

**SOME NEW SPECIES OF DELPHACODES
(Homoptera, Fulgoridae, Delphacinae)**

Part IV

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31 *Delphacodes cornuta* n. sp.

Brachypterous Form:

Resembles *Delphacodes waldeni* (Metcf.) but with definite color on parts of elytra instead of just brown veins and aedeagus ending in a cornucopia-shaped apex. Length, ♂ 2.6 mm.; ♀ 2.8 mm.

Structure: First antennal segment about twice as long as wide; front about one-third longer than greatest width, slightly narrowed toward either end, more so toward base, strongly tricarinate; crown about as long as width between eyes; elytra slightly longer than wide, apices truncate, veins raised.

Color: General color brown; pronotum with three longitudinal light vittae; elytra of female with region between veins darker, in male border and claval veins lighter; abdomen in female with three more or less definite light longitudinal vittae, male with only median longitudinal stripe definite.

Genitalia: In lateral view pygofer much wider than long; narrowed dorsally; anal segment rectangular, widest at outer end with a pair of more or less triangular-shaped processes almost as long as segment arising at outer ventral corner; aedeagus about as long and wide as style, curved ventrally, sides almost parallel to outer third where it flares into a cornucopia-shaped, sharp apex; styles long, sides almost parallel throughout, sinuately curved with a broad tooth almost as long as width of shaft at inner apical corner; aedeagal brace about twice as wide as width of style and twice as long as own width, outer dorsal corner sharpened; in caudal view aedeagal brace scarcely projected dorsally; styles long, sinuate, avicephaliform, beak on outside.

Holotype ♂, La Belle, Fla., March 3, 1947, R. H. Beamer; allotype ♀ and one ♂ paratype, July 7, 16, 1939, R. H. Beamer; 1 ♂ paratype, Royal Palm State Park, Fla., March 16, 1947, L. D. Beamer. Types in the Snow Entomological Collections.

32. *Delphacodes quadridentis* n. sp.

Brachypterous Form:

Resembling *Delphacodes acuministyla* Dozier but males without brown tips to elytra and anal segment with two pairs of processes instead of one. Length ♂ 1.5 mm.; ♀ 1.8 mm.

Structure: First segment of antennae slightly longer than wide; front a little more than twice as long as wide, widest near apical third, considerably narrower at base than at apex, tricarinate, median carina quite heavy; crown slightly longer than wide, carinae definite; elytra almost twice as long as wide, apices rounded.

*Contribution from the Department of Entomology, University of Kansas.

Color: General color of female stramineous, male with dorsum of about basal half of abdomen more or less dark brown and genital capsule except anal tube, black.

Genitalia: In lateral view, pygofer more or less rectangular, slightly longer on ventral margin; anal segment with two pairs of processes, one pair short and blunt, the other about three times as long as first, sharp; aedeagus narrowed near middle with margins almost parallel on outer half, dorsal margin with about seven teeth; aedeagal brace not visible; styles with sides almost parallel to slightly enlarged region just before apices; in caudal view aedeagal brace extended dorsally more than basal width, tip slightly bifid; styles rather short with avicephaliform apices, beak short, on inner margin.

Holotype ♂, allotype ♀, 31 ♂♂ and 37 ♀♀ paratypes, Ocean Springs, Miss., March 3, 1947, R. H. Beamer; other paratypes: 5 ♂♂ and 6 ♀♀, Ocean Springs, Miss., March 3, 1947, L. D. Beamer; 9 ♂♂ and 4 ♀♀, Sanford, Fla., March 11, 1947, R. H. Beamer; 3 ♂♂ and 1 ♀, Sanford, Fla., March 11, 1947, L. D. Beamer; 7 ♂♂ and 1 ♀, Naples, Fla., March 16, 1947, R. H. Beamer; 1 ♂ and 4 ♀♀, Mims, Fla., March 18, 1947, R. H. Beamer; 1 ♂, Hilliard, Fla., March 18, 1947, R. H. Beamer; 20 ♂♂ and 14 ♀♀, Punta Gorda, Fla., March 12, 1947, R. H. Beamer; 1 ♂, Zolpho Springs, Fla., July 15, 1939, R. H. Beamer; 5 ♂♂, Hilliard, Fla., Oct. 5, 1938, P. W. Oman; 1 ♂, Zolpho Springs, Fla., June 15, 1939, P. W. Oman.

Types and paratypes in Snow Entomological Collections, paratypes in United States National Museum.

33. *Delphacodes aetocephala* n. sp.

Brachypterous Form:

Resembling *Delphacodes parcula* Eall bua anal segment of male with a pair of sharp processes and aedeagus in lateral view resembling the head of an eagle. Length ♂ 2.0 mm.; ♀ 2.5 mm.

Structure: First antennal segment slightly longer than wide, front almost twice as long as wide, widest near outer third, narrowed toward each end, more so toward base, barely more than half as wide at base as at widest place, strongly tricarinate; crown slightly longer than width at base, carinae definite; elytra semihyaline, almost twice as long as wide, apices rounded, veins raised with few long hairs.

Color: General color stramineous to cinereous, dorsum of abdomen more or less longitudinally lineate with darker.

Genitalia: In lateral view pygofer more or less rectangular, widest on venter; anal segment with pair of sharp processes; aedeagus widest at base, gently narrowed and strongly curved ventrally to sharp apex, avicephaliform; aedeagal brace narrow extending above level of edges of pygofers; styles more or less pediform, base strongly arcuate.

