

NEW PANAMANIAN GYPONINE LEAFHOPPERS  
(HOMOPTERA : CICADELLIDAE) BELONGING  
TO THE GENERA *POLANA* AND *CURTARA*

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The following species of Panamanian leafhoppers are described : *Polana miramara* n. sp.,  
*P. clavata* n. sp., *P. galunana* n. sp., *P. cumbresa* n. sp., *P. calvanoa* n. sp., *P. boquetea*  
n. sp., *P. censora* n. sp., *Curtara tropicana* n. sp., *C. trigona* n. sp. and *C. corrientea*.

INTRODUCTION

The genus *Polana* was described by DeLong (1942). A synopsis of the genus was published by DeLong & Freytag (1972b). New species of *Polana* were described by DeLong (1979, 1980 a & b) and by DeLong & Wolda (1978, 1982). The genus *Curtara* was described by DeLong & Freytag (1972a). The same authors published a synopsis of the genus *Curtara* (DeLong & Freytag, 1976). DeLong (1980b) and DeLong & Wolda (1982) described new species of *Curtara*. Seven species of *Polana* and three of *Curtara* are described in the following pages. All types are in the collection of the DeLong collection, Ohio State University.

*Polana miramara* n. sp.  
(Figs. 1-4)

Length of Male 5 mm, female 5.5 mm. Crown broadly rounded, more than twice as wide at base between eyes as long at middle. Color dorsally dark brown with a pale stripe or fore portion of costa and 2 pale yellow spots on apical third of costa. Ventrally pale.

Male genital plates  $2 \frac{1}{2} \times$  as long as wide at middle, apices narrowed. Style curved, broadened at middle, then gradually narrowed apically to a blunt pointed apex. Aedeagus strongly curved dorsally, apex truncate. A subapical process arises each side near apex and extends almost to apex. Pygofer rounded apically. Female 7th sternum slightly produced on each side of a triangular median incision.

Holotype male : Panama, Bocas del Toro province, Miramar, 9°N; 82°15'W, 2-V-1979, H. Wolda coll. Paratypes : Female, same as holotype except 31-III-1979. Male Panama Canal Area, Barro Colorado Island, 26-VI-1979. Female same but 3-V-1981. All H. Wolda coll.

*P. miramara* is related to *P. icara* DeLong & Freytag (1972b, p. 296) from which it can be separated by the wider, more curved, apical half of the style (lateral view) and the laterally curved aedeagus.

*Polana clavata* n. sp.  
(Figs. 5-10)

Length of male 8.5 mm, female unknown. Crown broadly rounded, more than twice as wide at base between eyes as long at middle. Ocelli closer to eyes than to each other. Color, crown dark brown. Pronotum paler brown with a whitish band along apical margin and a row of round dark brown spots along basal margin and behind eyes. Scutellum dark brown. Forewings pale brown with darker brown clavus.

Male genital plates almost 3 x as long as wide at middle, apices rounded. Style slightly constricted at half its length, apical sixth bent dorsally and tapered to a pointed apex. Aedeagus broad, rounded apically, apical third with a narrow excavation at middle. Pygofer narrowed apically and rounded.

Holotype male, Panama, Chiriqui, Fortuna 1050m, 8° 44' N; 82° 16' W, 22-I-1979 H. Wolda coll.

*P. clavata* is related to *P. falsa* DeLong & Freytag (1972b, p. 310) from which it can be separated by the robust aedeagus which bears no apical processes and by the more S-shaped form of the style.

*Polana gatunana* n. sp.  
(Figs. 11-15)

Length of male 7.5 mm. Female 8 mm. Crown broadly rounded, more than twice as wide at base between eyes as long at middle. Ocelli distinctly closer

to eyes than each other. Color dark brownish with 2 darker spots at apex of claval veins, at commissure

Male genital plates more than 4 x as long as wide at middle, apices rounded. Style short, broad at base, gradually narrowed at half its length to a bluntly pointed apex. Aedeagal shaft curved dorsally, with a subapical process arising each side at 2/3 length of shaft and extending to apex. Two slender processes arise near base of shaft and extend more than half its length. Pygofer rounded apically bearing a dorsal process which is rounded apically. Female 7th sternum slightly excavated on each side of the median.

