

## Studies of the Gyponinae: A New Genus—*Chloronana* (Homoptera: Cicadellidae)<sup>1</sup>

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### ABSTRACT

Thirteen species, occurring from Panama southward to Bolivia, are included in *CHLORONANA* (type *C. rotunda*), from Peru. These include *C. olivacea* (Spångberg, 1881) (= *Gypona chiriquensis* Fowler, 1903), *C.*

*boliviana* (Osborn, 1938), both transferred from *Gypona*, and 11 new species. Illustrated are all the male genital characters, as well as the female seventh sterna where these are known.

The genus *Chloronana* and several new species belonging to it are described from the type specimens of *Gypona olivacea*, *boliviana*, and *chiriquensis*, and other specimens identified as one of these species and

previously placed in the genus *Gyponana*. This group of species are all South American forms, except one which is known to occur in Panama. They are all large, yellow leafhoppers with a characteristic wing venation and fingerlike extensions on the apex of the pygofer of all females and most males. These characters alone will separate this genus from all known genera in this subfamily.

<sup>1</sup>This work was supported by Grant No. G9803 from the National Science Foundation. Accepted for publication December 3, 1963.

*Chloronana*, gen. n.

Related to *Gyponana* but flattened dorsoventrally, larger, and with different venation of the forewings. Vertex roundedly produced, with the margin foliaceous. Ocelli closer to the base than to the margin of vertex. Venation of forewing reticulate except first apical cell and usually clavus. First apical cell long, rounded at apex, and extending nearly to margin of wing. Pygofer of female, and usually male, with a fingerlike apical extension. Aedeagus without basal processes. Hind tibia usually with several very small outer secondary spines. Generally unicolorous yellow to yellow green.

Type.—*Chloronana rotunda*, sp. n.

*Chloronana olivacea* (Spångberg)

(Figs. 1, 2, 3, 12, 17, 22, and 67)

*Gypona olivacea* Spångberg, 1881, p. 24.

*Gypona chiriquensis* Fowler, 1903, p. 298. (New synonymy.)

A pale green species with a roundedly produced head. Length of male 11 mm, female 12 mm.

Crown strongly produced and rounded,  $\frac{3}{8}$  wider between eyes at base than median length. Margin thin. Ocelli almost equidistant between eyes and each other and  $\frac{2}{3}$  the distance from base to apex. Pronotum much wider than head and a little longer.

*Color*.—Pale green, veins a little darker, conspicuous.

*Genitalia*.—Female seventh sternum with posterior margin broadly, concavely excavated. Male plates elongate, broadened at middle, then gradually tapered to a bluntly pointed apex. Style slender, apical fourth broadened and fitted with a more heavily chitinized cap which is straight, sloping obliquely with the outer tapered, sharp pointed end more caudal and projecting for  $\frac{1}{3}$  its length beyond the shaft of style. Aedeagal shaft long and slender, with a pair of pointed apical processes crossing near their origin and extending obliquely basally about  $\frac{1}{3}$  the distance to base. Pygofer with a long, slender apical process.

*Type*.—Holotype male, "N. Amer. Coll. Signoret," in Vienna Museum Collection.

*Remarks*.—Other specimens examined are: 1 ♂, Gatun Lake, Panama, XI-5-1931, Tres Rios Plantation, T. O. Zschokka, CAS<sup>2</sup>; 2 ♂, Portrerillos, Pan., May 25, 1935, NCSC; 2 ♂, Barro Colo. Is., C. Z., IV-21-37, S. W. Frost; 2 ♂, Barro Colo. Is., C. Z., IV-14-37, S. W. Frost; 1 ♂, Barro Colo. Is., C. Z., IV-5-39, Jas. Zetek, No. 4420, Lot No. 39-11659; 2 ♂, Barro Colo. Is., C. Z., V-4-37, S. W. Frost; 1 ♀, Mojinga Swp., C. Z., Panama, XII-12-1951, F. S. Blanton, USNM; 1 ♂, Barro Colorado, C. Z., II-27-1933, F33022766; and 1 ♂, Barro Colorado, C. Z., III-20-1933, F33032066, AMNH.