Holotype ♂, allotype ♀, 63 ♂♂ and 46 ♀♀ paratypes, Covington, La., Mar. 3, 1947, R. H. Beamer; other paratypes: 45 ♂♂ and 18 ♀♀, Slidell, La., Mar. 3, 1947, R. H. Beamer; 2 ♂♂, Pearlinton, Miss., Mar. 3, 1947, R. H. Beamer; 14 ♂♂ and 8 ♀♀, Ocean Springs, Miss., Mar. 3, 1947, R. H. Beamer;

3 ♂♂ and 2 ♀♀, same place and date, L. D. Beamer; 31 ♂♂ and 9 ♀♀, Mariana, Fla., Mar. 7, 1947, R. H. Beamer; 18 ♂♂ and 8 ♀♀, same place and date, L. D. Beamer; 1 pair, Sanford, Fla., July 22, 1926, E. D. Ball.

Types and paratypes in Snow Entomological Collections; paratypes in United States National Museum.

34. *Delphacodes turgida* n. sp.

Brachypterous Form:

Resembles *Delphacodes sagae* Beamer but females, crown, pronotum and scutellum of males stramineous instead of fumous, and dorsal margin of aedeagus greatly swollen near middle. Length ♂ 3.0 mm.; ♀ 4.0 mm.

Structure: First antennal segment twice as long as wide; front a little more than twice as long as wide, widest near apical third, narrowed toward each end, more so toward base, distinctly tricarinate; crown about one-third longer than wide, carinae visible; elytra of male not reaching genital capsule, opaque, apices rounded, veins raised, female with elytra, exposing last three abdominal segments, apices rounded, veins heavier.

Color: General color stramineous; in male elytra, spot above hind coxae, more than half of abdomen and all of genital capsule except dorsum dark brown to black; female with spot above hind coxae and some longitudinal lines on abdomen more or less slightly darkened.

Genitalia: In lateral view, pygofer somewhat extended on caudo-dorsal corner; anal segment with a pair of long, sharp, processes extending almost directly away from segment; aedeagus narrowest at base, curved ventrally throughout, greatly swollen on dorsal margin at middle with four sharp retrorse teeth on dorsal margins between swelling and apex; aedeagal brace visible, large, more or less rectangular in shape, with outer half of ventral margin, more or less serrate; styles narrowed on outer third to sharp apices, a large tooth on this margin at outer third; in caudal view styles almost straight, narrowed on outer margin on apical third; aedeagal brace about twice as wide at base as at apex, extended dorsally more than half length of styles, apex bifid with a retrorse tooth, about as long as half width of brace at apex on either side just before tip.

Holotype ♂, allotype ♀, 10 ♂♂ paratypes, Yankeetown, Fla., Mar. 9, 1947, R. H. Beamer; other paratypes: 4 ♂♂, same place and time, L. D. Beamer; 10 ♂♂ and 9 ♀♀, Melbourne, Fla., Mar. 17, 1947, R. H. Beamer; 2 ♂♂, Woodville, Fla., Mar. 7, 1947, R. H. Beamer; 2 ♂♂, Mims, Fla., Mar. 18, 1947, R. H. Beamer; 5 ♂♂ and 2 ♀♀, Palatka, Fla., Mar. 10, 1947, R. H. Beamer; 1 ♂, Okfenokee Swamp, Ga., Billy's Island, July 27, 1929, R. H. Beamer; 1 ♂, Sanford, Fla., Aug. 16, 1926, E. D. Ball; 1 ♂, Sanford, Fla., Feb. 22, 1926, E. D. Ball; 2 ♂♂, Sanford, Fla., Nov. 23, 1926, E. D. Ball; 1 ♂ and 3 ♀♀, New Smyrna, Fla., Oct. 30, 1927.

Types and paratypes in Snow Entomological Collections; paratypes in United States National Museum.

35. *Delphacodes adunca* n. sp.

Brachypterous Form:

Resembling *Delphacodes andromeda* (V.D.) but general color of elytra and abdomen much lighter and first pair of processes on anal segment short

and sharp-pointed instead of very wide, long, and with rounded apices. Length ♂ 1.5 mm.; ♀ 2.0 mm.

Structure: First segment of antenna about as broad as long; front not quite twice as long as wide, widest at middle, apex very slightly wider than base, distinctly tricarinate; crown one third longer than basal width, wider at apex than at base, carinae distinct; elytra about as wide as long, hyaline with apices rounded.

Color: General color stramineous, in male, front, anterior half of pronotum and all of scutellum except apex, black; abdomen more or less tinged with dark on basal half; genital capsule black except a portion of dorsum; a spot above middle and hind coxae darker; female about as in male but darker portions not jet black.

Genitalia: In lateral view, pygofer more or less rectangular with outer dorsal and ventral corners rounded off making posterior margin much shorter than anterior; anal segment with two pairs of processes, the first pair short and sharp, length about equal to basal width, second pair almost as long as aedeagus bent back dorsally near middle to almost touch first pair; aedeagus slightly wider at apex than at middle, bent dorsally near base, then ventrally near outer third, outer half with numerous teeth well scattered over surface; aedeagal brace not visible in lateral view; styles with rather enlarged, more or less, serrated heels, sides slightly tapered to rounded apices with well marked angular hump on outer margins before apices; in caudal view, aedeagal brace extended dorsally about basal width, tip rounded; styles rather pediform on outer third, heel rather prominent on inner margins.

