

## New Species of *Idona* from Mexico (Homoptera: Cicadellidae)

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*Idona* was erected as a subgenus of *Empoasca* by DeLong in 1931 and *Empoasca minuenda* Ball was selected as the genotype. DeLong and Caldwell (1937) raised the group to generic status and removed all of the other North American species previously included in *Idona* except *minuenda*.

Young (1951) redefined the genus and in addition to *minuenda* has now placed in it *aperta* (Beamer 1943), *hyalina* (Beamer 1943), and *rubens* (Beamer 1934) from the southwestern United States; also he has included *sexmaculata* (DeLong 1923) from Puerto Rico and *hyalina* (Osborn 1928) from Bolivia. Seven new species of *Idona* have been examined in the collections of Mexican Typhlocybinae and are described in the following pages.

The types of all the new species except *eborolora* are in the DeLong collection. The types of that species are in the Snow Collection at the University of Kansas.

### ***Idona usitata* n. sp.**

A pallid species resembling *minuenda* (Ball) in general form and appearance, but with distinctive male genital structures. Length 2.2 mm.

Color: A nearly uniform golden-yellow with the disk of the clavus and the costal margin of each elytron a darker, golden-tan.

Genitalia: Pygofer without hooks. The base of the aedeagus is rather short and cylindrical and bears a pair of long, heavy, caudally-directed, ventro-lateral processes which cross each other at their bases and turn sharply ventrad at their apices. The phallicata arises from the base almost between the ventro-lateral processes.

Holotype male and male paratypes collected at Vejuco, G'ro., Sept. 3, 1930 (MF 1790) by J. Parra; male paratype El Mante, Tamaul., Oct. 26, 1930 (MF 1775), collected by A. Dampf.

### ***Idona biforma* n. sp.**

A variable species which resembles strongly the variety *clavigera* (Ball) of *minuenda*, but with distinctive genitalia. Length 2.6 mm.

Color: There are two color forms which may be distinct species, although their male genitalia are similar. The first form with the head and pronotum of the males an immaculate golden-yellow; the females with a pair of round, black spots on the face between the eyes, a pair of median, longitudinal, triangular black spots on the anterior portion of the vertex, a small, black spot next each eye, and paired, large, black spots on the pronotum, one pair on its anterior margin and the other pair on its disk. The scutellum is golden-yellow with its basal angles, a pair of small, median spots, and its apex black in both sexes. The elytra are translucent gold with their transverse veins enbrowned and with a black spot on the disk and at the apex of each clavus and four similar spots on each corium.

In the second form, the sexual dimorphism is not as striking. Head and pronotum golden with paired, median, longitudinal, black vittae crossing the vertex and with spots on the pronotum similar to those of the first form. In the males, the vertex markings are obscured and the spots on the pronotum are small; in the females, the vittae are very distinct and the spots are large and may fuse to form longitudinal bands. The face of both sexes lacks the spots seen in females of the first form. The scutellum is golden with the basal angles, a pair of median spots, and the sides of the apex black. The elytra are translucent gold with the transverse vein enbrowned and with the black markings similar to those of the first form except that the clavi along the commissural margin anterior to the discal spot are black.

Genitalia: Pygofers, pygofer hooks, valve, plates, and styles similar to those of *minuenda*. Base of aedeagus short, thick, cylindrical; ventro-lateral processes of the base long, sharply-pointed, cylindrical; phallicata rather short, thick, arising from the base slightly above the ventro-lateral processes.

The first form represented by the holotype male, allotype female, male and female paratypes from Chilpancingo, G'ro., Oct. 25, 1941, collected by DeLong and Good; female paratypes, Tres Cumbres, D. F., Oct. 21, 1941 (K 52) and Puebla, Pue., Oct. 18, 1941, DeLong, Good, Caldwell, and Plummer. The second form represented by paratype males, 10 Km. N. of Cuernavaca, Mor., Dec. 28, 1949, R. H. Beamer; paratype females, Chilpancingo, G'ro., Oct. 25, 1941, DeLong and Good. The Chilpancingo paratypes in the Snow Museum.

#### ***Idona gigantea* n. sp.**

The largest of the species in the genus, resembling *minuenda* (Ball) in general form and appearance, but with distinctive coloration and genitalia. Length 3.2 mm.

Color: Vertex, face, and pronotum an immaculate cream. The scutellum cream with its apex black and, in the male, with a small longitudinal, black stripe on its disk. The elytra translucent gold with a small, round spot near the basal angles of the clavus, a large spot on the disk, and the apex of each clavus black; similar black spots near the base of each corium and on the proximal quarter and middle of each costal margin.

Genitalia: Pygofers with long, slender, sharply-pointed pygofers arising on their dorso-caudal angles and directed caudad. The apices of the pygofers produced into slightly, curved, hooks which are broad at their bases and taper to sharply-pointed apices. Aedeagus with parallel, slender, dorsally-directed, ventro-lateral processes which extend slightly above the apex of the phallicata. The phallicata is long, parallel-sides, and nearly truncate apically, and is curved dorsad.

