

NEW PANAMANIAN GYPONINE LEAFHOPPERS
(HOMOPTERA : CICADELLIDAE) BELONGING TO THE
GENERA *HECALAPONA*, *GYPONA* AND *GYPONANA*

DWIGHT M. DELONG AND HENK WOLDA*

DEPARTMENT OF ENTOMOLOGY, OHIO STATE UNIVERSITY, COLUMBUS, OHIO-43210, USA.

*SMITHSONIAN TROPICAL RESEARCH INSTITUTE, P. O. BOX 2072, BALBOA, REP. OF PANAMA.

The following species of Panamanian Gyponine leafhoppers (Homoptera : Cicadellidae) are described : *Hecalapona dedeca* n. sp., *H. campana* n. sp., *Gypona gilya* n. sp., *G. cartea* n. sp., *G. pamana* n. sp., *G. grandea* n. sp., *G. fortuna* n. sp., *G. maddena* n. sp., *Gyponana bocasana* n. sp., *G. chiricana* n. sp., *G. colorada* n. sp., and *G. bocasa* n. sp.

INTRODUCTION

The genus *Hecalapona* including 38 new species was described by DeLong & Freytag (1975). New species of *Hecalapona* from Panama were described by DeLong (1976 & 1981). A synopsis of the genera *Gypona* and *Gyponana* was published by DeLong & Freytag (1964). New species of *Gypona* from Panama were described by DeLong & Kolbe (1974). New species of Panamanian *Gyponana* were described by Freytag & DeLong (1975) and DeLong & Wolda (1982). Two species of *Hecalapona*, 6 species of *Gypona* and 4 species of *Gyponana* are described in the present paper. All types are in the DeLong collection.

Hecalapona dedeca n. sp.
(Figs. 1-5)

Length of male 5.5 mm. Female unknown. Crown roundly produced, a little wider at base between eyes than long at middle. Color greenish yellow with a large roundish dark brown spot at apex of clavus.

Male genital plates 4x as long as wide at middle, apex narrowed, rounded. Style broadened on apical half, apex pointed. Aedeagus with 3 pairs of lateral

processes, pair hair-like, 1/2 length of shaft, arising near base, extending laterocaudally. A broader, apically enlarged pair, with pointed apices arises near base and extend almost caudally to near apex of shaft. A 3rd pair, slender and pointed apically, arise near middle of shaft, and extend laterocaudally beyond apex of shaft. Pygofer rounded apically.

Holotype male : Panama, Bocas del Toro province, Corriente Grande, 100 m elevation, 9°17'30"N; 82°32'41"W, 11-XI-1980. Paratypes : 3 males Panama, same, except 30-IV-1980, 9-III-1980 and 15-III-1980. 1 male Panama, Chiriqui province, Fortuna, 1050 m, 8°44'N; 82°16'W, 12-XII-1976 All H. Wolda coll.

H. dedeca is related to *H. rostella* DeLong & Freytag (1975, p. 554) from which it can be separated by the shorter, basal, aedeagal lateral processes and by the more rounded, ventral margin of the apical portion of the style.

Hecalapona campana n. sp.

(Figs. 6-10)

Length of male 8 mm. Female unknown. Crown roundly produced, 1 1/2x as wide at base between eyes as long at middle. Color green with margin of crown embrowned. Ocelli red. Without distinct color markings.

Male genital plate more than 3x as long as wide at middle, apices rounded. Style bent dorsally at 2/3 length of blade, apex rounded. Aedeagal shaft almost straight, terminating with a process extending caudally on each side of a U-shaped excavation. Pygofer with a finger-like process extending caudally at dorsal margin beyond a ventrocaudally sloping apical margin.

Holotype male : Panama, Cerro Campana, 850 m elevation, 11-I-1975. H. Wolda coll.

H. campana is related to *H. vilhena* DeLong (1981, p. 31) from which it can be separated by the broader, apical foot-like portion of the style and by the straight apical portion of the pygofer between two protruding apical processes.

Gypona gilva n. sp.

(Figs. 11-15)

Length of male 7.5 mm. Female unknown. Crown broadly rounded, more than half as long at middle as wide at base between eyes. Ocelli equidistant between median line and eyes. Color crown, pronotum and scutellum pale brownish, margin of crown black. Forewings pale brownish, costal area more yellowish. Commissural area and apical portion more brownish.