Holotype ♂, allotype ♀, 102 ♂♂ and 103 ♀♀ paratypes, Otter Creek, Fla., Mar. 9, 1947, R. H. Beamer; other paratypes: 3 ♂♂ and 3 ♀♀, same place and date, L. D. Beamer; 4 ♂♂, Raleigh, N. C., Oct. 16, 1938, P. W. Oman; 2 ♂♂, Hilliard, Fla., Oct. 5, 1938, P. W. Oman; 5 ♂♂, LaBelle, Fla., July 16, 1939, P. W. Oman; 8 ♂♂, Zolpho Springs, Fla., July 15, 1939, P. W. Oman; 4 ♂♂, New Port Ritchey, Fla., Oct. 7, 1938, P. W. Oman; 1 ♂, Sanford, Fla., Oct. 31, 1925, E. D. Ball.

Types and paratypes in Snow Entomological Collections and paratypes in United States National Museum.

36. *Delphacodes bifida* n. sp.

Brachypterous Form:

Resembles *Delphacodes campestris* (V.D.) but larger, male pronotum with dark spot back of each eye, elytra barely reaching genital capsule and anal segment with a pair of long processes. Length ♂ 2.8 mm.; ♀ 3.0 mm.

Structure: First segment of antennae twice as long as wide; front a little more than twice as long as wide, widest near basal third, narrowing toward either end, more so toward base, distinctly tricarinate; crown about as wide as long, carinae distinct; elytra reaching genital capsule, about twice as long as wide, semihyaline, veins raised and apices rounded.

Color: General color stramineous; front darkened between carinae in some specimens; pronotum with a brown spot back of each eye; scutellum

brown outside of lateral carinae; dorsum of abdomen mostly dark brown, lighter on basal segment and on genital capsule; darker spot above middle and hind coxae and below eyes; venter of abdomen of both sexes more or less embrowned.

Genitalia: In lateral view, pygofer more or less rectangular, wider on dorsal half than on ventral; anal segment with a pair of long, sharp processes extending more than their own width away from segment; aedeagus almost as broad as long, bifid almost half length; aedeagal brace long, triangular in shape; styles pediform in shape, heel sharp, toe narrow; in caudal view, aedeagal brace not extending dorsally; styles very small with heavy triangular bases and apices to narrowed and extended caudo-laterally.

Holotype ♂, Flagstaff, Ariz., Aug. 5, 1933, R. H. Beamer; allotype ♀, 2 ♂ and 5 ♀ paratypes, Santa Catalina Mts., Ariz., July 15, 1933; E. D. Ball; other paratypes: 2 ♂ ♂, Santa Catalina Mts., Ariz., June 29, 1933, E. D. Ball, 3 ♂ ♂, one long-winged, Santa Catalina Mts., Ariz., E. D. Ball; 3 ♂ and 3 ♀ ♀, Santa Catalina Mts., Ariz., June 29, 1933, E. D. Ball; 1 ♂, Chiricahua Mts., Ariz., July 18, 1934, E. D. Ball. There is also present 1 ♂ from Colorado and 1 ♂ from New York which seem to be this species but are not included in the type series.

Holotype and paratypes in Snow Entomological Collections; allotype and paratypes in United States National Museum.

37. *Delphacodes apicata* n. sp.

Brachypterous Form:

Resembling *Delphacodes campestris* (V.D.) but males without dark spot on sides of scutellum, styles pointed, and anal segment with a pair of processes. Length ♂ 2 mm.; ♀ 2.3 mm.

Structure: First segment of antennae slightly longer than wide; front less than twice as long as wide, widest near middle, narrowed toward each end, slightly narrower at apex, distinctly tricarinate; crown about as wide as long, carinae not distinct; elytra scarcely reaching middle of abdomen, semihyaline, veins raised, apices more or less truncate, shortest on inner margin.

Color: General color stramineous; male with abdomen mostly brown with a semblance of a median longitudinal light line and of a dark spot above middle and hind coxae; female much lighter with only a suggestion of darker spots on dorsum of abdomen.

Genitalia: In lateral view, pygofer much narrower on dorsal margin than ventral; anal segment with a pair of long sharp processes extended away from segment; aedeagus with broad base, narrowed to one third basal width near base, almost straight to apex with numerous spines on outer half; aedeagal brace almost as long and broad as length of aedeagus with posterior margin finely serrate; styles short, curved dorsally, narrowed on outer third to sharp apices; in caudal view, aedeagal brace slightly extended dorsally and greatly arched caudally; styles sinuate, narrowed greatly on outer third.

Holotype ♂, allotype ♀, 2 ♂ and 1 ♀ paratypes, San Francisco Mt., Ariz., Aug. 12, 1929, E. D. Ball; 1 ♂ paratype, same place and collector, Oct. 3, 1934.

Macropterous Form:

Like the brachypterous form except wings about one third longer than abdomen and general color darker which includes an embrowned scutellum except apex.

Holomorphotype ♂, Grand Canyon, Ariz., Aug. 11, 1927, R. H. Beamer; allomorphotype ♀, 3 ♂ and 2 ♀ paramorphotypes, San Francisco Mt., Ariz., Aug. 12, 1929, E. D. Ball; 2 ♂ paramorphotypes, Flagstaff, Ariz., Aug. 7, 1929, E. D. Ball.

Types and paratypes in Snow Entomological Collections and United States National Museum.

38. *Delphacodes arcanastyla* n. sp.

Brachypterous Form:

Resembles *Delphacodes bifida* Emr. but in lateral view male with a pediform-shaped aedeagus, aedeagal brace not visible and styles not pediform. Length 2.5 mm.

