

**New Species of Bolivian *Polana*, Gyponinae
(Homoptera: Cicadellidae)**

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ABSTRACT: Six new species of Bolivian *Polana*, *P. portochuela* n. sp., *P. innata* n. sp., *P. pravada* n. sp., *P. bitubera* n. sp., *P. tuberana* n.sp., and *P. orcula* n. sp. are described.

The genus *Polana* was described by DeLong (1942). DeLong and Freytag treated the genus and described 73 species (1972). New species have since been described by DeLong (1976, 1979a, b), DeLong and Wolda (1978) and DeLong and Triplehorn (1979). Six new Bolivian species are described in this paper. All types are in the DeLong collection, Ohio State University.

Polana portochuela n. sp.
(Figs. 1-5)

Length of male 7 mm, female 8.5 mm. Crown short, broadly rounded $2\frac{1}{2}\times$ as wide at base between eyes as long at middle. Ocelli near eyes and just above anterior margin. Color, crown brownish, a darker blackish band-like area extending between eyes on basal half. Pronotum brownish, disc and posterior half darker brown with dark brown spots near margin of pronotum, and 4 white spots behind eyes and along lateral margins. Scutellum brown with 4 minute white spots along basal margin. Forewings yellowish opaque, veins yellowish, heavily margined with dark brown.

Female with posterior margin of 7th sternum slightly concavely excavated each side of a broadly, convexly, slightly produced, median third, with a slight median excavation.

Male genital plates $3\times$ as long as wide at middle, apex narrowed, bluntly pointed. Style sickle-shaped, widest at middle, curved dorsally, apex bluntly pointed. Aedeagal shaft slightly broadened and truncate apically. A slender process arises each side at base of shaft and is contiguous with shaft to near apex where the tips are pointed and bend outwardly. Each of these rod-shaped portions gives rise to a lateral process at $\frac{2}{3}$ its length, which is half as long as shaft and extends laterobasally. Pygofer with hooked, one tooth, dorsal processes.

Holotype male, Bolivia, Santa Cruz, 10 mi. W. Portochuela 27-III-1978,

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Received for publication 14 July 1981.

C. W. & L. B. O'Brien colls. Paratype: 1 ♂ Buena Vista, Bolivia. 26-III-1978: 1 ♂ Saavedra Bol, 16-I-1978.

P. portochuela is placed in the subgenus *Polana* and is closely related to *P. nidula* DeL. & Frey. from which it can be separated by the broader sickle-shaped style and the absence of aedeagal apical processes.

Polana annata n. sp.

(Figs. 6-10)

Length of male 6.5 mm, female unknown. Crown broadly rounded more than 3× as wide at base between eyes as long at middle. Color, crown pale brown. Pronotum pale brown, disc and posterior margin darker brown. Scutellum pale brown, basal angles dark brown. Forewings pale brown with 2 rows of 4 darker brown spots across clavus at $\frac{1}{3}$ and $\frac{2}{3}$ its length. Veins faintly margined with darker brown.

Male genital plates twice as long as wide at middle, apex broadly rounded. Style narrow at base, apical $\frac{2}{3}$ broad, blade-like, narrowed at apex to form a short slender, rounded, apical tip. Aedeagus with a narrow shaft (viewed ventrally), bifid subapically to produce 2 long slender parallel apical processes. A ventral process at base, each side, extends along shaft, curving across it subapically each side and extending laterally. Pygofer apical dorsal process with 2 teeth.

Holotype male, Bolivia, V. Tunari, 3 mi. N.E. 7-V-1978, C. R. Ward coll.

P. innata is placed in the subgenus *Polana* and is related to *P. fusconotata* (Osb.) from which it can be separated by the constricted tip of the style and the bifid aedeagal shaft at its tip.

Polana pravida n. sp.

