SOME NEW SPECIES OF DELPHACODES (Continued)

(Homoptera, Fulgoridae, Delphacinae)

Part III

R. H. Beamer* Lawrence, Kansas

21. Delphacodes trimaculata n. sp.

Brachypterous Form:

Resembling Delphacodes waldeni (Metc.) but smaller, color shiny golden brown with a black spot on base of scutellum, above middle coxae and on face. Length & 2.0 mm.; Q, 2.4 mm.

Structure: Front about one third longer than wide, widest near middle, slightly narrowed toward apex, more so toward base, tricarinate, middle carina blunt; crown almost without carinae, longer than wide, wider at apex than base, apex broadly rounded; elytra almost as wide as long, apices truncate, veins slightly heavier, not very definite, extending to third abdominal segment; hind wings small pads, scarcely one third as large as an eye.

Color: General color shining fulvous; abdomen darker than thorax, often with a still darker broad, longitudinal stripe on either margin, a large spot above middle coxae, another in base of scutellum and genae black, this latter in females often involves whole front; venter of female more or less dark, male genital capsule black.

Genitalia: In lateral view pygofer very narrow; anal segment without processes but antero-ventral corners enlarged to form aedeagal guide; aedeagus about twice as long as greatest width which is at end of basal third due to angular bulge, apex rounded; styles widest at base, greatly narrowed near basal third, enlarged on outer third and narrowed to slender apices; in caudal view styles widest at base, narrowed to outer third, widened to triangular apices; practically no aedeagal brace.

Holotype &, allotype Q, 39 & and 38 Q paratypes, Storrs, Conn., Aug. 14, 1946, R. H. Beamer; other paratypes: same place and collector, 13 🔞 🐧 and 10 ♀♀, Aug. 3, 1946; same place and collector, 4 ♂♂ and 1 ♀, Aug. 4, 1946; same place and collector, 1 &, Aug. 10, 1946; 2 & & and 1 9, Willimantic, Conn., Aug. 5, 1946, R. H. Beamer; 1 9, 3 & d, Ashton, Md., Aug. 27, 1938, P. W. Oman; 6 9 9, Washington, D. C., Sept. 22, 1934, P. W. Oman; 1 &, Arlington, Va., July 30, 1938, P. W. Oman. Paratypes in the U. S. National Museum.

Macropterous Form:

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Like the brachypterous form except wings extending one third their length beyond abdomen whitish-semihyaline with darker veins; color

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black except legs, clypellus, dorsum of thorax and pronotum back of each eye to base of wings stramineous.

Holomorphotype 3, allomorphotype 9, 33 and 16 9 paramorphotypes, Storrs, Conn., Aug. 14, 1946, R. H. Beamer; other paramorphotypes; same place and collector, 4 3 3 and 3 9 9, Aug 3, 1946; same place and collector, 1 3, Aug. 4, 1946; same place and collector, 1 9, Aug. 10, 1946; 1 pair, Willimantic, Conn., Aug. 5, 1946, R. H. Beamer.

Types in Snow Entomological Collections.

22. Delphacodes penepuella n. sp.

Brachypterous Form:

Resembling **Delphacodes** peulla (V. D.) but dark spot at apex of clavus continued diagonally forward across elytra, crown narrower and longer and aedeagus bent ventrally instead of dorsally with only five teeth near middle. Length & 1.5 mm.; 9, 1.8 mm.

Structure: Front about twice as long as wide, definitely constricted at base, very slightly so at apex, in between almost parallel-sided, strongly tricarinate; crown more than one third longer than basal width, widest at apex, strongly carinate; elytra widest near middle, apices broadly rounded, reaching almost to genital capsule in $\hat{\phi}$ to fourth abdominal segment in $\hat{\varphi}$; hind wings reduced to less than one fourth size of eye.

Color: General color dark with legs, carinae of front, anterior half of crown, hind border of pronotum, apex of scutellum, base of abdomen, some spots on lateral margin of abdomen, the posterior margin of some abdominal segments and elytra, except the rather broad diagonal cross band from tip of clavus forward, stramineous to cinereous.