Structure: First segment of antennae not quite twice as long as wide, widest about the middle, slightly narrowed toward each end, strongly tricarinate; crown about as long as wide, carinae definite; elytra reaching to genital capsule, semihyaline, apices rounded.

Color: General color stramineous; coxae, large spot above each coxae, genae, area between carinae of front, anterior two thirds of pronotum outside lateral carinae, scutellum outside lateral carinae, and most of abdomen dark brown.

Genitalia: In lateral view, pygofer nearly circular, strongly narrowed on ventral margin; anal segment with a pair of strong, rather blunt, processes extending away from segment; aedeagus not quite as broad at base as length, strongly pediform on outer half, heel and region basad thickly set with minute teeth; aedeagal brace and styles not visible in this view; in caudal view, styles long, diverging, sides sinuate, narrowed on outer third; aedeagal brace not extended dorsally nor caudally.

Holotype ♂, Hell's Crossing, Wash., July 6-7, 1935, R. H. Beamer.

Macropterous Form:

Like the brachypterous form except elytra about one third longer than abdomen and general color darker, especially the scutellum which is entirely black.

Holomorphotype ♂, Midland Co., Mich., May 26, 1945, R. R. Dreisbach; allomorphotype ♀, Paley Co., Mich., June 2, 1945, R. R. Dreisbach; 2 ♂ paramorphotypes, Amery, Wis., June 10, 1917, E. D. Ball.

Types in Snow Entomological Collections, paramorphotypes in United States National Museum.

39. *Delphacodes paransera* n. sp.

Brachypterous Form:

Resembles *Delphacodes arcanastyla* but in lateral view aedeagus many

times as long as wide, not pediform; aedeagal brace visible, long and almost parallel-sided; styles enlarged at apex. Length ♂ 3 mm.

Structure: First antennal segment a little longer than wide; front a little more than twice as long as wide, sides almost parallel, slightly narrowed at either end, distinctly tricarinate on apical two thirds; crown about as wide as long, carinae indefinite; elytra semihyaline, veins raised, reaching to next to the last abdominal segment, apices rounded.

Color: General color stramineous, large spot above middle and hind coxae, genae, spot on pronotum back of each eye, sides of scutellum at least and sometimes all of scutellum and most of abdomen dark brown; arc of front between carinae sometimes slightly darkened.

Genitalia: In lateral view, pygofer more or less rectangular, ventral margin curved, a tooth on caudal margin near ventral corner, dorsal margin about half as long as ventral; anal segment with a pair of sharp processes extending away from segment; aedeagus long and slender, sides almost parallel, slightly enlarged near apex on dorsal margin, slightly curved ventrally on outer third, many teeth on outer half; aedeagal brace greatly extended caudally, rectangular in shape, covered with many teeth; styles sinuate, avicephaliform at apices; in caudal view, slightly projected dorsally, broad and feebly bifid; styles slender, enlarged into avicephaliform apices with beak on inner margin.

Holotype ♂ and 1 ♂ paratype, Piedmont, South Dakota, July 17, 1937, R. H. Beamer; other paratypes: 3 ♂♂, Sturgis, South Dakota, July 21-25, 1947, H. C. Severin; 2 ♂♂, The Plains, Wanakena, N. Y., Aug. 3, 1920, C. J. Drake.

Type and paratypes in Snow Entomological Collections, paratypes in United States National Museum and collection of H. C. Severin, North Dakota State College.

40. *Delphacodes dentis* n. sp

Macropterous Form:

Resembling *Delphacodes puella* (V. D.) but pronotum without the white hind border and male anal segment with two pairs of processes instead of one. Length ♂ 3 mm.; ♀ 3.2 mm.

Structure: First segment of antennae twice as long as wide; front slightly more than twice as long as wide, widest near apical third, narrowed toward each end, base narrower than apex, definitely tricarinate, median carina forking before apex of crown; crown as wide as long, carinae distinct; elytra about one third longer than abdomen, semihyaline, veins darker.

Color: General color stramineous; venter of sternum more or less black, genae, area between frontal carinae, spot back of each eye, area of scutellum outside lateral carinae of scutellum and sometimes entire scutellum except apex, and almost entire abdomen dark brown to black.

Genitalia: In lateral view, pygofer more or less trapezoidal with a small tooth near dorsal third of caudal margin; anal segment with two pairs of processes, first pair very short and heavy, second pair many times longer

than wide; aedeagus widest at base, dorsal margin sinuate, two short teeth near middle of outer third; aedeagal brace visible, oval in outline; styles widest at base narrower near middle, slightly enlarged into more or less bifid apices. In caudal view, aedeagal brace narrow, extended dorsally about its own width, slightly excavated; styles widest at base, strongly constricted just beyond middle, enlarged at apices, slightly bifid.

Holotype ♂, allotype ♀, and 1 ♀ paratype, Brownsville, Texas, Dec. 27, 1945, R. H. Beamer; other paratypes: 1 ♂, Sinton, Texas, Dec. 25, 1945, R. H. Beamer; 3 ♂♂ and 4 ♀♀, McAllen, Texas, Dec. 30, 1945, R. H. Beamer.

Types in Snow Entomological Collections.

41. *Delphacodes dentipennis*, n. sp

Brachypterous Form:

Resembles *Delphacodes livida* Beamer, but wings hyaline, extending to end of abdomen and pygofer of male in lateral view with a large tooth near middle of caudal margin. Length ♂ 2.2 mm.