Holotype male : Panama Canal Area, Barro Colorado Island, 6-IX-1980, H. Wolda coll. 2 Paratypes male : same as holotype but 29-VIII-1981 and 25-V-1982. 7 Paratypes female : Same as holotype but 15-V-1979, 31-X-1979, 18-V-1981, 26-V-1982 and 5-V-1982. Las Cumbres, Panama province, 21, 27-VII-1982. All coll. H. Wolda. Gatun Spillway, 25-IV-1976, D. Engleman coll.

*P. gatunana* is related to *P. fina* DeLong & Freytag (1972b, p. 304) from which it can be separated by the short, broad style and by the apically broadened aedeagus.

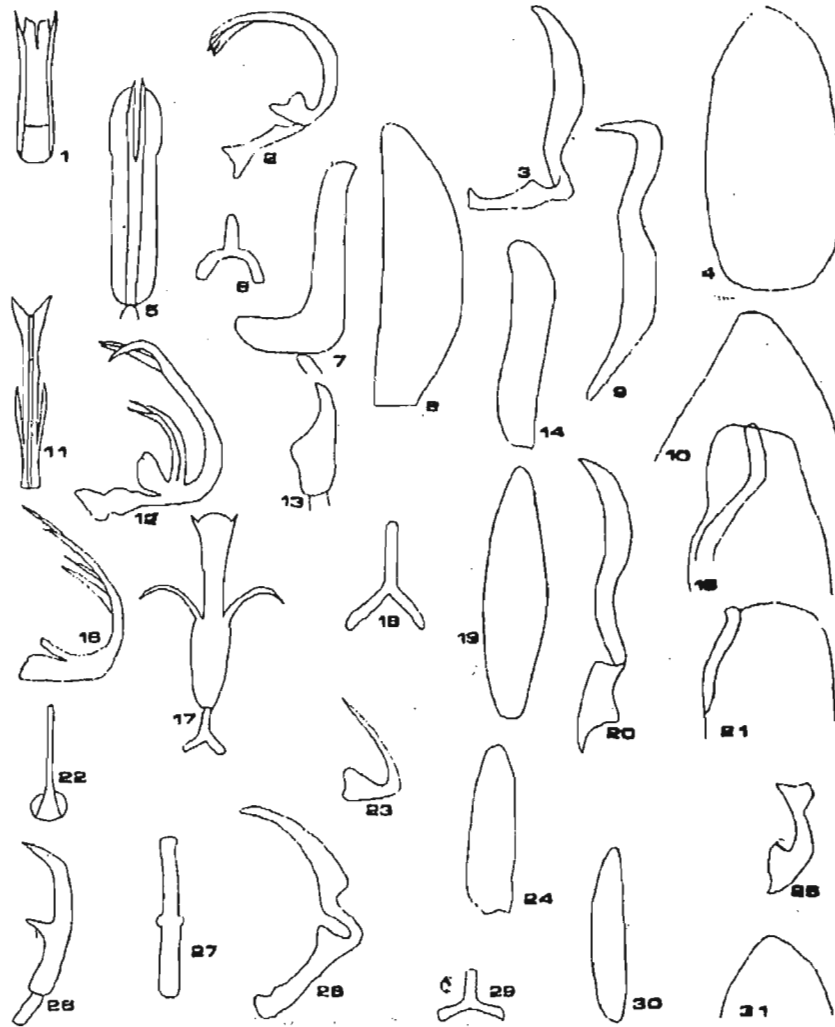
*Polana cumbresa* n. sp.  
(Figs. 16-19)

Length of male 7 mm, female unknown. Crown broadly rounded slightly more than 1/3 as long at middle as wide at base between eyes. Ocelli distinctly nearer to eyes than to each other. Color, brownish with 2 rows of 4 darker brown spots each, on clavus and disc of forewings, a darker transverse band across each forewing at apex of clavus.

