

## FAUNA MEXICANA.—II

(Insecta Homoptera, familia Cicadellidae; genus *Phlepsius*).

# Los Phlepsidos (*Phlepsius* y *Texananus*) de México (Homoptera-Cicadellidae)

Por el Dr. Dwight M. DeLong, Profesor de Entomología, Ohio State University, Columbus, Ohio, Estados Unidos del Norte.

Con las láminas 53-56

The *Phlepsius* (*Phlepsius* and *Texananus*) of Mexico (Homoptera-Cicadellidae).  
Dwight M. DeLong.—The Ohio State University.

The interesting insect fauna of this country can be ascertained only by the collections and observations made by various entomologists from time to time. No intensive or systematic collecting has been attempted except the recent work of Dr. Alfons Dampf, Professor of Entomology, Escuela Nacional de Ciencias Biológicas, who initiated a program some years ago anticipating a more uniform and systematic method of studying the Mexican fauna.

In 1918 Dr. E. D. Ball published a list of the Mexican species of the Phlepsid group (The Phlepsids of Mexico and Central America, Ann. Ent. Soc. America, 11:381-388) together with the description of several new species which were contained in his material. Apparently no published records from that country have been added during the past twenty years. More recently Charles Plummer, Dr. J. S. Caldwell and especially Dr. Alfons Dampf, have collected several species in this group and have forwarded the material to the author for study. Dr. Ball's list included some twelve species, six of which he described as new. The present

treatment includes the records of five additional species, not previously reported from Mexico, and the description of ten species which are apparently undescribed.

The types are in the collection of the author.

1. *Phlepsius costomaculatus* V. D. (pl. 53, fig. 5, 6, pl. 56, fig. 3).

*P. costomaculatus* V. D. Bull. Buf. Soc. Nat. Hist. 5:207, 1894.

Only one locality was reported by Ball in 1918. He cited specimens taken at Teapa, Tabasco, Mexico, February. Specimens from the following localities, collected by A. Dampf, are at hand: El Mante, Tamaulipas; La Forestal, Veracruz; Atencingo, Puebla; Tolosa, Oaxaca; Tierra Blanca, Veracruz; Centinela, Colima; Balsas, Rio Balsas, Guerrero; Tonalá, Chiapas; and several localities in Guatemala.

The male plates are long and slender, concavely narrowed to slender pointed apices. Pygofer exceeding plates in length, produced and pointed on dorsal caudal portion. Aedeagus with a narrow anterior and a narrow posterior process extending from basal portion. The anterior process is short, the posterior process is more than twice as long and is narrowed to a pointed tip.

2. *Phlepsius utabimus* Ball (pl. 53 fig. 1, 2, pl. 56 fig. 2).

*P. utabimus* Ball. Can. Ent. 41:79, 1909.

Ball reports this species from Comondú, Lower California, Mexico. No specimens from Mexico are at hand for study.

The male plates are long, triangular convexly rounded, then tapered to bluntly pointed apices. The aedeagus connective is twice as long as aedeagus which is bulbous and enlarged at base with a pair of long divergent processes at apex which curve dorsally laterally and anteriorly to basal margin of body of aedeagus. Styles short, narrowed to form apical finger-like processes which are curved outwardly.

3. *Phlepsius lascivius* Ball (pl. 53 fig. 3, 4, pl. 56 fig. 4).

*P. lascivius* Ball. Can. Ent. 32:200, 1900.

*P. micronotatus* Osb. & Lath. Ann. Ent. Soc. Amer. 16:321, 1923.

This is a common species throughout the southwestern United States, but has previously not been reported from Mexico although described as *P. micronotatus* by Osborn and Lathrop. Specimens are at hand from Huaxtla, Jalisco, November 23, 1934 and from Yurécuaro, Michoacán, July 31, 1934 (Dampf).

Specimens are usually marked by black on the upper portions of the face.

The male plates exceed the pygofer in length and are narrowed to rather broadly rounded apices. The aedeagus is unique, consisting of a broad short

aedeagus body which is bent abruptly backward on itself ventrally just before apex which is strikingly widened and is truncate or concave at apex. A pair of slender processes arise on dorsal portion at base and extend into the cavity formed by the recurved bending. The pygofer each bear a vertical plate on the caudal margin with a dorsally directed spine.

4. *Phlepsius continuus* DeLong (pl. 53, fig. 15, pl. 56, fig. 5).

*P. continuus* Del., Lloydia 1:239, 1938.

This species was recently described from material taken in southern Texas. Specimens from Mexico are at hand collected at Granja Experimental Rodriguez, Nuevo León, June 5, 1930; La Forestal, Veracruz, October 14, 1926, and December 13, 1926; and Coscomatepec, Veracruz, November 30, 1924 (all by Dampf.).

It is closely related to *turpiculus* Ball, but differs by having a pygofer shorter than the plates with a spine on the dorsal caudal margin which curves from the dorsal surface extending ventrally over the apex of the pygofer and slightly below the ventral margin. The aedeagus is short, broadened on apical two-thirds, truncate on caudal margin and with a ventral caudal pointed hook.

5. *Phlepsius dampfi* n. sp. (pl. 53 fig. 7, 16, pl. 56 fig. 1).

In form and general appearance resembling *suscipiens*, but with a broad median produced tooth on female segment and male plates short, broad, and slightly bilobed at apex. Length, male 6 mm.; female 7 mm.

Vertex broadly, bluntly angled, almost parallel margined, two and one half times as wide between eyes as median length. Vertex bluntly angled with front.

Color: Yellowish, vertex, pronotum and scutellum rather heavily irrorate. Scutellum with a white spot at apex and one near middle on outer margin of either side. Elytra heavily and evenly irrorate, with minute spots, three round white areolar spots on each side of sutural line.

Genitalia: Female last ventral segment almost truncate on posterior margin roundedly excavated either side of a median broad blunt tooth one fourth the width of segment which is slightly notched at middle. Male plates short, broad at apex which is blunt and slightly notched at middle forming a bilobed apex. Pygofer tapering and rounded at apex, a long spine-like process arising about middle of dorsal margin, curving ventrally then dorsally.

Aedeagus with a terminal process curving dorsally, enlarged and with a narrowed terminal process extending apically.

Holotype male from Granja Experimental Rodríguez, Nuevo León, Mexico, June 5, 1930 and allotype female, Saltillo, Coahuila, Mexico, June 10, 1931 (Dampf.).

I take pleasure in dedicating this unique species to Dr. Alfons Dampf, who has collected many interesting species in this group.

6. *Pblepsius extremus* Ball (pl. 53, fig. 9, 11, pl. 56, fig. 6).

*P. extremus* Ball. Can. Ent. 33:10, 1901.

This species was reported from Tijuana, Lower California, Mexico, June and August, by Ball. No specimens from Mexico have been examined.

The male plates are elongate, triangular and tapered to sharp pointed apices, exceeding the pygofer in length. The aedeagus in lateral view is broad, with a deep notch on caudal margin so as to form a slender ventral portion and a broader dorsal apical portion which is curved caudally and dorsally. The pygofer are almost as broad as long and bluntly pointedly produced at middle on caudal margin. The styles are abruptly narrowed near base and narrowly produced to near apex where they are notched on outer margin and produced into short curved finger-like processes.

7. *Pblepsius parrai* n. sp. (pl. 56 fig. 7).

In general appearance resembling *extremus* but with pale ovate spot at apex of vertex enclosing a pair of irrorate spots, a pair of round black spots either side at base, and female segment broadly deeply excavated between produced lateral angles with a V-shaped notch at center. Length, female, 5.5 mm.

Vertex bluntly angled, almost twice as wide between eyes as median length. One third longer at middle than next the eyes. Vertex bluntly angled with front.

Color: yellowish to dull brown, irrorate with dark brown. Vertex with an elongate ovate white spot just above margin more than half the width of the vertex and enclosing a pair of large irrorate spots. A pair of round black spots on base, one either side close to eye. Pronotum, scutellum, and elytra irrorate without definite markings. Face almost black above, shading to dark brown on ventral portion.