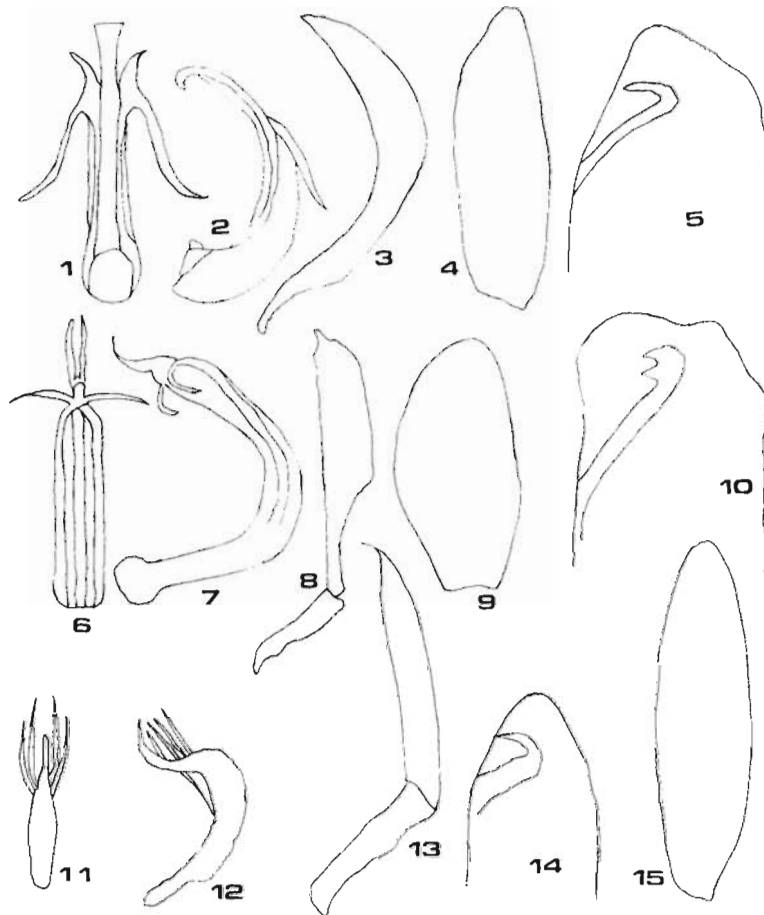
(Figs. 11-15)

Length of male 8.5 mm, female unknown. Crown short, broadly rounded, $2\frac{1}{2}$ × as wide between eyes at base as long at middle. Color, crown, pronotum and scutellum brown. Forewings pale brownish with two black "dash" marks on disc. Veins brown margined with darker brown.

Male genital plates almost 4× as long as wide at middle, apices bluntly pointed. Style with blade narrowed anteapically and with spine-like apophysis curved dorsally. Aedeagal shaft short, apical third narrow. A long slender process arises each side near middle of shaft and extends to the apex. A pair of anteapical processes extend almost to apex. Pygofer apical, dorsal processes with 1 tooth.

Holotype male, Bolivia, V. Tunari, 3 mi. N.E. 7-V-1978, C. W. & L. B. O'Brien colls.

P. pravida is placed in the subgenus *Polana* and is related to *P. fusconotata* (Osb.) from which it can be separated by the constricted apex of the style



Figs. 1-15. Figs. 1-5. *Polana portochuela* n. sp. 1. Aedeagus ventrally. 2. Aedeagus laterally. 3. Style laterally. 4. Plate ventrally. 5. Pygofer laterally, apical portion. Figs. 6-10. *P. innata* n. sp. 6. Aedeagus ventrally. 7. Aedeagus laterally. 8. Style laterally. 9. Plate ventrally. 10. Pygofer laterally, apical portion. Figs. 11-15. *P. pravida* n. sp. 11. Aedeagus ventrally. 12. Aedeagus laterally. 13. Style laterally. 14. Pygofer laterally, apical portion. 15. Plate ventrally.

with its curved apical spine and by the 4 processes arising from the aedeagal shaft.