Genitalia: In lateral view pygofer about one third deeper than long; anal segment with a pair of processes arising near middle, often distorted as to shape and origin; aedeagus widest at base, gradually tapered to dorsally turned tip, bent ventrally at less than a right angle near basal third; styles widest at base, more or less pediform on outer two thirds; in caudal view widest at base, very slightly narrowed and curved laterally, then medianly with apex right-angled on inner margin and slightly rounded and bulged on outer margin.

Holotype &, allotype $\,^\circ$, 34 & and 56 $\,^\circ$ paratypes, Otter Lake, N. Y., July 25, 1946, R. H. Beamer; 2 & &, Hilliard, Fla., Oct. 5, 1938, P. W. Oman; & South of Picnic, Fla., Nov. 8, 1938, P. W. Oman. Paratypes in the U. S. National Museum.

Macropterous Form:

Like brachypterous except elytra and flight wings extending about one third their length beyond abdomen and dark spot at tip of clavus not extending diagonally foreward across elytra.

Holomorphotype &, Hilliard, Fla., Aug. 31, 1930, R. H. Beamer.

Types in Snow Entomological Collections. '

23. Delphacodes recurvata n. sp.

Brachypterous Form:

Resembling Delphacodes waldeni (Metc.) but smaller, generally lighter in color and male with a pair of recurved processes on anal segment. Length \$\lambda\$ 2.3 mm.: \(\begin{array}{c} 2.6 mm. \end{array} \)

Structure: Front about twice as long as wide, widest at middle, narrowed toward each end, more so toward base, about half as wide at base as middle, strongly tricarinate; crown about twice as long as wide, carinae definite; elytra barely longer than wide, apices truncate, extending on to second abdominal segment, hyaline, veins heavier; hind wings not evident.

Color: Stramineous to brownish with a small darker spot in apices of elytra, semblance of darker longitundinal lines on dorsum of abdomen, aedeagus and styles brown.

• Genitalia: In lateral view anal segment with a pair of long slender processes arising on antero-ventral corner of anal segment and recurved to extend parallel with ventral margin; aedeagus widest at base, contracted near basal third to half basal width, slightly curved ventrally with three fairly large teeth on dorsal margin near outer third, aedeagal brace evident; styles swollen near middle on inner margin with flange on outer margin at apical third. In caudal view styles arcuate, widest at middle with curving flange on apical third of inner margin.

Holotype δ , allotype $\mathfrak P$, Hilliard, Fla., July 28, 1934, R. H. Beamer; paratypes: 1 δ same place and date, M. E. Griffith; 1 δ , Punta Gorda, Fla., Mar. 12, 1947, R. H. Beamer; 18 δ δ and 7 $\mathfrak P$ $\mathfrak P$, Sanford, Fla., Mar. 11, 1947, R. H. Eeamer; 1 δ , Sanford, Fla., May 7, 1926, E. D. Ball; 1 δ , Sanford, Fla., June 4, 1926, E. D. Eall; 1 δ , Sanford, Fla., Oct. 29, 1926, E. D. Ball; 1 $\mathfrak P$, Sanford, Fla., May 13, 1926, E. D. Ball; 1 $\mathfrak P$, Coco Fla., May 5, 1926, E. D. Ball; 3 $\mathfrak P$ $\mathfrak P$, Gainesville, Fla., Nov. 5, 1927; 1 δ and 2 $\mathfrak P$ $\mathfrak P$, Washington, D. C., Oct. 26, 1941, P. W. Oman. Paratypes in the U. S. National Museum.

Macropterous Form:

Like the brachypterous form but with both pairs of wings about one third longer than abdomen; elytra milky semihyaline with veins brown, especially so on outer half.

Holomorphotype &, Coconut Grove, Fla., Paul W. Oman.

Types in Snow Entomological Collections.

