

NEOTROPICAL MIRIDAE, CLV: *JUAREZICORIS*. *MIXTECAMIRIS* AND *QUERETARIUS*, NEW GENERA OF ORTHOTYLINI (Hemiptera)¹

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(With 15 text figures)

Collecting in the arid regions of Mexico after the early summer rains has revealed a relatively rich and diverse mirid fauna. Many, perhaps more than half of these forms taken in the course of collecting have been found to be undescribed. Three such new orthotyline genera are presented in this paper. The illustrations accompanying the descriptions of these new genera and species were prepared by Mrs. Aídee Mendes Barbeodo, Paulo Wallerstein and Dr. J. C. M. Carvalho.

Juarezicoris n. gen.

Orthotylinae, Orthotylini. Characterized by the long antennae with segment III exceptionally long; the shape of the head

especially the eyes, the carinate pronotum; the elongate body; and the two types of pubescence composed of short semierect setae and short decumbent golden to silvery hairs.

Head wider than long, more or less horizontal; smooth; vertex flat, not rounded or carinate; frons broadly convex; clypeus conspicuous, compressed laterally, curved; jugum flattened; lorum rounded, small; genal area reduced; buccula not prominent; eyes prominent, elongate, reaching gula ventrally in male, below antennal socket in female, located at rear of head almost touching pronotum; vestiture consisting of fine erect and semierect hairs. Rostrum reaching hind coxae; segment I thickest and shortest, reaching anterior margin of prosternum; segments II, III and IV approximately subequal in length. Antennal socket touching eye; antenna much longer than body; segment I longer than width of head, hairs short, dark and appressed; segment II slender, cylindrical, about twice as long as I; segment III longest, about 3 times as long as I, more slender than II; IV about as long as I, most slender; vestiture on segments II,

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III and IV consisting of very short appressed and semierect hairs.

Pronotum smooth, only slightly declivent anteriorly; lateral margins distinctly carinate; calli obsolete; posterior margin straight or very slightly convex, covering most of mesoscutum; posterior corners rounded; scutellum slightly convex; hemelytra with sides parallel; veins indistinct; cuneus of male twice as long as width at base, that of female slightly shorter than twice as long as width; vestiture of pronotum, mesoscutum, scutellum and hemelytra consisting of short semierect bristlelike hairs and decumbent hairs. Legs slender with short appressed hairs; tibiae with longitudinal rows of minute corrugations and several rows of spines, spines about as long as diameter of tibia; arolia conspicuous, of typical orthotyline type.

TYPE SPECIES OF GENUS, *JUAREZICORIS ANTENNATUS* n. sp.

Juarezicoris antennatus n. sp.

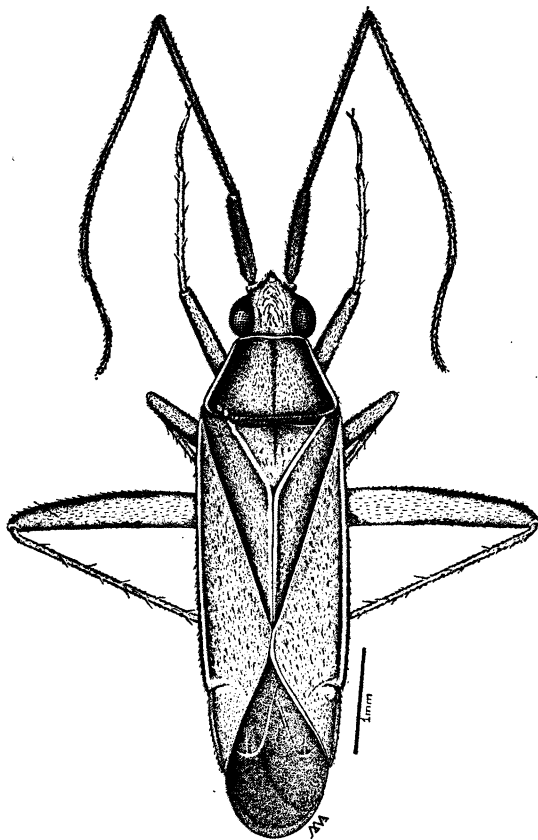
(Figs. 1-5)

Characterized by the color, dimensions and structure of the male genitalia.

