

STUDIES OF THE GYPONINAE: THE GENUS  
CULUMANA AND SEVEN NEW SPECIES  
(Homoptera: Cicadellidae)<sup>1</sup>

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ABSTRACT

Eight species of *Culumana* are treated, one the type species *C. torqua*, previously described and seven new species *C. pilana* n.sp., *C. excava* n.sp., *C. incida* n.sp., *C. turba* n.sp., *C. vitta* n.sp., *C. fascia* n.sp., and *C. tormina* n.sp.

Numerous specimens of closely related species of Gyponinae have been collected in Peru, Bolivia, Brazil and Ecuador, and are placed in the genus *Culumana*. The genus was recently described by DeLong and Freytag (1972), the type species was designated as *Culumana torqua* DeLong & Freytag. The head is blunt, the crown merging with face and the male styles are variously excavated near the base of the blade. *Culumana* is closely related to *Polana* and *Scaris*. The males can easily be separated by the genitalic structures, but the female structures are too similar to be of value as diagnostic characters.

Key to males of *Culumana*

- 1 Style with ventral margin of blade deeply notched or concavely rounded near base ..... 2  
1' Style not deeply notched or concavely rounded on ventral margin near base of blade ..... **pilana**  
2(1') Pygofer elongate, three times as long as broad, apical half narrow, tapered ..... 3  
2' Pygofer shorter, not more than twice as long as broad, apical portion narrowed not elongate, tapered ..... 4  
3(2) Aedeagus with two apical spines ..... *torqua*  
3' Aedeagus with four apical spines ..... **excava**

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4(2')	Style shallowly concavely excavated on ventral margin near base of blade .....	5
4'	Style deeply concavely excavated on ventral margin near base of blade .....	6
5(4)	Aedeagus with four subapical processes and two short terminal processes .....	<b>incida</b>
5'	Aedeagus with one subapical process and two long terminal processes .....	<b>turba</b>
6(4')	Aedeagal processes arising on ventral margin subapically ..	<b>vitta</b>
6'	Aedeagal processes arising laterally .....	7
7(6')	Aedeagal processes longer than apex of shaft .....	<b>fascia</b>
7'	Aedeagal processes exceeded in length by apical portion of shaft .....	<b>tormina</b>

*Culumana torqua* DeLong & Freytag  
(Figs. 1-5)