24. Delphacodes incurva n. sp.

Brachypterous Form:

Resembling Delphacodes nigriscutellata Bmr. but much smaller, elytra with apices rounded, base of crown usually light in color and processes of anal segment with apices sharply bent in. Length of & 1.8 mm.; Q 2.0 mm.

Structure: Front not quite twice as long as wide, widest near middle, narrowed toward each end, very slightly more so toward base, almost without carinae, median carina more or less distinct in female; crown barely

longer than wide, narrowest near middle, apex broadly rounded, carinae becoming more distinct on basal half; elytra extending on to third abdominal segment, slightly longer than broad with apices broadly rounded, veins heavier; in female apices slightly less rounded.

Color: General color stramineous. Male with cloudy spot above hind coxae, large spot above middle doxae, face below eye and in front of antennae, front, anterior half of crown, scutellum, dorsum of abdomen, except large basal area, most of last segment and dorsum of genital capsule, dark brown to black; female entirely light colored.

Genitalia: In lateral view anal segment with a pair of broad processes with sharp apices turned in at right angles; aedeagus widest at base, slightly, more than twice as long as basal width, gradually narrowed and slightly S-shaped with three large teeth on ventral margin just beyond middle and three to four lateral teeth near apex, styles short, narrowed at middle, enlarged at apices and slightly bifid. Styles in caudal view distinctly avicephaliform with small, sharp beak on inner margin and large rounded head

Holotype &, allotype Q, 21 & and 12 Q paratypes, Storrs, Conn., Aug. 15, 1946, R. H. Beamer; 1 & paratype, Liberal, Kansas, Aug. 16, 1945, R. H. Beamer. Types in Snow Entomological Collections.

25. Delphacodes latidens h. sp.

Brachypterous Form:

Resembles Delphacodes incurva Bmr. but much larger, elytra much longer, in male extending to tip of abdomen, processes of anal segment of male with apices not bent in at right angle and styles in lateral view quite slender on outer third. Length & 2.0 mm.; Q 2.5 mm.

Structure: Front slightly less than twice as long as wide, widest near middle, tapered toward each end, more so toward base, definitely tricarinate on outer half; crown longer than wide, apex broadly rounded, wider than base, carinae evident at base; elytra in male reaching to tip of abdomen, in female to third from last abdominal segment, apices broadly rounded, veins raised.

Color. General color stramineous; in male spot above middle coxae, genae beneath eye and in front of antennae, front except narrow apical band and scutellum, shiny black, spot above hind coxae fumose, dorsum of abdomen orange with more or less darken markings; in female a spot above middle coxae, one beneath ocellus and a row of spots on dorso-lateral margins of abdomen black, a small fumose spot above hind coxae, front light brown instead of black as in male; elytra semihyaline.

Genitalia: In lateral view anal segment with a pair of heavy, broad processes; aedeagus widest at base, more or less sinuate and narrowed to blunt apex, a few short teeth on each margin before tip; aedeagal brace of medium size; styles parallel-margined on basal two thirds, rapidly narrowed on outer margin on outer third. In caudal view styles widest at base, narrowing to avicephaliform apices with sharp beak on inner margin.

Holotype &, allotype Q, 2 & and 6 Q paratypes, Sarita, Texas, Dec. 25, 1945. Other paratypes: 1 pair, Mission, Texas, Dec. 25, 1945, R. H. Beamer; 1 &, San Antonio, Texas, June 25, 1938, R. H. Beamer; 1 &, Sheffield, Texas, July 10, 1938, R. H. Beamer; 1 &, Val Verde Co., Texas, June 28, 1940, D. J. and J. N. Knull, in Ohio State Collection.

Types and paratypes in Snow Entomological Collections.

26. Delphacodes lutulentoides n. sp.

Brachypterous Form:

Resembling Delphacodes lutulenta (Van D.) but usually lighter in color, carinae of front and crown definitely stronger, styles much more spatulate in both lateral and caudel view and aedeagus with several teeth on sides. Length & 2.0 mm.; Q 2,8 mm.