MALE (measurements taken from 20 specimens, those of holotype given first followed in parenthesis by the average and the ranges): Length, 5.20 mm (5.15 mm, 4.70-5.80 mm); width, 1.40 mm (1.38 mm, 1.22-1.56 mm). Head length, 0.52 mm (0.52 mm, 0.48-0.58 mm); width through eyes, 0.84 mm (0.81 mm, 0.72-0.84 mm); vertex width, 0.28 mm (0.30 mm, 0.28-0.32 mm). Length of antennal segment I, 1.00 mm (0.93 mm, 0.82-1.06 mm); II, 2.12 mm (2.13 mm, 1.84-2.50 mm); III, 2.64 mm (2.73 mm, 2.18-3.40 mm); IV, 0.92 mm (0.91 mm, 0.72-1.10 mm). Pronotal length, 0.76 mm (0.75 mm, 0.68-0.86 mm); width, 1.24 mm (1.22 mm, 1.08-1.38 mm).

Cuneal length, 0.82 mm (0.82 mm, 0.76-0.94 mm); width, 0.44 mm (0.43 mm, 0.36-0.52 mm).

General coloration pale; antennae brown to reddish brown; lateral areas of frons, areas along eyes, apices of femora, tibiae pale yellow; middorsal line on pronotum continuing onto scutellum orange; some specimens with orange coloration on clavus near scutellum and on exocorium; occasionally areas immediately around eyes and anterior corners of pronotum with reddish coloration; pronotal carina whitish to pale yellow; lateral areas of pronotum bordering margin, corium and clavus except along claval commissure light fuscous; embolium hyaline; cuneus pale yellow to yellowish-orange; apex of rostrum, apex of



Juarezicoris antennatus n. sp. Fig. 1 — male, paratype.

hind tibiae and tarsi fuscous; membrane dark fuscous.

Morphological characters as given for genus.

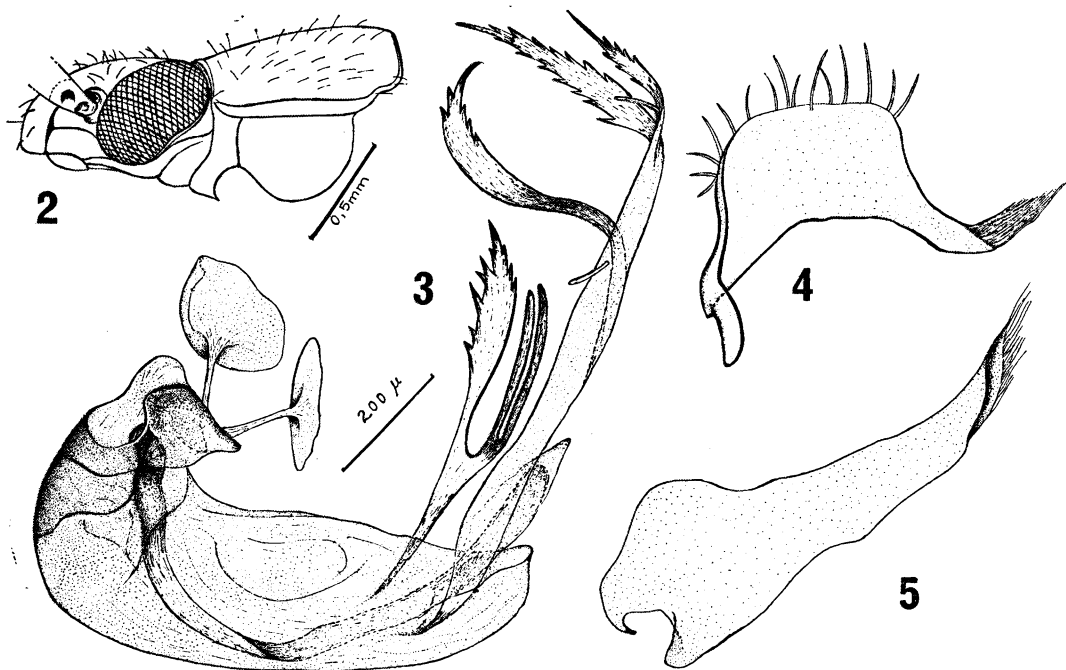
Genitalia: Penis of orthotyline type; vesica with four sclerotized spiculi each bearing acute serrations as shown in illustration (Fig. 3). Left paramere (Fig. 4) widest at middle, upper surface convex and with setae. Right paramere (Fig. 5) widest near apex as seen from dorsal side, with two apical projections appearing opposed, one blunt the other sharp.

