (Fig. II. *G*) with the proctiger extremely small, the claspers slender and the "ventral valve" bearing dorsally, on each side a sharp, recurved spur.

NYMPH (Fig. II. *A*). Length on slide 2.5 mm. Of the psylline type, the derm membranous throughout except for a large ocular patch, a small patch on the ventral side at the base of the antenna, the wing-pads and a small dorsal thoracic patch and a comparatively small apical area of the abdomen. Antennae (Fig. II. *B*) ten-segmented, slender. Legs without trochanter and tarsi apparently without empodium. Anus at the extreme tip of the abdomen, surrounded by a simple ring of pores (Fig. II. *I*). The pore areas on the caudal sclerotic area appear in three separate, curved bands which are composed of many small pores (Fig. II. *H*) and which are partially on both dorsal and ventral sides of the body. Body setae very few, extremely small, simple.

Notes. The identification of this species as *C. gigantea* is somewhat doubtful as the description given by Crawford is deficient in some details.

The specimens taken at the mouth of the Balsas river and at Minatitlan were found in company with specimens of what I take to be, and am here recording as, *Epicarsa corniculata* Crawford. But one type of nymph was taken and consequently its definite assignment to a particular adult would be doubtful were it not that the specimens of *C. gigantea* from Manzanillo were in part obtained from nymphs which were isolated in a bottle.

Epicarsa corniculata Crawford.

Fig. III.

1914. *Epicarsa corniculata* Crawford, Crawford, Bull. U. S. Nat. Mus. 85:56; figs.

SPECIMENS EXAMINED. From *Ceiba* sp., Petatlan, Michoacan and mouth of the Balsas River, Guerrero, Mexico (*G. F. Ferris*). Adults only. The species has previously been recorded only from a single male, from Par , Brazil.

Notes. The description given by Crawford, having been based upon the male only and being deficient in respect to certain details, leaves a certain amount of doubt in connection with this identification. It may be that two species are involved.

The genitalia of the male (Fig. III. *E*) are very small, the "ventral valve" almost globular and bearing a small spur on each side on the dorsal margin, the claspers slender, the proctiger short but with lateral expansions which show only when viewed from the dorsal aspect and which I am not able to figure adequately from my specimens.

The genitalia of the female (Fig. III. *A*) are quite peculiar. In the single available specimen they are deflexed almost at right angles to the axis of the body, although this may possibly be accidental. Both dorsal and ventral valves are abruptly reduced in thickness near the tip and terminate in a short spur. That of the ventral valve bears a few minute spines, while that of the dorsal valve (Fig. III. *C*) is beset with short, stout setae. The circum-anal pore ring (Fig. III. *B*) is composed of a double row of pores (Fig. III. *B*).

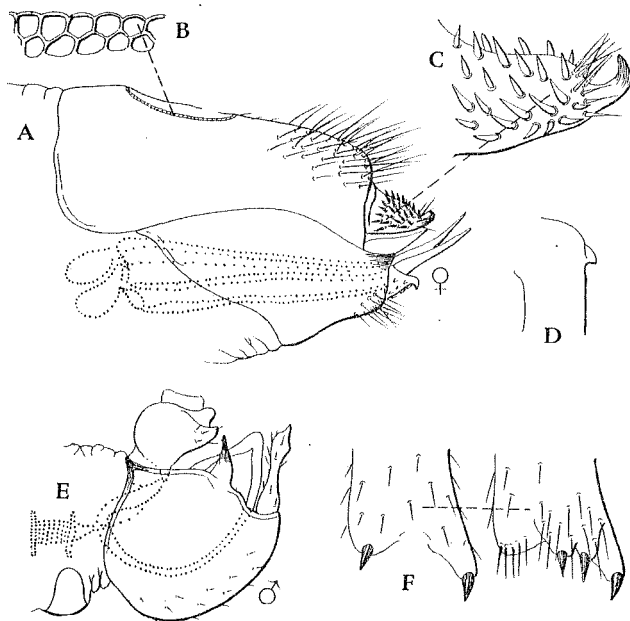


Fig. 3. *Epicarsa corniculata* Crawford. A.—genitalia of female; B.—portion of circum-anal pore ring of female; C.—apex of dorsal valve of genitalia of female; D.—base of posterior tibia of adult; E.—genitalia of male; F.—apex of posterior tibia of adult.