Genitalia: Female last ventral segment with lateral angles prominently produced between which the posterior margin is broadly, rather deeply excavated half way to the base. At the middle of the excavation there is a V-shaped notch with a narrow incision at the apex and a short rounded lobe either side.

Holotype female from Jetla, Guerrero, Mexico, collected by José Parra, August 11, 1930 and submitted for study by A. Dampf.

8. *Texananus cuspidatus* n. sp. (pl. 53 fig. 14, 17, pl. 56 fig. 17).

Resembling *bialtus* in size, form and coloration, but with male plates concavely indented on outer margin before apices and with pygofer sloping to produced ventral margin. Length 6.5-7 mm.

Vertex short, broadly rounded, only slightly produced at middle, twice as wide between eyes as median length. Elytra flaring at apex.

Color: Vertex yellowish with irregular mottling so as to leave a pale curved band between ocelli. Pronotum irregularly mottled. Scutellum with a pair of

round spots on anterior portion of disc. Elytra with distinct but scattered mottlings and with three rather distinct lobate spots along commissure. Face pale with dark brown arcs, central portion irrorate.

Genitalia: Female last ventral segment roundedly produced from the base to a slight rounded tooth either side of a median broad V-shaped notch which extends more than half way to the base and bears a slight tooth on inner margin each side more than half way to apex. Male plates concavely indented on outer margin before bluntly pointed apices. Styles rather broad on apical two thirds, slightly enlarged at apex which is almost truncate and pointed on inner margin. Pygofer in lateral view sloping to produced ventral, pointed apex. Dorsal portion of aedeagus twice curved upward. Central portion enlarged, apical half sickle shaped. Ventral portion of aedeagus long tapered to a pointed apex.

Holotype male, allotype female, and male and female paratypes from Finca Vergel, Chiapas, Mexico, collected from May 11 to 30, 1935 (Dampf.)

9. *Texanamus ovatus* (V. D.) (pl. 53 fig. 10, 13, pl. 56 fig. 8).

*P. ovatus* V. D. Trans. Amer. Ent. Soc. 19:79, 1892.

Ball reports this species from Cuernavaca, Morelos; Jalapa, Veracruz; Amulema, and Tijitana. Recent study has indicated that several species were previously confused and placed under the name *ovatus*. No specimens collected by Dr. Dampf can be determined as *ovatus*.

The type of *ovatus* has a male aedeagus which is composed of a ventral and dorsal portion. The ventral portion is straight and rather heavy, sharply pointed on the ventral caudal margin and with a pair of pointed spines on the dorsal margin at the point where it begins to slope to the ventral apical pointed tip. The dorsal portion is concavely rounded on the dorsal margin either side of a median broad slightly produced tooth. The apex is narrowed to a slender sharp pointed tip which is curved strongly dorsally and anteriorly. The male plates are short and broadly rounded, broader than long and decidedly exceeded by the pygofer. The styles are long, the apical two thirds is narrow and rather broadly, bluntly rounded at the apex.

10. *Texanamus vermiculatus* DeL. (pl. 55 fig. 6, 8, pl. 56 fig. 9).

*T. vermiculatus* DeL. Ohio Jour. Sci. 38:42, 1938.

*T. vermiculatus* has apparently been confused with and designated as *superbus* but it is distinct and can easily be separated by the internal male genital structures. It was only recently described and may have been confused with *superbus* in the series which Dr. Ball used for previous study.

The male plates are very short and broadly rounded, broader than long. The pygofer exceed the plates by more than their length and are somewhat narrowed and bluntly, roundedly produced at apex. The aedeagus is composed of three

processes. A pair of long curved ventral processes are about as long as the pygofer, each of which bears a branched process at about one-third its length. The median process is dorsal, enlarged at base, rapidly narrowed to a long slender portion which is curved and produced dorsally to the dorsal margin of the pygofer. The styles are rather long, narrowed on apical half, rather blunt at apex and curved outwardly.

Specimens are at hand from Yaqui Valley, Sonora, August 11 and 12, 1927 and from Guadalajara, Agua Azul, Jalisco, Mexico, June 11, 1927 (Dampf.).

11. *Texananus superbus* (V. D.) (pl. 55 fig. 7, 10, pl. 56 fig. 10).

*T. superbus* V. D. Trans. Amer. Ent. Soc. 18:81, 1892.

Ball reported this species from Tijuana, Baja California, June and Mezcalo, Guerrero, Mexico. Specimens which agree with the type of the species are at hand from El Mante, Tamaulipas, Mexico, June 1, 1931, and Granja Experimental Rodriguez, Nuevo León, México, June 5, 1930 (Dampf.).

The male plates are short, strongly convexly rounded and are broader than long. The pygofer exceed the plates by almost twice their length and are each abruptly narrowed and produced in a blunt tooth-like structure at the apex. The aedeagus is composed of a pair of ventral and a median dorsal portion. The ventral processes are straight and blade-like and narrowed at the apex to the pointed, spine-like process on the ventral margin. The dorsal process is convexly curved on the ventral surface. The basal half is broad to an anterior median projection, beyond which it is narrowed and curved dorsally and anteriorly. The styles are long and tapered to the narrowed finger-like apices.

12. *Texananus curtus* n. sp. (pl. 53 fig. 8, 12).

Resembling *angus* in form and general appearance but with pygofer short, blunt, almost truncate at apex and only a little longer than plates. Length, male, 6 mm.

Vertex bluntly produced, one fourth longer on middle than next the eyes, almost twice as wide between eyes as length at middle, bluntly angled with front.

Color: Face dark brown, almost black, especially above, slightly visible at margin of vertex from above. Color yellowish, faintly and rather sparsely marked with brown, but without definite markings.

Genitalia: Male valve broadly triangular, plates short, strongly convexly rounded to inner margins which are proximal. Aedeagus with three terminal processes, the outer pair curved upward, the median process is rather abruptly narrowed near the base to a slender process which is directed posteriorly and pointed at the apex. Pygofer as broad as long, almost truncate posteriorly.

Holotype male from Vejuco, Río Balsas, Guerrero, Mexico, September 1930. J. Parra coll. (Dampf.).

13. *Texanamus cassus* n. sp. (pl. 56 fig. 18).

In general form and coloration resembling *superbus*, but with a deeply, broadly excavated female segment which is notched at middle on either side. Length, female 7.5 mm.

Vertex broad, almost rounded, produced before eyes but only slightly longer at middle than next the eyes, two and one half times as broad between eyes as median length.

Color: Yellowish, vertex, pronotum and scutellum irrorate with pale brown. Elytra with darker brown veins and darker irrorations. Upper portion of face black, visible at margin from above.

Genitalia: Female last ventral segment broadly angularly excavated from produced lateral angles two thirds of the distance to base. The margins of the excavation are notched, then abruptly narrowed to form a V-shaped notch at apex. Margin of segment embrowned.

Holotype female from Santa Lucia, Chiapas, México, July 27, 1926 (Dampf.)

14. *Texanamus plummeri* n. sp. (pl. 54 fig. 1, 2).

Resembling *superbus* in form and appearance, but pygofera with a central interior dorsal median spine extending ventrally, and aedeagus with a central apical portion. Length, male 7.5 mm.

Vertex broadly, bluntly produced, about one third longer at middle than next the eyes and twice as wide as length at middle, bluntly angled with front.

Color: Yellow, vertex mottled with pale brown. Pronotum more heavily mottled with darker brown. Elytra with a darker brownish spot at apex of each claval vein and at apex of claval suture. Rainose lines of elytra paler brown. Face marked with dark brownish arcs.

Genitalia: Male valve almost transverse. Plates broad, bluntly angled. A central interior dorsal median spine extending ventrally at posterior portion of aedeagus. Basal portion of aedeagus rather long, bifurcate and curved upward apically between the two portions of which is an apical process which is composed of a long tapered ventral apical process and a short dorsal thumblike process. Styles broad at base, short, concavely rounded on outer margin at apex forming bluntly pointed apices.

