

A PRELIMINARY SURVEY OF MEXICAN PSYLLIDAE (HOMOPTERA)

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The psyllid fauna of Mexico has scarcely been touched and doubtlessly extensive collecting will recover many species recorded from America North of Mexico and from countries farther south along with species new to science. The data to substantiate this statement is contained in the few papers concerning Mexican Psyllidae and the fact that floral type scarcely conforms to international boundaries. The probable occurrence of species new to Mexico makes a key to the present species valueless; however, it appears that the majority of likely genera are represented and a tentative key is presented. The following compilation is based on data published by D. L. Crawford, F. Laing, H. G. Ferris, and E. P. Van Duzee, and the collections of D. M. DeLong and the writer's.

TENTATIVE KEY TO GENERA

1. Frons visible as a distinct sclerite; head never deeply cleft in front; genae not produced into cones. 2.
Frons usually covered by genae; or if visible, head is deeply cleft in front; genae usually produced into cones. 5.
2. Frons visible from below as an elongate sclerite; vertex more or less flattened. 3.
Frons visible from front as a rounded sclerite bearing the anterior ocellus; vertex rounded more or less downward in front. 4.
3. Forewings hyaline, ovate, sometimes maculate; no pterostigma present. Proctiger of male with posterior lobes. **Aphalara**
Forewings opaque, thickened, rhomboidal; pterostigma present. Proctiger of male without caudal lobes. **Aphalarioda**
4. Vertex, frons, and genae continuing in a uniform surface; antennae not longer than length of head and thorax combined. **Paurocephala**
Vertex, frons, and genae not a uniform surface, genae slightly swollen on either side of frons; antennae very long. **Heteropsylla**
5. Head very deeply cleft in front with antennae arising at base on either side accentuating the bifid appearance; frons sometimes visible. 6.
Head not deeply cleft in front; frons never visible. 9.

6. Forewings with cubital petiole. 7.
 Forewings without cubital petiole. 8.
7. Forewings with pterostigma and pseudocrossveins connecting
 radius and medius. **Carsidara**
 Forewings with pterostigma but no pseudocrossveins between
 radius and medius. **Freysuila**
 Forewings with neither pterostigma nor crossveins. **Epiciasia**
8. Posterior tibiae with never more than four apical spines; medius
 of forewings two branched. **Rhinopsylla**
 Posterior tibiae with at least five apical spines; medius of fore-
 wings appearing three branched. **Synoza**
9. Forewings without a definite cubital petiole (*Ceropsylla* has
 either a tendency toward a petiole or a very short indefinite
 petiole); basal tarsus of hind legs without two black claws. 10.
 Forewings with a very definite cubital petiole; two black spines
 present of basal tarsus of hind legs. 15.
10. Genae produced into cones. 11.
 Genae not produced into cones. **Kuwayama**
11. Forewings with a very short cubital petiole or tendency toward
 such; radius usually darkened. **Ceropsylla**
 Forewings with absolutely no cubital petiole. 12.
12. Pronotum long, flat; forewings long, slender; genal cones pro-
 jecting rather forward. **Leuronota**
 Pronotum short, descending; forewings various, usually broad;
 genal cones descending. 13.
13. Genal cones short; clypeus visible from front. **Paratrioza**
 Genal cones longer; clypeus not visible from front. 14.
14. Metacoxae without anterior spurs. **Triozia**
 Metacoxae with anterior spurs. **Phyllopecta**
15. Thorax strongly arched; forewings somewhat rhomboidal; species
 mostly robust. 16.
 Thorax not strongly arched; forewings ovaloid; species not
 especially robust. 17.
16. Head and thorax perpendicular, pubescent, forewings hyaline
 with costa pubescent. **Spanioneura**
 Head and thorax not perpendicular, not pubescent; forewings
 usually subhyaline. **Euphalerus**
17. No line of demarkation between vertex and genal cones;
 epimeron and episternum of prothorax subequal in length.
Psyllopsis
 Genal cones and vertex not fused; epimeron shorter than
 episternum. 18.
18. Genal cones usually separated at bases; vertex with a whitish
 ridge along either side of median line. **Mitropsylla**
 Genal cones contiguous at base; vertex without marked ridges
 along median line. **Psylla**

RECORD OF SPECIES

Genus **Aphalara** Forster

Aphalara nupera Van Duzee. Angeles Bay, 5-4-21, and Gongales Bay, 4-29-21, Lower California, (E. P. Van Duzee & J. C. Chamberlin). The elongate clypeus places this species in the *calthae* group.