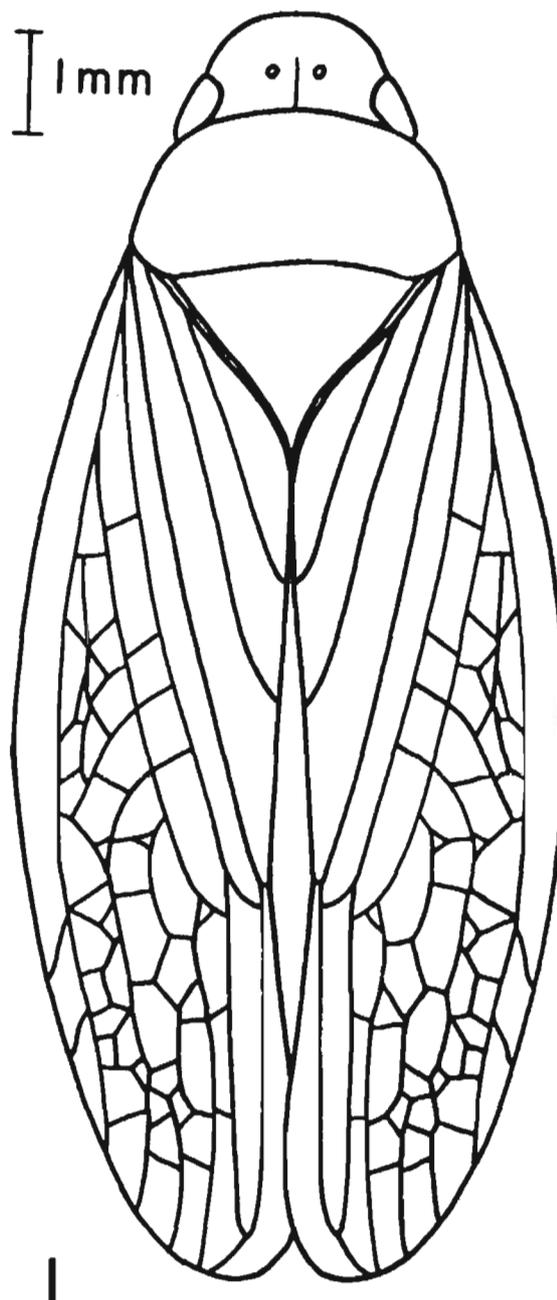
*Chloronana decolora*, sp. n.

(Figs. 4, 5, 13, 18, and 23)

<sup>2</sup> Collections in which the types are located are abbreviated: AMNH, American Museum of Natural History; CAS, California Academy of Science; CM, Carnegie Museum; DeL, DeLong; HO, Herbert Osborn; NCSC, North Carolina State College; OSU, Ohio State University; USNM, United States National Museum. Quoted material indicates label data.

Resembling *olivacea* in form and general appearance, but with different male genital structures. Length of male 12 mm.

Crown strongly produced and broadly rounded, about  $\frac{1}{8}$  wider between eyes at middle than median length.



## OLIVACEA

FIG. 1.—*Chloronana olivacea* (Spångberg), adult, dorsal view.

*Color*.—Pale green. Crown, pronotum, and scutellum tinged with yellow. Forewings pale, subhyaline, veins green.

*Genitalia*.—Male plates rather short and broad with a large, protruding, bluntly angled portion on inner margin which is thinly chitinized, and a short, rounded, protruding lobe on outer apical margin which is heavily chitinized. Style narrowed, broadened on apical third which is capped by a slightly curved, obliquely sloping, more heavily chitinized apical portion, which protrudes more than half its length beyond outer margin of apical style, tapers, and is sharp pointed. The thick, blunt end protrudes only slightly beyond the apical portion of style. Aedeagal shaft long and slender, bearing a pair of sharp pointed apical processes which cross near their origin, extend basally on ventral side of shaft about  $\frac{1}{2}$  the distance to base. Pygofer with a narrow, protruding lobe each side on ventral margin near apex.

*Holotype male*.—"Rio Santiago, Peru, XI-17-25, F 6183, H. Bassler Collection, Acc. 33591," AMNH.

*Paratypes*.—1 ♂, "Alrededores de San Esteban, Pto. Cabello, Edo Carzobobo, P. Anduze 14-10-37," USNM; 1 ♂, "123"; 1 ♂, Hacienda Maria, Cusco, Peru, March 12, 1952, F. L. Woytkowski, along R. Cosnipata, Tropical jungle, 900 m. a.s.l., NCSC; 1 ♂, Pachitea, Peru, 223, HO; 1 ♂, N. E. Peru, S. A., X-21-35, F. Woytkowski, A. C. Miller Coll.; 1 ♂, Yungas de la Paz, Bolivia, 1000 m., H. Rolle, Berlin, S. W. 11, HO; and 1 ♂, Bartica, British Guiana, Aug. 22, 1901, H. S. Parish, HO, in OSU.

***Chloronana celsa*, sp. n.**

(Figs. 6, 7, 14, 19, 24, and 70)

Resembling *olivacea* in form and appearance, but with distinct male genital structures. Length of male 13.5 mm, female 13.5 mm.

Crown strongly produced and broadly rounded, a little wider between eyes at base than median length.

*Color*.—Pale greenish yellow, forewings paler, appearing white with green and yellow veins.

*Genitalia*.—Female seventh sternum with produced and rounded lateral angles, between which the posterior margin is rather deeply, roundedly excavated either side of a broad, short, median, rounded lobe which is about  $\frac{1}{4}$  the width of posterior margin. Male plates about  $2\frac{1}{2}$  times as long as broad, broadest at middle with an inwardly protruding lobe, the apical half tapered to form a bluntly pointed apex. Style narrow with a rounded, protruding lobe on outer edge from which the shaft slopes to the thickened cap, which slopes caudally on the long, protruding, sharp pointed end and is blunt and scarcely protruding on inner end. Aedeagal shaft long and slender, bearing a pair of apical processes which are more than  $\frac{1}{2}$  the length of shaft, pointed at apex and extended basally, proximal to shaft. Pygofer with a rounded, protruding lobe on each side near blunt apex and before the prolonged apical protrusion.

*Type*.—Holotype male and allotype female, "Columbia, 1941, L. Richter," NCSC.

***Chloronana lurida*, sp. n.**

(Figs. 8, 9, 15, 20, and 25)

Resembling *olivacea* in general form, but with different male genital structures. Length of male 12 mm.