Male genital plates more than 4x as long as wide at middle, apices rounded. Style broadened as middle, then gradually narrowed to apex with the apical 5th curved dorsally and sharply pointed. Aedeagal shaft slightly curved ventrally, bearing a pair of short apical processes and a pair of antepical processes near apex, which are about 1/4 length of shaft and sloping basolaterally. Pygofer narrowed apically, terminating in a narrow, slightly curved, apical process which is pointed ventrally.

Holotype male : Panama, El Llano-Carti Road, 26-XI-1974. H. Wolda coll.

G. gilva is related to *G. rostellata* DeLong (1980, p. 223) from which it can be separated by the shorter antepical aedeagal processes and the more foot-like apical portion of the style.

Gypona cartea
(Figs. 16-19)

Length of male 9 mm. Female unknown. Crown broadly rounded, almost twice as wide between eyes at base as long at middle. Ocelli nearer to median line than to eyes. Color crown, pronotum and scutellum golden yellow. Forewings with costal half golden yellow, clavus and apical area brown. Clavus with 3 small round black spots on commissure at apices of claval veins.

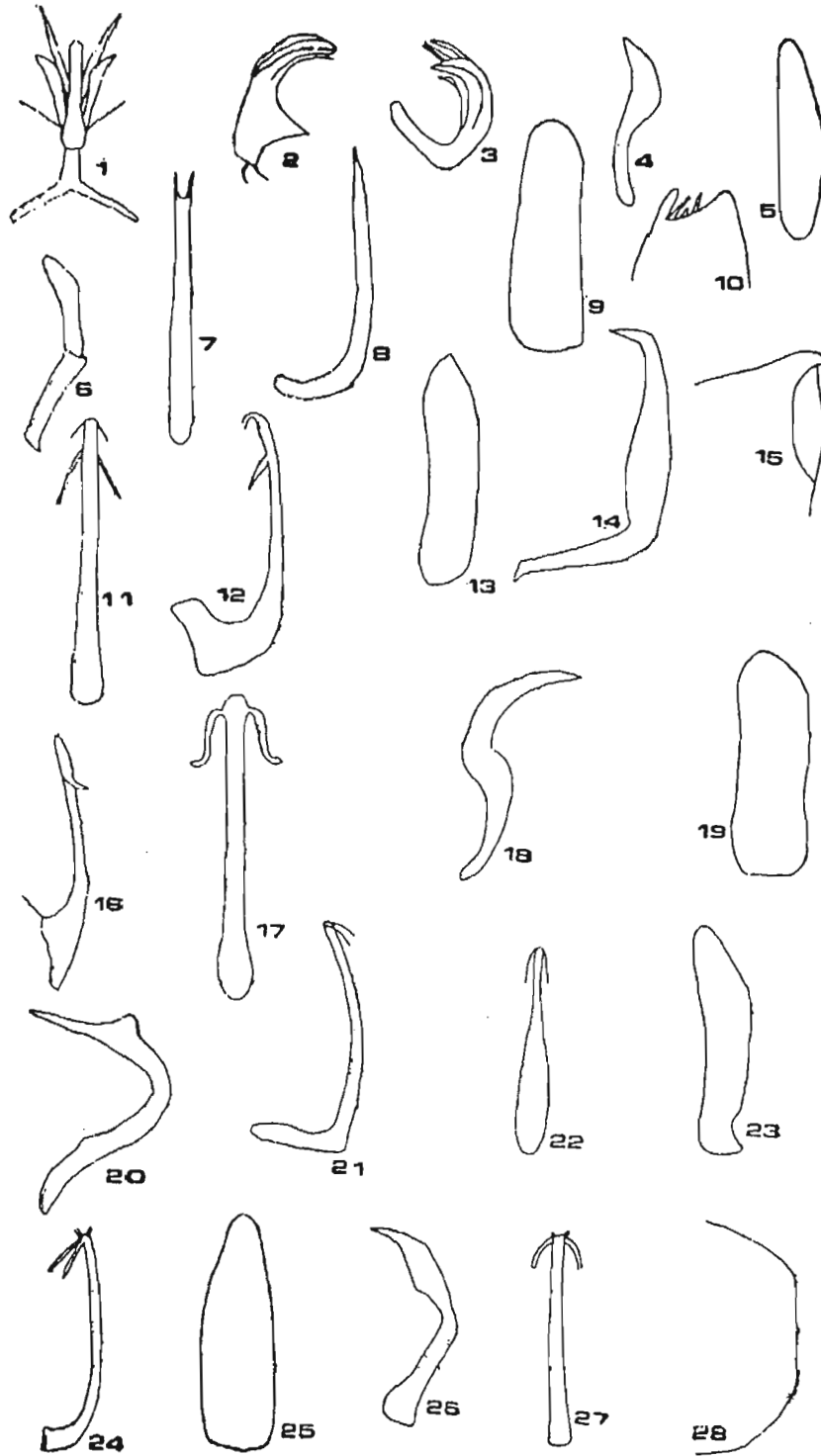
Male genital plates more than 3x as long as wide at middle, apices rounded. Style with blade sickle-shaped, with a pointed apex. Aedeagal shaft bearing a pair of apical aedeagal processes 1/6 length of shaft, extending basolaterally. Pygofer broadly rounded apically with a short, rounded tubercle at middle.