Male genital plates 4 x as long as wide at middle, apices narrowed, rounded. Style with apical 2/3 curved dorsally, pointed apically. Aedeagal shaft rather broad, narrowed at half its length and bearing 2 lateral processes, almost as long as basal portion, which extend laterally. Apical half of shaft broadened apically and bearing a subapical process each side, which extend to apex of shaft. Pygofer rounded apically, bearing a dorsal process which is rounded apically.

Holotype male : Las Cumbres, Panama, at light 12, 18-V-1982, H. Wolda coll.

*P. cumbresa* is related to *P. icara* DeLong & Freytag (1972, p. 296) from which it can be separated by the broader and more curved apical half of the style (lateral view), the 4 laterobasal processes of the aedeagus and by the apically rounded dorsoapical process of the pygofer.



Figs. 1-31. *Polana miramara* n. sp. 1. aedeagus ventrally, 2. aedeagus laterally, 3. style laterally, 4. plate ventrally. *P. clavata* n. sp. 5. aedeagus ventrally, 6. connective ventrally, 7. aedeagus laterally, 8. plate ventrally, 9. style laterally, 10. pygofer laterally, apical portion. *P. gatunana* n. sp. 11. aedeagus ventrally, 12. aedeagus laterally, 13. style laterally, 14. plate ventrally, 15. pygofer laterally, apical portion. *P. cumbresa* n. sp. 16. aedeagus laterally, 17. aedeagus ventrally, 18. connective ventrally, 19. plate ventrally, 20. style laterally, 21. pygofer laterally. *P. calvanoa* n. sp. 22. aedeagus ventrally, 23. aedeagus laterally, 24. plate ventrally, 25. style laterally. *P. boquetea* n. sp. 26. aedeagus laterally, 27. aedeagus ventrally, 28. style ventrally, 29. connective ventrally, 30. plate ventrally, 31. aedeagus laterally, apical portion.

*Polana calvanoa* n. sp.

(Figs. 22-25)

Length of male 4.5 mm. Female 5 mm. Crown broadly rounded, almost 4x as wide at base between eyes as long at middle. Color yellow with 2 round black spots on margin of crown, equidistant from each other and from eyes. Pronotum pale brownish. Scutellum yellow. Forewings pale brownish, clavus darker brown with 2 darker brown spots near commissure, a dark brown spot at apex of clavus and 2 on apical third of costa.

Male genital plates  $3\frac{1}{3}$ x as long as wide at middle, apices rounded. Style enlarged apically with a rounded ventral margin and pointed dorsally. Aedeagal shaft slender, gradually tapered to a pointed apex. Pygofer rounded apically. Female 7th sternum shallowly excavated on each side of the median.

Holotype male: Panama, Coclé province, Cerro el Calvario, 25, 27-II-1979, J. Barria coll. Paratypes: 1 male and one female, same data as holotype.

*P. calvanoa* is related to *P. alata* DeLong (1979, p. 152) and can be separated from it by the simple tapered shaft of the aedeagus without lateral processes and by the more rounded heel of the apical foot of the style.

*Polana boquetea* n. sp.

(Figs. 26-31)

Length of male 8.5 mm; female unknown. Crown broadly rounded, more than half as long at middle as wide at base between eyes. Color, crown pale brown. Pronotum darker brown, scutellum dark brown with apical portion pale brownish. Forewings brown with clavus darker brown.

Male genital plates 4x as long as wide at middle, apices rounded. Style abruptly broadened near middle of blade, then gradually narrowed to a narrow blunt apex. Aedeagal shaft with apical fourth bent dorsally and gradually narrowed to a pointed apex. Pygofer rounded apically.

Holotype male, Panama, Chiriquí, Boquete 1250 m. 8° 48' N: 82° 26' W, 28-X-1975 H. Wolda coll.

*P. boquetea* is related to *P. vana* DeLong & Freytag (1972b, p. 260) and can be separated from it by the narrow, curved, basal portion of the style blade and by the straight aedeagal shaft which bears no processes.

*Polana censora* n. sp.

