

STUDIES OF THE GYPONINAE: THE GENUS *ACUERA* (HOMOPTERA: CICADELLIDAE)^{1, 2}

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ABSTRACT

The neotropical genus *Acuera* DeLong and Freytag is reviewed. It includes 3 new subgenera, *Acuera*, *Tortusana*, and *Parcana*, and 21 species as follows: *A. (A.) adspersa* (Stal), *A. (A.) inlustra* n.sp., *A. (A.) laudara* n.sp., *A. (A.) nigrifrons* (Osborn), *A. (A.) prodiga* n.sp., *A. (A.) culmena* n.sp., *A. (A.) menaca* n.sp., *A. (A.) incepta* n.sp., *A. (A.) levara* n.sp., *A. (P.) ultima* n.sp., *A. (P.) gloma* n.sp., *A. (P.) facera* n.sp., *A. (P.) patula* n.sp., *A. (P.) nama* n.sp., *A. (P.) spreta* (Fowler), *A. (P.) concilia* n.sp., *A. (P.) atitlana* (Fowler), *A. (P.) extara* n.sp., *A. (P.) mimica* n.sp., *A. (T.) angera* n.sp., and *A. (T.) fructa* n.sp. A key to the subgenera and species is presented as well as illustrations of the genital structures of the known males and females.

The genus *Acuera* was recently described by DeLong and Freytag (1972). At that time only the type-species, *Gypona adspersa* Stal, was placed in this genus. In addition to *adspersa* three more previously described species (*Prairiana nigrifrons* Osborn, *Gypona spreta* Fowler, and *Gypona atitlana* Fowler) are now placed in *Acuera* as well as seventeen new species.

The genus *Acuera* is closely related to *Prairiana* but differs by having a more produced, bluntly angled crown with a convexly rounded disc and a thicker margin. The ocelli are medial between the anterior and posterior margins of the crown, but may vary in their proximity to the eyes or to the median line of the crown. The crown has a definite margin which is angled with the front. The male aedeagi may vary; some are simple in form, some are fitted with parameres, and others have processes arising at or near the base of the shaft. General habitus is usually yellowish to pale brown with dark-brown mottling on the forewings.

KEY TO THE SUBGENERA OF *ACUERA*

- 1 Male aedeagus with parameres, or with processes arising at or near base of shaft; female seventh sternum with posterior margin not possessing a median tooth. 2
- 1¹ Male aedeagus without parameres or basal processes; female seventh sternum with posterior margin possessing a median pointed tooth. subgenus *Tortusana*
- 2 Crown with ocelli as close to or closer to eyes than median line. subgenus *Acuera*
- 2¹ Crown with ocelli closer to median line than to eyes. subgenus *Parcana*

Subgenus *Acuera*

Body elongate, crown bluntly angled, with a definite margin, angled with front; disc convexly rounded; ocelli median between margin and base, as near or nearer proximal eye than median line. Forewings with numerous cross veinlets. Aedeagus with parameres arising from a phallobase or with processes arising from the base of aedeagal shaft. Color yellow with dark-brown mottling on forewings.

Type-species: *Gypona adspersa* Stal.

Key to species of the subgenus *Acuera* (males)

- 1 Aedeagal shaft without apical and/or subapical slender processes. 2
- 1¹ Aedeagal shaft with apical or subapical slender processes. 3
- 2(1) Aedeagal shaft bluntly pointed at apex (ventral view) without flat lateral leaflike subapical processes. *inlustra* n.sp.

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- 2¹ Aedeagal shaft slender, pointed at apex (in ventral view) with broad, flat, lateral leaflike subapical processes. *laudara* n.sp.
- 3(1¹) Aedeagal parameres arising from base of shaft; aedeagal shaft blunt at apex with very short lateral spurs. *nigrifrons* (Osborn)
- 3¹ Aedeagal parameres arising from phallobase; aedeagal or subaedeagal processes larger, conspicuous. 4
- 4(3¹) Aedeagal shaft with apical and subapical processes. 5
- 4¹ Aedeagal shaft with either apical or subapical processes, not both. 7
- 5(4¹) Aedeagal shaft with one pair of subapical processes (fig. 17). *prodiga* n.sp.
- 5¹ Aedeagal shaft with two pairs of subapical processes (fig. 26). 6
- 6(5¹) Apical processes of aedeagal shaft forked at apex; basal pair of subapical processes very short, bristlelike. *culmena* n.sp.
- 6¹ Apical processes of aedeagal shaft with a forked spur at half their length; basal pair of subapical processes almost as long as apical processes. *menaca* n.sp.
- 7(4¹) Aedeagal shaft with a pair of short apical spines. *incepta* n. sp
- 7¹ Aedeagal shaft with subapical spines only. 8
- 8(7¹) Aedeagal subapical process half length of shaft arising dorsally, extending laterally; parameres sharply pointed apically. *adspersa* (Stål)
- 8¹ Aedeagal subapical process one-third length of shaft, arising ventrally, extending caudally; parameres blunt apically. *levara* n.sp.

***Acuera (A.) inlustra* n.sp.**

(figs. 1, 2, 3, 4, 5, 105)

Length of male—10.5 mm, female—11 mm. Crown bluntly angled, with base one-third wider between eyes than median length.

Color: Crown dull yellow with a spot at apex, area between eye and proximal ocellus, and a spot at base each side caudad to ocelli, dark brown to black; fuscous longitudinal markings extending from apex to base between ocelli. Pronotum dull yellow, with punctate black spots and irregular black markings on anterior margin. Scutellum yellow to pale brown, basal angles and anterior portion mostly dark brown to black. Forewings dull yellow, with brown ramose pigment markings; veins yellow margined with brown.

Male genitalia: Plates three times as long as median width, apex narrowed, bluntly pointed. Style with blade narrow, elongate, tapered to a footlike apex with a pointed dorsally bent "toe" and a ventrally rounded "heel." Aedeagus stout; shaft without processes, sharply pointed at apex in lateral view; paired parameres arising basodorsally, broader than shaft and extending beyond apex of shaft.

Female genitalia: Seventh sternum with lateral angles produced and narrowly rounded; posterior margin then deeply excavated halfway to base each side of a broad, rounded median lobe; median lobe more than half width of segment, produced half the length of lateral angles, broadly and shallowly excavated at middle.

Holotype male: Chisos Mts., Texas, VI-27-1959 (D. J. and J. N. Knull). Allotype female: Chihuahua, Mexico, 10 mi. W. Jiminez, 9-11-1950 (Ray F. Smith). Paratypes: 9 males, 1 female, same data as holotype; 2 males, Primavera, Chih, Mexico, VI-30-1947, 5500-6000 ft. (D. Rockefeller Exp. Cazier). Holotype and nine paratypes in the DeLong collection. Allotype and two paratypes in the American Museum of Natural History collection; one paratype in the U. S. National Museum collection.