Holotype male : Panama, El Llano-Carti Road, 26-XI-1974. H. Wolda coll.

G. cartea is related to *G. nepa* DeLong & Kolbe (1974, p. 525) from which it can be separated by the long, more apically curved, apical processes and the broader apical portion of the style.

Gypona pamana n. sp.
(Figs. 20-23)

Length of male 6 mm. Female unknown. Crown broadly rounded, slightly produced, more than 3x as wide at base between eyes as long at middle. Color, dark brown with a small round black spot behind each eye, at 1/3 length of pronotum.



Male genital plates 4x as long as wide at middle, apices narrowed, rounded. Style with a long, foot-like apex, with a narrow, pointed, dorsal toe and a small angled heel on ventrocaudal margin. Aedeagal shaft narrow, bearing a pair of very short apical processes. Pygofer rounded apically.

Holotype male : Panama, Bocas del Toro province, Miramar, 9°N; 82°15'W, 21-III-1979. H. Wolda coll. Paratype male : Panama, Bocas del Toro province, Corriente Grande, 100 m elevation, 9°17'30"N; 82°32'41"W, 29-IV-1980. H. Wolda coll.

G. pamana is related to *G. trita* DeLong & Freytag (1964, p. 63) and can be separated from it by the shorter apical aedeagal processes and by the shorter heel-like portion of the apical "foot" of the style.

Gypona grandea n. sp.
(Figs. 24-28)

Length of male 7.5 mm. Female unknown. Crown broadly rounded, more than half as long at middle as wide at base between eyes. Distance between ocelli distinctly greater than distance between ocelli and eyes. Color pale yellowish, a dark brown spot on forewing at apex of clavus.

Male genital plates 6x as long as wide at middle, apices rounded. Style with a foot-like apex, with a squarish heel. Aedeagal shaft straight, slender, bearing 4 short apical processes that extend laterobasally. Pygofer rounded apically.

Holotype male : Panama, Bocas del Toro province, Corriente Grande, 100 m elevation, 9°17'30"N; 82°32'41"W, 3-III-1980. H. Wolda coll.

G. grandea is related to *G. sincera* DeLong & Freytag (1964, p. 114) and can be separated from it by the longer apical processes of the aedeagus and by the longer broadened portion of the style.

Figs. 1-28. *Heculapona dedeca* n. sp. 1. aedeagus ventrally, 2, 3. aedeagus laterally, 4. style laterally, 5. plate ventrally. *H. campana* n. sp. 6. style laterally, 7. aedeagus ventrally, 8. aedeagus laterally, 9. plate ventrally, 10. pygofer laterally, apical portion. *Gypona gilva* n. sp. 11. aedeagus ventrally, 12. aedeagus laterally, 13. plate ventrally, 14. style laterally, 15. pygofer laterally, posterior portion. *Gypona cartea* n. sp. 16. aedeagus laterally 17. aedeagus ventrally, 18. style laterally, 19. plate ventrally. *Gypona pamana* n. sp. 20. style laterally, 21. aedeagus laterally, 22. aedeagus ventrally, 23. plate ventrally. *Gypona grandea* n. sp. 24. aedeagus laterally, 25. plate ventrally, 26. style laterally, 27. aedeagus ventrally, 28. pygofer laterally, apical portion.

Gypona fortuna n. sp.
(Figs. 29-33)

Length of male 9 mm. Female unknown. Crown broadly rounded, more than twice as wide at base between eyes as long at middle. Color greenish brown, a blackish transverse band on margin between eyes.

Male genital plates almost twice as long at base as wide at middle. Style blade curved dorsally, apex rounded. Aedeagus with apical third broadly U-shaped with pointed apices. A process arises near base of shaft and extends along shaft almost half the distance to apex. Pygofer rounded apically.