*Culumana torqua* DeLong & Freytag 1972 p. 233

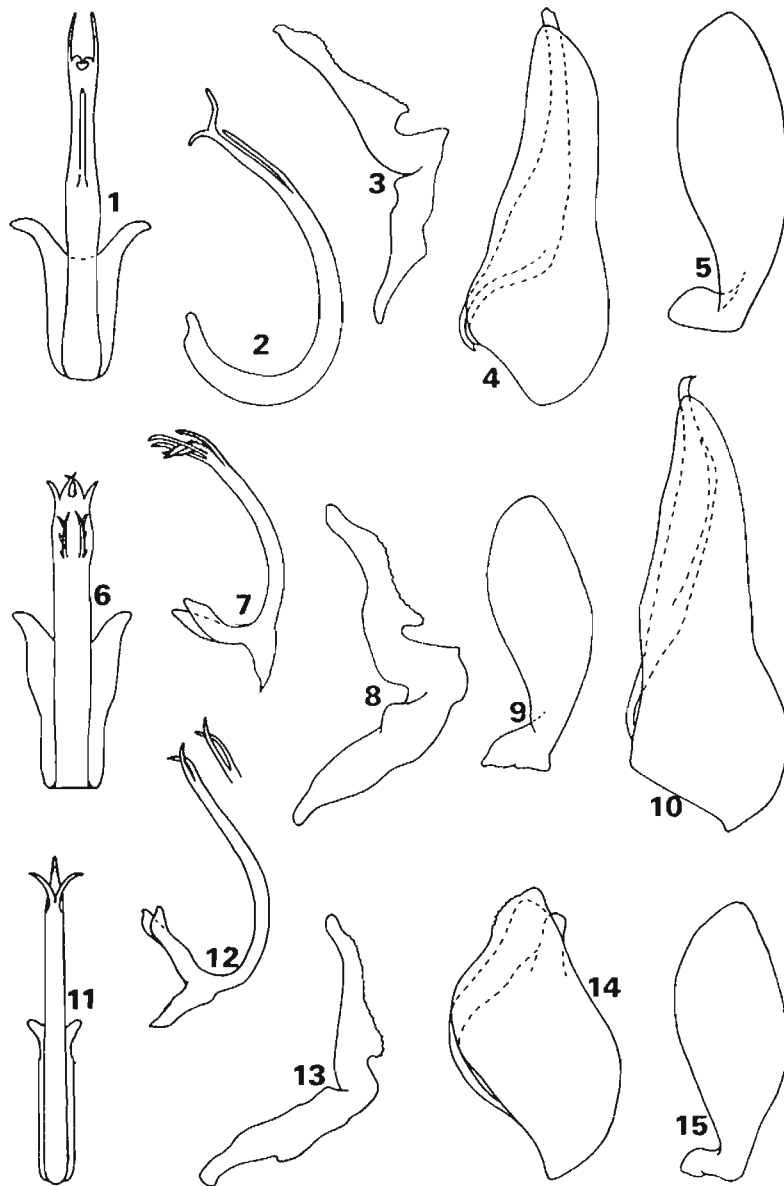
Length of male 10.5 mm: Female unknown. Crown broad, rounded, scarcely produced at middle, almost parallel margined, about three times as broad as long, blunt. Ocelli depressed, near front of crown. Color buff, crown with portion behind and between ocelli brown, darker anteriorly. Pronotum buff with irregular brown markings behind eyes and along anterior margin; posterior portion and disc brown. Scutellum buff with dark brown basal angles, central portion including apical angle, brown. Forewings brown, black spots on cross-veins on disc.

Male genitalia with plates elongate, more than three times as long as broad. Style with blade deeply roundedly notched on ventral margin near base, slightly broadly excavated on dorsal and ventral margins at two thirds length of blade and again just before narrow, blunt apex. Aedeagal shaft curved, narrow with two pairs of short processes at apex, one pair extending apically, the shorter pair curving dorsally. A slender finger like portion arises on ventral margin at two thirds length of shaft, extending apically along shaft to apex. Pygofer long with a long plate-like structure on dorsal portion beneath pygofer wall, extending slightly beyond pygofer apex.

Type: Holotype male Sinchono, Peru, in the DeLong Collection.

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FIGS. 1-15. Figs. 1-5. *Culumana torqua* n.sp. 1—aeedeagus, ventrally. 2—aeedeagus, laterally. 4—pygofer, laterally. 5—plate, ventrally. Figs. 6-10. *Culumana excava* n.sp. 6—aeedeagus, ventrally. 7—aeedeagus, laterally. 8—style, laterally. 9—plate, ventrally. 10—pygofer, laterally. Figs. 11-15. *Culumana vitta* n.sp. 11—aeedeagus, ventrally. 12—aeedeagus, laterally. 13—style, laterally. 14—pygofer, laterally. 15—plate, ventrally.



*Culumana excava* n.sp.  
(Figs. 6-10)

Length of male 11 mm. Female unknown. Crown broad, scarcely produced, parallel margined, more than twice as broad as median length. Color variable, usually with crown yellow to pale brown anterior to ocelli and at base, with a transverse dark brown area between eyes and posterior to ocelli; a small dark brown spot at base behind each ocellus. Pronotum with lateral and anterior portion yellow, with irregular dark brown markings: posterior and central portions dark brown. Scutellum brown with a small yellow spot each side at middle. Forewings dark brown, black spots on cross veins between sectors and apices of claval veins.