Crown produced and broadly rounded,  $\frac{1}{2}$  wider between eyes at base than median length.

*Color*.—Pale green without definite markings. Forewings pale with conspicuous green veins.

*Genitalia*.—Male plates almost twice as long as broad, apex broadly rounded, almost truncate. Style narrow, broadened on apical third with a broad, almost straight and almost transverse apical cap which is much wider than broadened portion of style, tapered and pointed on the outer protruding end and blunt and not narrowed on the inner end. Aedeagal shaft rather narrow bearing a pair of apical processes which are almost half as long as shaft, pointed at apices, and which extend basally, proximal to shaft on ventral side. Pygofer with a ventral, protruding lobe on each side.

*Holotype male*.—"Teffe, Brazil, Vi-20," identified by Osborn as *Gypona chiriquensis*, DeL.

*Paratypes*.—2 ♂, Napo R., Peru, VII-1919, collected by J. G. Sanders, 1940, DeL; 1 ♂, "Peru: Yurac, 67 mi E of Tingo Maria, XI-16-1954, E. I. Schlinger & E. S. Ross Collectors," CAS; and 1 ♂, "Rio Tapiche, Peru, XII-26-23, F-1054, H. Bassler Collection, Acc 33591," AMNH.

***Chloronana explicata*, sp. n.**

(Figs. 10, 11, 16, 21, and 26)

Resembling *olivacea* in form and general appearance, but with different male genital structures. Length of male 14 mm.

Crown broadly, roundedly produced; a little wider between eyes at base than median length.

*Color*.—Dull brownish yellow, scutellum pale yellow.

*Genitalia*.—Male plates twice as long as broad, sloping outwardly, tapered to a rather broad, blunt apex. A thinner portion protrudes inwardly at about half its length. Style narrow, broadened on apical third with a broad, almost straight and obliquely sloping cap which is much wider than broadened portion of style, is tapered and pointed on the outer protruding end, and blunt and not narrowed on the inner end. Aedeagal shaft narrow, bearing a pair of apical processes which are about  $\frac{1}{2}$  the length of shaft, pointed at apex, and extending basally, proximal to shaft. Pygofer with an elongate, pointed apex.

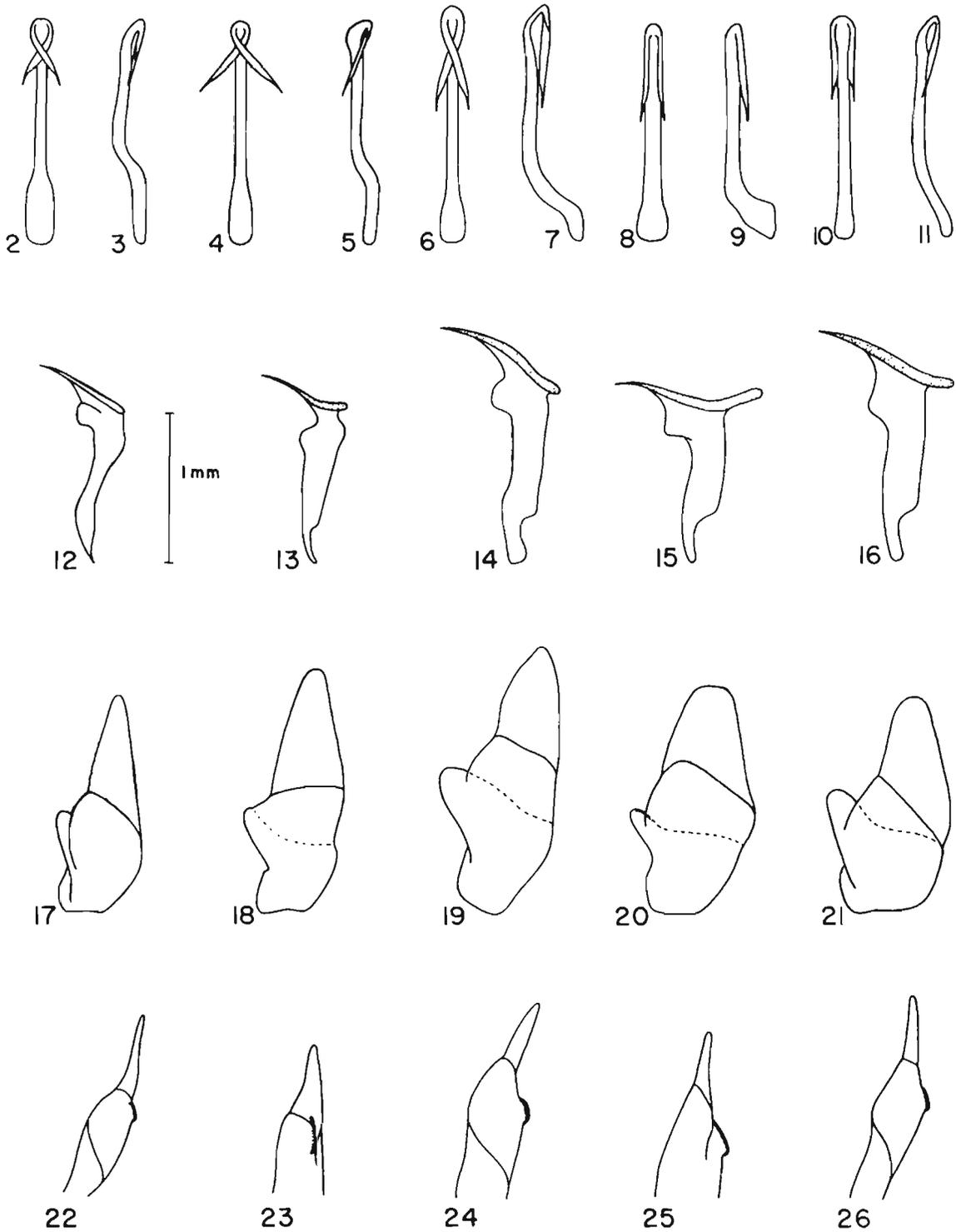
*Type*.—Holotype male, "Ecuador, Norm'd 1300 m.," USNM.