Holotype male from Ruiz, Nayarit, México, collected February 23, 1935 (Dampf.)

Mr. Charles Plummer has collected and described many Homoptera from Mexico, and I take pleasure in naming this species in his honor.

15. *Texanamus paralus* n. sp. (pl. 54 fig. 4, 10, pl. 56 fig. 22).

Resembling *superbus* in form and appearance, but larger and with broad, sharply pointed, triangular plates which are strongly exceeded by flaring pygofera. Length 7.75 mm.

Vertex flat, roundedly produced at middle, one third longer at middle than length at eyes, one and one half times as wide between eyes as median length, bluntly angled with front.

Color: Yellowish, irregularly marked with brown, markings often faint, apices of claval veins always darker.

Genitalia: Female last ventral segment with lateral lobes rather broadly rounded at apex between which the posterior margin is rather deeply, roundedly excavated to base with a small pointed tooth at middle extending forward from posterior margin of preceding segment. Male valve short, transverse. Plates convexly, then concavely rounded to sharp pointed apices. Aedeagus curved into a ring, the apical portion tapered, to a narrow tip. Pygofer consisting of a ventral portion which has a sharp pointed apex and is armed on the inner margin with a row of heavy serrate spines and a dorsal portion which extends dorsoventrally like a wing.

Holotype male, Zinicuaro, Guerrero, Mexico, November 2, 1930, allotype female Huetamo, Michoacán, México, August 22, 1933, and male and female paratypes from Huetamo; also from Santa Lucía, Chiapas, July 29, 1926 (Dampf.)

16. *Texananus conus* n. sp. (pl. 54 fig. 3, 9, pl. 56, fig. 27).

Resembling *paralus* in form and general appearance, but with pointed plates longer and pygofer tapering to long curled apices which appear pointed. Female segment deeply excavated to base, but with side lobes much longer than in *eugenius*. Length 7-7.5 mm.

Vertex broadly, bluntly produced, a little longer at middle than next the eyes, more than twice as wide between eyes as median length, bluntly angled with front.

Color: Yellowish, with irregular brown mottling. Vertex usually with some darker spots just above apex and a pair of small round spots at base, one near either eye. Rameose lines on elytra conspicuous but not dense, apices of claval veins more heavily pigmented.

Genitalia: Female last ventral segment with lateral lobes long, narrow at apex usually pointed on inner margin, between which the posterior margin is deeply abruptly excavated to base with a short median tooth produced at middle slightly beyond the posterior margin of the preceding segment. Male plates rather long, gradually tapered to pointed apices. Aedeagus U-shaped with the apical portion tapered and curved anteriorly and ventrally. Pygofer exceeding plates by one half their length curled inwardly on ventral side, appearing tapered to a pointed apex.

Holotype male, allotype female, and male and female paratypes from Santa Lucía, Chiapas, México, July 29, 1926 (Dampf.)

17. *Texananus eugenius* (Ball) (pl. 56 fig. 25).

*P. eugenius* Ball, Ann. Ent. Soc. Amer. 11:386, 1918.

The following localities were cited at the time of the original description: Acuquizotla, Amula, Dos Arroyos, Tierra Colorada, Iguala, all in Guerrero, México, and Cuernavaca, Morelos. Additional records are at hand from Ixtla, Jalisco, November 23, 1934 and Puente de Ixtla, Morelos, December 24, 1929 (Dampf.).

18. *Texananus excultus* (Uhl.) (pl. 55 fig. 12, 13, pl. 56 fig. 24).

*T. excultus* Uhl, Bull. U. S. Geol. & Geog. Surv. 3:467, 1877.

Although only a single specimen was reported by Ball from Puente de Ixtla, Mexico, July, *excultus* is apparently one of the most common "Phlepsid" species occurring in that country. A large series of specimens have been collected by Dr. Dampf and have been examined from El Mante, Tamps.; Montemorelos, Nuevo León; Tabi, Quintana Roo; Las Tablas in San Luis Potosí; Huetamo, Michoacán; Petacab, Quintana Roo; Guadalajara, Agua Azul, Jalisco; Los Mochis, Sinaloa; Granja Experimental Rodriguez, Nuevo León; La Barca, Jalisco; Saltillo, Coahuila; Tierra Blanca, Veracruz; Vejucos, Guerrero; Nuevo Laredo, Tamaulipas; Monte Alto, Veracruz; Matamoros, Tamaulipas; Taxco, Guerrero.

The male plates are long, triangular, with bluntly pointed apices. The pygoferers are longer than the plates and slope to a bluntly pointed apex. The aedeagus is curved so that the base and apex almost meet. The basal portion is broad but widened at the ventral median part, then narrowed to form a long slender curved and tapered apex.

19. *Texananus dorothyi* n. sp. (pl. 55 fig. 11, 14, pl. 56 fig. 23).

Resembling *excultus* in form, color and general appearance, but slightly smaller and with more pointed vertex, male pygoferers not exceeding plates, apex of pygofer rounded. Female segment shorter on side margins than in *excultus*. Length 6.5 mm.

Vertex bluntly angled, almost one half longer at middle than next the eyes, less than twice as wide between eyes as median length.

Color: Vertex, pronotum and scutellum yellow, faintly marked with brown. Elytra white, rather evenly marked with brownish rameose lines. Claval area along commissure with three pale lobate spots which are often faintly marked.

Genitalia: Female last ventral segment short, broadly concavely excavated almost to base, the lateral portions of the underlying segment conspicuous for their entire width posterior to the last ventral segment. Male plates rather broad, triangular, apices pointed. Plates as long as or exceeding pygoferers, which are bluntly produced and rounded at apex. Aedeagus U-shaped with the ends curved inwardly, sometimes proximal, broadened at base and gradually tapering to a slender apex.

A large series of specimens are at hand.

Holotype male and allotype female from Wickenburg, Arizona, June 16, 1937 (D. J. and J. N. Knoll). Paratype male and female specimens from Prescott National Forest, Arizona, June 2, 1937; Hualpai Mountains, Arizona; Huachuca Mountains, Arizona; Tucson, Arizona; Davis Mountains, Texas; Santa Rita Mountains, Arizona; Chiricahua Mountains, Arizona; Gillespie Country, Texas; Uvalde, Texas, Brownsville, Texas, all collected by Dorothy J. and J. N. Knoll from 1934 to 1938 inclusive.

A single male paratype specimen is at hand from Atencingo, Puebla, México, July 19, 1930 (Dampf).

In color, general appearance and structure, this species is very close to *excultus*, but has many points of difference. *Dorothyi* is smaller, more narrowed and the vertex is more pointed. In *excultus* the pygofer exceed the male plates and are pointed. In *dorothyi* they do not exceed the plates and are bluntly rounded. The spines on the male pygofer in *excultus* are in a row back of the apex, in *dorothyi* they are longer, arise at the apex and extend beyond it. In *dorothyi* the plates are more acutely pointed. The apical portions of the styles in *dorothyi* are more tapered, pointed and straight. In *dorothyi* the aedeagus is widest near the base, in *excultus* the widest portion is at the middle.

The females also may be differentiated by the shorter last ventral segment in *dorothyi*, which is exceeded posteriorly by the lateral lobes of the preceding segment for its entire width, while in *excultus* these lobes are not longer on the outer margins.

I take pleasure in dedicating this species to Dorothy Johnson Knoll who has collected and described many interesting species of Cicadellidae.

20. *Texananus incurvatus* (Osborn & Lathrop) (pl. 55, fig. 5, 9, pl. 56, fig. 26).

*P. incurvatus* Osh. & Lath. Ann. Ent. Soc. Amer. 16:346, 1923.

This species is closely related to *neomexicanus* Baker, but may be easily separated from it by the male genital structures. In *neomexicanus* the pygofer exceed the plates by about their length. In the case of *incurvatus* the pygofer exceed the plates by only about one-half their length. The apical horse-shoe portion of the aedeagus of *incurvatus* is decidedly more narrowed at the point of contact with the basal straight portion of the aedeagus.