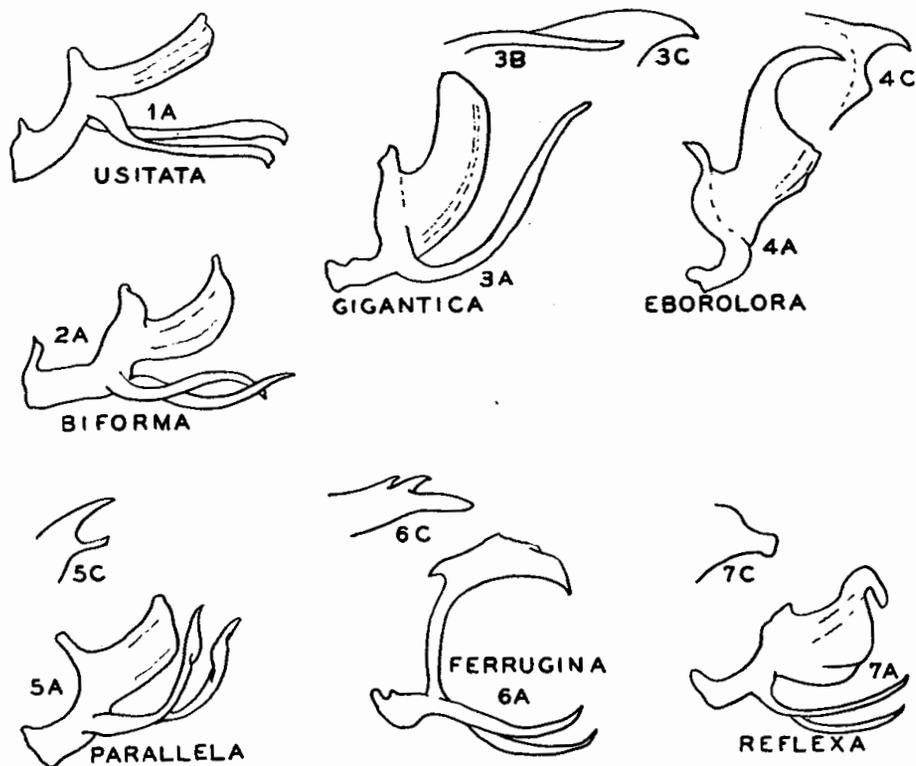
Holotype male collected at Cuernavaca, Mor., Oct. 21, 1941 (K 57) by DeLong, Good, Caldwell, and Plummer; paratype females collected at Mexico City, D. F., South in Canyon, Oct. 20, 1945 by D. M. DeLong.

#### ***Idona eborolora* n. sp.**

A highly colored species which resembles *minuenda* (Ball) in general form and appearance but which has distinctive coloration and genitalia. Length 2.6 mm.

Color: Vertex golden with its anterior margin broadly bordered

with ivory and with a pair of round, black spots near its apex. Face cream with its dorsal portion, genae, and lora ivory; immaculate in the male and with a small, black spot near the anterior corner of each eye and a larger, black spot just below each antenna in the female. The pronotum is translucent white with irregular spots of ivory and orange along its anterior margin and with paired, lateral and medial, round black spots on the anterior portion of the disk. A black spot is located on each side of the pronotum. The scutellum is cream with the basal angles and a median, longitudinal stripe orange and with the apex



FIGS. 1-7. 1a—*Idona usitata*—lateral view of aedeagus. 2a—*I. biforma*—lateral view of aedeagus. 3a—*I. gigantea*—lateral view of aedeagus; 3b—lateral pygofer hook; 3c—apex of pygofer. 4a—*I. eborolora*—lateral view of aedeagus; 4c—apex of pygofer. 5a—*I. parallela*—lateral view of aedeagus; 5c—apex of pygofer. 6a—*I. ferrugina*—lateral view of aedeagus; 6c—apex of pygofer. 7a—*I. reflexa*—lateral view of aedeagus; 7c—apex of pygofer.

and a spot on the middle of each lateral margin black. The elytra are translucent white with the transverse veins enbrowned and with a round black spot on the middle of the commissural suture, at the base of each corium, on the proximal quarter, and on the distal quarter of each costal margin. The disk of each clavus is light-orange, the apex of each clavus is black, and four, long, anastomosing, dark-orange spots are located on the disk of each corium. A pair of the females of the series, perhaps teneral forms, have the markings darker and larger, a black spot on the posterior margin of the vertex and on the disk of the pronotum. The anteclypeus and apex of the postclypeus are black.