***Chloronana pallenta*, sp. n.**

(Figs. 27, 28, 37, 42, and 47)

Resembling *olivacea* in general form and appearance, but with different male genital structures. Length of male 12 mm.

Crown strongly produced and broadly rounded, about  $\frac{1}{2}$  wider between eyes at base than median length.



FIGS. 2-26.—Male structures of *Chloronana* spp., drawn to the same scale. Figs. 2-11.—Aedeagi. Figs. 12-16.—Styles. Figs. 17-21.—Plates. Figs. 22-26.—Tips of pygofer. Figs. 3, 5, 7, 9, and 11 in lateral view; all others in ventral view. *C. olivacea*: Figs. 2, 3, 12, 17, 22. *C. declora*: Figs. 4, 5, 13, 18, 23. *C. celsa*: Figs. 6, 7, 14, 19, 24. *C. lurida*: Figs. 8, 9, 15, 20, 25. *C. explicata*: Figs. 10, 11, 16, 21, 26.

*Color*.—Pale greenish yellow, forewings paler, almost white with yellowish veins.

*Genitalia*.—Male plates produced on inner margin to form an elongate, thinly chitinized portion which is bluntly pointed at apex. The outer portion shorter, more heavily chitinized and roundedly produced on the outer margin. Styles narrow, rather abruptly broadened at  $\frac{2}{3}$  their length, then capped with a slender, straight, oblique, more heavily chitinized portion which protrudes well beyond the apical third on both ends. The outer end tapered and sharp pointed, the inner end blunt and not narrowed. Aedeagal shaft long and slender, bearing a pair of apical processes which are about  $\frac{1}{2}$  the length of shaft, pointed at apex and extend basally, proximal to shaft on ventral side, about  $\frac{1}{2}$  the distance to base. Pygofer with a broad, protruding tooth on ventral margin, each side, near apex.

*Holotype male*.—"Prov. del Sara, Bol., Steinbach, C. M. Acc. 5064, Dec. 1912." *Paratypes*.—1 ♂, same data as holotype; and 1 ♂, "Prov. del Sara, Bolivia, 450 m., J. Steinbach." Holotype and paratypes, CM.

*Remarks*.—The holotype specimen was labeled "*Gyponana chiriquensis*" by Osborn (1938) and treated as such.

*Chloronana orbicula*, sp. n.

(Figs. 29, 30, 38, 43, 48, and 68)

Resembling *olivacea* in form and general appearance, but with different male genital structures. Length of male 12 mm, female 13 mm.

Crown strongly produced and broadly rounded, about  $\frac{1}{2}$  wider between eyes at base than median length.

*Color*.—Generally, pale yellowish green. Forewings pale, appearing white, with yellow veins.

*Genitalia*.—Female seventh sternum with posterior margin broadly excavated and thickened. Male plates elongate on inner margin with a bluntly pointed apex sloping to a twice notched rounded, protruding outer margin. Styles rather narrow, broadened at  $\frac{2}{3}$  their length and capped by a straight, obliquely protruding, more heavily chitinized portion which is pointed on the more caudal, outer protruding end and blunt on the more cephalad inner end. Aedeagus with a long, slender shaft bearing a pair of apical processes about  $\frac{1}{2}$  the length of shaft, which cross near their point of origin on the ventral side, and extend obliquely, basally. Pygofer with a short, protruding tubercle on ventral apical margin, each side.

*Holotype male*.—"Peru: Monson Valley, Tingo Maria, XII-2-1954, E. I. Schlenger and E. S. Ross Collectors," CAS. *Allotype female*.—Same locality as holotype, X-21-1954, E. I. Schlenger and E. S. Ross. *Paratypes*.—1 ♂, same data as holotype; 7 ♂, 1 ♀, same locality, various dates from IX-23-1954 to XI-16-1954, CAS; 7 ♂, Tingo Maria, Peru, XI-1949, H. A. Allard; 2 ♂, Tingo Maria, Peru, X-46, W. Weyrauch, WKW 837, 670 m., USNM, 1 ♂, Tingo Maria, Peru, VIII-12-60, O. Vargas; and 1 ♂, "Huanuco, Peru, March 1954, F. L. Woytkowski," NCSC.

*Chloronana rotunda*, sp. n.

(Figs. 31, 32, 39, 44, and 49)

Resembling *olivacea* in form and appearance, but longer and with different male genital structures. Length of male 14 mm.