Specimens have been examined which were collected at Yaqui Valley, Sonora, Mexico, August 18, 1927, and Hermosillo, Sonora, March 23, 1927; and Guadalajara, Agua Azul, Jalisco, June 11, 1927 (Dampf).

21. *Texananus bosanus* (Ball) (pl. 56, fig. 19, 20).

*P. bosanus* Ball. Ann. Ent. Soc. Amer. 11:386, 1918.

This species was described from specimens collected at Orizaba, Veracruz, December, and Tepetlapa, Guerrero, Mexico, October. Additional records are at

hand from Colima, Colima, Jan. 27, 1930; Chapingo, D. F., March 5, 1924, and Córdoba, Veracruz, October 2, 1924 (Dampf.) All specimens examined to date have been females and as a result the male structures cannot be described at this time.

22. *Texanamus areolatus* (Baker) (pl. 55 fig. 3, 4, pl. 56 fig. 11).

*P. areolatus* Baker, Can. Ent. 30:30, 1898.

Although common in Texas, this species has not previously been reported from Mexico. A pair of specimens were collected at Monterrey November 1, 1938 by J. S. Caldwell.

This species is characteristically marked by numerous pale areolar spots.

The male plates are rather short and more than half as broad as long. The styles are suddenly narrowed and notched on outer margin near apex, then produced in rather long, sharply pointed, finger-like processes which are curved outwardly. The aedeagus is composed of a long curved process which bears a conspicuous dorsal process at middle with an anterior projection about the middle and narrowed on dorsal portion to a pointed anteriorly directed apex. The pygofer in lateral view are about as broad as long and truncated posteriorly. They are normally shorter than the plates.

23. *Texanamus spatulatus* (V. D.) (pl. 55 fig. 1, 2, pl. 56 fig. 12).

*P. spatulatus* V. D. Trans. Amer. Ent. Soc. 19:78, 1892.

This is a very common species throughout the southwestern United States and has been reported from Mexicali, June, Tijuana, El Taste and Presidio, Mexico. Records are at hand from Saltillo, Coahuila, June 10, 1931; Granja Experimental Rodríguez, Nuevo León, June 5, 1930; Guadalajara, Agua Azul, Jalisco, June, 11, 1927; Yaqui Valley, Sonora, August, 1927; Nuevo Laredo, Tamaulipas, June 8, 1931; Amacuzac, Morelos, August 1, 1930 (all collected by Dampf). Also Matamoros, 1930 (Plummer) and Santa Engracia, Tamaulipas, November 11, 1938 (Caldwell).

The male plates are as long as the pygofer, tapered to pointed apices, concavely emarginate about middle on outer margins. Aedeagus with a pair of long slender ventral processes and a dorsal process which arises at base, is bent caudad and forms a ventral and dorsal branch at about half its length. The ventral branch is long, slender and acutely pointed, the dorsal branch is broader and more blunt at apex. Styles at base tapered to rather blunt apices. Pygofer rounded at apex, a little longer than broad in lateral view.

24. *Texanamus biocis* n. sp. (pl. 56 fig. 21).

A banded headed species somewhat resembling *spatulatus*, but with a flatter, more angled vertex and female segment strongly produced at middle forming a pair of approximate teeth. Length, female 7 mm.

Vertex flat, bluntly angled, one half longer at middle than next the eyes, one and one half times as wide between eyes as length at middle. Margin bluntly angled with front.

Color: Vertex yellow with a broad black transverse band covering posterior half of vertex except a basal pale spot next each eye, a small spot at middle of black band next each eye, and a double longitudinal row of small white spots at middle. Pronotum heavily marked with dark irrorations and dark spotted areas, a distinct white spot just back of each eye. Scutellum with paler brown markings. Elytra heavily marked with brown, white spots conspicuous along suture and a row of four irregular white spots across corium.

Genitalia: Female last ventral segment lateral margins rounded to posterior margin which is slightly concave either side of a rather broad median bifid tooth one half the length of the segment proper.

Holotype female from Hermosillo, Sonora, Mexico, March 23, 1927 (Dampf.).

25. *Texananus mexicanus* (Ball) (pl. 54 fig. 5, 6, pl. 56 fig. 16).

*P. mexicanus* Ball. Ann. Ent. Soc. Amer. 11:385, 1918.

Dr. Ball described *mexicanus* from specimens collected at Orizaba, Veracruz, December, and Chilpancingo, Guerrero, June, Mexico. One specimen is at hand taken near Acapulco, Guerrero, November 22, 1938 by Dr. J. S. Caldwell.

The male plates are short and triangular, almost as broad at base as long. Pygofera a little longer than plates, truncate or slightly concave at apex. The aedeagus is enlarged near the base then narrowed to a slender produced apical structure, extending beyond the apex of the pygofera. A pair of long slender processes about half the length of aedeagus rest upon the median portion of the ventral process. These are connected at the basal end to a dorsal curved process which is wide and truncate at base and is tapered caudally and curved, forming a slender, pointed, dorsally directed apex. Styles tapered to blunt, straight finger-like processes which are separated from the broader portion by a notch on outer margin at base.

26. *Texananus elongatus* (Ball) (pl. 56 fig. 15).

*P. elongatus* Ball. Ann. Ent. Soc. Amer. 11:382, 1918.

Ball described this species from a single female specimen from Amula, Guerrero, Mexico. No other records have been reported.

27. *Texananus handlirschi* (Ball) (pl. 56 fig. 14).

*P. handlirschi* Ball. Ann. Ent. Soc. Amer. 11:383, 1918.

Three localities were reported in the original description, Omitlame and Xicumanatlan, Guerrero; and Ciudad Mexico. No additional specimens have been examined or recorded.

28. *Texananus hebraeus* (Ball) (pl. 54 fig. 7, 8, pl. 56 fig. 13):

*P. hebraeus* Ball, Ann. Ent. Soc. Amer., 11:383, 1918.

This species was described from female specimens alone and the only locality recorded for Mexico was Amula, Guerrero. A large series of specimens, twenty females and twenty-three males are at hand from Finca Vergel, Chiapas, Mexico, May 12, 1935. The male is described here for the first time.

Male plates triangularly produced; apices bluntly rounded. Styles broad at base, rapidly narrowed and notched on outer margin to form finger-like processes. Aedeagus long and slender with a slender anterior process extending dorsally half the width of the segment and a long terminal process curved dorsally almost to the dorsal wall of the pygofer and bifid at apex. Pygofer rather short, exceeding plates and deeply notched on dorsal portion of apex.

Allotype male, Finca Vergel, Chiapas, Mexico, May 12, 1935 (Dampf.)

La redacción de los "Anales" preparó la siguiente lista de las especies mexicanas, agregando los datos ecológicos, las fechas y los números de captura, referentes al material colectado por el Dr. A. Dampf, en su mayoría por medio de lámpara trampa. Se agregaron también datos sobre la distribución de cada especie fuera de México.

Algunos representantes del género *Phlepsius* son de importancia económica, atacando plantas de cultivo (alfalfa, hortalizas, etc.), como por ejemplo el *Phlepsius irroratus* Say o el *P. apertus* Van Duzee, en los Estados Unidos.

1. *Phlepsius costomaculatus* Van Duzee 1894.

Méjico: Tabasco (Teapa, según E. D. Ball).

Veracruz: La Forestal, Ciudad Veracruz, 26.XI '26, lámpara, M. F. 1112, extensos prados pantanosos; mismo lugar, 5.XII '26, lámpara, M. F. 1119; mismo lugar, 14.X '26, M. F. 1066; mismo lugar, 5.I '27, M. F. 1160; Tierra Blanca, orilla Río Amapa, 29.VII '32, lámpara, R. R. Soto, M. F. 2655; altura 61 m.

Tamaulipas: El Mante, 9.VIII '30, lámpara, M. F. 1775, extensos cultivos de caña de azúcar, bajo irrigación, chaparral, 80 m.; 26.X '30, lámpara, M. F. 1775, mismo lugar.