***Acuera (A.) laudara* n.sp.**

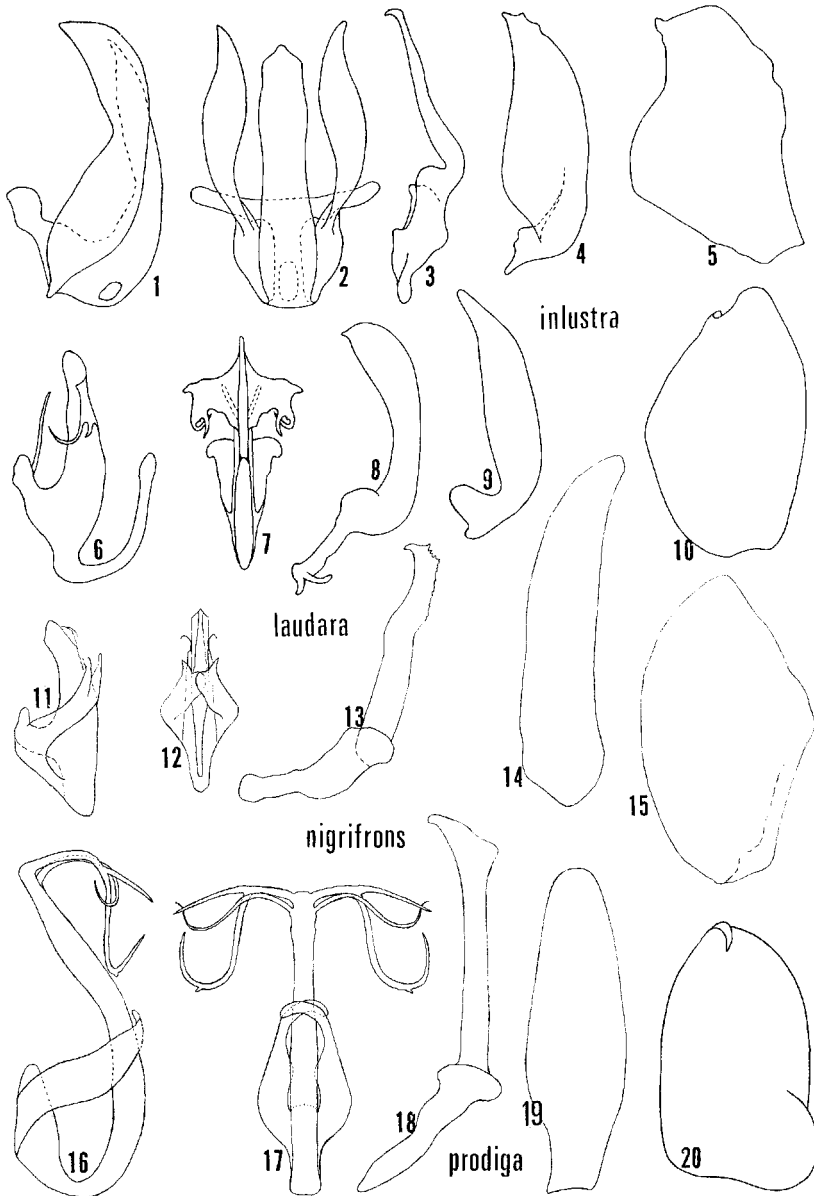
(figs. 6, 7, 8, 9, 10)

Length of male—10.5 mm. Crown broadly and bluntly angled, more than one-half as long at middle as basal width between eyes.

Color: Crown and pronotum dull yellow with numerous punctate brown spots. Scutellum dull yellow with punctate brown spots, basal angles brown. Forewings yellowish subhyaline, with ramose brown pigment markings and brown veins.

Male genitalia: Plates four times as long as median width, apices narrow, bluntly pointed. Style with shaft broadened apically, apex broadly rounded with a pointed tooth on dorsoapical

margin. Aedeagus, in lateral view, with shaft bearing a long fingerlike, slender, ventrally curved portion which is half as long as shaft; in ventral view, shaft bears a subapical, thin, transverse leaflike process which is pointed on margins, one short point on lateroapical margins and two prominent fingerlike (one recurved) processes on basolateral margins; with pair of spinelike parameres arising from basodorsal recurved portion, extending apically almost length of shaft.



FIGURES 1-20. Figs. 1, 6, 11, 16, lateral view of aedeagus; figs. 2, 7, 12, 17, ventral view of aedeagus; figs. 3, 8, 13, 18, lateroventral view of style; figs. 4, 9, 14, 19, ventral view of plate; figs. 5, 10, 15, 20, lateral view of pygofer.

Holotype male: Piracicaba, Sao Paulo, Brazil, I-4-1966, at blacklight (C. A. Triplehorn), in the DeLong collection.

Acuera (A.) nigrifrons (Osborn)

(figs. 11, 12, 13, 14, 15, 104)

Prairiana nigrifrons Osborn 1938, p. 33.

Length of male—12 mm., female—12 mm. Crown with base one-third wider between eyes than median length.

Color: Crown dull yellow with brown mottling, a conspicuous black spot at apex, a slender longitudinal black line extending from apical spot to middle of pronotum. Face black. Pronotum dull yellow with brown mottling on median caudal portion. Scutellum dull yellow with brown markings in basal angles. Forewings dull yellow, with ramose brown pigment markings; clavus with irregular white markings; veins pale brown.

Male genitalia: Plates four times as long as median width, apices broadly rounded. Style, in lateral view, with blade tapered to dorsally bent, bluntly pointed apex, a slight notch and spur at apical ventral base of dorsal protrusion. Aedeagus, in lateral view short, basal half broad, apical half less than one-half as wide as basal portion; pair of broad processes arising basodorsally, curving ventrally near end of broadened basal shaft and narrowed apices blunt. Pygofer broadly rounded.

Female genitalia: Seventh sternum with broadly rounded lateral angles; posterior margin broadly and shallowly excavated on median half with a broad shallow V-shaped notch at middle; entire excavation one-third length of segment.

Type: Holotype male, from Bolivia, in the Carnegie Museum.

Acuera (A.) prodiga n.sp.

(figs. 16, 17, 18, 19, 20)

Length of male—12 mm. Crown with base one third wider between eyes than median length.

Color: Crown dull yellow with brown mottling. Pronotum dull yellow with irregular brown mottling. Scutellum dull yellow, basal angles mostly brown, central portion with irregular brown mottling. Forewings yellow subhyaline, mottled with brown; clavus with a few white markings.

Male genitalia: Plates three times as long as median width, apices narrow, rounded. Style with blade elongate, apical portion footlike with the narrow, blunt "toe" extending dorsally. Aedeagus with two apical pairs of lateral processes; terminal pair each bearing a process at half its length, extending ventrally then recurving dorsally to a slender apex, each bearing a pointed tooth two-thirds its length on basal margin; subapical processes, arising just basad of apical processes, curving laterally and extending beyond apices of apical processes; parameres arising from basodorsal portion of recurved shaft short, broad, extending ventrally across shaft.

Holotype male: Iquitos, Peru, November 20. This specimen was previously placed as a paratype of *Prairiana nigrifrons* Osborn and is in the DeLong collection.

Acuera (A.) culmena n.sp.