Structure: Front almost two thirds as wide as long, widest near middle, converging toward each end, slightly narrower at apex, strongly tricarinate; crown longer than wide, strongly carinate at least at base; elytra short, barely longer than wide, apices broadly rounded, reaching to about middle of abdomen; hind wings reduced to pads about one third size of eye.

Color: General color stramineous; in male more or less black between carinae of front and abdomen orange to black.

Genitalia: In lateral view pygofer quite narrow, hind margin excavated; anal segment without processes; aedeagus widest at base, about half as wide as total length, suddenly narrowed on ventral margin just before middle to less than half basal width, gently curved ventrally throughout; aedeagal brace large; styles, widest at base, narrowed in middle to about half basal width, apices spatulate. In caudal view styles widest at base, narrowed at middle on inner margin, apices slightly avicephaliform.

Holotype 3, allotype 9 and 7 3 paratypes, Tioga Pass, Calif., July 31, 1940, R. H. Beamer.

Types in Snow Entomological Collections.

27. Delphacodes stramineosa n. sp.

Brachypterous Form:

Resembling Delphacodes hyalina Bmr. but larger, without black between frontal carina, genital capsule light, aedeagus bent ventrally with rosette of spines at apex and with a pair of peculiar processes, one on each side of aedeagus at base. Length & 2.4 mm.; 9 3.2 mm.

Structure: Front twice as long as wide, widest near middle, barely narrowed toward each end, base slightly wider than apex, tricarinate, median carina quite broad; crown almost square, slightly longer than wide, carinae definite but blunt; elytra extending to slightly beyond middle of abdomen, apices broadly rounded, veins raised, often sparsely set with dark setae; hind wings absent.

Color: General color stramineous, male with large anal processes black, female with a black triangular plate at base of ovipositor.

Genitalia: In lateral view pygofer slightly wider than long with a rounded protruding lobe on caudo-ventral corner; anal segment with a pair of very large, curving, sharp processes; acdeagus, with sides almost parallel, about five times as long as wide, slightly curved ventrally throughout, with a rosette of spines at apex and at base a pair of slender; caudally-curving processes almost as long as aedeagus; aedeagal brace quite large; styles short, widest at base, almost straight, narrowed to knobbed apex. In caudal view styles about as in lateral except appearing longer; aedeagal brace broad with U-shaped median notch.

Holotype δ , allotype \mathfrak{P} , 22 δ and 53 \mathfrak{P} paratypes, Storrs, Conn., Aug. 4, 1946, R. H. Beamer; other paratypes; 15 δ δ and 30 \mathfrak{P} \mathfrak{P} , same place and collector, Aug. 3, 1946; 8 δ δ and 16 \mathfrak{P} \mathfrak{P} , same place and collector, Aug. 15, 1946; 1 δ and 10 \mathfrak{P} \mathfrak{P} , Water Mill, Long Island, N.Y., Aug. 18, 1496, R. H. Beamer.

Types in Snow Entomological Collections.

28. Delphacodes serrata n. sp.

Brachypterous Form:

Resembling Delphacodes alexanderi (Metc.) but elytra not reaching beyond middle of abdomen, crown much longer than wide, female with black between lateral carinae only at union of front and crown and aedeagus bent dorsally with dorsal edge serrate. Length § 2.2 mm.; § 2.7 mm.

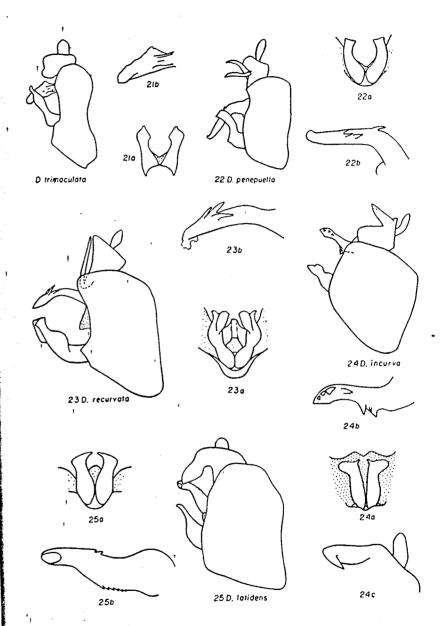
Structure: Front slightly more 'than twice as long as wide, widest on basal third, narrowed very gently throughout most of its length, then rather suddenly at apex and base, more so at base; crown about twice as long as wide, carinate, raised above level of eyes more than normal; elytra not reaching more than to middle of abdomen, veins raised, apices semitruncate; hind wings triangular pads, less than half as large as an eye.