Crown strongly produced and broadly rounded, about  $\frac{1}{2}$  wider between eyes at base than median length. Ocelli about  $\frac{1}{3}$  the distance from base to apex and equidistant between eyes and each other.

*Color*.—Pale green tinted with yellow, veins a little darker green.

*Genitalia*.—Male plates more than twice as long as broad, apical half more thinly chitinized with apex broad, rounded. Style slender, apical third broadened and bearing a rather thick, slightly curving, heavily chitinized cap, the outer end of which is thickened more caudal, and projects about  $\frac{1}{4}$  its length beyond the shaft of style. The inner end projects slightly beyond the shaft. Aedeagus with a slender shaft bearing a pair of apical processes which extend basally more than half the distance to base, and are proximal to shaft for  $\frac{2}{3}$  their length then bend, outwardly with the tips tapered, pointed and bent inwardly. Pygofer elongate, bearing a long, slender process which is blunt at apex.

*Holotype male*.—Sinchono, Peru, 1940, collected by J. G. Sanders, DeL. *Paratypes*.—6 ♂, same data as holotype; 2 ♂, Sinchono, Peru, 11-43, J. G. Sanders, DeL; 1 ♂, Monson Valley, Tingo Maria, Peru, X-9-1954, E. I. Schlenger and E. S. Ross; 2 ♂, same locality, X-19-1954, E. I. Schlenger and E. S. Ross; 1 ♂, same locality, XII-18-1954, E. I. Schlenger and E. S. Ross; 2 ♂, same locality, XII-23-1954, E. I. Schlenger and E. S. Ross, CAS; 3 ♂, Coroico, Bolivia, HO, in OSU; and 2 ♂, "Callanga, Pancartambo Prov., Dept. Cusco, Peru, Feb. 19, 1952, F. L. Woytkowski," NCSC.

*Chloronana pallora*, sp. n.

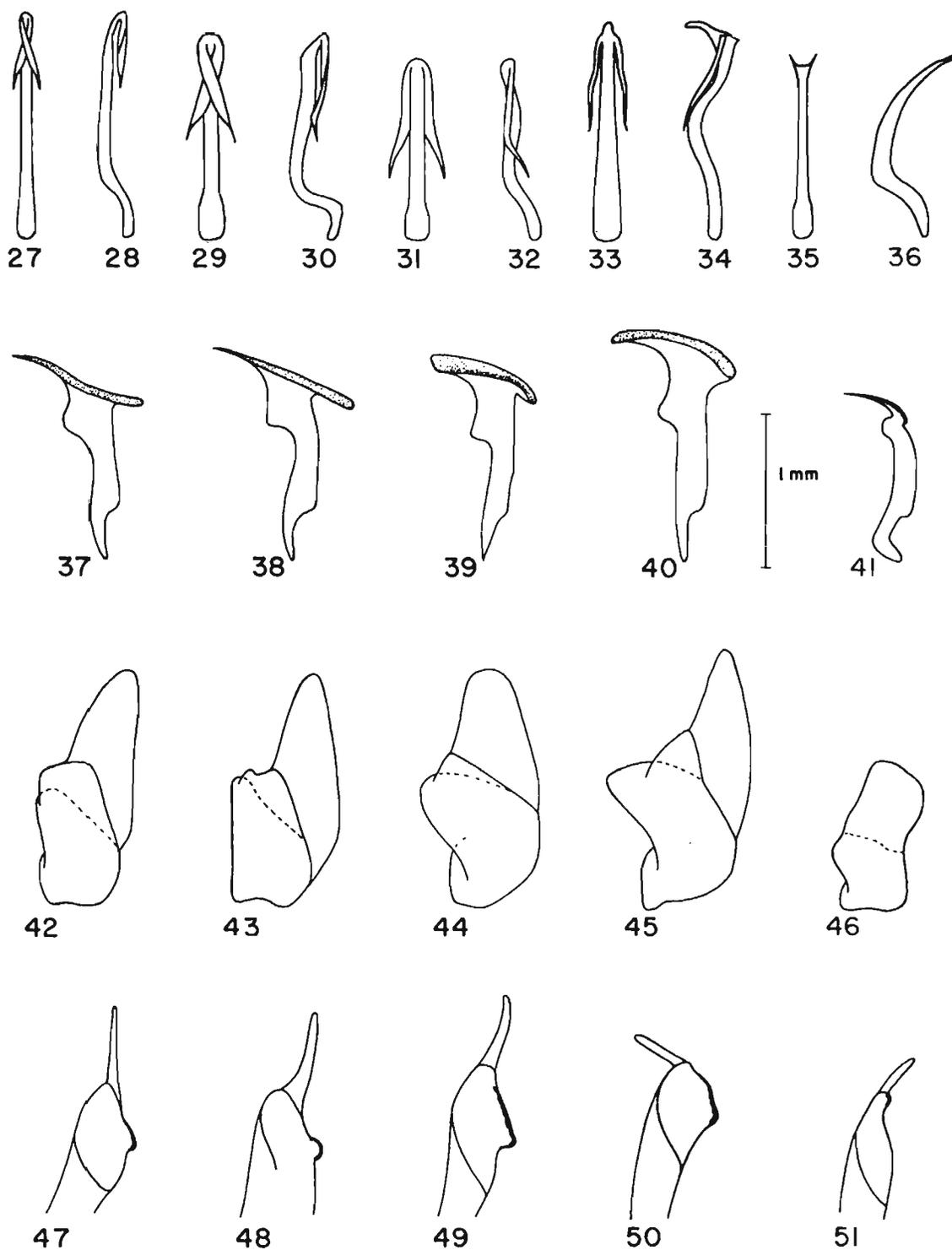
(Figs. 33, 34, 40, 45, 50, and 69)

Resembling *rotunda* in form, appearance, and color, but with different male genital structures. Length of male 14 mm, female 13 mm.