(figs. 21, 22, 23, 24, 25)

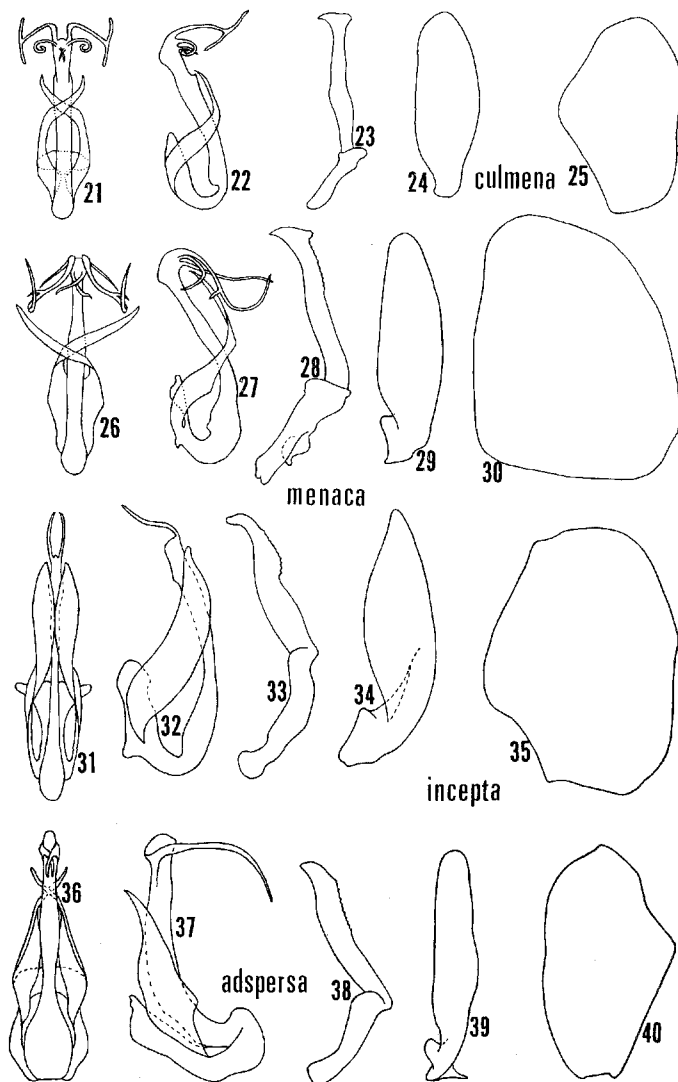
Length of male—13 mm. Crown bluntly angled, one-third broader basally between eyes than median length.

Color: Crown dull yellow, with punctate dark-brown spots. Pronotum dull yellow, with punctate brown spots and a few ramose pigment lines. Scutellum dull yellow, with irregular brown markings; basal angles brown. Forewings pale fuscous with irregular dark-brown markings and white spots along costa and commissure; veins reddish brown.

Male genitalia: Plates two and one-half times as long as median width, apices narrowed, rounded. Style with elongate blade, apical portion footlike with pointed "toe" extending dorsally. Aedeagus long, bearing two pairs of apical processes; longer pair arising terminally, extending ventrally, and terminating as a long transverse process; shorter pair arising ventrally,

subapically, curving inward upon themselves; a pair of parameres arising from basodorsal portion of shaft, curving ventrally across shaft, then extending to two-thirds length of shaft, apices tapered to slender pointed processes.

Holotype male: Yarinacoch (Rio. Ucayati), Peru, VIII-9-1951 (F. Blancas), USNM type No. 72966 in the U. S. National Museum.



FIGURES 21-40. Figs. 21, 26, 31, 36, ventral view of aedeagus; figs. 22, 27, 32, 37, lateral view of aedeagus; figs. 23, 28, 33, 38, lateroventral view of style; figs. 24, 29, 34, 39, ventral view of plate; figs. 25, 30, 35, 40, lateral view of pygofer.

Acuera (A.) menaca n.sp.

(figs. 26, 27, 28, 29, 30)

Length of male—13 mm, female—14.5 mm. Crown bluntly angled, one-fourth wider between eyes at base than median length.

Color: Crown dull yellow with numerous punctate brown spots; a black spot at apex and one on base caudad to each ocellus; a median black longitudinal line extending from apex to base. Pronotum dull yellow with punctate brown spots, some merging. Scutellum dull yellow with irregular brown markings and brown basal angles. Forewings dull yellow with brown coloration almost continuous; white spots on costal margin and along commissure.

Male genitalia: Plates three and one-half times as long as median length, apices narrow, rounded. Style with blade long and narrow, serrate on ventral margin anteapically; apex foot-shaped with the "toe" pointing dorsally and the short blunt "heel" protruding ventrally. Aedeagus with shaft long, slender, enlarged apically and bearing three pairs of processes; terminal pair long, arising apically, extending ventrally more than half length of shaft with a short lateral spur at middle; middle pair, one-third length of shaft, curving ventrolaterally; basal pair almost half as long as shaft, curving ventrolaterally; paired parameres arising from basodorsal recurved portion of shaft, extending ventroapically across shaft, crossing and extending almost length of shaft.

Female genitalia: Seventh sternum with lateral angles rounded to posterior margin which is almost truncate, with a narrow V-shaped notch at middle extending almost half length of segment.

Holotype male: Tingo Maria, Huan., Peru, I-2-1947, alt. 2200 ft. (J. C. Pallister, Frank Johnson, donor). Allotype female: Satipo, Peru Jauja Prov., III-10-1945 (P. Paprzycki, Frank Johnson donor). Paratypes: 1 male, same data as holotype, except I-22-1947; 1 male, Huallaga R. Valley, Peru, tropical jungle 500 m.a.s.l., March 1954 (F. L. Waytkowski); 1 male, Rio Abujso, Peru, VII-2-1929, 6,000 ft. (H. Bassler) Acc. 33591. Holotype, allotype and two paratypes in the American Museum of Natural History, one paratype in the DeLong collection.

Acuera (A.) incepta n.sp.

(figs. 31, 32, 33, 34, 35, 103)

Length of male—11 mm, female—10 mm. Crown bluntly angled, more than half as long at middle as basal width between eyes.

Color: Crown pale brown with numerous punctate dark-brown spots. Pronotum brown with punctate dark-brown spots, those on disc and posterior portion merging. Scutellum brown with dark-brown basal angles. Forewings pale brown with dark-brown veins and dark-brown pigment markings between veins.

Male genitalia: Plates more than three times as long as median width, apices narrow, bluntly pointed. Style with blade concavely notched at middle, on ventral margin, apical portion beyond concavity serrate, apex narrowed, bent dorsally, bluntly rounded. Aedeagus with shaft elongate, bearing a pair of apical processes almost one-fourth as long as shaft, which extends caudally; paired parameres arising from recurved basodorsal portion of shaft, broad, extending ventrocaudally almost to apex of shaft, apices narrow, blunt. Pygofer broadly rounded apically.

Female genitalia: Seventh sternum with lateral angles broadly rounded; posterior margin undulating, almost truncate, with a small, shallow V-shaped notch at middle.