Sonora: Bacobampo, 27.III '27, cerca de la costa, lámpara, en el pueblo, M. F. 1225.

Colima: Sentinel, 28.I '28, lámpara, campo de algodón, cerca de la costa, M. F. 1598.

Guerrero: Acatlán del Río, orillas del Río Balsas, 10.VIII '30, lámpara, M. F. 1755, J. Parra col.

Oaxaca: Tolosa, 31.XII '31, lámpara, en una barranca, M. F. 2511, J. Parra.

Chiapas: Tonalá, 3.XI '32, lámpara, cerca de la estación, vegetación secundaria, M. F. 2722, altura sobre el mar 10 m.

Puebla: Atencingo, 19.VII '30, cultivos de caña de azúcar, lámpara, M. F. 1703.

Morelos: Jojutla, 1.X '37, cultivos de caña de azúcar, lámpara, M. F. 6277.

Guatemala: Petén, San José, orilla del Lago Petén, 13.XI '25, lámpara, M. F. 797.

Plancha Piedra, frontera con Honduras Británica, 28.X '25, lámpara, M. F. 753, rodeado de bosque virgen.

Yaxhá, Petén, orilla del lago, 30.X '25, lámpara, M. F. 764.

Península San Miguel, orilla Lago Petén, 14.XI '25, lámpara, M. F. 801, extensas sabanas y chaparral.

Ciudad Flores, orilla Lago Petén, 6.XI '25, lámpara, M. F. 866.

La especie fué descrita de los Estados del Golfo de la vecina República del Norte.

Los datos anteriores no permiten formar una idea clara sobre los requisitos ecológicos de la especie. Su distribución en México abarca tanto la costa del Pacífico (desde Sonora), como del Golfo (desde Tamaulipas), penetrando hacia el sur en las partes más elevadas del interior (Puebla, Morelos), aproximadamente a una altura de 1,500 m.

### 2. *Phlepsius nubinus* Ball 1909.

México: Baja California (Comondú).

Sureste de los Estados Unidos.

### 3. *Phlepsius lascivius* Ball 1900.

México: Michoacán: Yurécuaro, 31.VII '34, lámpara, M. F. 3586, en una milpa, planicie.

Jalisco: Huaxtla, 23.XI '34, M. F. 3829, con red en zacatal.

Estados Unidos: Común en los Estados del Suroeste.

### 4. *Phlepsius continuus* DeLong 1938.

México: Veracruz: Coscomatepec, 1,580 m., 30.XI '24, M. F. 103, con la red sobre un potrero; La Forestal, Puerto de Veracruz, al nivel del mar, lugar pantanoso, 14.X '26, lámpara, M. F. 1066; mismo lugar, 16.XI '26, lámpara, M. F. 1106 A; mismo lugar, 13.XII '26, lámpara, M. F. 1125.

Nuevo León: Granja Experimental Rodríguez, región desértica, 5.VI '31, lámpara, M. F. 2028.

Guatemala: La Libertad, Petén, 23.XI '25, M. F. 146, con la red sobre zacate, sabana.

Estados Unidos: Parte sur de Texas.

### 5. *Phlepsius dampfi* DeLong n. sp.

México: Nuevo León: Granja Experimental Rodríguez, 5.VI '31, lámpara, M. F. 2028.

Coahuila; Saltillo, 10.VI '31, M. F. 2057, Escuela Agrícola Regional, con la red sobre cebolla en flor.

Las dos regiones son casi desérticas, con escasa vegetación y el cultivo sólo es posible con irrigación.

6. *Phlepsius extremus* Ball 1901.

Méjico: Tijuana, Baja California, junio y agosto (según Ball).

Estados Unidos: Desde Utah hasta California.

7. *Phlepsius parrai* DeLong n. sp.

Méjico: Guerrero: Tetela del Río, 13.VIII '30, lámpara, M. F. 1757; Jetla, orilla del río, 11.VIII '30, lámpara, M. F. 1756; J. Parra.

8. *Texananus cuspidatus* DeLong n. sp.

Méjico: Chiapas: Finca Vergel, 700 m., 11.V '35, M. F. 4124, 15.V '35, M. F. 4185, 19.V '35, M. F. 4208, 23.V '35, M. F. 4268, 23.V '35, M. F. 4273, 30.V '35, M. F. 4352, 2.VI '35, M. F. 4398; con lámpara.

Encontrada hasta la fecha exclusivamente en un lugar situado en el bosque virgen de la Sierra Madre del Sur. Se trata probablemente de una especie hilófila.

9. *Texananus ovatus* Van Duzee 1892.

Méjico: Cuernavaca, Morelos; Jalapa, Veracruz; Tijuana, Baja California; Amulema (lugar no identificado); (todos estos lugares según Ball, pero probablemente incorrectos, ya que la especie resultó compuesta).

Estados Unidos: Desde Oregón y Colorado hacia el sur.

10. *Texananus vermiculatus* DeLong 1938.

Méjico: Sonora: Valle del Yaqui, 12.VIII '27, lámpara, campos de arroz, M. F. 1285; mismo lugar, 18.VIII '27, lámpara, campos de arroz, M. F. 1295.

Estados Unidos: Arizona; Texas.

11. *Texananus superbus* Van Duzee 1892.

Méjico: Tamaulipas: El Mante, i.VI '31, lámpara, M. F. 2012.

Nuevo León: Granja Experimental Rodríguez, 5.VI '31, lámpara, M. F. 2028.

Baja California: Tijuana, junio (según Ball).

Guerrero: Mezcalá (según Ball).

Estados Unidos: Desde Colorado y Oregón hacia el sur.

12. *Texananus curtus* DeLong n. sp.

Méjico: Guerrero: Vejuco; entre Zinicuaro y Huarazio, orillas del Río Balsas, 3.IX '30, lámpara, M. F. 1790, J. Parra.

13. *Texananus cassus* DeLong n. sp.

Méjico: Chiapas: Rancho Santa Lucía, camino de Tuxtla Gutiérrez a Arriaga, altura aproximadamente 500 m., 27.VII '26, lámpara, M. F. 1055, planicie cubierta de zacate, a 200 m. de distancia árboles y arbustos acompañando arroyo.

14. *Texananus plummeri* DeLong n. sp.

Méjico: Nayarit: Ruiz, rumbo al Río San Pedro, 23.II '35, M. F. 3999, con red en la sombra de árboles y arbustos que forman en la sabana pequeños islotes de bosque.

15. *Texananus parvus* DeLong n. sp.

Méjico: Chiapas: Rancho Santa Lucía, mismo lugar del número 13 de la lista, M. F. 1055.

Guerrero: Zinicicuaro, orilla del Río, 2.IX '30, lámpara, M. F. 1789, J. Parra.

Michoacán: Huetamo, 22.VIII '33, lámpara, M. F. 3100; Huetamo, 22.VIII '33, con la red sobre ajonjoli (*Sesamum indicum*), M. F. 3101.

16. *Texananus comus* DeLong n. sp.

Méjico: Chiapas: Rancho de Santa Lucía, mismo lugar y fecha de los números 13 y 15 de la lista, M. F. 1055.

17. *Texananus eugeneus* Ball 1918.

Méjico: Guerrero: Acuquizotla, 1060 m., al sur de Chilpancingo, octubre (H. H. Smith); Amula, 1828 m., septiembre (H. H. Smith); Dos Arroyos, entre Tierra Colorada y Acapulco, 300 m., septiembre (H. H. Smith); Tierra Colorada, 300 m., octubre (H. H. Smith); Iguala, 860 m., (E. D. Ball).

Morelos: Puente de Ixtla, 906 m., 24.XII '29, lámpara, M. F. 1557; Cuernavaca, 1542 m., (E. D. Ball).

Jalisco: Huaxtla, cerca de Orendain, 23.XI '34, con la red en compañía de *Pblepsius lascivius* en una sabana, M. F. 3829.

18. *Texananus excultus* Uhler 1877.

Méjico: Morelos: Puente de Ixtla, julio, (C. C. Deam coll.) (según Ball).