Aphalara simila Caldwell. Mexico City-Toluca road km. 20, 11-24-38, (Caldwell). Tamazunchale, San Luis Potosi, 8-29-39, (D. M. & F. M. DeLong). Jiutepec, Morelos, 9-6-39, (DeLong & C. C. Plummer).

Aphalara veaziei metzaria Crawford. San Esteban Island, Lower California, 4-19-21, (Van Duzee & Chamberlin).

Aphalara numerica n. sp. Monterrey, Nuevo Leon, 11-1-38, (Caldwell).

Aphalara caudata Crawford. Mexico City, D. F., west 18 kms., 9-1-39, (DeLong & Plummer).

Aphalara punctellus Van Duzee. San Nicolas Bay, Lower California, 5-16-21, (Van Duzee & Chamberlin). The nine segmented antennae places this species in the subgenus *Anomocera*.

Genus **Aphalaroida** Crawford

Aphalaroida inermis Crawford. Santa Engracia, Tamaulipas, 11-8-38, (Caldwell).

Genus **Paurocephala** Crawford

Paurocephala magnifrons Crawford. Escuintla, Chiapas, 7-25-10, (Crawford).

Paurocephala (Aphalara) mera (Van Duzee). San Nicolas Bay, Lower California, 5-16-21, (Van Duzee & Chamberlin). This species was described as an *Aphalara* with a pterostigma. Its placement here is arbitrary as it is possible it may belong in *Metaphalara* Crawford* along with *M. ilicis* (Ashmead).

Genus **Heteropsylla** Crawford

Heteropsylla mexicana Crawford. Jalapa, Vera Cruz, 8-28-10, (Crawford). Tamazunchale, San Luis Potosi, 11-15-38, (Caldwell).

Heteropsylla forcipata Crawford. Oaxaca, Oaxaca, (A. Koebele), Tamazunchale, San Luis Potosi, 8-29-39, (DeLong). Jiutepec, Morelos, 9-6-39, (DeLong & Plummer).

Heteropsylla mimosae Crawford. Santa Engracia, Tamaulipas, 11-4-38 and 11-8-38, (Caldwell).

Heteropsylla hausachae n. sp. Santa Engracia, Tamaulipas, 11-4-38, 11-8-38, and 11-11-38; Acapulco, Guerrero, 11-22-38; Valles, San Luis Potosi, 12-1-38, (Caldwell).

* D. L. Crawford: Broteria Serie Zoologica, vol. 22, fasc. 11, p. 60, 1925.

Genus **Carsidara** Walker

Carsidara gigantea Crawford. Mexico City, D. F., (H. H. Smith). Manazanillo, Colima; Petatlan, Guerrero; near mouth of Balasa River, Guerrero; Minatitlan, Vera Cruz, (G. F. Ferris). Iguala, Guerrero, 9-11-38, (DeLong).

Carsidara dugesii Loew. "Mexico," (A. Duges). Acapulco, Guerrero, (DeLong).

Carsidara mexicana Crawford. Acapulco, Guerrero, (C. F. Baker).

Genus **Freysuila** Aleman

Freysuila dugesii Aleman. Guanajuata, Guanajuata, (A. Duges).

Freysuila coahuayanae Ferris. Colima & Coahuayana, Colima, (Ferris).

Genus **Epicrasa** Crawford

Epicrasa corniculata Crawford. Petatlan, Guerrero, near mouth of Balsas River, Guerrero, (Ferris).

Genus **Rhinopsylla** Riley

Rhinopsylla jalapensis Crawford. Jalapa, Vera Cruz, 8-28-10, (Crawford).