(Figs. 32-35)

Length of male 7 mm, female unknown. Crown broadly rounded, twice as wide at base between eyes as long at middle. Color, pale brown, with irregular dark brown spots at base of scutellum and behind eyes. Forewings pale brownish, darker brownish areas at middle of costa, at apex of clavus and on apical cells.

Male genital plates 4 x as long as wide at middle, apices rounded. Style narrowed near middle of blade then gradually broadened to truncate apex, with a sharp pointed dorsoapical apex. Aedeagal shaft broad with a process extending from base, each side, triangularly broadened apically each side of shaft. Two long narrow processes extend from base, along shaft, to apex. Pygofer rounded apically.

Holotype male: Panama, Bocas del Toro province, Miramar, 9° N : 82° 15' W, 19-VIII-1979, H. Wolda coll.

*P. censora* is related to *P. glebra* DeLong (1979, p. 152) from which it can be separated by the broader aedeagus, in ventral view, and by the absence of basolateral processes.

*Curtara tropicana* n. sp.

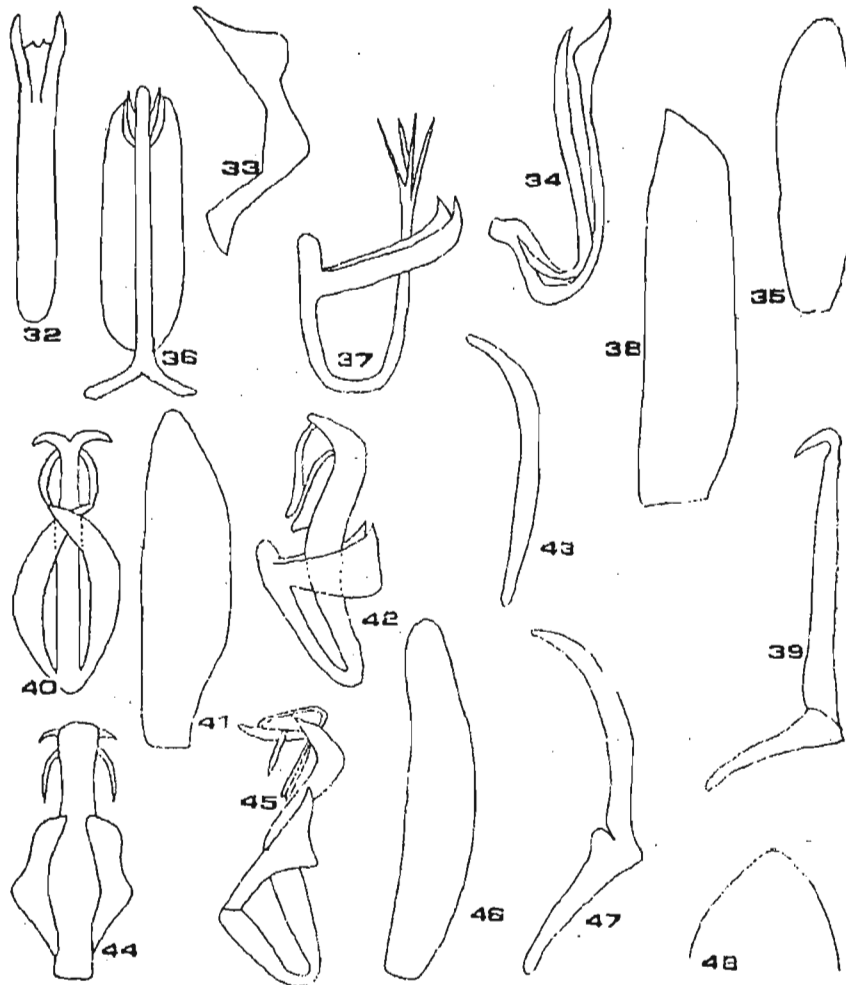
(Figs. 36-39)

Length of male 11 mm. Female 12.5 mm. Crown broadly rounded, twice as wide at base between eyes as long at middle. Color, dark brown with paler brown mottling on lateral areas behind eyes. Scutellum dark brown with 2 whitish spots, one next each outer margin at 2/3 length of scutellum. Forewings brownish with paler brownish areas and small whitish spots on costal areas.