Structure: First antennal segment about twice as long as wide; front about twice as long as wide, widest near middle, very slightly narrowed toward each end, slightly more so toward base, distinctly tricarinate; crown slightly longer than wide, widest at apex, carinae fairly distinct; elytra extending to tip of abdomen, hyaline, veins thickened.

Color: General color dark; legs, antennae, ventral margins of pronotum, tip of scutellum, basal segment of abdomen, and anal tube stramineous.

Genitalia: In lateral view, pygofer slightly wider than long, longest near middle with a large tooth near middle of caudal margin; anal segment very large with a pair of very long, heavy, processes; aedeagus bent ventrally near base about twice as wide near outer third as near base, narrowed at apex, dorsal third of outer half covered with teeth, the basal ones quite large; aedeagal brace not visible; styles more or less pediform, heel and toe sharp; in caudal view, aedeagal brace not extended dorsally, very broad; styles widest at base narrowed to apices with sharp tooth on inner margin near basal fourth.

Holotype ♂ and 8 ♂ paratypes in Mountain Lake, Va., Sept. 2, 1946, R. H. Beamer; other paratypes: 3 ♂♂, Storrs, Conn., Aug. 10, 1946, R. H. Beamer; 1 ♂, Colchester, Conn., Aug. 10, 1946, R. H. Beamer; 1 ♂, Rhineland, Wis., July 15, 1917, E. D. Ball.

Types and paratypes in Snow Entomological Collections, paratypes in the United States National Museum.

42. *Delphacodes atralabis* n. sp.

Brachypterous Form:

Resembling *Delphacodes campestris* (V. D.) but male lacking dark spot on each side of scutellum and styles in caudal view narrowed on outer two-thirds. Length ♂ 2.2 mm.

Structure: First antennal segment about as long as wide; front about twice as long as wide, widest near middle, narrowed toward each end, more so toward apex, distinctly tricarinate; crown longer than wide, wider at apex than at base, carinae distinct; elytra semihyaline, extending slightly beyond middle of abdomen, apices rounded.

Color: General color stramineous with a large spot above middle coxae and styles black or dark brown; abdomen reddish yellow.

Genitalia: In lateral view, pygofer more or less rectangular, wider than long; anal segment without processes; aedeagus widest at base, narrowed on basal third to about one-third basal width, outer two-thirds evenly curved ventrally, with short tooth at apex on dorsal margin and four teeth near middle of outer third, aedeagal brace, large, triangular, apex sharp, bent somewhat ventrally; styles widest at base, narrowed to widen again just before more or less bifid apex; in caudal view, aedeagal brace not extended dorsally; styles widest at base, sharply narrowed at basal third, outer two-thirds with sides almost parallel, with small tooth on inner margin just before rounded apices.

Holotype ♂, Durham, New Hampshire, Aug. 12, 1946, L. D. Beamer; 2 ♂♂ paratypes same place and date, R. H. Beamer.

Macropterous Form:

Like the brachypterous form except the elytra about one-third longer than abdomen, widest at region of crossveins.

Holomorphotype ♂, Durham, New Hampshire, Aug. 12, 1946, R. H. Beamer.

Types in Snow Entomological Collections.

43. *Delphacodes arcuata* n. sp.

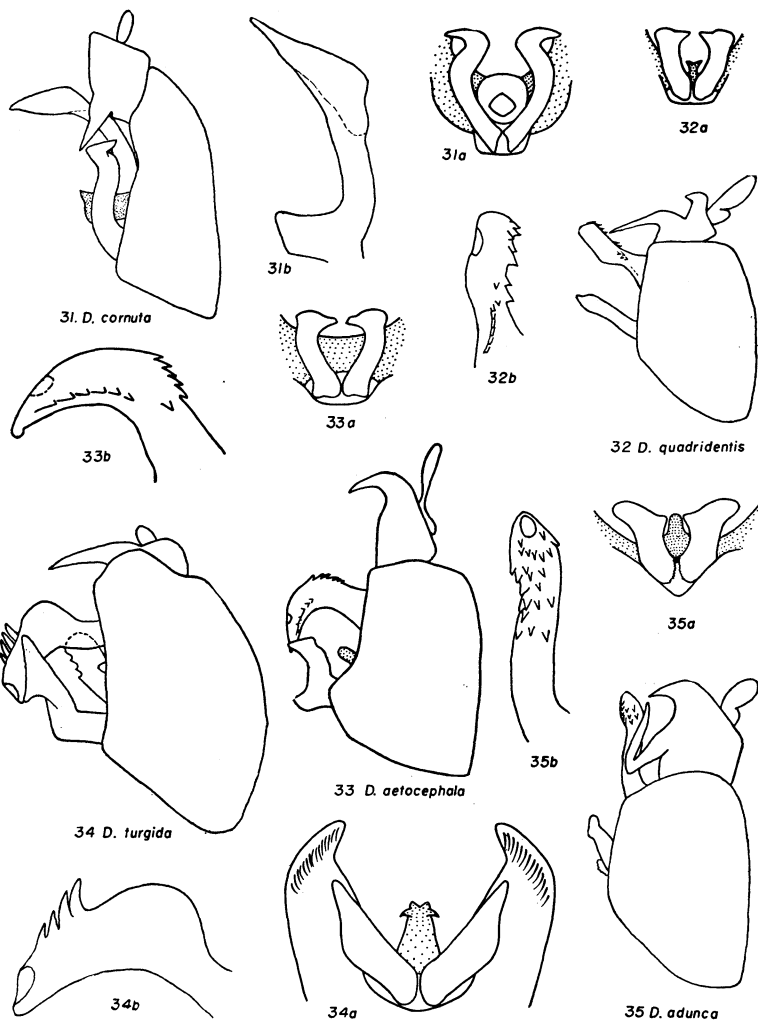
Brachypterous Form:

Resembling *Delphacodes quadrispinosa* M. and G. but males with posterior half of pronotum white instead of black and anal segment without processes instead of four. Length ♂ 2 mm.; ♀ 2.3 mm.