Polana bitubera n. sp.
(Figs. 16-20)

Length of male 7.5 mm, female unknown. Crown more than 3× as broad at base between eyes as long at middle. Color, brownish yellow, ocelli black.

Pronotum brownish yellow, a round black spot each side behind eyes, half length of pronotum. Scutellum brownish yellow, basal angles paler yellowish. Forewings dull yellowish, a round black spot at end of first and second claval veins at commissure, veins inconspicuous.

Male genital plates $3\frac{1}{2}\times$ as long as wide at middle, apices narrowed, rounded. Style curved dorsally, apex broadened, with a pair of roundly pointed apical lobes which are embrowned and sclerotized, and with a dorsally pointed spine at base of dorsal lobe. Aedeagal shaft terminating in a pair of divided processes which curve laterally, then basally, and extend more than $\frac{1}{3}$ length of shaft. Pygofer narrowed and rounded apically.

Holotype male, Sta. Cruz, Bolivia, Exper. Sta. Saavedra, 350 m, 12-IV-1979, D. Foster, V. Gonsales and I. Cabellero colls. at light trap.

P. bitubera is placed in the subgenus *Polanana* and is related to *P. tinae* DeL. & Wolda from which it can be separated by the 2 rounded apical processes of the style and the laterobasal apical processes of the aedeagal shaft.

Polana tuberana n. sp.

(Figs. 21-26)

Length of male 7.5 mm, female unknown. Crown appearing almost transverse, $2\frac{1}{2}\times$ as wide at base between eyes as long at middle. Color, crown brownish. Pronotum brownish with irregular darker brown markings behind eyes, disc and posterior marginal area brown. Scutellum brown with darker brown basal angles. Forewings pale brownish, darker brown areas on base of wings next to scutellum and on area at apex of clavus. Two transverse rows of 4 brown spots crossing clavus at $\frac{1}{3}$ and $\frac{2}{3}$ its length. Veins narrowly margined with darker brown.

Male genital plates $3\times$ as long as wide at middle, apex narrowed, rounded. Style elongate, slender, apex bent dorsally and truncate, ventral margin slightly pointed. Aedeagus curved, narrowed just before enlarged, burr-like apex which bears short, spine-like processes. Pygofer narrowed apically, truncate or slightly concavely rounded.

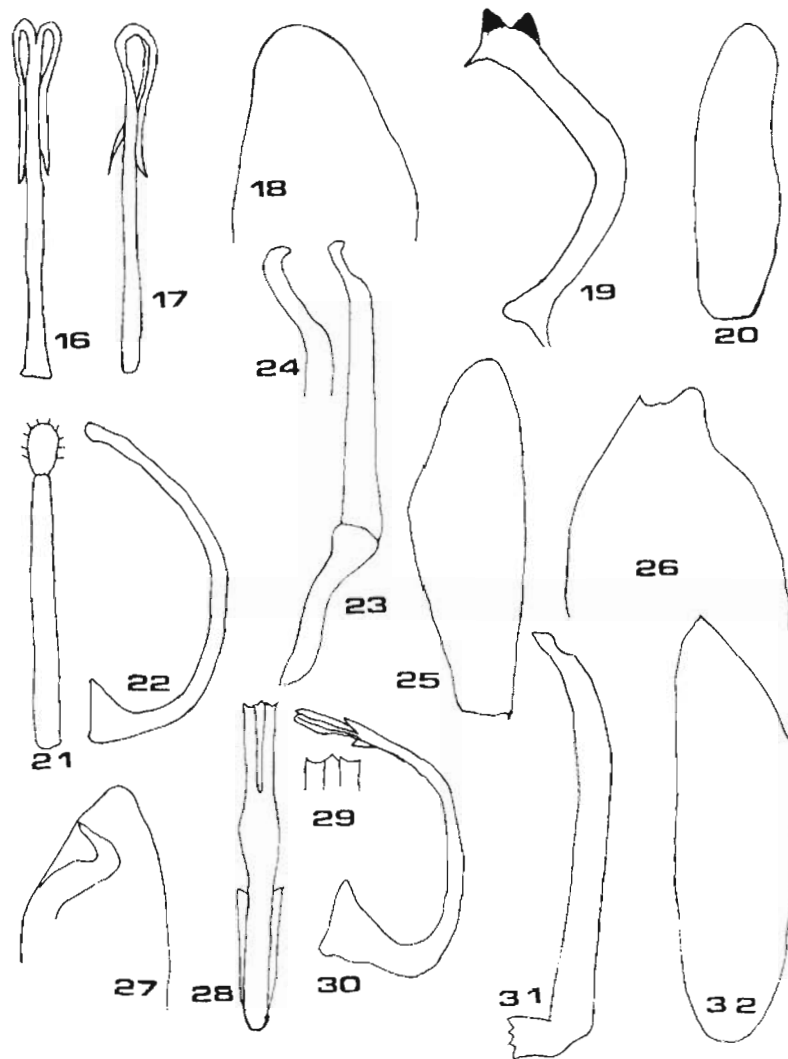
Holotype male, Sta. Cruz, Bolivia, Exper. Sta. Saavedra, 350 m. 12-LV-1979, D. Foster, V. Gonsales & I. Cabellero colls. at trap light.