Genitalia: Similar to *minuenda* in pattern, but the pygofers are without a hook; the apices of the pygofers produced into caudally-directed, C-shaped processes, the dorsal arms of which are much longer

and broader than the ventral arms. The aedeagus is without ventro-lateral processes, its dorsal processes are long and pointed; the phallicata is broad, cylindrical, abruptly reduced in width at its center, the apical process thus formed is bent nearly caudal near its center and tapers to a sharply-pointed apex.

Holotype male, allotype female, and female paratypes collected at Jacala, Hil., Jan. 2, 1950 by R. H. Beamer. Types in the Snow collection. Paratype in the DeLong collection.

#### *Idona parallela* n. sp.

Resembling *eborolora* in general form and appearance, but with distinctive coloration and genitalia. Length 2.2 mm.

Color: The vertex is cream with paired, anterior and posterior, medial, black spots on its disk; the spots joined in the specimen at hand by an irregular, brown, medial band. The face cream with a pair of small spots next to the anterior corner of each eye and a spot below each antenna black. The pronotum is cream with the central portion of its disk and spots along its anterior margin cream; with paired anterior and posterior, and paired lateral spots on its disk black. The scutellum is cream with its basal angles and a medial spot orange, and with the tip of its apex black. The elytra are translucent white with the transverse vein enbrowned and with black spots on the commissural margin and apex of each clavus. Black spots are located at the base, proximal quarter, and middle of each costal margin. The base and disk of each clavus are marked with orange spots. Four orange spots, one near the base, one near the center, and a pair near the transverse veins, are located on each corium.

Genitalia: Pygofers without hooks; their apices produced into small, C-shaped, medially-directed processes. The base of the aedeagus is short, broad, and cylindrical with the ventro-lateral processes rather heavy and strongly curved dorsad and with the phallicata rather short, thick, and nearly parallel sided.

Holotype male collected at Iguala, G'ro., Sept. 11, 1939 by D. M. DeLong.

#### *Idona ferrugina* n. sp.

This and the following species, while they resemble *minuenda* in venation and general form, differ from the rest of *Idona* in having a longer head, second apical cell of the elytron pedunculate, and in having the male plates short and broad. Length 2.5 mm.

Vertex with its median length about as long as its basal width between the eyes; second apical cell pedunculate.

Color: The vertex is ivory with a short, transverse, black line on the anterior margin at its apex. There is a pair of black spots at its apex and a similar spot next to each eye and one on the middle of its posterior margin. The dorsal portion of the postclypeus is cream with its ventral half dark brown and with the anteclypeus dark brown bordered with ivory; the genae and lora are dark brown with a horizontal band across the genae and the portion bordering each eye ivory. The pronotum is ivory with the central portion of its disk light brown and with four spots on its disk and anastomosing spots along its anterior margin brown. The sides of the thorax are black crossed by a broad, longitudinal ivory line. The elytra are translucent with the clavi and disks

of the coria flecked and mottled with reddish brown; the major portion of the costal margin and apical cells brown; and a costal plaque yellow.

Genitalia: The plate is broad, being widest at its middle; the lateral spine-bearing tubercle remote from the base of the plate; apex angulate. Pygofers narrowing distally to a spine-like, mesally-directed apex which in the holotype bears a pair of short, dorsal spines, these are absent in the paratype males. The ventro-lateral processes of the base arise near its proximal end and are rather heavy; the base above the ventro-lateral processes is erect, long, and very slender; the phallicata is a short, broad tube.

Holotype male, allotype female, male and female paratypes collected at Chilpancingo, G'ro., Oct. 25, 1941 by DeLong and Good.

#### ***Idona reflexa* n. sp.**

Resembling *ferrugina* in general form and appearance, but lighter color and with unique male genital structures. Length 2.2 mm.

Color: The vertex is ivory with its basal half light tan and with a pair of large spots at its apex and a smaller spot on the middle of its posterior margin black. The face is tan with its genae and lora ivory and with a black spot next to the anterior angle of each eye and a similar spot below each antenna. The pronotum is tan with four spots on its disk and the central portion of its disk black. The scutellum is cream with its basal angles tan, and with its apex and a spot on the middle of each lateral margin black. The disks of the clavi and coria are mottled with orange, the apical cells are enbrowned, and there is a black spot on the apex of each clavus, a spot on each humeral angle, and a pair of spots on the costal margin.

Genitalia: The external male genitalia are similar to those of *ferrugina*. The apices of the pygofers terminate in blunt, mesally-directed processes. The apices of the styles are sinuate. The ventro-lateral processes of the base are long and slender; the dorsal processes are small knobs; the phallicata is broad, its caudal margin is rounded, and it is extended at its apex into a thin, curved apical process.

Holotype male collected at Mazatlan, Chiapas, Nov. 12, 1932 (MF 2757) by Dr. Dampf; paratype females collected at Orizaba, V. C., Oct. 17, 1941 (K 28) by DeLong, Good, Caldwell, and Plummer.

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