Michoacán: Huetamo, 426 m., 22.VIII '33, lámpara, M. F. 3100, orilla de un arroyo, en compañía de *T. parvus*; Hacienda Briseñas, Río Lerma, 1536 m., 23.V '30, M. B. 303, con la red sobre alfalfa en flor.

Guerrero: Taxco, 1783 m., 22.XII '29, lámpara, en una barranca, M. F. 1551; Vejucó, orilla Río Balsas, 3.IX '30, lámpara, J. Parra, M. F. 1790.

Jalisco: Guadalajara, 1552 m., 11.VI '27; Agua Azul, lámpara, entre campos de cultivo, M. F. 1255; La Barca, 1536 m., orilla del Río Lerma, lámpara, 23.V '30, en una huerta de plátanos.

Chiapas: San Cristóbal Las Casas, 2000 m., 4.VI '26, M. F. 941, con la red a lo largo de un riachuelo, entre prados y arbustos.

Quintana Roo: Tabi, camino de Petén a Santa Cruz de Bravo, 12.VIII '25, lámpara, lugar abierto, rodeado de bosque virgen, M. F. 622; Petacap, 21.VIII '25, lámpara, bosque virgen, M. F. 644.

Tabasco: Villa Hermosa, 20 m., 16.VI '28, lámpara, prados en la orilla del río, M. F. 1379.

Veracruz: Monte Alto (Puente Alto), 3.VII '32, lámpara, M. F. 2640, D. Quiroz; Tierra Blanca, Orilla del Río Amapa, 29.VII '32, lámpara, M. F. 2655, R. R. Soto.

Nuevo León: Montemorelos, 3.VI '31, con la red sobre las hierbas en una huerta cítrica, M. F. 2020; 3.VI '31, lámpara, en la misma huerta, M. F. 2022; 3.VI '31, mismo lugar, orillas del Río Pilón, lámpara, M. F. 2023; Granja Experimental Agrícola de Rodríguez, 5.VII '31, lámpara, lugar semidesértico, M. F. 2028 (en compañía de *T. superbus* y *Phl. continuus*); mismo lugar y fecha, con la red sobre la vegetación baja de la estepa, M. B. 318; mismo lugar y fecha, con la red sobre lino en flor, M. B. 320.

Tamaulipas: Matamoros, 1930, lámpara, M. F. 1686, Salvador Flores col.; El Mante, 9.VIII '30, lámpara, M. F. 1734; mismo lugar, 26.X '30, M. F. 1775, lámpara; Nuevo Laredo, 171 m., 8.VI '31, lámpara, orilla del Río Grande, M. F. 2054.

San Luis Potosí: Las Tablas, 1030 m., 11.X '31, región desértica, con la red sobre zacate, M. B. 2115; Hacienda Palomas, 1050 m., 13.X '31, lámpara, M. F. 2138, mismo lugar, 12.X '31 M. B. 338, con la red sobre alfalfa.

Coahuila: Saltillo, Hacienda Buenavista (Escuela Agrícola Regional), 1600 m., 10.VI '31, sobre una flor, M. F. 2057; mismo lugar y fecha, con la red sobre un campo de papas, M. B. 325.

Sinaloa: Los Mochis, 19.V '30, lámpara, M. F. 1658, parque del ingenio.

*Guatemala*: San José, orilla del Lago Petén, Dpto. de Petén, 13.XI '25, lámpara, M. F. 797.

Los abundantes datos ecológicos que poseemos de *T. exultus*, dan la impresión que la presente especie se adapta a las más variadas condiciones, encontrándose en alturas de más de 2,000 metros y al nivel del mar, en tierras tropicales y en tierras templadas con inviernos fríos; en regiones de bosque virgen y en las estepas desérticas del Norte. Fué encontrada además en cultivos de alfalfa, papa y lino.

Su distribución geográfica es del Sur de los Estados Unidos hasta el interior de la República de Guatemala, extendiéndose en México del lado Pacífico al del Golfo.

#### 19. *Texananus dorothyi* DeLong n. sp.

Méjico: Puebla: Atencingo, 19.VII '30, lámpara, M. F. 1703 (en compañía de *Phlépsius costomaculatus*).

Estados Unidos: Arizona y Texas.

20. *Texananus incurvatus* Osborn & Lathrop 1923.

Méjico: Sonora: Hermosillo, 215 m., 23.III '27, lámpara, en terreno de riego, M. F. 1220; Valle del Yaqui, 18.VIII '27, lámpara, en campos de arroz, M. F. 1295.

Jalisco: Guadalajara, 1552 m., 11.VI '27, Agua Azul, lámpara, M. F. 1255, campos de cultivo (en compañía de *T. excultus* y *T. spatulatus*).

*Estados Unidos:*21. *Texananus bosanus* Ball 1918.

Méjico: Veracruz: Orizaba, diciembre (según Ball); Córdoba, 800 m., 2.X '24, con la red sobre la baja vegetación de un antiguo cañaveral en descanso, M. F. 94.

Estado de Méjico: Chapingo, 2240 m., 5.III '24, con la red sobre vegetación baja en la huerta de frutales, M. B. 35.

Morelos: Cuernavaca, 1542 m., 20.II '33, con la red en una huerta sobre vegetación baja, M. B. 357.

Guerrero: Tepetlapa, 1175 m., octubre (H. H. Smith coll., según Ball).

Colima: Colima, 400 m., 27.I '30 con la red sobre un cultivo de frijol, M. B. 297.

Llama la atención que esta especie no se encuentra entre el material capturado por medio de la lámpara trampa.

22. *Texananus areolatus* Baker 1898.

Méjico: Nuevo León: Monterrey, 500 m., 1.XI '38. (J. S. Caldwell).

*Estados Unidos: Texas.*23. *Texananus spatulatus* Van Duzee, 1892.

Méjico: Baja California: Mexicali (Junio) y Tijuana (agosto) (Ball).

Sinaloa: Los Mochis, Hotel Bienestar, 16.V '30, lámpara, M. F. 1644; mismo lugar, 19.V '30, lámpara, M. F. 1659.

Sonora: Nainari, 11.VIII '27, lámpara, campo de arroz, M. F. 1282; Valle del Yaqui, 12.VIII '27, lámpara, campo de arroz, M. F. 1285; mismo lugar, 18.VIII '27, lámpara, campo de arroz, M. F. 1295; Navojoa, 25.III '27, lámpara, orilla del río, M. F. 1221.

Jalisco: Guadalajara, Agua Azul, 11.VI '27, lámpara, M. F. 1255 A.

Morelos: Amacuzac, 1081 m., 1.VIII '30, lámpara, M. F. 1739, J. Parra.

Veracruz: Presidio (según Ball); el lugar "El Taste" queda sin identificación.

Tamaulipas: Nuevo Laredo, 171 m., 8.VI '31, lámpara, orillas del Río Grande, M. F. 2054, en compañía de *T. excultus*; Matamoros (C. Plummer); Santa Engracia (J. S. Caldwell).

Coahuila: Saltillo, 1600 m., 10.VI '31, con la red, M. F. 2057.

Nuevo León: Granja Experimental Agrícola Rodríguez, 5.VI '31, lámpara, M. F. 2028.

San Luis Potosí: Hacienda Las Palomas, 1050 m., 12.X '31, lámpara, M. F. 2132.

*Estados Unidos:* En el Suroeste.

24. *Texananus biacus* DeLong n. sp.

Méjico: Sonora: Hermosillo, 23.III '27, lámpara, orilla del río, entre cañales de riego, M. F. 1220.

25. *Texananus mexicanus* Ball, 1918.

Méjico: Veracruz: Orizaba, diciembre (según Ball).

Guerrero: Chilpancingo, junio (según Ball, col. H. H. Smith); Acapulco, 22.XI '38, J. S. Caldwell.

26. *Texananus elongatus* Ball 1918.

Méjico: Guerrero: Ámula (H. H. Smith).

27. *Texananus bandlirschi* Ball 1918.