Holotype male : Panama, Chiriqui province, Fortuna, 1050 m elevation, 8°44'N; 82°16'W, 29-V-1979. H. Wolda coll.

G. fortuna can be separated from all described species of *Gypona* by the widely separated apical portions of the aedeagus and the slightly bent, rod-shaped, style.

Gypona maddena n. sp.
(Figs. 34-37)

Length of male 7 mm. Female unknown. Crown broadly rounded, not quite half as long at middle as wide at base between eyes. Color greenish yellow, without specific color markings.

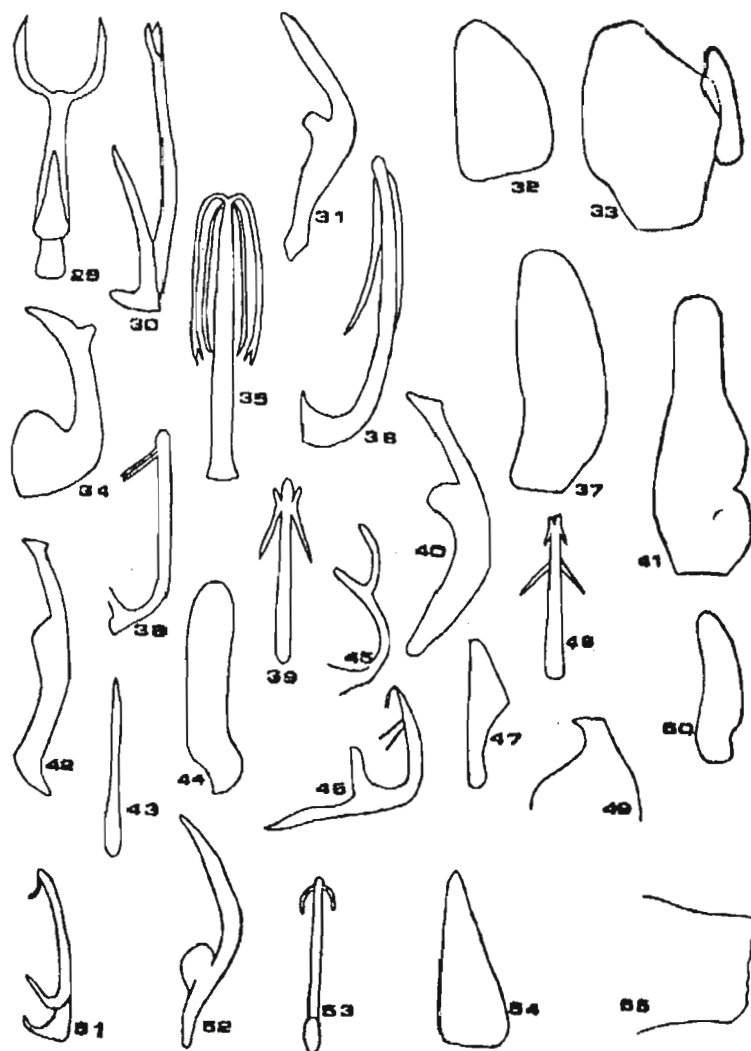
Male genital plates 3x as long as wide at middle, apices rounded. Style with blade curved dorsally, a pointed tubercle on ventral margin at 2/3 length of blade, apex narrowed, bluntly pointed. Aedeagus slender, bearing 2 long apical and 2 shorter antepical processes. The apical processes extend almost 2/3 the distance to base and bear a short pointed spur on inner margin, just before apex. The antepical processes extend basad nearer to shaft and extend about half the distance to base of shaft. Pygofer rounded apically.

Holotype male : Panama, Madden Forest, Panama Canal Area, 9-III-1979. A. Araux coll.

G. maddena n. sp. is related to *G. tritana* DeLong (1982, p. 282) from which it can be separated by the more slender style and by the inner pair of aedeagal apical processes bifid at apex, in place of outer pair.

Gyponana bocasana n. sp.
(Figs. 38-41)

Length of male 11.5 mm. Female unknown. Crown broadly rounded, almost twice as wide at base, between eyes, as long at middle. Color greenish yellow.