FEMALE (measurements taken from 20 specimens, those of holotype given first followed in parenthesis by the average and the ranges): Length, 5.56 mm (5.35 mm, 4.72-5.88 mm); width, 1.46 mm (1.47 mm, 1.28-1.64 mm). Head length, 0.58 mm (0.58 mm, 0.52-0.74 mm); width through eyes, 0.80 mm (0.78 mm, 0.74-0.82 mm);

vertex width, 0.38 mm (0.36 mm, 0.34-0.40 mm). Length of antennal segment I, 1.04 mm (1.04 mm, 0.90-1.16 mm); II, 2.34 mm (2.37 mm, 2.14-2.64 mm); III, 3.16 mm (2.95 mm, 2.48-3.60 mm); IV, 1.10 mm (0.98 mm, 0.84-1.12 mm). Pronotal length, 0.74 mm (0.77 mm, 0.68-0.90 mm); width, 1.28 mm (1.27 mm, 1.20-1.40 mm). Cuneal length, 0.82 mm (0.83 mm, 0.76-0.92 mm); width, 0.48 mm (0.46 mm, 0.40-0.54 mm).

Similar to male in color and vestiture.

HOLOTYPE: male, Mexico: Oaxaca, 12 mi. w. Tehuantepec, July 11, 1971, taken at light, Clark, Murray, Hart, Schaffner. Deposited in the *National Museum of Natural History*, Washington, D.C. **ALLOTYPE:** female, same data as holotype. Deposited in the *National Museum of Natural History*. **PARATYPES:** 16 males, 9 females, same data as holotype; 2 males, 2 females, same data as holotype except not taken at light; 4



Juarezicorio antennatus n. sp. Fig. 2 — side view of head; fig. 3 — penis, with everted vesica; fig. 4 — left paramere; fig. 5 — right paramere.

males, 2 females, 9 mi. w. Tehuantepec, Oax., Mex., VI-25-65, at light, Burke, Meyer, Schaffner; 3 males, 1 female, Mexico: Oaxaca, 2.7 mi. nw. El Cameron, July 13, 1971, taken at light, Clark, Murray, Hart, Schaffner; 1 female, 13 km. west of Tehuantepec, Oaxaca, Mexico, Aug. 11, 1967, el. 100', H. R. Burke and J. Hafernik; 1 female, Mexico, Oaxaca, 11.6 miles west of Jalapa del Marques, July 12, 1971, taken at light, Clark, Murray, Hart, Schaffner; 1 female, 49 mi. south Iguala, Gro., Mex., VII-12-66, P. M. and P.K. Wagner. Deposited in the collection of the *Dept. of Entomology*, Texas A&M University, College Station, *Museu Nacional*, Rio de Janeiro, and the collection of the senior author.

Mixtecimiris n. gen.