Holotype male: labeled "Corrientes." Allotype female: labeled "Helm. Brazil." Paratype male: R. Grande do Sul., Brazil. Holotype and allotype in the LaPlatta, Argentina, Museum. Paratype in the U. S. National Museum.

Acuera (A.) adspersa (Stål)

(figs. 36, 37, 38, 39, 40, 109)

Gypona adspersa Stål 1894, p. 252.

Length of male—12.5 mm., female—12.5 mm. Crown strongly produced, bluntly angled, two-thirds as long at middle as basal width between eyes.

Color: Generally pale brown. Crown, pronotum, and scutellum heavily marked with punctate brown spots. Crown with a black spot at apex, black area around each ocellus, black spot each side at base. Pronotum with irregular black markings on anterior portion. Scutellum with dark-brown basal angles. Forewings pale brown subhyaline, white areas along claval suture and along costal margin, alternated with dark-brown maculations on costal margin.

Male genitalia: Plates long, slender, five times as long as broad, apices rounded. Style slightly broadened at middle, ventral margin serrate on apical half, apex narrowed, bluntly pointed. Aedeagus with shaft bearing a long subapical process, each side, extending ventrad and basad; paired processes arising from basodorsal portion of shaft, broad at base, tapered to pointed apices, extending almost to apex of shaft.

Female genitalia: Seventh sternum with lateral angles broadly rounded, scarcely produced; posterior margin slightly excavated.

Types: Holotype female, from Brazil, in the Stockholm Museum. Allotype male, Karlingdale, Matta Grossa, Porta Velho, Brazil, Aug. 21, 1943, Mark Taylor, in the North Carolina State University collection.

In addition to the type specimens, material from Brazil and Argentina has been available for study.

***Acuera (A.) levara* n.sp.**

(figs. 41, 42, 43, 44, 45, 106)

Length of male—11 mm, female—12 mm. Crown broad, blunt, angularly produced, two-thirds as long at middle as basal width between eyes.

Color: Crown dull yellow with a black spot at apex and a small round black spot each side of base caudad to each ocellus, with numerous punctate brown spots. Pronotum dull yellow with punctate brown spots. Scutellum dull yellow with dark-brown basal angles. Forewings yellow, subhyaline, with brown veins and ramose dark-brown pigment markings, white spots along coastal margin.

Male genitalia: Plates four times as long as median width, apical half broadened, apices narrow, rounded. Style with blade slender, ventral margin serrate, apical fifth narrowed, curved dorsally, apex blunt, rounded. Aedeagus in lateral view with apical fourth enlarged, apex rounded; a pair of long slender proximal processes arising subapically on ventral margin, extending apically to more than one-third length of shaft; paired parameres arising from basodorsal portion of shaft, extending ventroapically to almost length of shaft and tapered to slender apices.

Female genitalia: Seventh sternum broadly and shallowly excavated with a slight median notch.

Holotype male: Eldorado, Misiones, Argentinian, IX-16-1964 (A. Kovacs). Allotype female: Piracicaba, Sao Paulo, Brazil, XII-22-1965 (C. A. Triplehorn). Holotype in the American Museum of Natural History; allotype in the DeLong collection.

Subgenus ***Tortusana*** new subgenus

Crown bluntly angularly produced with a definite margin, angled with front, more than half as long at middle as basal width between eyes. Aedeagus without parameres or basal processes on shaft. Color yellowish with dark-brown markings on forewings.

Type-species: *Acuera (Tortusana) angera* n.sp.

Key to species of the subgenus *Tortusana*

(males)

- 1 Aedeagus with subapical processes longer than shaft, extending caudally; style smooth on ventral margin. *fructa* n.sp.
- 1¹ Aedeagus with subapical processes shorter than shaft, crossed, extending laterally; style with a conspicuous pointed tooth at middle of blade on ventral margin. *angera* n.sp.

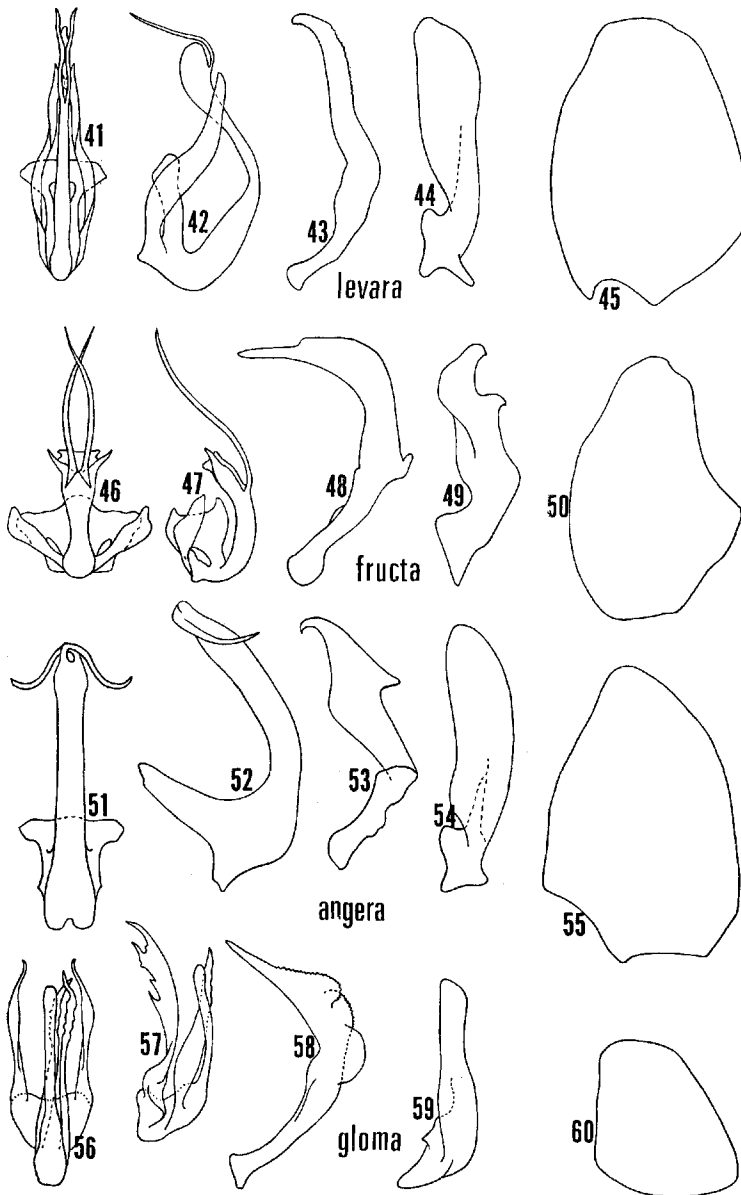
***Acuera (T.) fructa* n.sp.**

(figs. 46, 47, 48, 49, 50, 107)

Length of male—8.5 mm, female—8.5 mm. Crown bluntly angled, three-fourths as long at middle as basal width between eyes.