Figs. 29-55. *Gypona fortuna* n. sp. 29 aedeagus ventrally, 30. aedeagus laterally, 31. style laterally, 32 plate ventrally, 33. pygofer laterally *Gypona maddena* n. sp. 34. style laterally, 35. aedeagus ventrally, 36. aedeagus ventrally, 37. plate ventrally. *Gyponana bocasana* n. sp. 38. aedeagus laterally, 39. aedeagus ventrally, 40. style laterally, 41. plate ventrally. *Gyponana chiricana* n. sp. 42. style laterally, 43. aedeagus ventrally, 44. plate ventrally, 45. aedeagus laterally. *Gyponana colorada* n. sp. 46. aedeagus laterally, 47. style laterally, 48. aedeagus laterally, 49. pygofer laterally, apical portion, 50. plate ventrally, *Gyponana bocasa* n. sp. 51. aedeagus laterally, 52. style laterally, 53. aedeagus ventrally, 54. plate ventrally, 55. pygofer laterally, apical portion.

Male genital plates $3 \frac{1}{2}x$ as long as wide at middle, apices rounded. Style narrowed at a little more than half its length, apex narrowed, foot-like, with apex pointed. Aedeagal shaft narrow, with a pair of subapical processes, a short portion extending laterocaudally and a longer portion extending laterobasally. Pygofer broadened and truncate apically.

Holotype male: Panama, Bocas del Toro province, Corriente Grande, 100 m elevation, 21-I-1980. H. Wolda coll.

G. bocasana is placed in the subgenus *Gyponana* and is related to *G. boquetea* DeLong & Wolda (1982, p. 16) from which it can be separated by the 2 aedeagal antecapical processes.

Gyponana chiricana n. sp.
(Figs. 42-45)

Length of male 10.5 mm. Female unknown. Crown almost twice as wide at base between eyes as long. Ocelli closer to each other than to eyes. Color pale brownish yellow with area caudad to each eye, on pronotum, and basal half of scutellum blackish. Forewings pale brownish hyaline.

Male genital plates $4 \frac{1}{2}x$ as long as wide at middle, apices rounded. Style narrowed at $\frac{2}{3}$ its length, with a narrow foot-like apex. Aedeagus slender, curved dorsally, with a narrow process arising at $\frac{2}{3}$ the length of shaft and extending caudally beyond its apex. Pygofer rounded apically.

Holotype male: Panama, Chiriqui province, Fortuna, 1050 m elevation, $8^{\circ}44'; 82^{\circ}16'W$, 17-VII-1978. H. Wolda coll.

G. chiricana is placed in the *Gyponana* and is related to *G. cmpla* DeLong & Freytag (1964, p. 108) from which it can be separated by the branched apical portion of the aedeagus and the absence of aedeagal apical processes.

Gyponana colorada n. sp.
(Figs. 46-50)

Length of male 7 mm. Female unknown. Crown roundly produced, about $\frac{1}{3}$ wider at base between eyes than long at middle. Color dull sordid yellowish, clavus slightly brownish.

Male genital plates $4x$ as long as wide at middle, apices rounded. Style widened at half its length, then gradually narrowed to half its width at apex. Aedeagus rather narrow, curved dorsally, bearing a pair of lateral processes at $\frac{2}{3}$ its length and a pair of very short subapical processes near blunt apex. Pygofer narrowed apically with a stout apical spine extending dorsally.

Holotype male : Panama, Panama Canal Area, Barro Colorado, 12-IX-1977. H. Wolda coll.

G. colorada is placed in the subgenus *Gyponana* and differs from all described species by having a pair of subapical processes arising at 2/3 length of shaft and a style blade which is broadened at middle and then gradually narrows to a narrow rounded apex with a dorsally pointed tip

Gyponana bocasa n. sp.
(Figs. 51-55)

Length of male 9 mm. Female unknown. Crown 1/4 wider than long at base between eyes. Color crown dull yellowish, pronotum and scutellum greenish yellow. Forewings with clavus and appendix brownish.

Male genital plates 2 1/2 x as long as wide at middle, apices narrowed rounded. Style tapered from base to pointed apex, which is curved dorsally. Aedeagal shaft curved dorsally at apex and bearing 2 very short apical processes. Pygofer rounded apically.

Holotype male : Panama, Bocas del Toro province, Corriente Grande, 100 m elevation, 9°17'30"N; 82°32'41"W, 5-IV-1980, H. Wolda coll.

G. bocasa is placed in the subgenus *Gyponana* and is related to *G. redita* DeLong & Freytag (1964, p. 113) from which it can be separated by the style which is tapered from base to a curved pointed apex.

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