The posterior tibiae bear a very small spur at the base (Fig. III. *D*) and rather small, black spines at the apex as indicated in Fig. III. *E*. The basal segment of the posterior tarsi bears a single black, claw-like spine.

The wings agree exactly with the figure given by Crawford.

Phyllopecta diospyri (Ashmead).

1926. *Phyllopecta diospyri* (Ashmead), Ferris, Can. Ent. 58:16; fig. 3.

SPECIMENS EXAMINED. Nymphs only were taken of this species from *Diospyros* or *Naba* at La Providencia, near Acapulco, Guerrero, Mexico (*G. F. Ferris*). These agree exactly with typical nymphs from southeastern United States, and while the adults might possibly be somewhat different the identification may be accepted for the present.

Ceropsylla sideroxyli Riley.

1923. *Ceropsylla sideroxyli* Riley, Ferris, Can. Ent. 55: 254; fig.

SPECIMENS EXAMINED. Nymphs only were taken at Zacatula, near the mouth of the Balsas River from *Sideroxylon* sp. (*G. F. Ferris*). These agree exactly in structure and in their pitmaking habits with specimens from Florida.

The Canadian Entomologist

VOL. L.

ORILLIA, OCTOBER, 1928.

No. 10.

NEW SPECIES OF LABOPIDEA AND MACROTYLOIDES (HEMIPTERA, MIRIDAE)*.

BY HARRY H. KNIGHT,
Ames, Iowa.

Labopidea arizonae n. sp.

Allied to *simplex* Uhler, but distinguished by the fine, uniformly pale pubescence, shorter rostrum and more tumid frons.

♂. Length 5 mm., width 1.8 mm. Head: width 1.09 mm., vertex .666 mm.; frons more tumid than in *simplex*, pale greenish, becoming fuscous each side of frons and a spot each side of vertex. Rostrum, length 1.09 mm., just attaining hind margin of sternum, pale greenish, last two segments blackish. Antennae: segment I, length .42 mm.; II, 1.6 mm.; III, 1.18 mm.; IV, broken; black. Pronotum: length .72 mm., width at base 1.54 mm.; calli becoming blackish on hind margins.

Dorsum clothed with fine, simple, pale to yellowish pubescence, with only a few stiff brown hairs set around margins of calli and on base of head. Color greenish, basal margin of pronotum and the clavus dusky green, tibiae dusky, tarsi blackish; membrane uniformly dark fuscous. Genital claspers have a general similarity to those of *simplex*, but the left clasper more broadly and sharply incurved above.

♀. Length 5.1 mm., width 1.9 mm. Head: width 1.12 mm., vertex .71 mm. Rostrum, length 1.12 mm., scarcely attaining hind margin of sternum. Antennae: segment I, length .38 mm.; II, 1.48 mm.; III, 1.06 mm.; IV, .47 mm. Pronotum: length .75 mm., width at base 1.62 mm. More robust than the male but very similar in pubescence and coloration, although the head and calli without black marks.

Holotype: ♂ April 5, 1924, Tucson, Arizona (A. A. Nichol); author's collection.

Allotype: same data as the type.

Paratypes: ♀ April 12, 1924, Tucson, Arizona (A. A. Nichol). 22 ♂ ♀ April 16, 1928 (alt. 2400 ft.), Superior; ♂, 3 ♀, May 20, 1928, (alt. 5000 ft.), Empire Mts., Ariz. (A. A. Nichol).

Labopidea pallida n. sp.

Allied to *simplex* Uhler, but smaller; distinguished by the pale color, soft pale pubescence, with front of head, antennae, and calli only, black.

♀. Length 3.34 mm., width 1.8 mm. Head: width 1 mm., vertex .58 mm.; pale, frons, tylus, apical half of lora, and margins of juga, black. Rostrum, length 1.15 mm., just about attaining hind margins of middle coxae, pale, apex black. Antennae: segment I, length .355 mm.; II, 1.23 mm.; III, .68 mm.; IV, broken; black. Pronotum: length .55 mm., width at base 1.18 mm., pale, calli and spot at top of coxal cleft, black.

Color pale yellowish, probably tinged with green in life, venter greenish;