Color: Crown yellow, in well-marked specimens, with a pale-brown median stripe. Pronotum yellow with irregular dark-brown markings and punctate spots, a dark-brown band on caudal margin with a V-shaped notch at middle and concavely excavated on each side of middle. Scutellum brown with a median white spot. Forewings dull yellow with brown veins and irregular brown markings between the veins.

Male genitalia: Plates more than three times as long as median width, with a thick, sharply pointed tooth on inner margin at two-thirds length of blade, apex curved inwardly, narrowed near apex and pointed. Style with blade curved, abruptly narrowed to slender apical fourth which is bluntly pointed. Aedeagus with shaft short, apex truncate, a pointed subapical spur protruding on each lateral margin, a pair of long slender processes arising on ventral margin at two-thirds length of shaft and extending caudally beyond apex of shaft; paired basal structures very short, appearing to be rudimentary parameres.



FIGURES 41-60. Figs. 41, 46, 51, 56, ventral view of aedeagus; figs. 42, 47, 52, 57, lateral view of aedeagus; figs. 43, 48, 53, 58, lateroventral view of style; figs. 44, 49, 53, 59, ventral view of plate; figs. 45, 50, 55, 60, lateral view of pygofer.

Female genitalia: Seventh sternum with lateral angles produced, rounded, posterior margin angularly excavated one-third distance to base each side of a triangular pointed median tooth one-fourth width of segment and produced to length of lateral angles.

Holotype male: Chapada, Brazil, June (C. F. Baker). USNM type No. 72967. Allotype female: same data as holotype. Paratypes: 3 males, 2 females, same data as holotype; 1 male, 1 female, same data as holotype, except July; 1 male, 1 female, same data as holotype, except April. Holotype, allotype and eight paratypes in U. S. National Museum collection, and three paratypes in the DeLong collection.

***Acuera (T.) angera* n.sp.**

(figs. 51, 52, 53, 54, 55)

Length of male—11 mm. Crown broadly and angularly produced, two-thirds as long as middle as basal width between eyes.

Color: Crown dull yellow with numerous punctate brown spots and a dark-brown spot at apex. Pronotum dull yellow with punctate dark-brown spots. Scutellum marked as pronotum but with dark-brown basal angles. Forewings dull yellow with ramose brown pigment markings, white spots along costal margin and commissure.

Male genitalia: Plates four times as long as broad, apices narrow, rounded. Style with blade broadened at middle with a rounded bulge on dorsal margin and a bluntly pointed projection on ventral margin, apex narrow, curved dorsally and pointed at tip. Aedeagus with a pair of apical processes one-fourth length of shaft, crossing each other near their point of attachment, curving basad and laterad to the opposite side. Pygofer narrowed and bluntly pointed at apex.

Holotype male: Tingo Maria, Peru, IX-13-1958 (Gregolro), U.S.N.M. 212493, type No. 72968 in the U. S. National Museum.

Subgenus ***Parcana*** new subgenus

Crown produced, bluntly angled, with definite margin, angled with front, half as long as middle as basal width between eyes, disc convexly rounded; ocelli halfway between anterior and posterior margins, nearer to median line than proximal eye. Forewings with numerous cross veinlets. Aedeagus with parameres arising from phyllobase or with processes arising at base of shaft. Color yellowish with dark-brown markings on forewings.

Type species: *Acuera (Parcana) ultima* n.sp.

Key to species of the subgenus *Parcana*

(males; male of *spreti* unknown)

- | | | |
|-------|--|--------------------------|
| 1 | Aedeagal shaft without apical or subapical processes; a pair of long processes arising at base of shaft. | <i>gloma</i> n.sp. |
| 1' | Aedeagal shaft with apical or subapical processes; without processes arising at base of shaft. | 2 |
| 2(1') | Aedeagal parameres notched or cleft on dorsal margin subapically (fig. 62). | 3 |
| 2' | Aedeagal parameres broadly roundly excavated but not notched or cleft subapically. | 5 |
| 3(2) | Parameres deeply and roundly notched on dorsal margin beyond middle; aedeagal shaft with apical processes (fig. 61). | <i>facera</i> n.sp. |
| 3' | Parameres with a V-shaped notch on dorsal margin near apex; aedeagal shaft with subapical processes. | 4 |
| 4(3') | Parameres broad on apical half; apex of style blunt. | <i>patula</i> n.sp. |
| 4' | Parameres less than one-third as broad on apical half; apex of style foot shaped | <i>nama</i> n.sp. |
| 5(2') | Aedeagal shaft with two pairs of subapical processes. | 6 |
| 5' | Aedeagal shaft with one pair of subapical processes. | 7 |
| 6(5) | Style with apex broadly rounded, blunt, (lateral view) plate with apex broadly rounded; pygofer with apex roundly notched near base. | <i>concilia</i> n.sp. |
| 6' | Style with apex narrow beyond a sharp tooth on dorsal margin; pygofer with apex pointed, not notched; plate with apex bluntly pointed. | <i>atitlana</i> (Fowler) |

- 7(5¹) Pygofer with a long spine on caudoventral portion.....*ultima* n.sp.
 7¹ Pygofer without spine on caudoventral portion..... 8
 8(7¹) Style with apex broadened, blunt, rounded, with a sharp tooth on ventral and dorsal margins.....*extaran*. sp.
 8¹ Style with apex narrowed beyond a subapical tooth on dorsal margin only...*mimica* n.sp.

***Acuera* (P.) *gloma* n.sp.**

(figs. 56, 57, 58, 59, 60)

Length of male—10 mm. Crown bluntly angled, more than half as long at middle as basal width between eyes.

Color: Crown dull yellow, tinted with orange at apex. Pronotum dull yellow with punctate pale-brown spots, caudal margin with a dark-brown stripe. Scutellum brown with a median white spot. Forewings yellow with irregular brown markings.

Male genitalia: Plates more than four times as long as median width, apices rounded. Style broad, serrate on ventral margin of median half, apical third tapered to a slender, sharply pointed apex. Aedeagal shaft slender, rounded at apex; two processes arising laterally at base of shaft and extending beyond apex of shaft, paired parameres arising from basodorsal portion of shaft and extending beyond apex of shaft, dorsal margins irregularly notched.

Holotype male: Barueri, S. Paulo, Brazil, IX-17-196- (K. Leuko). Paratypes: 1 male, same as holotype; 1 male, Pouso Alegre, M. G., Brazil, VI-24-25-1965 (Vulcano and Pereira). Holotype and one paratype in the Museu de Zoologia da Universidade de Sao Paulo; other paratype in the DeLong collection.

***Acuera* (P.) *facera* n.sp.**

(figs. 61, 62, 63, 64, 65, 102)

Length of male—9 mm. Crown bluntly angled, almost twice as wide between eyes at eyes at base as median length.

Color: Crown dull yellow with irregular brown markings around ocelli. Pronotum dull yellow with a few brown spots and numerous punctate brown spots. Scutellum dull yellow, with brown basal angles. Forewings dull yellow with scattered small punctate brown spots and larger brown spots along commissure and on corium.