Crown strongly produced and broadly rounded, a little wider between eyes at base than median length. Ocelli closer to eyes than to each other.

*Color*.—Pale greenish yellow. Ocelli red. Forewings pale greenish, veins green.

*Genitalia*.—Female seventh sternum with prominent lateral angles between which the posterior margin is broadly excavated, the median half appears raised or elevated and broadly, roundedly produced. Male plates with long protruding, thinly chitinized, bluntly angled projections on inner margins; outer apical margin much shorter and rounded. Style narrow, broadened on apical fourth, then curved to form an elongate, truncate cap which is heavily chitinized, especially on the inner, thick, slightly protruding end. The outer end protrudes beyond the style proper about half its length, curved, and narrowed to a pointed apex. Aedeagal shaft tapered from base and pointed at apex in ventral view. In



FIGS. 27-51.—Male structures of *Chloronana* spp., drawn to the same scale. Figs. 26-36.—Aedeagi. Figs. 37-41.—Styles. Figs. 42-46.—Plates. Figs. 47-51.—Tips of pygofer. Figs. 28, 30, 32, 34, and 36 in lateral view; all others in ventral view. *C. pallenta*: Figs. 27, 28, 37, 42, 47. *C. orbicula*: Figs. 29, 30, 38, 43, 48. *C. rotunda*: Figs. 31, 32, 39, 44, 49. *C. pallora*: Figs. 33, 34, 40, 45, 50. *C. aurolinea*: Figs. 35, 36, 41, 46, 51.

lateral view the apex is produced dorsally like the curved "toe" of an inverted "boot." A pair of long, slender processes arise near apex and extend basally, proximal to shaft about half the distance to base. Pygofer with a lobe protruding on each side on ventral margin near apex.

*Holotype male*.—Sinchono, Peru, 1940, J. G. Sanders, DeL. *Allotype female*.—"Huallaga R. Valley, 500 m. a.s.l., Huanuco, Peru, March 1954, F. L. Woytkowski," NCSC. *Paratypes*.—1 ♂, "Tingo

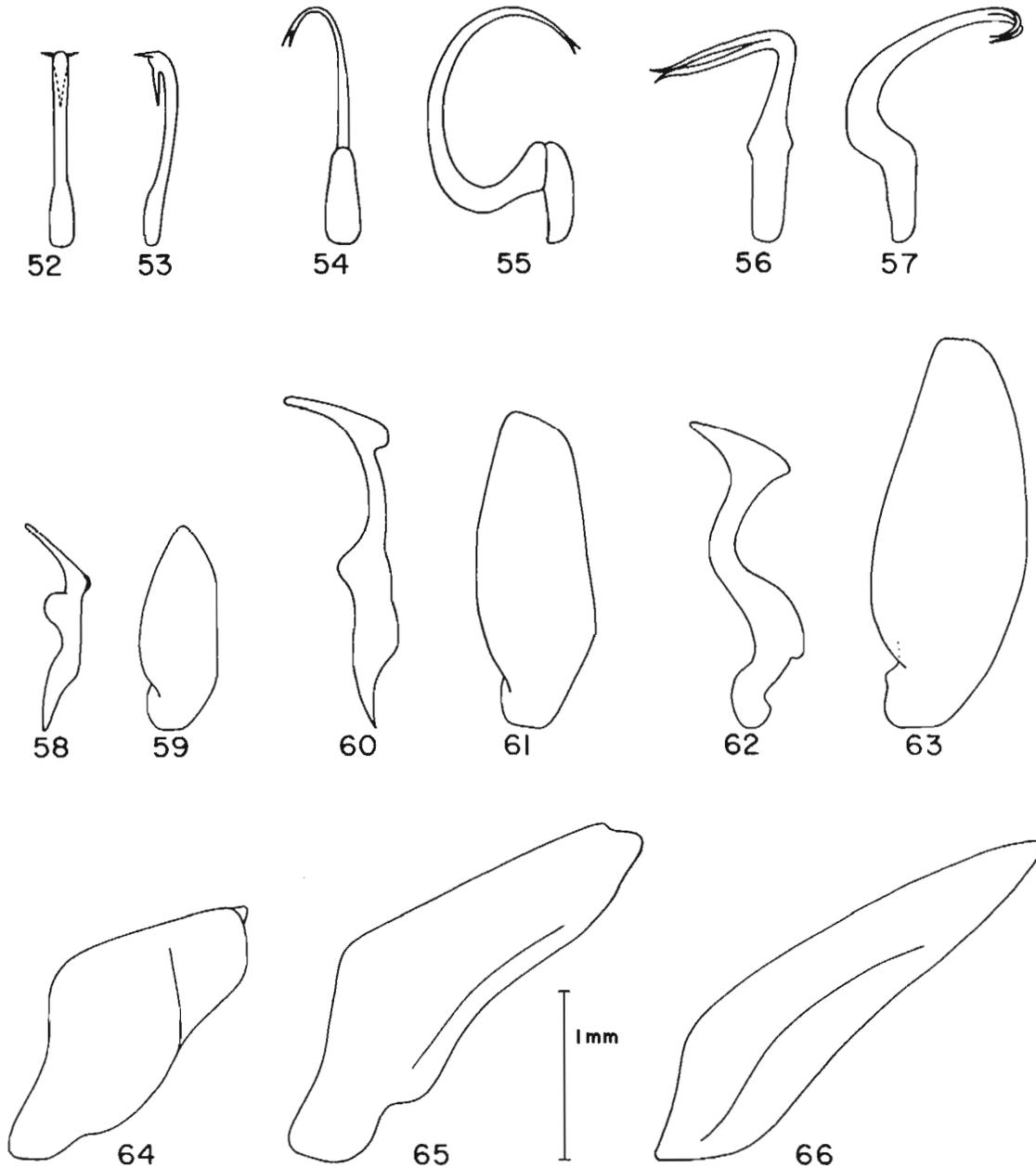
Maria, Peru, 25-II-1950, H. A. Allard"; 1 ♂, same locality, X-46, W. Weyrauch, W.K.W. 837, 670 m., USNM; and 1 ♂, same data as allotype, NCSC.