Structure: First segment of antennae about twice as long as wide; front slightly more than twice as long as wide, widest on apical third, slightly narrowed to apex, more so toward base, definitely tricarinate; crown longer than width at base, definitely carinate; elytra about twice as long as wide, reaching genital capsule, apices rounded, veins raised with raised spots fairly numerous.

Color: General color stramineous, male coxae and above, genae, clypellus, area between carinae of front and crown, small areas back of eyes, most of elytra except apical margin and spot on mesal margin before apex of clavus, most of dorsum of abdomen except basal segment, middle of last segment and anal segment and most of middle portions of ventral segments quite dark brown; females much the same but often generally much lighter.

Genitalia: In lateral view, pygofer more or less rectangular, widest on ventral margin, dorso-caudal corner slightly extended; anal segment without processes as such but outer dorsal corner extended slightly and outer ventral corner roundly extended; aedeagus long, generally curved dorsally, shaft slightly narrowed just before two sharp teeth on dorsal margin near outer fourth; another sharp spine on left side about opposite these; aedeagal brace not visible; styles widest on basal half, narrowed and more or less avicephaliform on apices; in caudal view, aedeagal brace extended dorsally in a more or less triangular tooth; styles broadest at base with avicephaliform apices.



EXPLANATION OF PLATE VII

31. Lateral view of genital capsule of male of *Delphacodes cornuta* Beamer.
 31a. Caudal view of styles and aedeagal brace of *Delphacodes cornuta* Beamer.
 31b. Lateral view of aedeagus enlarged of *Delphacodes cornuta* Beamer.
 32. Lateral view of genital capsule of male of *Delphacodes quadridentis* Beamer.
 32a. Caudal view of styles and aedeagal brace of *Delphacodes quadridentis* Beamer.
 32b. Lateral view of aedeagus enlarged of *Delphacodes quadridentis* Beamer.
 33. Lateral view of genital capsule of male of *Delphacodes aetocephala* Beamer.
 33a. Caudal view of styles and aedeagal brace of *Delphacodes aetocephala* Beamer.
 33b. Lateral view of aedeagus enlarged of *Delphacodes aetocephala* Beamer.
 34. Lateral view of genital capsule of male of *Delphacodes turgida* Beamer.
 34a. Caudal view of styles and aedeagal brace of *Delphacodes turgida* Beamer.
 34b. Lateral view of aedeagus enlarged of *Delphacodes turgida* Beamer.
 35. Lateral view of genital capsule of male of *Delphacodes adunca* Beamer.
 35a. Caudal view of styles and aedeagal brace of *Delphacodes adunca* Beamer.
 35b. Lateral view of aedeagus enlarged of *Delphacodes adunca* Beamer.

Holotype ♂, allotype ♀, 35 ♂ and 21 ♀ paratypes, Lower Maticumba Key, Fla., March 14, 1947, R. H. Beamer.

Macropterous Form:

Like the brachypterous form except the wings extend about one-third their length beyond abdomen and color in elytra more spotty. A long spot at apex of clavus much darker in both forms.

Holomorphotype ♂, allomorphotype ♀, 13 ♂ and 30 ♀ paramorphotypes, Lower Maticumba Key, Fla., March 14, 1947, R. H. Beamer; other paramorphotypes: 4 ♂ ♂ and 9 ♀ ♀, Ft. Pierce, Fla., Aug. 7, 1930, R. H. Beamer; 14 ♂ ♂ and 2 ♀ ♀, same place and date, P. W. Oman; 2 ♀ ♀, Sebring, Fla., Aug. 5, 1930, P. W. Oman; 1 ♂, Haw Creek, Fla.; 1 ♀, Ft. Myers, Fla., Aug. 14, 1930, J. O. Nottingham.

Types and paratypes in Snow Entomological Collections. Paratypes in the United States National Museum.

This is the species described by Muir and Giffard as *Delphacodes albo-notata* (Crawf.), Bull. Hawaiian Sugar Planters Association, p. 36, 1924. The type of *Delphacodes albonotata* (Crawf.) No. 15988 in the United States National Museum is a brachypterous ♂ of *Perigrinus mardis* Ashm.

44. *Delphacodes aculeata* n. sp.