Male genitalia: Plates three times as long as median width, apices bluntly rounded. Style with blade long and narrow, bearing an antepical pointed tooth on ventral margin, apex bluntly pointed. Aedeagal shaft long, slender, with a pair of apical spines more than one fourth length of shaft extending basolaterally; each spine bears a pointed tooth on outer margin at half its length, paired parameres arising from the basodorsal recurved portion of shaft strongly broadened at middle, deeply, roundedly notched on dorsal margin of apical half forming a short, blunt, thumblike dorsal protruding process and a broad, ventral apical portion with a blunt pointed apex. Pygofer broadly rounded.

Holotype male: La Concordia, Pochutla, Oaxaca, Mexico, IV-13-1933, at light (C. V. Morton and E. Makrinius), No. 105, type No. 72969 in the U. S. National Museum.

***Acuera* (P.) *patula* n.sp.**

(figs. 66, 67, 68, 69, 70)

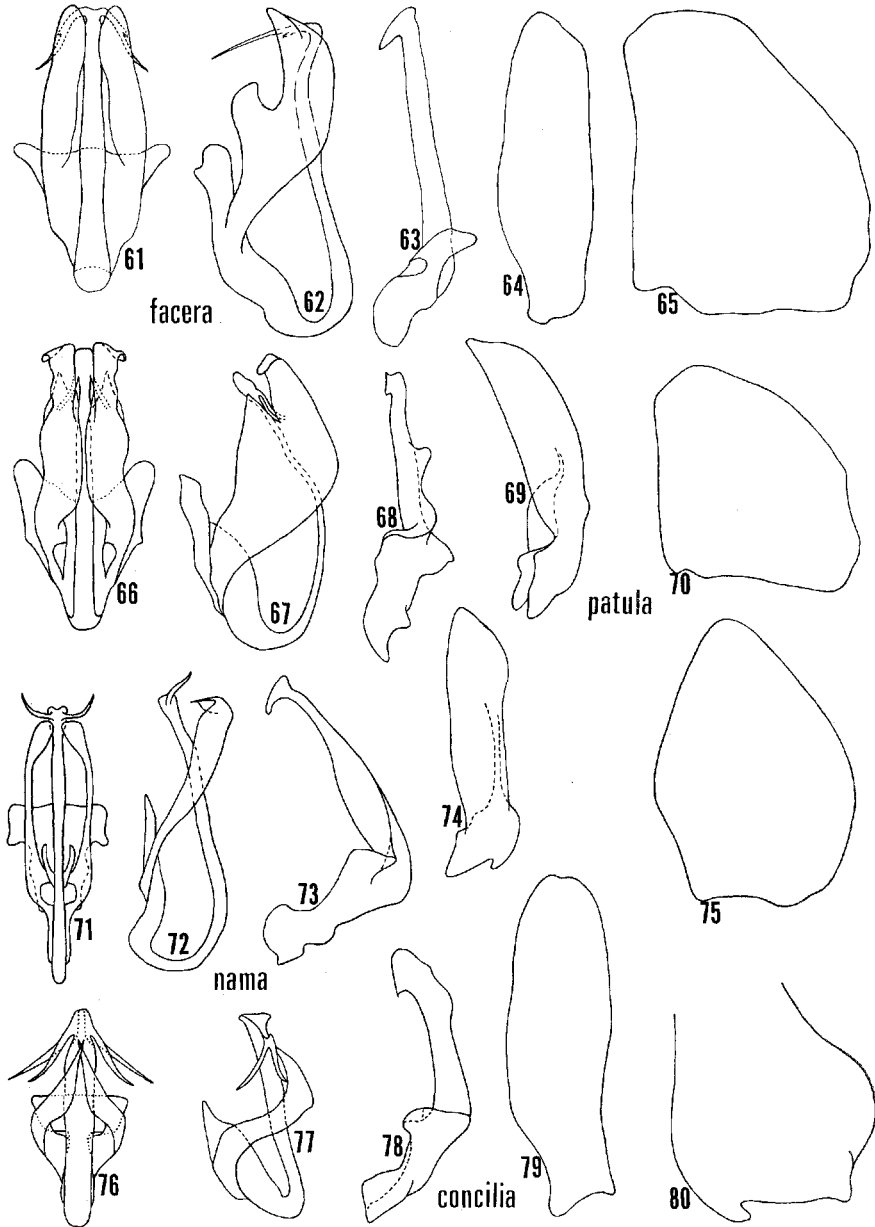
Length of male—9.5 mm. Crown bluntly and angularly produced, twice as wide between eyes at base as median length.

Color: Crown yellow, with sparse punctate red spots. Pronotum yellow with numerous punctate red spots. Scutellum yellow with several punctate red spots; basal angles pale brown, each with a black spot on inner margin at base. Forewings white with yellowish-brown mottling, with four dark-brown spots or pairs of spots on each side across middle of forewings two on each side on commissure and two pairs on corium; rows of small brown spots in apical cells.

Male genitalia: Plates four times as long as wide, apices bluntly pointed. Style with two rounded lobes on ventral margin of basal half of blade, apical half narrower, apical portion with short broad protrusions or dorsal margin, apex blunt, truncate. Aedeagal shaft long,

slender, bearing a pair of very short subapical processes on lateral margins of shaft; paired parameres almost as long as shaft, broadening from base to two-thirds their length, then narrowing to a blunt apex, notched on dorsal margin subapically. Pygofer broadly rounded apically.

Holotype male: Caraguatay, Misiones, Argentina, I-9-1960 (R. Trotta). Paratypes: 5



FIGURES 61-80. Figs. 61, 66, 71, 76, ventral view of aedeagus; figs. 62, 67, 72, 77, lateral view of aedeagus; figs. 63, 68, 73, 78, lateroventral view of style; figs. 64, 69, 74, 79, ventral view of plate; figs. 65, 70, 75, 80, lateral view of pygofer.

male, same data as holotype. Holotype and three paratypes in the LaPlata, Argentina, collection; two paratypes in the DeLong collection.

***Acuera (P.) nama* n.sp.**

(figs. 71, 72, 73, 74, 75)

Length of male—12 mm. Crown twice as wide between eyes at base as median legth. Clavus of forewing without cross veins.

Color: Crown yellowish brown without distinct markings. Pronotum dull yellowish brown with numerous punctate dark-brown spots. Scutellum brown with dark-brown basal angles. Forewings dull yellow, veins red; dark-brown and black mottling between veins.

Male genitalia: Plates four times as long as median width, apices bluntly pointed. Style with blade broadened basally, narrowed on apical third, with a footlike apex, the "toe" extending dorsally. Aedeagal shaft slender, bearing two short subapical processes, arising laterally and extending laterally; paired parameres three-fourths as long as aedeagal shaft, broadened apically, extending ventrocaudally, apex bent dorsally and pointed. Pygofer narrowed apically, bluntly rounded.

Holotype male: Cusco, Peru, along R. Cosnipata, tropical jungle 900 m.a.s.l., VI-26-1952 (F. L. Woytkowski). Paratype: 1 male, same data as holotype, except III-24-1952. Holotype and paratype in the North Carolina State University collection.