P. tuberana is placed in the subgenus *Polanana* and is related to *P. tortora* DeL. from which it can be separated by the truncate apex of the style, the enlarged burr-like apex of the aedeagal shaft and the absence of a pygofer process.

Polana oracula n. sp.

(Figs. 27-32)

Length of male 6 mm, female 8 mm. Crown short, broadly rounded, more than $4\times$ as broad between eyes at base as long at middle. Ocelli near anterior



Figs. 16–32. Figs. 16–20. *P. bitubera* n. sp. 16. Aedeagus ventrally. 17. Aedeagus laterally. 18. Pygofer laterally, apical portion. 19. Style laterally. 20. Plate ventrally. Figs. 21–26. *P. tuberana* n. sp. 21. Aedeagus ventrally. 22. Aedeagus laterally. 23. Style laterally. 24. Style, apical portion enlarged. 25. Plate ventrally. 26. Pygofer laterally, apical portion. Figs. 27–32. *P. oracula* n. sp. 27. Pygofer laterally, apical portion. 28. Aedeagus ventrally. 29. Aedeagus ventrally, apical portion. 30. Aedeagus laterally. 31. Style laterally. 32. Plate ventrally.

margin and near eyes. Color, crown and pronotum pale brown. Scutellum pale brown anteriorly, caudal half more yellowish. Forewings brownish with 2 rows of 3 black spots across clavus at $\frac{1}{3}$ and $\frac{2}{3}$ its length. Veins mostly pale brown, apical veins darker brown.

Female with posterior margin of 7th sternum deeply, concavely excavated each side of a pair of median pointed teeth, separated by a V-shaped notch; teeth extending only half distance to lateral angles.

Male genital plates 4× as long as wide at middle, apices bluntly pointed. Style long and slender, apical portion curved dorsally then caudally, apex narrow, truncate. Aedeagal shaft curved almost semicircular, apex divided into 2 apical portions, each bearing minute apical spines. Shaft with 2 sub-apical spines. Pygofer with dorsal processes, each with one tooth, and a produced rounded portion in position of second tooth.

Holotype male, Bolivia, Santa Cruz, 14 mi. W. Portochuela, 24-III-1978, C. A. & L. B. O'Brien colls. Paratypes: 1 ♀ same as holotype; 4 ♂ Santa Cruz, Exper. Sta. Saavedra, 12-IV-1979, D. Foster, V. Gonsales & I. Caballero colls. at trap light.

P. orcula is placed in the subgenus *Nihilana* and is related to *P. acutica* DeL. from which it can be separated by the truncate tip of the style and by the apical portion of the aedeagus which bears subapical spines.

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