Orthotylinae, Orthotylini. Characterized by its black stiff bristlelike pubescence; its relatively short rostrum; and very short first antennal segment.

Head much wider than long; declivent, frons and clypeus more or less rounded and verticle; smooth; shining; vertex weakly margined near eyes, width about 1 1/2 times diameter of eye as seen from above, setose laterally; clypeus prominent, slightly compressed laterally; genal area reduced; lorum and jugum flattened; buccula prominent; eyes located at rear of head almost touching pronotum, elongate vertically occupying most of side of head, obscurely setose; vestiture consisting primarily of prominent black bristle-like semierect setae, hairs on clypeus shorter and lighter. Rostrum not surpassing mesosternum; segment I reaching anterior margin of prosternum. Antennal socket bordering eye; antennal segment I short, about 2/3 length of vertex width; second antennal segment linear, about 3 1/2 times length of segment I; diameter of apex of segment II about equal to greatest diameter of I; segments setose,

segment I with 2 or 3 erect hairs approximately equal to diameter of segment; II, III, and IV without erect or semierect hairs.

Pronotum smooth, shining; lateral margins rounded; calli obsolete; posterior margin slightly and gradually incised, not covering posterior margin of mesoscutum; vestiture consisting of decumbent black bristlelike setae, semierect or erect along anterior margin; scutellum smooth, slightly convex; hemelytra impunctate, somewhat translucent; cuneus slightly less than 1 1/2 times longer than wide; mesoscutum, scutellum and hemelytra rather densely covered with decumbent bristlelike black setae. Under-side of body with ostiolar peritreme small; legs with decumbent brown hairs, tibiae with spines about as long as diameter of tibia; arolia slender, of orthotyline type, converging apically.

Male genitalia with pygophore somewhat phyline-like, left paramere erect, prominent, right paramere smaller.

TYPES SPECIES OF GENUS, MIXTECAMIRIS SETOSUS n. sp.

Mixtecimiris setosus n. sp.

(Figs. 6-10)

Characterized by color, dimensions and structure of male genitalia.

MALE (measurements taken from 9 specimens, those of holotype given first followed in parenthesis by the average and the ranges): Length, 4.04 mm (3.80 mm, 3.54-4.04 mm); width, 1.34 mm (1.30 mm, 1.22-1.42 mm). Head length, 0.42 mm (0.35 mm, 0.30-0.42 mm); width through eyes, 0.76 mm (0.74 mm, 0.72-0.76 mm); vertex width, 0.34 mm (0.31 mm, 0.30-0.34 mm). Length of antennal segment I, 0.24 mm (0.23 mm, 0.22-0.24 mm); II, 0.92 mm (0.89 mm, 0.82-0.98 mm); III, 0.64 mm (0.60 mm, 0.58-0.64 mm); IV, 0.26 mm (0.27 mm, 0.26-0.30 mm). Pronotal

length, 0.62 mm (0.60 mm, 0.58-0.64 mm); width, 1.20 mm (1.16 mm, 1.08-1.22 mm). Cuneal length, 0.62 mm (0.60 mm, 0.56-0.62 mm); width, 0.42 mm (0.42 mm, 0.36-0.44 mm).

General coloration greenish yellow with areas of dark brown or fuscous; head, embolium, cuneus, most of underside and legs greenish yellow to yellowish brown; anterior and lateral margins of pronotum greener; antennae, apex of rostrum, most of pronotal disc, scutellum, most of corium, membrane except for small pallid spot contiguous with apex of cuneus, areas of mesosternum, ventral surface of genital capsule, dorsum of abdomen fuscous; tibiae and tarsi light fuscous.