***Acuera (P.) concilia* n.sp.**

(figs. 76, 77, 78, 79, 80)

Length of male—9 mm. Crown bluntly angled more than half as long at middle as basal width between eyes.

Color: Crown dull yellow with a black spot at apex and a median longitudinal line from apex to base, pale-brown coloration along margin between apex and eyes, black pigment around ocelli and an elongate black spot at base, caudad to each ocellus. Pronotum dull yellow with punctate brown spots. Scutellum dull yellow with brown basal angles. Forewings yellow, heavily marked with dark-brown spots.

Male genitalia: Plates more than three times as long as median width, apices broadly rounded. Style with broad blade, with a rounded bulge on ventral margin at two-thirds length of blade, dorsal margin curving dorsally at three-fourths length of blade, forming a pointed tooth, apex blunt, rounded. Aedeagal shaft with a pair of bifid subapical spines, appearing as two pairs of spines, one-third length of shaft and bifid near base; paired parameres arising near base, two-thirds as long as aedeagal shaft, extending ventrocaudally, dorsocaudal margin curved, forming a sharp pointed apex. Pygofer with apical margin almost truncate, a rounded protrusion on ventrocaudal margin.

Holotype male: Finca Vergel, Chiapas, Mexico, VI-24-1935 (A. Dampf), in the DeLong collection.

***Acuera (P.) atillana* (Fowler)**

(figs. 81, 82, 83, 84, 85, 110)

Gypona atillana Fowler 1903, p. 305.

Length of male—9 mm, female—11 mm. Crown bluntly angled, one-third wider between eyes at base than median length.

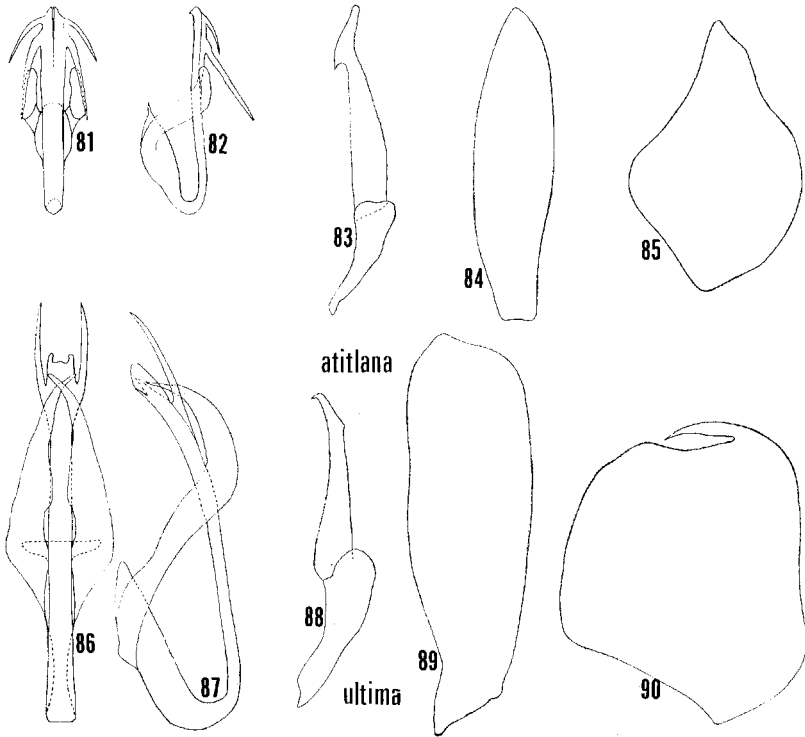
Color: Crown dull yellow with a black spot at apex and at base caudad to each ocellus, a black longitudinal dash anterior to each ocellus. Pronotum dull yellow with numerous punctate brown spots. Scutellum dull yellow with dark brown markings in basal angles. Forewings white with brown veins and dark-brown spots between veins.

Male genitalia: Plates four times as long as median width, apices bluntly pointed. Style with blade narrowed at three-fourths its length; dorsal margin abruptly curved, forming a pointed tooth, ventral margin concavely rounded subapically, forming a slender caudally bent apical portion with a narrow rounded tip. Aedeagal shaft in lateral view narrow, with two pairs of subapical processes, apical pair short, one-third length of shaft, basal pair almost one-half length of shaft, both pairs extending basolaterally; paired parameres arising from

basodorsal portion of aedeagus short, less than one-half length of shaft, extending ventro-caudally to shaft. Pygofer with dorsocaudal portion bluntly angled.

Female genitalia: Seventh sternum with lateral angles rounded, posterior margin broadly, shallowly excavated on each side of a rounded median lobe, lobe one-third width of segment and produced to margin of lateral angles.

Holotype male: Volcan de Atitlan, Panama, in the British Museum of Natural History.



FIGURES 81-90. Figs. 81, 86, ventral view of aedeagus; figs. 82, 87, lateral view of aedeagus; figs. 83, 88, lateroventral view of style; figs. 84, 89, ventral view of plate; figs. 85, 90, lateral view of pygofer.

Acuera (P.) ultima n.sp.

(figs. 86, 87, 88, 89, 90, 108)

Length of male—12 mm, female—13 mm. Crown produced, apex bluntly angled, almost twice as wide between eyes at base as median length.

Color: Crown pale brown, with a dark-brown spot at apex and at base caudad to each ocellus. Pronotum pale brown, with punctate dark-brown spots on disc and posterior portion, a round brown spot caudad to each eye at one-third length of pronotum. Scutellum pale brown, with a longitudinal dark-brown stripe on outer margin of each basal angle. Forewings pale brown with irregular dark-brown markings and a row of four larger black spots across middle.

Male genitalia: Plates three times as long as median width, apex bluntly rounded. Style with blade narrowed on apical half, bearing a subapical pointed tooth on ventral margin, apex bent dorsally, narrowed and pointed. Aedeagal shaft long, slender, with a broad U-shaped apex, the central portion of which is truncate, with long, stout, subapical spines one-fourth length of shaft, arising laterally on each side, extending apically; paired parameres arising

from basodorsal portion of shaft, enlarged on apical third, then tapered to pointed apices, extending almost to apex of shaft. Pygofer with a long apical spine arising ventrocaudally and extending dorsally beyond middle of pygofer.

Female genitalia: Seventh sternum with produced rounded lateral angles. Posterior margin deeply concave one-fourth distance to base each side of a rounded median lobe which is one-half width of segment and produced to length of lateral angles.

Holotype male: Chiapas, Mexico, 1938 (A. Dampf). Allotype female: same data as holotype. Paratypes: 2 male, same data as holotype; 1 male, Tabasco, Mexico, VIII-1938. All types in the DeLong collection.

***Acuera (P.) extara* n.sp.**

(figs. 91, 92, 93, 94, 95)

Length of male—9 mm. Crown bluntly angled, one-third wider between eyes at base than median length.

Color: Crown pale brown, with a black spot at apex and a small black spot on base caudad to each ocellus. Pronotum dull yellow, with irregular brown markings and punctate brown spots, two small proximal median black spots just caudad to anterior margin. Scutellum dull yellow with dark-brown basal angles. Forewings dull yellow with numerous irregular dark-brown markings; veins pale brown.