Méjico: Guerrero: Omitéme, al occidente de Chilpancingo, Nucumanatlán (según Ball).

Distrito Federal: Ciudad de Méjico (según Ball).

### RESUMEN

Basándose en material colectado por los señores J. S. Caldwell, Alfonso Damps y Charles Plummer en varios lugares de Méjico y en datos tomados de la literatura, el autor da una revisión crítica de las 27 especies mexicanas del género *Phlepsius* (Homoptera, Fam. Cicadellidae), describiendo entre ellas, 10 especies nuevas para la ciencia.

### SUMMARY

The author describes ten new species of the Cicadellid genera *Phlepsius* and *Texananus* from Mexico and lists a total of 27 species, giving outline illustrations of the male and female genitalia segments.

### ZUSAMMENFASSUNG

Eine kritische Uebersicht der 27 bisher aus Mexico bekannten Arten der Cicadellidengattungen *Phlepsius* und *Texananus*, mit Zeichnungen der Genitalsegmente der Maennchen und Weibchen.

## LAMINA 53

Aspecto ventral y lateral de los órganos copulatorios masculinos de las siguientes especies de *Phlepsioides*.

Ventral and lateral view of male genitalia of species of *Phlepsioides*, as named:

Fig. 1 y 2. *P. utahicus.*

Fig. 8 y 12. *P. curtus.*

Fig. 3 y 4. *P. lasalvini.*

Fig. 9 y 11. *P. extremus.*

Fig. 5 y 6. *P. costomaculatus.*

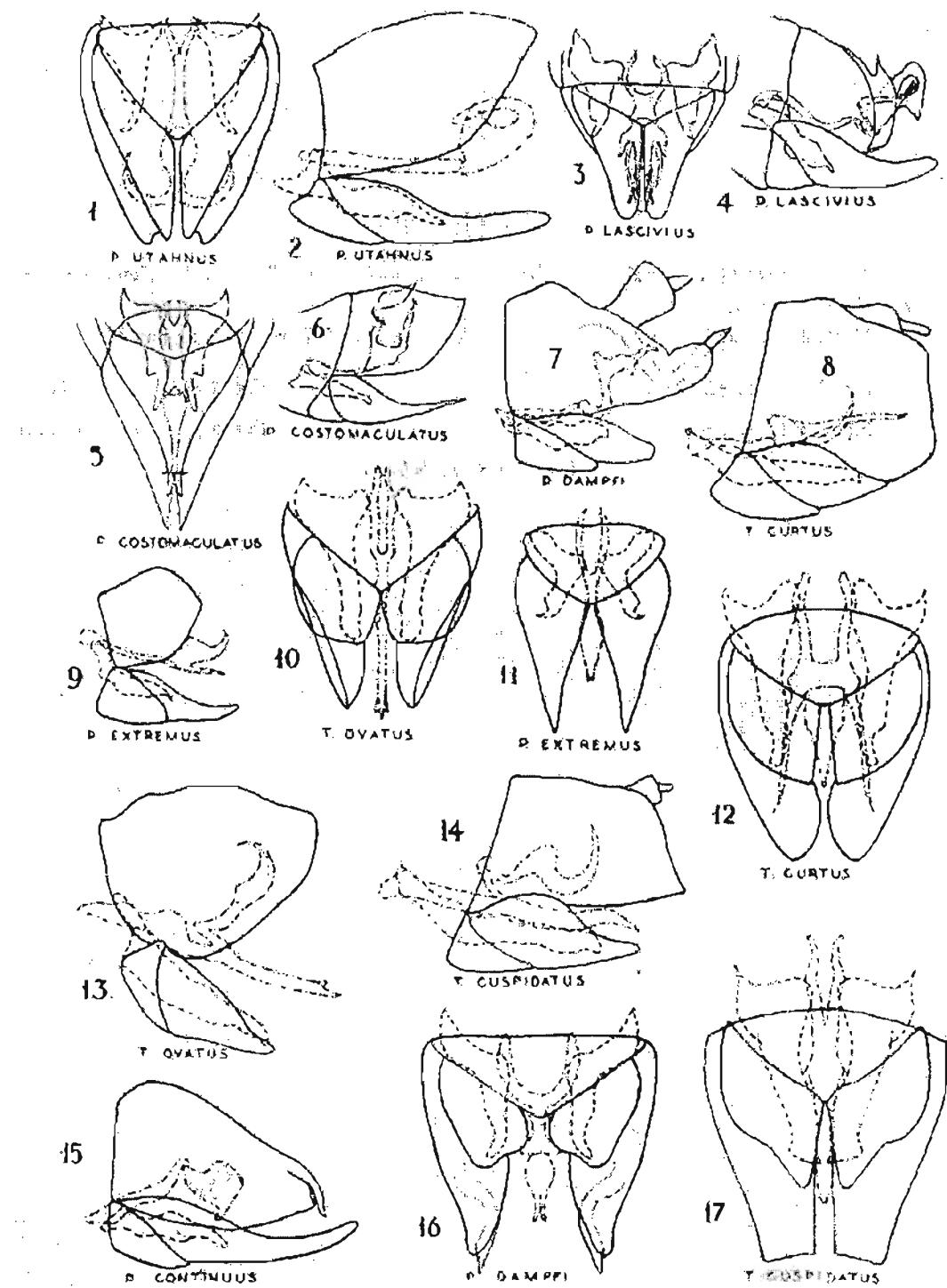
Fig. 10 y 13. *P. ovatus.*

Fig. 7 y 16. *P. dampfi.*

Fig. 14 y 17. *P. cuspidatus.*

Fig. 15. *P. continua.*

LAMINA 53



## LAMINA 54

Aspecto ventral y lateral de los órganos copulatorios masculinos de las siguientes especies de *Texananus*:

Ventral and lateral view of male genitalia of species of *Texananus*, as named:

Fig. 1 y 2. *T. plummeri*.

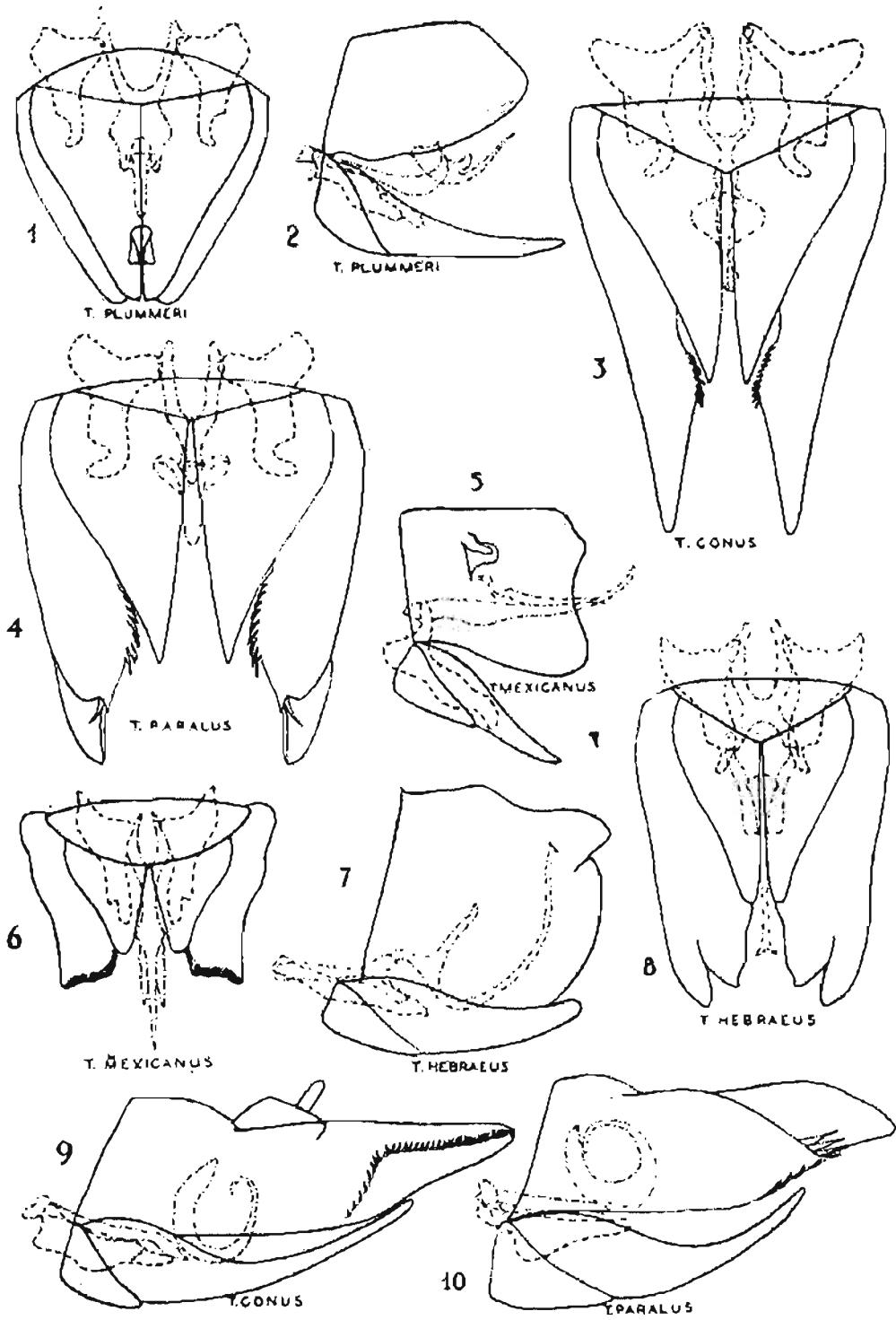
Fig. 4 y 10. *T. paratus*.