Male genital plates almost 5 x as long as wide at middle, apices sloping inwardly, pointed on inner margin. Style long, slender, curved dorsobasally and with a sharp, slender, pointed apex. Aedeagal shaft slender, bearing 4 antepical processes which arise at 1/5 length of shaft. Paraphyses curved dorsally and with pointed apices. Pygofer rounded apically. Female 7th sternum centrally produced with a small median incision.

Holotype male: Panama Canal Area, Barro Colorado Island, 20-V-1974, H. Wolda coll. Paratype male: Panama province, Las Cumbres, 1, 7-XII-1982, H. Wolda coll. 5 Paratypes female: As holotype but 26-XII-1975, 5-VI-1980 and 5-X-1981, Bocas del Toro province, Corriente Grande, 19-III-1980. All H. Wolda coll. Chiriqui province, Cerro Colorado, 13-VI-1980, J. Wagner coll.

*C. tropicana* is related to *C. latera* DeLong & Freytag (1976, p. 30) from which it can be separated by the long aedeagal processes and by the longer hook-shaped style.



Figs. 32-48. *P. censora* n. sp. 32. aedeagus ventrally, 33. style laterally, 34. aedeagus laterally, 35. plate ventrally. *Curtara tropicana* n. sp. 36. aedeagus ventrally, 37. aedeagus laterally, 38. plate ventrally, 39. style laterally. *C. trigona* n. sp. 40. aedeagus ventrally, 41. plate ventrally, 42. aedeagus laterally, 43. style laterally. *C. corrientea* n. sp. 44. aedeagus ventrally, 45. aedeagus laterally, 46. plate ventrally, 47. style laterally, 48. pygofer laterally, apical portion.

*Curtara trigona* n. sp.

(Figs. 40-43)

Length of male 8 mm, female unknown. Crown broadly rounded.  $1\frac{1}{2}$  x as wide at base between eyes as long at middle. Color, pale brown with a large triangular black spot  $\frac{1}{4}$  size of pronotum on median apical portion. Basal half of scutellum and clavus dark brown.

Male genital plates more than 3 x as long as wide at middle, apices narrowed, rounded. Style long, slender, curved slightly dorsally. Aedeagal shaft with a pair of broad apical processes extending laterally and 2 pairs of antepical processes extending basally. Paraphyses short and broad, broadened from base to apex, pointed dorsocaudally. Pygofer rounded apically.

Holotype male, Panama. Chiriqui province, Fortuna 1050 m. 8°44'N: 82° 15' W, 29-V-1979, H. Wolda coll.

*C. trigona* is related to *C. kula* DeLong & Wolda (1982, p. 304) from which it can be separated by the shorter paraphyses with their broad apices and the long slender curved style.

*Curtara corrientea* n. sp.

(Figs. 44-48)

Length of male 6.5 mm, female unknown. Crown strongly rounded, 3/4 as long as wide between eyes at base. Margin thin almost foliaceous. Color, crown golden yellow, apical third pale brown. Scutellum yellow, basal angles brown. Forewings pale brown with 2 transverse rows of dark brown spots, consisting of 4 each, across middle of clavus. Each row with a dark brown spot on apex of claval vein at commissure

Male genital plates more than 4 x as long as wide at middle, apices rounded. Style narrow, elongate, apex pointed. Aedeagal shaft curved dorsally at apex and sharply pointed, bearing a pair of long slender processes which extend ventrally 1/4 distance to base, and a pair of rather long lateral processes. Paraphyses narrow at base, broadened apically with a pointed margin extending dorsally. Pygofer rounded apically.

Holotype male, Corriente Grande, Bocas del Toro province, Dec. 16, 1979; H. Wolda coll.

*C. corrientea* is placed in the subgenus *Curtara* and is related to *C. torquara* DeLong (1980b, p. 192) from which it can be separated by the 4 apical processes of the aedeagal shaft.

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