*Chloronana aurolinea*, sp. n.

(Figs. 35, 36, 41, 46, and 51)

Resembling *olivacea* in form and general appearance, but with different male genital structures. Length of male 12 mm.

Crown strongly produced and broadly rounded,



FIGS. 52-66.—Male structures of *Chloronana* spp., drawn to the same scale. Figs. 52-57.—Aedeagi. Fig. 58, 60, 62.—Styles. Figs. 59, 61, 63.—Plates. Figs. 64-66.—Pygofers. Figs. 52, 54, 56, and 58-63 in ventral view; Figs. 53, 55, 57, and 64-66 in lateral view. *C. boliviana*: Figs. 52, 53, 58, 59, 64. *C. thola*: Figs. 54, 55, 60, 61, 65. *C. electa*: Figs. 56, 57, 62, 63, 66.

about  $\frac{1}{4}$  wider between eyes at base than median length.

*Color*.—Pale green with faint, orange, longitudinal stripes on pronotum. Forewings appearing white with conspicuous green veins.

*Genitalia*.—Male plates narrowed at base, broadened by rounded protruding margin, then produced to form broad and broadly rounded apices. Style rather long and narrow, bent near apex, bearing a curved cap which protrudes outwardly beyond the margin of style more than  $\frac{3}{4}$  its length, tapered and pointed at apex. The inner end of cap is blunt and does not protrude beyond the margin of style. Aedeagal shaft long and slender, widened near apex, bearing 2 separated slender, sharp pointed apical processes. Pygofer simple without protruding processes.

*Holotype male*.—"Juanjui, San Martin, Peru, Dec. 5, 1946, Alt. 1600 ft., J. C. Pallister Coll., Donor Frank Johnson," AMNH. *Paratypes*.—1 ♂, "Rurrenabaque, Beni, Bolivia, Dec., Wm. M. Mann, Mulford Biol. Expl., 1921-1922," USNM; and 1 ♂, "Prov. del Sara, Bol., Steinbach, C. M. Acc. 5064, Oct. 1913," CM.

#### *Chloronana boliviana*, (Osborn)

(Figs. 52, 53, 58, 59, 64, and 71)

*Gyponana boliviana* Osborn, 1938, p. 19.

Resembling *olivacea* in general form and appearance, but with different male genital structures. Length of male 13 mm, female 14 mm.

Crown strongly produced and rounded, about  $\frac{1}{4}$  wider between eyes at base than median length. Ocelli nearer base than apex, as in *olivacea*.

*Color*.—Pale yellowish with faint, darker, yellowish, longitudinal stripes on crown and pronotum. Scutellum unmarked. Forewing appearing almost white with yellow veins and cross veins, apical portion with abundant markings.

*Genitalia*.—Female seventh sternum with posterior margin produced with a wide excavation in middle, and with prominent lateral angles. Male plates more than twice as long as broad, apex narrowed and blunt. Style elongate, broadened at middle and constricted, forming a long, tapering apical third which is narrow and blunt at apex. Aedeagal shaft long and slender with a short pointed lateral tooth on each side at apex. Pygofer without protruding processes.

*Types*.—Holotype female, "Cochabamba, Bolivia, Aug. & Sept. '99, Herbert Osborn Collection," OSU. *Allotype male*, "Incochoca, Bolivia, Alt. 2500 m., J. Steinbach, Acc 6873," CM.

*Remarks*.—No other specimens have been observed.