Rhinopsylla nigra Laing. Orizaba, Vera Cruz, (F. D. Godman and H. H. Smith). Mexico City, D. F., west 18 Kms., 9-1-39, (DeLong).

Rhinopsylla elongagena n. sp. Mexico City-Toluca road km. 20, 11-24-38, (Caldwell).

Rhinopsylla rubrafacia n. sp. Cuernavaca, Morelos, 9-8-39, (DeLong & Plummer).

Genus **Synoza** Enderlein

Synoza pulchra Laing. Chilpancingo, Guerrero, (Smith). Colima, Colima, December, 1925, (Ferris).

Genus **Kuwayama** Crawford

Kuwayama medicaginis Crawford. Jalapa, Vera Cruz, (Crawford). Santa Engracia, Tamaulipas, 11-4-38, (Caldwell). Iguala, Guerrero, 9-11-39, (DeLong).

Kuwayama oaxacensis Crawford. Oaxaca, Oaxaca, (Crawford). Mexico City-Toluca road km. 20, 11-24-38, (Caldwell). Mexico City, D. F., 9-1-39, (DeLong).

Genus **Leuronata** Crawford

Leuronata mihoacana Ferris. Chinicuila, Michoacan, February, 1926, (Ferris).

Leuronata maculata (Crawford). Sihuatenajo, Guerrero, 2-19-26, (Ferris).

Genus **Paratrioza** Crawford

Paratrioza cockerelli Sulc. Santa Engracia, Tamaulipas, 11-5-38, (Caldwell). Mexico City, D. F., 9-13-39, (DeLong).

Genus **Ceropsylla** Crawford

Ceropsylla sideroxyli Riley. Zacutula, near mouth of Balasa River, Guerrero, (Ferris).

Ceropsylla johnsonii Crawford. Valles, San Luis Potosi, 12-1-38, (Caldwell).

Genus **Trioza** Forster

Trioza mexicana Crawford. Cuernavaca, Morelos, (Crawford).

Trioza mexicana minuta Crawford. Oaxaca, Oaxaca, (Crawford). Mexico City, D. F., 9-1-39 and 9-13-39, (DeLong & Plummer).

Trioza proxinata Crawford. Oaxaca, Oaxaca, and Orizaba, Vera Cruz, August, 1910, (Crawford). Mexico City-Toluca road km. 20, 11-24-38, and Mexico City-Acapulco road km. 55, 11-23-38, (Caldwell). Mexico City, D. F., 9-1-39 and 9-13-39, (DeLong & Plummer).

Trioza longistylus Crawford. Mexico City, D. F., 9-13-39, (DeLong & Plummer).

Trioza arizonae Aulmann. Tamazunchale, San Luis Potosi, 8-29-39, (DeLong).

Trioza thoracia n. sp. Mexico City-Toluca road km. 20, 11-24-38, (Caldwell).

Trioza koebeleri Kirkaldy. Cuernavaca Morelos, (A. L. Herrera). Santa Engracia, Tamaulipas, 11-4-38, (Caldwell).

Genus **Phyllopecta** Riley

Phyllopecta diospyri (Ashmead). La Providencia near Acapulco, Guerrero, (Ferris).

Genus **Spanioneura** Forster

Spanioneura arcuata (Crawford). Jalapa, Vera Cruz, 8-28-10, (Crawford). It may be of interest to note here that this species was taken on Bonefish Key, Florida, 2-22-40, (Caldwell)

Genus **Euphalerus** Schwarz

Euphalerus fasciatus Laing, Atoyac, Vera Cruz, (Smith).

Euphalerus gallicola Ferris. Near mouth of Balasa River, Guerrero, (Ferris).

Genus **Psyllopsis** Crawford

Psyllopsis mexicana Crawford. Acapulco, Guerrero, (Baker).

Genus **Mitrapsylla** Crawford

Mitrapsylla albalineata Crawford. Acapulco, Guerrero, (Baker). Oaxaca, Oaxaca, (Crawford).

Genus **Psylla** Geoffroy

Psylla orizabensis Crawford. Orizaba, Vera Cruz, 8-28-10, (Crawford). Cuernavaca, Morelos, 9-8-39, (DeLong & Plummer).