Male genitalia: Plates more than three times as long as median width, apices rounded. Style with blade serrate on ventral margin, narrowed just basad to enlarged roundly pointed apex, protruding teeth apically and basally. Aedeagal shaft rounded apically, bearing a pair of subapical processes on ventral margin near apex, extending basad one-half length of shaft; paired parameres arising from basodorsal recurved portion of shaft, extending ventroapically to attachment of subapical processes, enlarged apically with a pointed tooth on dorsocaudal margin.

Holotype male: Costa Rica, C.A., No. 24 (C. H. Ballou). Paratype male: Cartago, C. R. X-4-1935, on "Espino," No. 24 (C. H. Ballou). Holotype in the North Carolina University collection, paratype in the U. S. National Museum.

***Acuera (P.) mimica* n.sp.**

(figs. 96, 97, 98, 99, 100)

Length of male, 11 mm. Crown bluntly angled, one-third wider between eyes at base than median length.

Color: Crown dull yellow with a black spot at apex and at base caudad to each ocellus. Pronotum dull yellow with punctate brown spots. Scutellum dull yellow with a brown spot in each basal angle. Forewings white with light brown venation and with dark brown spots and markings between the veins.

Male genitalia: Plates four times as long as median width, apices narrow, rounded. Style with a slender blade rounded at apex and bearing a short pointed tooth on dorsal margin at three-fourths length of blade; apical third of ventral margin serrate. Aedeagal shaft long, slender, apex bifid, forming two proximal apical tips, a pair of subapical processes arising on ventral margin extending laterad and ventrad to one-third length of shaft; paired parameres arising from basodorsal recurved portion of shaft, enlarged apically and extending ventrally across shaft to two-thirds length of shaft. Pygofer narrowed and rounded apically.

A. mimica is closely related to *atitlana* but is distinguished by having one pair of subapical processes, whereas *atitlana* has two pairs.

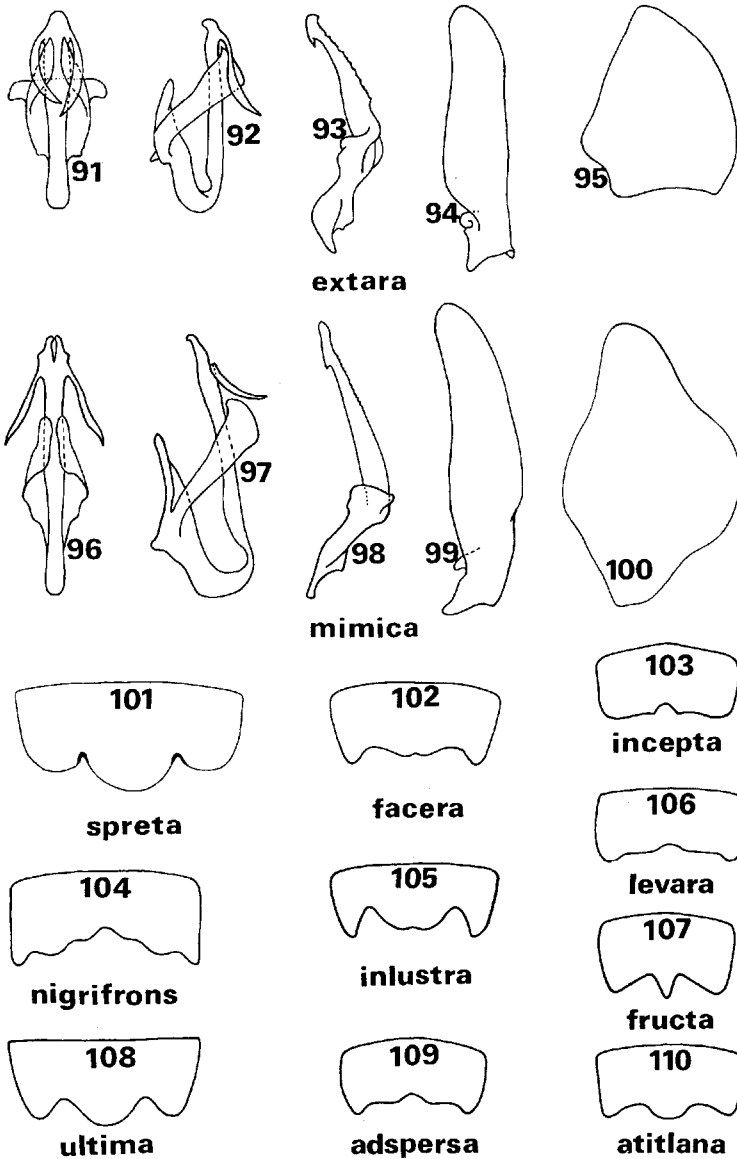
Holotype male: Finca La Isle, Chiapas, Mexico (presented by L. C. Reynolds), in the California Academy of Science collection.

Acuera (P.) spreta (Fowler)

(fig. 101)

Gypona spreta Fowler 1903, p. 304.

Length of female, 12 mm. Crown produced, bluntly rounded at apex, more than half as long at middle than basal width between eyes, margin angled with front. Ocelli a little nearer median line than eyes. Pronotum broadened behind eyes, humeral angles conspicuous.



FIGURES 91-110. Figs. 91, 96, ventral view of aedeagus; figs. 92, 97, lateral view of aedeagus; figs. 93, 98, lateroventral view of style; figs. 94, 99, ventral view of plate; figs. 95, 100, lateral view of pygofer; figs. 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, female seventh sternum.

Color: Crown pale brown, with a pair of small dark brown spots just before ocelli and another pair on base behind ocelli. Pronotum with brownish flecks and spots, some a little larger and more definite on anterior portion. Scutellum pale, with a pair of darker elongate dashes just inside basal angles. Forewings pale with veins conspicuous and numerous small brown spots between them, a pair of proximal large brown spots on clavus at about middle.

Female genitalia: Seventh sternum with lateral angles rounded to posterior margin, which

is notched each side of a broad, produced median lobe, lobe half width of segment and produced well beyond posterior margin of lateral angles.

Type: Holotype female, Labeled "Guatemala," in the British Museum of Natural History.

Note: This species is tentatively placed in this subgenus until the male is known.

LITERATURE CITED

- DeLong, D. M., and P. H. Freytag.** 1972. Studies of the Gyponinae: A key to the known genera and descriptions of five new genera. *J. Kansas Entomol. Soc.* 45(2): 218-235; 70 figs.
- Fowler, W. W.** 1903. Order Rhynchota, suborder Hemiptera-Homoptera (continued). *Biologia Centrali-Americana*. 2: 293-316; pls. 20-21.
- Osborn, H.** 1938. Art. II. Neotropical Homoptera of the Carnegie Museum. Part 7. Report of species of the subfamily Gyponinae. *Ann. Carnegie Museum* 27: 11-62; 5 pls.
- Stal, C.** 1854. Nya Hemiptera. *Ofv. Svenska Vct. Akad. Forh.* 11: 231-255.
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