Male genitalia with male plates two and one half times as long as broad, apices narrowed, rounded. Style with blade broad at base, narrowly, deeply, roundedly excavated on ventral margin at one fourth length of shaft, apical third narrowed, apex blunt. Aedeagal shaft with four short spine-like processes at apex; the central pair are longer and broadened at base, all four curve dorsad. Ventral portion of shaft forming a spine two thirds length of shaft. Pygofer with a long plate inside dorsal pygofer wall.

Types: Holotype male Santa Isabel, Dept. Cusco, Peru, XII-3-51. F. L. Woytkowski. Paratypes: 2 ♂s same as holotype; 2 ♂s same as holotype except I-2-1952; 1 ♂ same as holotype except XI-20-1951; 1 ♂ same as holotype except XII-11-1951; 3 ♂s Callanga, Paucartambo Prov. Dept. Cusco, Peru 2-19-52. F. L. Woytkowski; 1 ♂ Venegarde la Paz, Bolivia. Holotype and paratype in the North Carolina State University Collection. Paratypes in the American Museum of Natural History Collection, The U. S. National Museum Collection and the DeLong Collection.

*Culumana vitta* n.sp.  
(Figs. 11-15)

Length of male 8.5 mm. Female unknown. Crown broad, only slightly produced, parallel margined, almost three times as broad as median length. Color, buff anterior to ocelli, posterior margin buff to pale brown, a dark brown band extending between eyes posterior to ocelli. Pronotum with lateral margins extending to middle of anterior margin buff, with irregular brown markings, posterior portion and disc dark brown. Scutellum with lateral and apical angles dark brown, a yellow spot at middle, each side. Forewings dark reddish brown, unmarked.

Male genitalia with plates two and one half times as long as median width, apices narrow, blunt. Style with blade slightly roundedly notched near base, tapered to half its length, apical half narrow, curved dorsally, apex blunt, rounded. Aedeagal shaft with a pair of subapical processes arising on ventral margin curving caudad and

laterad, exceeded in length by slender apical portion of shaft. Pygofer with a dorsal plate near apex inside pygofer wall.

Types: Holotype male Sinchona, Peru. 11-1943 J. G. Sanders, in the DeLong collection.

*Culumana fascia* n.sp.

(Figs. 16-20)

Length of male 10 mm. Female unknown. Crown broadly rounded, almost parallel margined, three times as broad as median length. Coloration similar to *torqua*. Crown buff anteriorly, brown on basal portion beyond ocelli, almost brown-banded between eyes. Pronotum with a large buff area on each side, irregularly marked with brown near base, median portion dark brown. Scutellum almost entirely brown except a yellow spot about middle, each side. Forewings brown with a black spot on each cross vein between sectors and at apex of each claval vein.