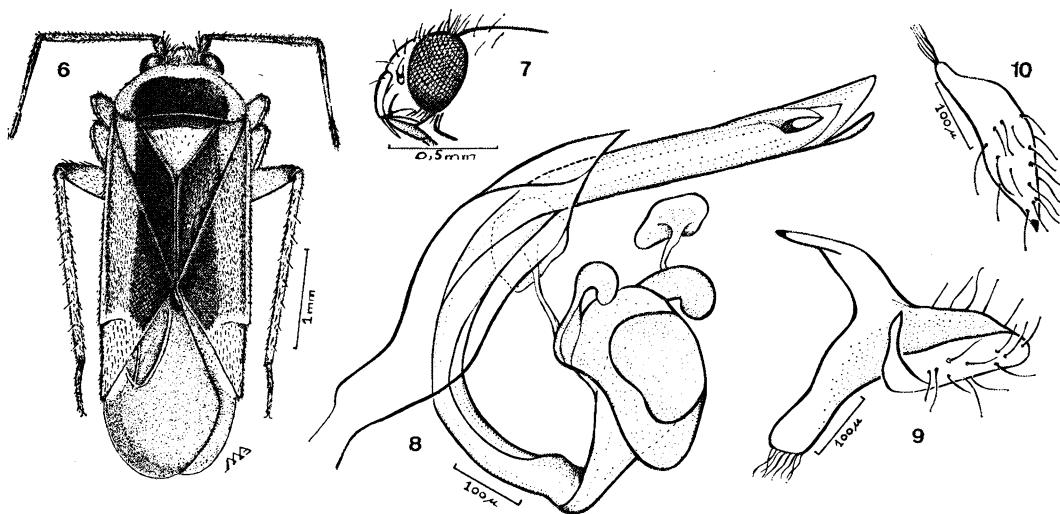
Morphological characters as given for genus.

Genitalia: Penis of phyline type with theca not attached to basal plate (Fig. 8). Vesica elongate, sclerotized with secondary gonopore opening subapically, apex bifurcate (Fig. 8). Left paramere branched, as seen from ventral side left prong acute, the right strongly curved (Fig. 9). Right paramere small, simple with dorsal setae and sclerotized acute point (Fig. 10).

FEMALE (measurements taken from 7 specimens; those of allotype given first followed in parenthesis by the average and the ranges): Length, 3.66 mm (3.59 mm, 3.34-3.86 mm); width, 1.42 mm (1.34 mm, 1.26-1.42 mm). Head length, 0.36 mm (0.36 mm, 0.34-0.36 mm); width through eyes, 0.74 mm (0.71 mm, 0.70-0.74 mm); vertex width, 0.38 mm (0.35 mm, 0.34-0.38 mm). Length of antennal segment I, 0.22 mm (all); II, 0.90 mm (0.86 mm, 0.82-0.92 mm); III, 0.60 mm (0.60 mm, 0.54-0.64 mm); IV, 0.28 mm (0.28 mm, 0.26-0.30 mm). Pronotal length, 0.64 mm (0.59 mm, 0.56-0.64 mm); width, 1.24 mm (1.18 mm, 1.16-1.24 mm). Cuneal length, 0.54 mm (0.54 mm, 0.52-0.60 mm); width, 0.42 mm (0.42 mm, 0.38-0.46 mm).

Color and vestiture similar to males.

HOLOTYPE: male, Mexico: Puebla, 1.6 mi. sw. Zapotitlan, July 16, 1971, Clark, Hart, Murray, Schaffner. Deposited in the National Museum of Natural History, Washington, D. C. ALLOTYPE: female, same data as holotype. Deposited in the National Museum of Natural History. Paratypes: 8 males, 6 females, same data as holotype.



Mixtecimiris setosus n. sp. Fig. 6 — male, paratype; fig. 7 — side view of head; fig. 8 — penis with theca; fig. 9 — left paramere; fig. 10 — right paramere.

Deposited in the collection of the *Department of Entomology*, Texas A&M University, College Station and in the *J. C. M. Carvalho collection*, Rio de Janeiro.

Queretarius n. gen.