Fig. 3 y 9. *T. comis*.

Fig. 5 y 6. *T. mexicanus*.

Fig. 7 y 8. *T. hebracus*.

LAMINA 54



## LAMINA 35

Aspecto ventral y lateral de los órganos copulatorios masculinos de las siguientes especies de *Texananus*:

Ventral and lateral view of male genitalia of species of *Texananus*, as named:

Fig. 1 y 2. *T. spatulatus*.

Fig. 6 y 8. *T. vermiculatus*

Fig. 3 y 4. *T. arcatus*.

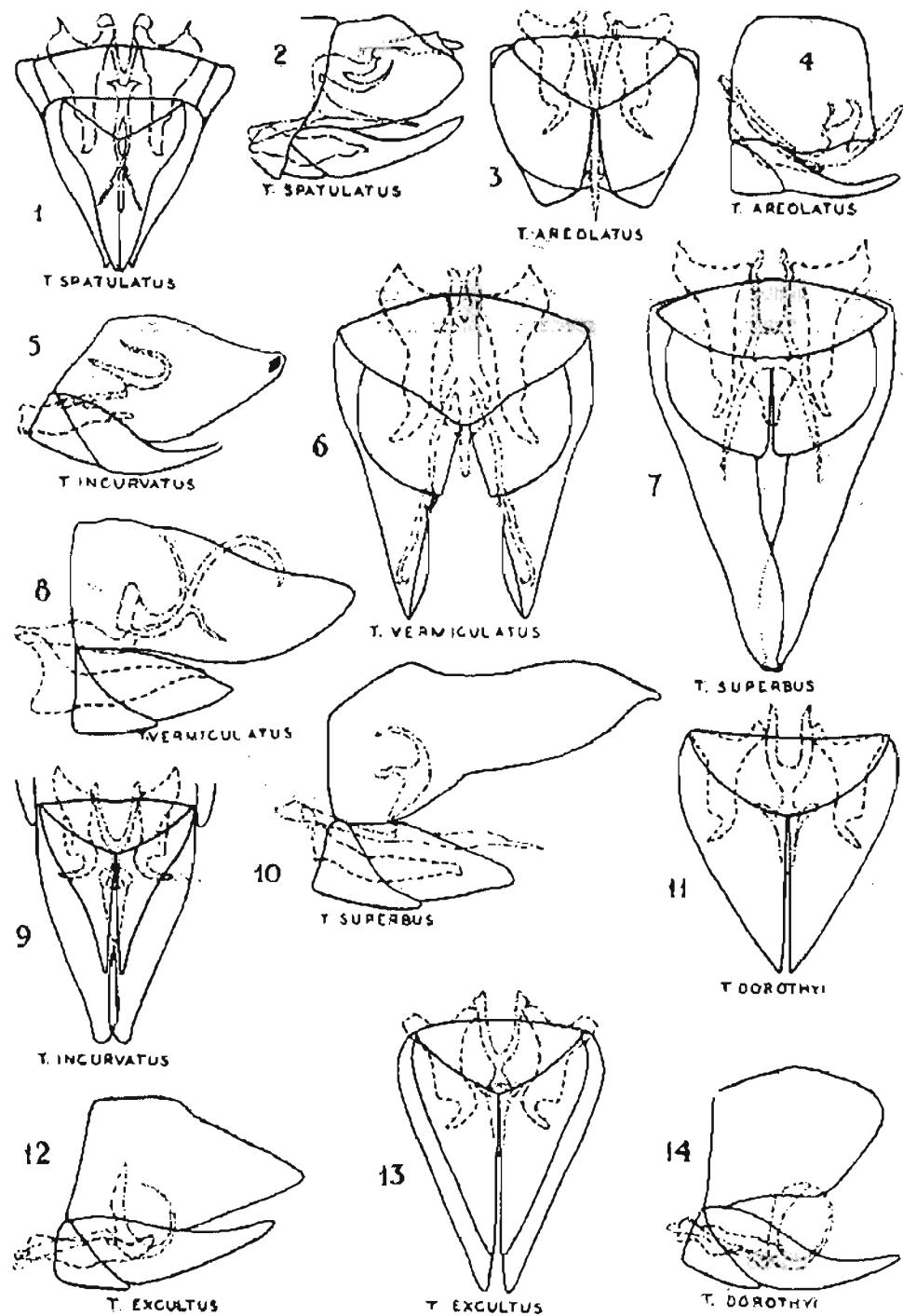
Fig. 7 y 10. *T. superbus*.

Fig. 5 y 9. *T. incurvatus*.

Fig. 11 y 14. *T. dorothyi*.

Fig. 12 y 13. *T. excultus*.

LAMINA 55



## LAMINA 56

Último segmento ventral femenino de las siguientes especies de *Phlepsius* y *Texananus*:  
 Female last ventral segments of species of *Phlepsius* and *Texananus*, as named:

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| Fig. 1. <i>P. aumpfi.</i>         | Fig. 14. <i>T. handlirschi.</i>  |
| Fig. 2. <i>P. utabnus.</i>        | Fig. 15. <i>T. elongatus.</i>    |
| Fig. 3. <i>P. costomaculatus.</i> | Fig. 16. <i>T. mexicanus.</i>    |
| Fig. 4. <i>P. lascivius.</i>      | Fig. 17. <i>T. cuspidatus.</i>   |
| Fig. 5. <i>P. continus.</i>       | Fig. 18. <i>T. cussns.</i>       |
| Fig. 6. <i>P. extremus.</i>       | Fig. 19 y 20. <i>T. bosanus.</i> |
| Fig. 7. <i>P. patrai.</i>         | Fig. 21. <i>T. biacus.</i>       |
| Fig. 8. <i>P. evolutus.</i>       | Fig. 22. <i>T. paralus.</i>      |
| Fig. 9. <i>T. vermiculatus.</i>   | Fig. 23. <i>T. dorothyi.</i>     |
| Fig. 10. <i>P. superbus.</i>      | Fig. 24. <i>T. excultus.</i>     |
| Fig. 11. <i>T. areolatus.</i>     | Fig. 25. <i>T. eugeneus.</i>     |
| Fig. 12. <i>T. spatulatus.</i>    | Fig. 26. <i>T. incurvatus.</i>   |
| Fig. 13. <i>T. bebraeus.</i>      | Fig. 27. <i>T. comus.</i>        |

LAMINA 36