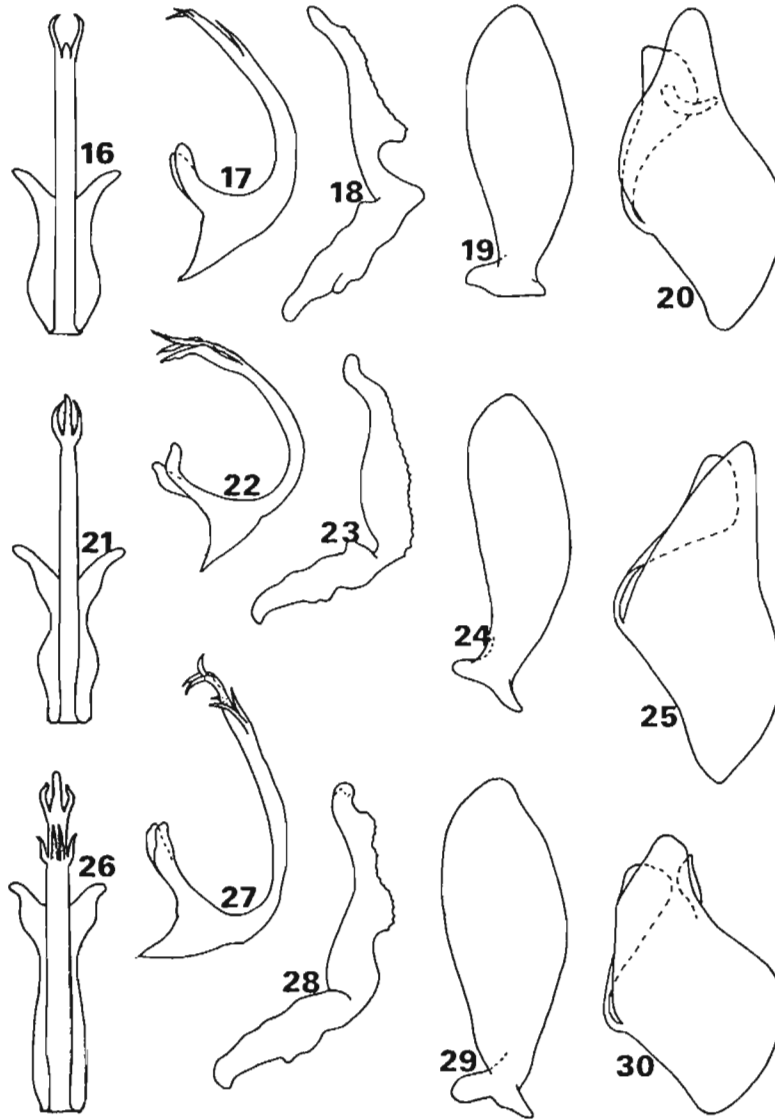
Male genitalia with plates two and one half times as long as median width, apices narrow, blunt. Style with blade deeply roundedly excavated on ventral margin near base, then tapering to apex; slightly excavated on ventral margin just before narrow, blunt apex. Aedeagal shaft slender, with a pair of very short curved apical processes extending dorsally. A median process arises on ventral margin at about two thirds length of shaft and extends half way to apex. Pygofer with a ventral spine extending dorsally and a dorsal plate inside pygofer wall.

Types: Holotype male Sinchono, Peru, 1943, J. G. Sanders. Paratypes: 1 ♂ same as holotype; 2 ♂s Rio Colorado, Bolivia, Sept., 1921-22, Bio-Exped, Wm. McMann; 1 ♂ labeled "Bolivia"; 1 ♂ "Venegarde la Paz Bolivia"; 1 ♂ Utcuyacu, Tarma, Dept. del Junin, Mar. 2, 1948, Peru 1600-3000 m. F. W. Woythowski (Donor Wm. Proctor); 2 ♂s labeled "Pozuzu Schaufuss"; 1 ♂ labeled "Villarica S.A. Paraguay XII-23 Frau Schade"; 1 ♂ labeled "Santa Isabel, Dept. Cusco, Peru, XII-16-21, Felix L. Woythowski"; 1 ♂ labeled "Argentina, Pcia. Salta, Pocitos I. 1959 A. Martinez leg". Holotype and paratypes in the DeLong collection. Paratypes in the U. S. National Museum, the American Museum, The North Carolina State Museum, and the Museu de Zoologia da Universidade de Sao Paulo, Brazil, collections.

*Culumana pilana* n.sp.

(Figs. 21-25)

Length of male 9.5 mm. Female unknown. Crown broadly rounded, almost three times as broad as median length. Color, crown anterior to ocelli and at base, yellow; band between eyes pale to dark brown, a round, dark brown spot behind each ocellus, at base of crown. Pronotum with lateral margins, yellow with irregular dark brown



FIGS. 16-30. Figs. 16-20. *Culumana fascia* n.sp. 16—aeedeagus, ventrally. 17—aeedeagus, laterally. 18—style, laterally. 19—plate, ventrally. 20—aeedeagus, laterally. Figs. 21-25. *Culumana pilana* n.sp. 21—aeedeagus, ventrally. 22—aeedeagus, laterally. 23—style, laterally. 24—plate, ventrally. 25—pygofer, laterally. Figs. 26-30. *Culumana incida* n.sp. 26—aeedeagus, ventrally. 27—aeedeagus, laterally. 28—style, laterally. 29—plate, ventrally. 30—pygofer, laterally.

markings, posterior and median portions dark brown. Scutellum pale brown with basal and apical angles darker brown. Forewings dark brown, unmarked.