#### *Chloronana thola*, sp. n.

(Figs. 54, 55, 60, 61, 65, and 72)

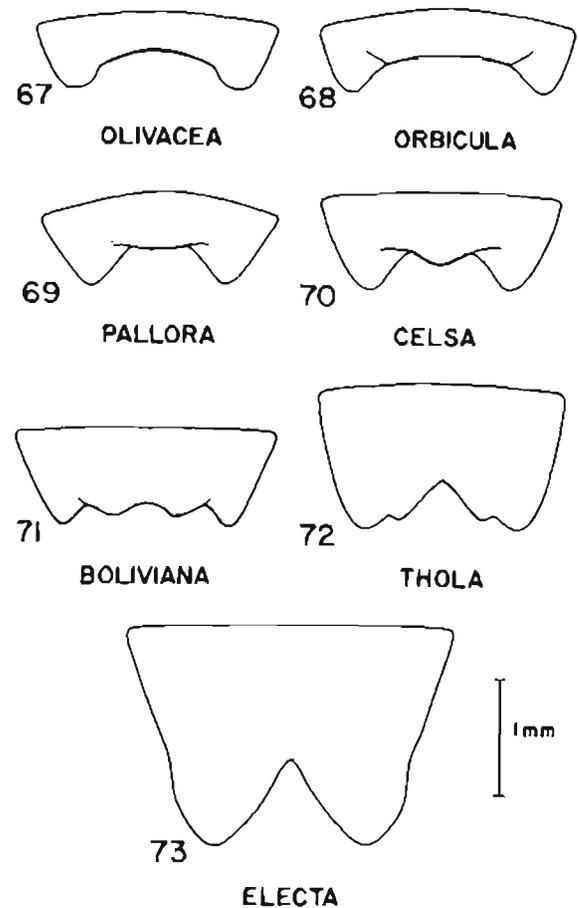
Resembling *rotunda* in form and general appearance, but with different male genital structures. Length of male 14 mm, female 16 mm.

Crown strongly produced and broadly rounded, a little wider between eyes at base than median length.

*Color*.—Pale yellowish with pale, longitudinal, orange stripes on crown and pronotum. Forewings pale with green veins.

*Genitalia*.—Female seventh sternum with a broad, deep, V-shaped notch at middle, which is  $\frac{1}{2}$  the width of segment and extends more than half the distance to base. The posterior margin of sternum broadly notched on each side of median excavation. Male plates more than twice as long as broad, convexly rounded on outer margin, apex narrowed and broadly rounded. Style long and slender, broadened at apex to form an inverted foot with the long "toe" portion extending outwardly and the "heel" portion extending slightly inwardly. Aedeagal shaft long, slender, cleft on apical sixth forming 2 diverging apical processes which are slender, tapered, and pointed. Pygofer without visible protrusions, with a slight notch at apex and ventral margin folded inwardly.

*Holotype male*.—"Ecuador, Norm'd, 1300 m.," USNM. *Allotype female*.—Some data as holotype. *Paratypes*.—1 ♂, "Ecuador, Mavas"; 1 ♀, "Ecuador, Norm'd"; 1 ♀, Yunguilla, n.r. Baños, Ecuador, J. B. Rover, USNM; and 1 ♂, Baños, Ecuador, 1800 m., April 4, 1939, Wm. Clarke-McIntyre, NCSC.



FIGS. 67-73.—Female seventh sternum of *Chloronana* spp., drawn to the same scale.

*Chloronana electa*, sp. n.

(Figs. 56, 57, 62, 63, 66, and 73)

Resembling *thola* in form and general appearance, but larger and with different male genital structures. Length of male 16 mm, female 16 mm.

Crown strongly produced and broadly rounded, a little wider between eyes at base than median length.

*Color*.—Pale yellowish, forewings pale with prominent yellow veins.

*Genitalia*.—Female seventh sternum with produced lateral angles between which the posterior margin is composed of a broad, deep, V-shaped notch which extends more than  $\frac{1}{2}$  the distance to base. Male plates more than  $2\frac{1}{2}$  times as long as broad with apex narrowed and truncate. Styles elongate, bent, and broadened at apex to form an inverted "foot" with a prolonged blunt "toe" and a slightly prolonged "heel." Aedeagus curved, sickle shaped, with the apex deeply cleft, forming a pair of long, slender, terminal, proxi-

mal processes. Pygofer produced, tapered, and blunt at apex.

*Types*.—Holotype male, female allotype, and 4 ♀ paratypes, "Sinchono, Peru, 1940, J. G. Sanders," DeL; 2 ♀ paratypes, "Peru, Chancha, mayo, 22-VII-60, C. Ramirez," NCSC; a male paratype, "Piches & Perene Vs., 2000-3000 ft., Peru, Soc. Geogde Lima" and a female paratype, "Peru", USNM; a female paratype, "Peru," AMNH.

## REFERENCES CITED

- Fowler, W. W. 1903. Family Gyponidae. *In*: Biologia Centrali-Americana. Rhynchota. Hemiptera-Homoptera 2: 293-317, pls. 20-21.
- Osborn, H. 1938. Neotropical Homoptera of the Carnegie Museum. Part 7. Report on the species of the subfamily Gyponinae. *Ann. Carnegie Mus.* 27: 11-62, pls. 1-3.
- Spångberg, J. 1881. Species novas vel minus cognitae Gyponae, generis Homopterorum. *Entomol. Tidskr.* 2: 23-28.

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*Reprinted from the*

ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA  
Volume 57, Number 4, pp. 503-511, July, 1964