Color: General color stramineous, male with dark spot above hind coxae, vittae between carinae of front black, elytra and abdomen black except large basal spot and some small lateral spots on dorsum of abdomen lighter; female varies from stramineous to buff, two short black stripes arising near base of front between carinae and ending near middle of crown, tips of tarsi and ovipositor darker, elytra almost hyaline.

Genitalia: In lateral view pygofer more or less rectangular, ventral margin about one fourth longer than dorsal; anal segment with a pair of

PLATE V

^{21.} Lateral view of genital capsule of male of Delphacodes trimaculata Beamer.
21a. Caudal view of styles and aedeagal brace of Delphacodes trimaculata Beamer.
21b Lateral view of aedeagus enlarged of Delphacodes trimaculata Beamer.
22. Lateral view of genital capsule of male, of Delphacodes penepuella Beamer.
22a. Caudal view of styles and aedeagal brace of Delphacodes penepuella Beamer.
22b. Lateral view of aedeagus enlarged of Delphacodes penepuella Beamer,
23a. Lateral view of styles and aedeagal brace of Delphacodes recurvata Beamer.
23a. Caudal view of styles and aedeagal brace of Delphacodes recurvata Beamer.
23b. Lateral view of genital capsule of male of Delphacodes incurva Beamer.
24a. Caudal view of styles and aedeagal brace of Delphacodes incurva Beamer.
24a. Caudal view of styles and aedeagal brace of Delphacodes incurva Beamer.
24b. Lateral view of aedeagus enlarged of Delphacodes incurva Beamer.
25c. Lateral view of genital capsule of male of Delphacodes latidens Beamer.
25a. Caudal view of styles and aedeagal brace of Delphacodes latidens Beamer.
25b. Lateral view of aedeagus enlarged of Delphacodes latidens Beamer.



rather straight sharp processes about as long as segment; aedeagus widest at base, evenly narrowed throughout and curved dorsally with apical third slightly turned caudally, dorsal margin serrate; styles almost hidden from view in the deep pygofer. In caudal view styles of normal length, widest at base, margins sinuous and narrowing to sharp apices; aedeagal brace in form of a narrow rectangular lobe at middle of broadly rounded opening.

Holotype &, allotype Q, 23 & and 21 Q paratypes, Storrs, Conn., Aug. 2-4, 1946, R. H. Beamer; 1 pair paratypes, South Dayton, N. Y., July 23, 1946, R. H. Beamer.

Types in Snow Entomological Collections.

29. Delphacodes opaca n. sp.

Brachypterous Form:

Resembling Delphacodes atrata Osb. but much smaller, darker in color, elytra not extending beyond middle of abdomen and aedeagus of male bifid for half its length. Length & 1.4 mm.; 1.7 mm.

Structure: Front less than twice as long as wide, widest beyond middle, sides evenly curved toward each end, strongly tricarinate; crown almost as long as wide, front wider than base, carina present, stronger on basal half; elytra about as wide as long, reaching about to middle of abdomen, apices semitruncate, veins raised.