Male genitalia with plates three times as long as broad, apices rounded. Style with blade serrate on ventral margin, broadened on basal half by convexly curved dorsal margin, narrowed at two thirds its length, apical third bent dorsally then ventrally. Aedeagus with a pair of subapical processes bent dorsad. Pygofer with a plate inside dorsal pygofer wall.

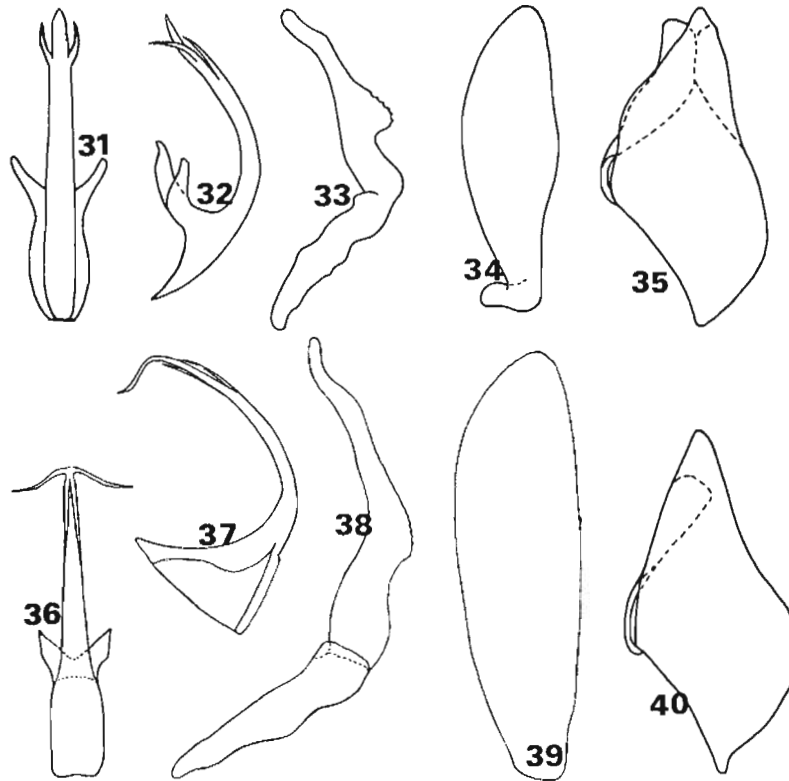
Types: Holotype male Tingo Maria. Huan, Peru, October 11, 1946. Alt. 2200 ft. J. C. Pallister Coll. (Donor Frank Johnson). Paratypes: 1 ♂ Callanga, Peru; 1 ♂ Tingo Maria, Peru, XI, 1949, H. A. Allard; 1 ♂ same except 27-II-1950; 1 ♂ labeled "Peru." Holotype in the American Museum of Natural History Collection; paratypes in the U. S. Natural Museum Collection and in the DeLong Collection.

*Culumana incida* n.sp.  
(Figs. 26-30)

Length of male 10.5 mm. Female unknown. Crown broadly roundedly produced, two and one half times as wide between eyes at base as median length. Color, crown pale brown, a small dark brown spot behind each eye at base, pronotum pale brown, a round black spot behind each eye. Scutellum pale brown, basal angles darker brown. Forewings brown, cross veins between sectors and apices of claval veins, dark brown.

Male genitalia with plates two and one half times as long as broad, apices narrow, rounded. Style with blade shallowly concavely rounded on ventral margin near base; median portion of ventral margin serrate, narrowed near middle and just before blunt rounded apex. Aedeagal shaft with four short spine-like processes arising at four fifths length of shaft and two subapical spines which curve dorsally. Pygofer with a plate each side inside dorsal pygofer wall.