Brachypterous Form:

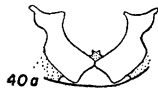
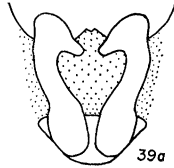
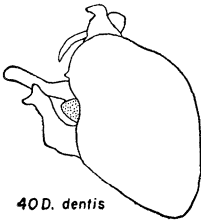
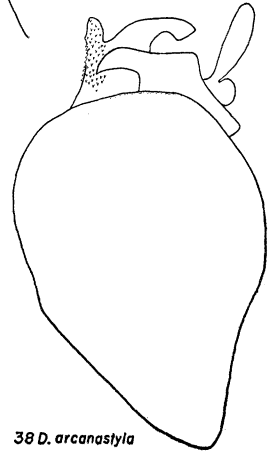
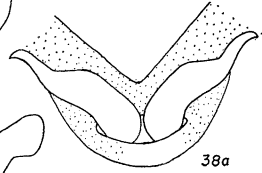
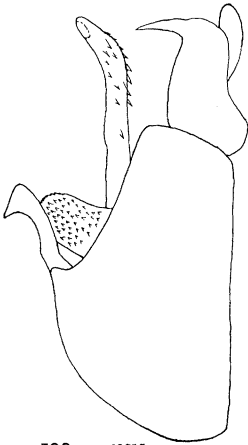
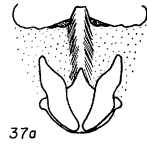
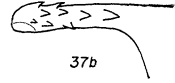
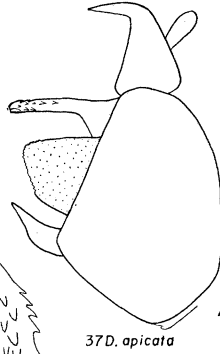
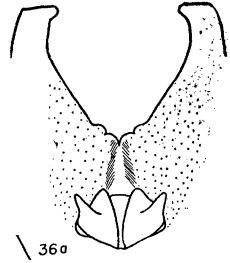
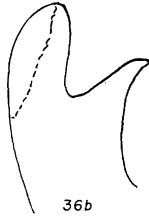
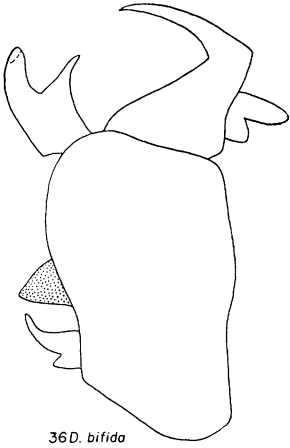
Resembling *Delphacodes penepuella* Beamer but first antennal segment about color of second segment (not black as in *D. penepuella*); elytra usually embrowned on most of the outer third; pygofer of male flaring and aedeagus straight. Length ♂ 1.7 mm.; ♀ 2 mm.

Structure: First segment of antennae about as wide as long; front about twice as long as wide, widest near apical third, narrowed toward each end, more so toward base, distinctly tricarinate; crown about one half longer than basal width, anterior fovea more or less open at base, carinae definite; elytra barely reaching genital capsule, apices rounded.

Color: General color dark; legs and antenna stramineous, first segment of antennae about same color as second, carinae of front and crown, posterior half of pronotum, tip of scutellum, most of clavus and margin of apices of elytra almost white, darker spot at tip of clavus, basal segment of dorsum of abdomen yellowish, margins of segments and lateral margins of abdomen usually lighter.

EXPLANATION OF PLATE VIII

- 26. Lateral view of genital capsule of male of *Delphacodes bifida* Beamer.
- 26a. Caudal view of styles and aedeagal brace of *Delphacodes bifida* Beamer.
- 26b. Lateral view of aedeagus enlarged of *Delphacodes bifida* Beamer.
- 37. Lateral view of genital capsule of male of *Delphacodes apicata* Beamer.
- 37a. Caudal view of styles and aedeagal brace of *Delphacodes apicata* Beamer.
- 37b. Lateral view of aedeagus enlarged of *Delphacodes apicata* Beamer.
- 35. Lateral view of genital capsule of male of *Delphacodes arcanastyla* Beamer.
- 35a. Caudal view of styles and aedeagal brace of *Delphacodes arcanastyla* Beamer.
- 35b. Lateral view of aedeagus enlarged of *Delphacodes arcanastyla* Beamer.
- 39. Lateral view of genital capsule of male of *Delphacodes paransara* Beamer.
- 39a. Caudal view of styles and aedeagal brace of *Delphacodes paransara* Beamer.
- 39b. Lateral view of aedeagus enlarged of *Delphacodes paransara* Beamer.
- 40. Lateral view of genital capsule of male of *Delphacodes dentis* Beamer.
- 40a. Caudal view of styles and aedeagal brace of *Delphacodes dentis* Beamer.
- 40b. Lateral view of aedeagus enlarged of *Delphacodes dentis* Beamer.



Genitalia: In lateral view, pygofer semi-circular; anal segment with a pair of sharp processes, broad at base; aedeagus broadest at base, almost straight, narrowed evenly to apex, outer third evenly covered with retrorse teeth; aedeagal brace not visible in this view; styles more or less pediform, heels very large and rounded; in caudal view, aedeagal brace extended slightly dorsally, often bifid; styles broadest at base, apices more or less avicephaliform.

Holotype ♂, 6♂ and 1♀ paratypes, Otter Creek, Fla., March 9, 1947, R. H. Beamer; allotype ♀, 5♂ and 6♀ paratypes, Lamont, Fla., March 7, 1947, R. H. Beamer; other paratypes: 4♂♂, Yankeetown, Fla., March 9, 1947, L. D. Beamer.

Types in the Snow Entomological Collections.

45. *Delphacodes truncata* n. sp.

Brachypterous Form:

Resembling *Delphacodes waldeni* (Metcf.) but slightly smaller, veins of elytra not so brown, tips of elytra more nearly truncate and aedeagus with dorsal margin undulating. Length ♂ 2.3 mm.; ♀ 2.8 mm.