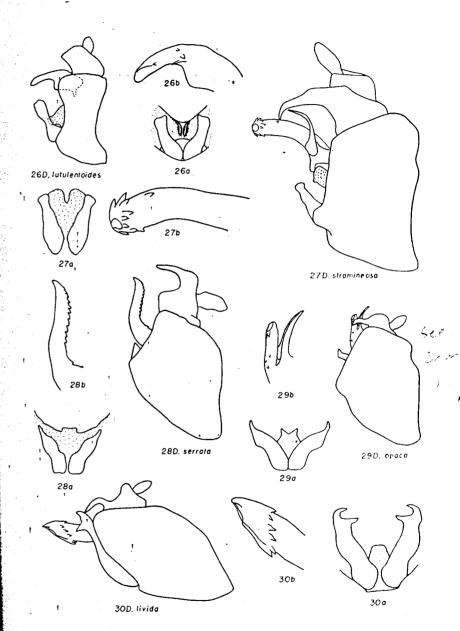
Color: General color dark brown to black throughout, region of hind coxae and caudal excavation of male genital capsule lighter.

Genitalia: In lateral view pygofer more or less rectangular with ventral margin almost twice as long as dorsal; anal segment with a pair of sinuate processes about as long as segment; aedeagus widest at base, more than half as wide as long, curved dorsally, bifid for more than half its length, ventral portion with two teeth near tip and three smaller ones near base; styles barely visible in this view. In caudal view pygofer margin flared, deeply excavated; styles widest near base, sinuate with margins parallel to outer third where they narrow rapidly to sharp apices; aedeagal brace heavy with angular bifid apex.

Holotype δ , allotype \circ , 7 \circ and 4 \circ paratypes, Willimantic, Conn., Aug. 8, 1946, R. H. Beamer; other paratypes, 14 \circ \circ and 8 \circ \circ , Storrs, Conn.,

PLATE VI

^{26.} Lateral view of genital capsule of male of Delphacodes lutulentoides Beamer.
26a. Caudal view of styles and aedeagal brace of Delphacodes lutulentoides Beamer.
26b. Lateral view of aedeagus enlarged of Delphacodes lutulentoides Beamer.
27. Lateral view of genital capsule of male of Delphacodes stramineosa Beamer.
27a. Caudal view of styles and aedeagal brace of Delphacodes stramineosa Beamer.
27b. Lateral view of aedeagus enlarged of Delphacodes stramineosa Beamer.
28a. Caudal view of genital capsule of male of Delphacodes serrata Beamer.
28b. Lateral view of styles and aedeagal brace of Delphacodes serrata Beamer.
29c. Lateral view of genital capsule of male of Delphacodes opaca Beamer.
29a. Caudal view of styles and aedeagal brace of Delphacodes opaca Beamer.
29b. Lateral view of aedeagus enlarged of Delphacodes opaca Beamer.
30b. Lateral view of styles and aedeagal of Delphacodes livida Beamer.
30a Caudal view of styles and aedeagal brace of Delphacodes livida Beamer.
30b. Lateral view of styles and aedeagal brace of Delphacodes livida Beamer.



Aug. 3-15, 1946, R. H. Beamer; 6 & and 59 9, Dingman's Ferry, Pa., Aug. 20, 1946, R. H. Beamer; 1 &, Mt. Lake, Va., Sept. 2, 1946, R. H. Beamer. Types in Snow Entomological Collections.

30. Delphacodes livida n. sp.

Brachypterous Form:

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Resembles Delphacodes acuministyla Dozier but distinctly larger, black in color and male styles in caudal view with bifid, more or less U-shaped apices. Length & 2.0 mm. Q 2.2 mm.

Structure: Front almost twice as long as wide; widest near apical third, gently narrowed toward each end, apex wider than base, tricarinate: crown definitely longer than wide, carinate with those on anterior half indistinct: elytra reaching slightly beyond middle of abdomen, apices broadly rounded in female, slightly more truncate in male, hind wings triangular pads about one third as large as eve.

Color: General color light brown to black; legs, front in some specimens. crown and antennae light brown, elytra, most of abdomen and genital capsule shining black, anal tube, small portion of dorsum of last abdominal segment light.

Genitalia: In lateral view pygofer more or less trapezoidal: anal segment with a pair of curved, sharp processes arising on outer lower corner; aedeagus widest near outer third, shate almost straight, with a diagonal circle of teeth at widened spot; styles widest at base, narrowing to bifid apices. In caudal view styles widest at base, outer margin sinuate, apices bifid. U-shaped; aedeagal brace fair sized with apex blunt or slightly excavated.