Orthotylinae, Orthotylini. Characterized by the diameter of the third and fourth antennal segments; the smooth and shining pronotum; the hyaline corium; the ear-like ostiolar peritreme; and the long erect setae especially on the head, antennae and pronotum.

Head about twice as wide as long; strongly declivent, frons and clypeus almost verticle; smooth, shining; posterior margin of head with distinct carina bearing row of several elongate setae; vertex width proportionally much greater in female than male; genal area reduced; frons with several conspicuous elongate setae near eye; eyes prominent, strongly granulate, proportionally larger on males than females, located at rear of head, minutely and sparingly setose. Rostrum of male reaching midcoxae, slightly longer in female; some erect setae longer than diameter of rostrum; antennal socket contiguous with eye; diameter of antennal segments III and IV at least as great as diameter of segment II; segment II very slightly incrassate at apex hairs primarily decumbent but with occasional long semierect or erect setae especially on segments I and II.

Pronotum smooth, strongly shining, only slightly declivent; distinct collar-like area; lateral margins rounded; calli not discernable; long erect setae and short hairs scattered sparsely over pronotum, long setae about as long as diameter of eye as seen from above; posterior margin almost straight leaving a portion of the mesoscutum exposed; scutellum flat, decumbent hairs at base and along sides, elongate erect setae as on pronotum. Hemelytra punctate especially on the transparent corium; hyaline except

for cuneus and embolium; vestiture same type as scutellum; cuneus somewhat longer than wide. The region immediately around ostiolar peritreme unusually developed and projected dorsally and more or less away from remaining evaporatorium, ear-shaped; legs shining; tibiae with rows of spines, length of spines about equal to diameter of tibia; claws and arolia of orthotyline type.

TYPE SPECIES OF GENUS, *QUERETARIUS HYALINIPENNIS* n. sp.

Queretarius hialinipennis n. sp.

Characterized by the color, dimensions and the structure of the male genitalia.

MALE (measurements of holotype given first followed by those of single paratype): Length, 3.14 mm (wings extended laterally on paratype); width, 1.04 mm (holotype). Head length, 0.30 and 0.32 mm; width through eyes, 0.66 mm (both); vertex width, 0.20 and 0.22 mm. Length of antennal segment I, 0.32 mm (both); II, 1.04 and 1.02 mm; III, 0.52 mm (both); IV, 0.40 and 0.38 mm. Pronotal length, 0.52 and 0.54 mm; width, 1.02 and 1.04 mm. Cuneal length, 0.48 and 0.44 mm; width, 0.34 and 0.36 mm.

General coloration shining black, hemelytra hyaline except for embolium, cuneus and extreme inner margin of clavus and corium; membrane pale fuscous, apices of tibiae and basal two segments of tarsi pale; rostrum and apical tarsal segment fuscous.

Morphological characters as given for genus.

Genitalia: Pygophore (Fig 12) apically with curved, blunt process on ventral surface. Penis (Fig. 13) of orthotyline type, vesica simple without spiculi etc., basal plate simple. Left paramere (Fig. 14) sickle-shaped with blunt lobe on one side. Right paramere (Fig. 15) small, rounded and capitate apically with several dorsal setae.