Types: Holotype male, Sinchono, Peru, 11-1943. J. G. Sanders. Paratypes: 1 ♂ same as holotype; 1 ♂ Peru SPQNO A-24544. Jan. 8, 1934; 1 ♂ Ecuador. Norm'd 1300 m; 1 ♂ Santa Isabel, Dept. Cusco, Peru. 1-18-51, F. L. Woytkowski; 1 ♂ same except 1-29-51; 2 ♂s same except 1-31-51; 5 ♂s same except 1-1-52; 3 ♂s same except 1-4-52; 3 ♂s same except 11-16-51; 2 ♂s same except 11-30-51; 1 ♂ same except 12-18-51; 1 ♂ same except 12-29-51; 2 ♂s same except 12-31-51; 1 ♂ same except 11-13-51; 1 ♂ Callanga Paucartamba, Dept. Cusco, Peru, 2-19-52. F. L. Woytkowski. Holotype and paratypes in the DeLong Collection. Paratypes in the North Carolina State University, the U. S. National Museum, the Stockholm Museum and the American Museum of Natural History collections.



FIGS. 31-40. Figs. 31-35. *Culumana tormina* n.sp. 31—aedeagus, ventrally. 32—aedeagus, laterally. 33—style, laterally. 34—plate, ventrally. 35—aedeagus, laterally. Figs. 36-40. *Culumana turba* n.sp. 36—aedeagus, ventrally. 37—aedeagus, laterally. 38—style, laterally. 39—plate, ventrally. 40—pygofer, laterally.

*Culumana tormina* n.sp.  
(Figs. 31-35)

Length of male 10 mm. Crown broadly rounded, two and one half times as broad as median length. Color, crown pale brown anterior to ocelli and at base, darker brown between and posterior to ocelli, a small brown spot on base behind each ocellus. Pronotum with lateral areas yellow with irregular dark brown markings near anterior margin; median and posterior portion dark brown. Scutellum yellow to pale brown, basal angles darker brown. Forewings pale brown, veins dark brown, cross-veins between sectors dark brown.

Male genitalia with plates three times as long as broad, narrowed and rounded at apices. Style with blade appearing strongly concavely



notched near base due to an abrupt rounded, serrate protrusion on the ventral margin. Apical half narrowed, apical third bent dorsally. Aedeagus with a pair of subapical processes which extend apically and are bent dorsally not extending to apex of shaft. Pygofer with a dorsal plate each side beneath dorsal pygofer wall.

Types: Holotype male Satipo, Peru XII-6-1936. Acc. 35180. Coll. Popryzki, in the American Museum of Natural History Collection. 1 ♂ paratype "Santa Isabel Dept. Cusco, Peru, XII-19-1951 (Felix L. Woythowski)" in the DeLong Collection.

*Culumana turba* n.sp.  
(Figs. 36-40)

Length of male 10 mm. Female unknown. Crown broadly rounded, almost three times as wide between eyes at base as median length; crown depressed just above anterior border, ocelli in depressed area. Color, crown pale brown, darker brown around and between ocelli. Pronotum pale brown, darker brown behind each eye and on apical fifth. Scutellum pale brown, basal angles darker brown. Forewing brown subhyaline, veins paler brown, cross veins between sectors, black.

Male genitalia with male plates four times as long as wide, apices narrowed, rounded. Style with blade long, broadly, slightly excavated on ventral margin near base, gradually tapering to narrow rounded apex, curved ventrally near apex. Aedeagal shaft tapering from base to apex with a pair of apical processes extending laterally and caudally. Pygofer with a dorsal plate inside pygofer wall.

Types: Holotype male, Sta. Helena. Bolivia. 1921. Wm. M. Mann. Mulford Biol. Explor. 1921-22. In the U. S. National Museum Collection.

LITERATURE CITED

- DeLong, D. M. & Paul H. Freytag. 1972. Studies of the Gyponinae: A Key to the Known Genera and Descriptions of Five New Genera. Jour. Kans. Entomol. Soc. 45: 218-235.