Holotype &, allotype 9: 27 & and 1 9 paratypes, Storrs, Conn., Aug. 5-15, 1469, R. H. Beamer.

Types in Snow Entomological Collections.

NOTES ON THE BEET LEAFHOPPER. Circulifer tenellus (Baker), AND ITS RELATIVES (Homoptera: Cicadellidae)

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It is the purpose of the present paper to define the genus Circulifer Zakhvatkin and to discuss briefly the Old World distribution of tenel!us and its other components. Notes on the identity of some of the species of Circulifer are given, but it is not possible at this time, with the limited material available, to undertake a critical study of the genus. There is included a "check list" of trivial names assigned to Circulifer.

It has long been recognized that tenellus was not properly placed in the genus Eutettix, that generic name being applicable only to a group of rather robust, oak feeding species from which tenellus differs very markedly in a number of characters. The apparent absence, from the Nearctic region, of species closely related to tenellus led naturally to the examination of avail-

able material from other faunal regions in an attempt to resolve the correct generic position of the beet leafhopper. As a result of those studies it became evident that tenellus should be associated with a number of southern European species, for which Zakhvatkin in 1935 proposed the name Circulifer. Although the designation "Eutettix tenellus" has been continued in North America for more than ten years as a matter of convenience until certain problems of distribution could be clarified, it now seems desirable to adopt the generic designation which will emphasize the Old World distribution and relationships of tenellus.

THE GENUS CIRCULIFER ZAKHVATKIN

Circulifer Zakhvatkin, Wiss. Ber. Moskauer Staats Univ. 4:111, 1935. Type, by original designation, Jassus haematoceps Mulsant and Rey, 1855. Distomotettix Ribaut, Soc. Hist. Nat. Toulouse Bul. 72: 97, 1938. Type, by original designation, Jassus fenestratus Herrich-Schaeffer, 1834.

Small leafhoppers, total length 2.75-4.00 mm. Head slightly wider than pronotum, anterior margin rounded, crown short and convex. Clypellus slender, constricted basad of middle. Lateral margins of genae sinuated below eyes. Ocelli near eyes. Lateral margins of pronotum short. Forewing with appendix well developed; apical cells short; outer anteapical cell small, usually elongate-ovate in shape; central anteapical cell constricted; inner anteapical cell open basally. Hind wing with four apical cells. Aedeagus symmetrical and having two orifices; ejaculatory duct bifurcate. Pygofer of male with a dorsally directed, sharp, spine-like process.

The typical members of the genus, of which tenellus is one, have the following features supplementary to the characters given above. Distal processes of the aedeagus forming a complete or nearly complete circle, posterior margin of sternite VII of female sinuated and with a brown-bordered median emargination. In contrast to the typical forms, C. fenestratus, type of Distomotettix, has the distal processes of the aedeagus shorter, forming but a semicircle, and the posterior margin of sternite VII of the female without a median emargination. Further study may indicate the desirability of retaining Distomotettix as a subgenus, especially if other species are found to have the same type of genital structures.

The Old World distribution of typical members of the genus Circulifer may be given as follows: the countries of southern Europe adjacent to the Mediterranean, the Balkan states, northern Africa, Yemen, Palestine, northern Arabia, the area around the Caspian Sea, the Punjab district of north India, and the deserts and arid regions of Asia from the Persian Gulf to the northeast as far as the steppe of Balagansk in south central Siberia. It is of interest to note that the distribution outlined involves an area that is ecologically very similar to that occupied by the beet leafhopper in North America. It is not clear from published records whether or not members of the genus occur to the east of the Tian-Shan range in Chinese Turkestan. Circulifer fenestratus (H-S.), in addition to occupying a considerable portion of the range outlined above, occurs much farther north in Europe than do the typical members of the genus, and is known from Germany, central Russia, and Finland.

¹ Commonly referred to in North American literature as Eutettix tenellus (Baker).