Structure: First segment of antennae about twice as long as wide; front slightly less than twice as long as wide, widest at middle, narrowed toward each end, more so toward base, distinctly tricarinate; crown definitely longer than basal width, apex rounded, wider than base, carinae definite on base, less distinct at apex; elytra semihyaline, about as long as wide, apices truncate, veins raised; genital capsule very narrow, retracted into abdomen, practically flush with surface.

Color: General color stramineous, coxae and spot above often darker, veins of elytra slightly embrowned, semblance of longitudinal rows of spots on abdomen, darker dorsolateral margin of each abdominal segment, often with a red spot, pygofer with parts much darker.

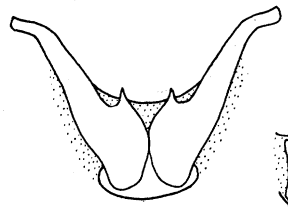
Genitalia: In lateral view, pygofer very short, more than twice as wide as long; anal segment without processes in ordinary sense, outer ventral corner more or less enlarged as an aedeagal guide; aedeagus with sides undulating, curved ventrally throughout; aedeagal brace not visible, styles widest just before apex, outer margins almost straight, inner sinuate, sharply narrowed on outer fifth; in caudal view, aedeagal brace not extended dorsally; styles widest at base, turned in on outer fourth.

EXPLANATION OF PLATE IX

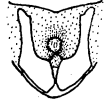
41. Lateral view of genital capsule of male of *Delphacodes dentinennis* Beamer.
- 41a. Caudal view of styles and aedeagal brace of *Delphacodes dentipennis* Beamer.
- 41b. Lateral view of aedeagus enlarged of *Delphacodes dentipennis* Beamer.
42. Lateral view of genital capsule of male of *Delphacodes atralabis* Beamer.
- 42a. Caudal view of styles and aedeagal brace of *Delphacodes atralabis* Beamer.
43. Lateral view of genital capsule of male of *Delphacodes arcuata* Beamer.
- 43a. Caudal view of styles and aedeagal brace of *Delphacodes arcuata* Beamer.
- 43b. Lateral view of aedeagus enlarged of *Delphacodes arcuata* Beamer.
44. Lateral view of genital capsule of male of *Delphacodes aculeata* Beamer.
- 44a. Caudal view of styles and aedeagal brace of *Delphacodes aculeata* Beamer.
- 44b. Lateral view of aedeagus enlarged of *Delphacodes aculeata* Beamer.
45. Lateral view of genital capsule of male of *Delphacodes truncata* Beamer.
- 45a. Caudal view of styles and aedeagal brace of *Delphacodes truncata* Beamer.
- 45b. Lateral view of aedeagus enlarged of *Delphacodes truncata* Beamer.



41 *D. dentipennis*



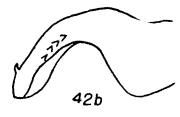
41a



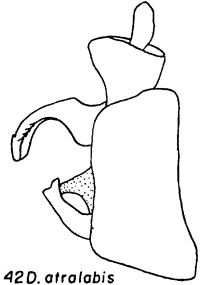
42a



41b



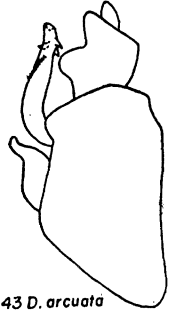
42b



42 *D. atralabis*



43b



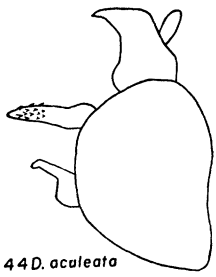
43 *D. arcuata*



43a



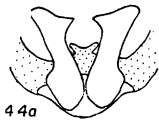
45a



44 *D. aculeata*



44b



44a



45b



45 *D. truncata*

Holotype ♂, allotype ♀, 1 ♂ and 2 ♀ paratypes, Saucier, Miss., March 5, 1947, R. H. Beamer; other paratypes: 1 ♂, Ocean Springs, Miss., March 3, 1947, R. H. Beamer; 4 ♂ ♂ and 1 ♀, Ramsay, La., March 3, 1947, R. H. Beamer; 3 ♂ ♂ and 1 ♀, Sanford, Fla., March 11, 1947, R. H. Beamer; 3 ♀ ♀, same place and date, L. D. Beamer; 1 ♀, Otter Creek, Fla., March 3-9, 1947, R. H. Beamer; 2 ♂ ♂ and 1 ♀, Lamont, Fla., March 7, 1947, R. H. Beamer; 1 ♂, Mariana, Fla., March 7, 1947, R. H. Beamer; 1 ♀ and 1 ♂, Palatka, Fla., March 10, 1947, R. H. Beamer; 1 ♂, Mims, Fla., March 18, 1947, R. H. Beamer; 1 ♀, La Belle, Fla., March 13, 1947, R. H. Beamer; 8 ♂ ♂ and 2 ♀ ♀, Waycross, Ga., March 18, 1947, R. H. Beamer; 4 ♂ ♂, Cape Henry, Va., July 3, 1938, P. W. Oman; 1 ♀ Waycross, Ga., Oct. 5, 1938, P. W. Oman; 1 ♂, Eridu, Fla., July 11, 1939, P. W. Oman; 2 ♂ ♂, New Port Fitchey, Fla., Oct. 7, 1938, P. W. Oman; 1 ♂, Sanford, Fla., March 20, 1926, E. D. Ball.

Types and paratypes in Snow Entomological Collections; paratypes in United States National Museum.

Correction

On page 68 of the April issue of the *Journal* the figures for *M. bivittatus* and *M. mexicanus* under Gamma Benzene Hexachloride should be exchanged.