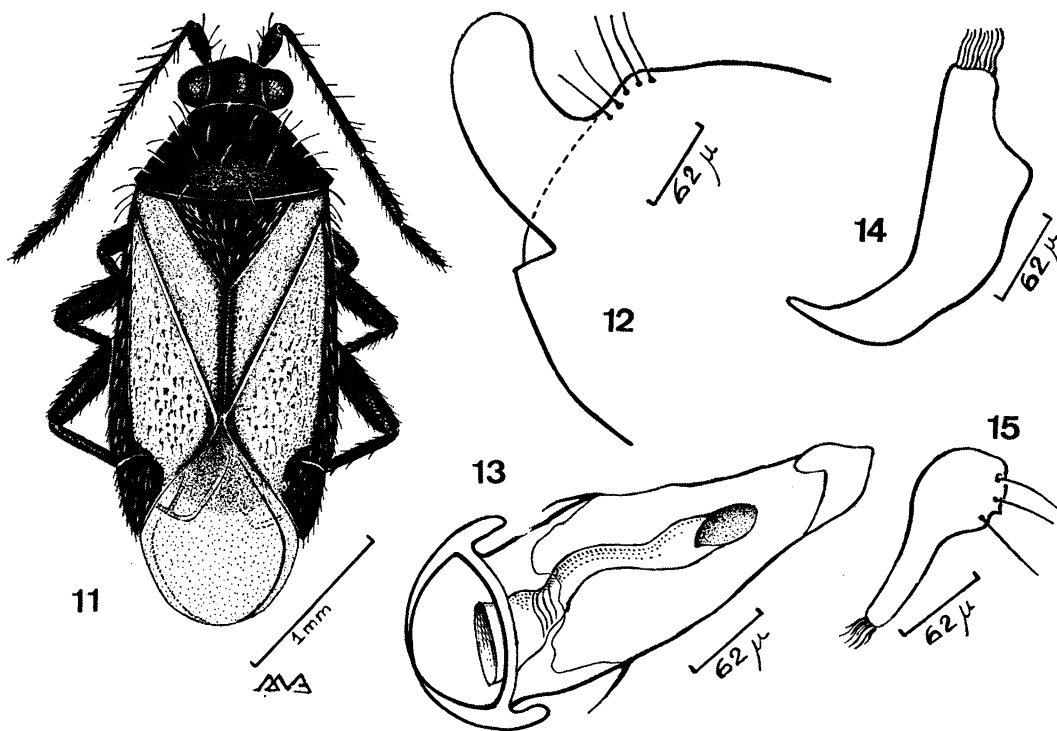
FEMALE (measurements of allotype given first followed in parenthesis by those of the two paratypes): Length 3.16 mm (3.24 and 3.40 mm); width, 1.20 mm (1.26 and 1.28 mm). Head length, 0.32 mm (0.30 and 0.34 mm); width through eyes, 0.62 mm (0.64 and 0.66 mm); vertex width, 0.26 mm (0.28 mm (both)). Length of antennal segment I, 0.30 mm (0.30 and 0.32 mm); II, 0.90 mm (0.88 and 0.96 mm); III, 0.44 mm (0.44 and 0.48 mm); IV, 0.34 mm (0.34 and 0.38 mm). Pronotal length, 0.54 mm (0.56 mm (both)); width, 1.00 mm (1.10 and 1.14 mm). Cuneal length, 0.44 mm (all); width, 0.40 mm (all).

HOLOTYPE: male, 14 miles west of Landa de Matamoros, Queretaro, Mexico, July 23, 1970, at light, Schaffner, Murray, Phelps, Hart. Deposited in the *National*

Museum of Natural History, Washington, D.C. **ALLOTYPE:** female same data as holotype. Deposited in the *National Museum of Natural History*. **PARATYPES:** 1 male, 2 females, same data as holotype. Deposited in the collection of the *Department of Entomology*, Texas A&M University, College Station and in the collection of the senior author.

SUMMARY

The authors describe three new genera and three new species of Orthotylini (Orthotylinae, Miridae) as follows: *Juarezicoris* n. gen., *J. antennatus* n. sp., Oaxaca, Mexico; *Mixtecaminis* n. gen., *M. setosus* n. sp., Puebla, Mexico; *Queretarius* n. gen., *Q. hyalinipennis* n. sp., Queretaro, Mexico. Illustrations of the insects and the male genitalia are included.



Queretarius hyalinipennis n. sp. Fig. 11 — female, paratype; fig. 12 — ventral prong of pygo-phore; fig. 13 — penis, male, holotype; fig. 14 — left paramere; fig. 15 — right paramere.