Psylla nana Tuthill. Mexico City, D. F., west 18 kms., 9-1-39, (DeLong).

***Aphalara numerica* n. sp.**

Length to tip of forewing, male 2.2 mm., female 2.5 mm.; forewing, male 1.6 mm., female 2 mm.

General color greenish yellow with small dark brown maculae on forewings. Scutum with the figure "1001" appearing in white with the ones short and broad, and the zeros not quite closed caudad.

Antennae slightly longer than width of head. Vertex deeply notched in front; foveae very deep; ocelli prominent. Cubital cell in forewings long, narrow; medial cell small.

Forceps of male short, clavate apically; inner apical tooth reaching to apex of forcep proper.

Female genitalia as long as rest of abdomen in dried specimens. Dorsum of dorsal valve gently sinuate.

Male holotype, female allotype, and paratypes from Monterrey, Nuevo Leon, 11-1-38, (Caldwell).

***Heteropsylla huasachae* n. sp.**

Length to tip of forewing, male 2 mm., female 2.2 mm.; forewing, male 1.5 mm., female 1.7 mm.

General color yellow to yellow-orange; eyes and apex of antennae black; forewings sometimes milky.

Antennae about twice as long as width of head. Head as broad as thorax. Forewings subhyaline; pterostigma broad, short, almost touching the radial sector.

Proctiger of male suddenly narrowed in apical third. Forceps appearing hemipyridiform with truncate apices in lateral aspect; in caudal view the inner lobes are visible and appear to be of same shape as outer lobes though slightly shorter.

Dorsal valve of female about one-half as long as rest of abdomen; dorsum sulcate. Ventral valve about one-half as long as dorsal.

Male holotype, female allotype, and paratypes from Santa Engracia, Tamaulipas, 11-4-38; paratypes from same locality on 11-8-38 and 11-11-38, also paratypes from Acapulco, Guerrero, 11-22-38, and Valles, San Luis Potosi, 12-1-38, (Caldwell).

***Trioza thoracia* n. sp.**

Length to tip of forewing 3.2 mm., forewing 2.8 mm.

General color light brown with legs and venter lighter; three apical segments of antennae black.

Antennae one-fourth longer than width of head. Vertex twice as broad as long; lateral and basal margins raised; apical margin deeply notched. Genal cones short, appressed, almost at right angles to plane of vertex; apices sharp. Prothorax almost perpendicular. Forewings about two and a half times as long as broad; rather rounded apically. Metacoxae with posterior spurs; hind tibiae with apical spine ratio of 3-1.

Forceps of male extremely long, slender, slightly curved cephalad; apices with a single black tooth projecting inward.

Male holotype from Mexico City-Toluca road km. 20, 11-24-38, (Caldwell).

Rhinopsylla elongagena n. sp.

Length to tip of forewing 3 mm., forewing 2.6 mm.

General color grey-yellow; vertex with narrow median stripe, meso- and metathorax with three and five red stripes respectively.

Anterior ocellus barely visible from above. Sulcate impressions on vertex almost obsolete. Genae greatly swollen, resembling rather blunt cones, yet clypeus is visible from front. Veins of forewings golden, three marginal spots deep black.

Dorsal valve of female greatly lowered in caudal third to styliform slightly upturned apex. Ventral valve with short styliform apex.

Female holotype Mexico City-Toluca road km. 20, 11-24-38, (Caldwell).

Rhinopsylla rubrafacia n. sp.

Length to tip of forewing 4 mm., forewing 3 mm.

General color of head and thorax light brown, abdomen black; basal antennal segments bright red; a white waxy secretion down median of abdominal dorsum.

Foveae in vertex very deep. Anterior ocellus not visible from above. Thorax scarcely arched; legs rather short. Forewings about three times as long as broad; apices not acute; three marginal spots scarcely visible.

Female genital segment short; ventral valve scarcely longer than preceding segment; dorsal valve short, thick, arched.

Female holotype from Cuernavaca, Morelos, 9-8-39, (DeLong & Plummer).

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