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The Planthopper Genus *Prokelisia* in the United States (Homoptera: Fulgoroidea: Delphacidae)

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ABSTRACT: A synopsis of the planthopper genus *Prokelisia* Osborn for the United States is presented. *Prokelisoidea* McDermott is synonymized with *Prokelisia*. Five species of *Prokelisia* are recognized: *P. dolus*, n. sp., *P. carolae*, n. sp., *P. salina* (Ball), new combination, *P. marginata* (Van Duzee), and *P. crocea* (Van Duzee). *P. constricta* (Crawford) and *P. frontalis* (Crawford) are synonymized with *P. salina*, and *P. setigera* (Osborn) is synonymized with *P. marginata*.

The species of the delphacid genus *Prokelisia* Osborn have never been included in one key. Identifications were often unreliable because they were based upon inadequate individual descriptions with illustrations unavailable for three of the known species. This study consists of a synopsis of all the species of *Prokelisia* and includes a key for identification.

Prokelisia was established by Osborn (1905) for his new species *P. setigera*. Van Duzee (1916) added *Megamelus marginatus* Van Duzee. Muir and Giffard (1924) added *M. constricta* Crawford, and Oman (1947) added *Kelisia crocea* Van Duzee. *Prokelisoidea*, which is synonymized with *Prokelisia* below, was established by McDermott (1952) for *Kelisia salina* Ball and *Megamelanus frontalis* Crawford.

NOTES ON THE KEY AND DESCRIPTIONS: Features used for separating species are those of the frons and the male genitalia. Some specimens, especially females, were found to be intermediate in critical diagnostic features of the frons, and no satisfactory features for separating species using female genitalia were found. The presence or absence of spine-like processes on the male anal tube, shape of the styles, and shape and dentition of the aedeagus provided unambiguous features for the separation of species. Body length is measured in dorsal view from the apex of the vertex to the tip of the wings. Types are deposited in the National Museum of Natural History collection (NMNH), Washington, D.C., the Ohio State University collection (OSU), Columbus, Ohio, or the California Department of Food and Agriculture Collection (CDFA), Sacramento.

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Genus *Prokelisia* Osborn

Prokelisia Osborn, 1905:373. Type species *Prokelisia setigera* Osborn, a synonym of *P. marginata* (Van Duzee), by monotypy.

Prokelisoidea McDermott, 1952:57. Type species *Prokelisoidea salina* (Ball), by original designation. New synonymy.

Small delphacids (2.7–5.1 mm); body slender, elongate; brachypterous or macropterous.

Head, in dorsal view, narrower than pronotum. Vertex widest at base, narrowing toward apex, extending ⅓–½ its length beyond eyes, carinate laterally, carinae impart a triangular appearance, each lateral carina forking near middle, outer forks continue onto frons forming carinate lateral margins of frons, inner forks meet at apex of vertex and continue on to frons as median carina of frons, inner forks connected by transverse V-shaped carina; usually with short, weak, longitudinal carina in basal ½ (Fig. 1); in lateral view, apex of head slightly angulate to broadly rounded, with ocellus below anterior portion of each eye and carina extending from base of antenna to lateral edge of fronto-clypeal suture. Frons with lateral margins subparallel to outwardly convex, ca. 2× longer than wide, narrowest dorsally (Figs. 2–6); median carina well developed, usually extending almost to clypeal base. Clypeus narrowing distally, consisting of subtriangular basal postclypeus and slender beak-like distal anteclypeus, postclypeus with carinate lateral margins and weak median carina. Antenna originating beneath eye, scape cylindrical, ca. ½ length of pedicel, pedicel with sensory pits on dorso-posterior aspect, flagellum bulbous basally and filamentous distally.

Pronotum with a pair of straight to slightly outwardly convex lateral carinae each extending from anterior margin near inner border of eye obliquely to posterior border, occasionally fading just before posterior border; with pair of poorly defined lateral carinae extending from eye to tegula; with median carina; posterior margin indented. Mesonotum with each lateral carina, at base, originating ca. midway between apex of pronotal lateral carina and median carina; with weak median carina in anterior ⅔ (Fig. 1). Hind tibia with one black-tipped spine basally and one near middle; metatibial spur leaf-like with 10–20 black-tipped teeth on ventral margin. Forewings narrow, elongate, ca. 4× longer than wide, narrowing in apical ¼; veins usually setiferous; in macropters, forewing extending ⅓–½ of its length beyond abdomen, hindwing well developed, ¾ or more length of forewing; in brachypters, forewing similar but extending ca. ⅓ or less of its length beyond abdomen, hindwing reduced to small elongate strap-like to paddle-shaped structure extending little beyond base of abdomen, rarely with hindwing partially developed and extending ca. ½ length of abdomen.

MALE GENITALIA: Pygofer ca. as long as wide, or slightly longer than wide, with enlarged ventral lip of diaphragm opening; anal tube with or without

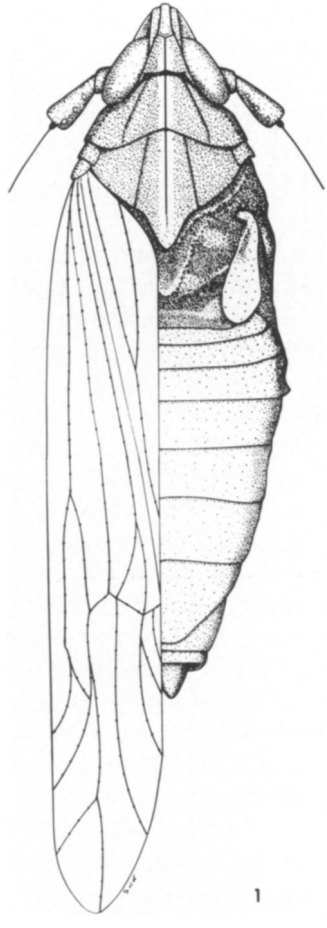
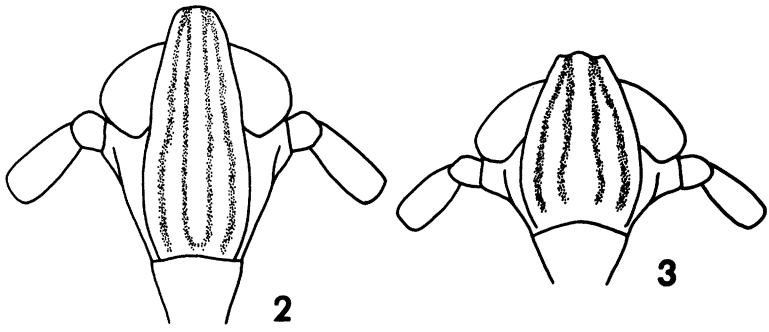
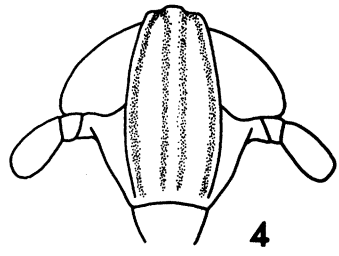


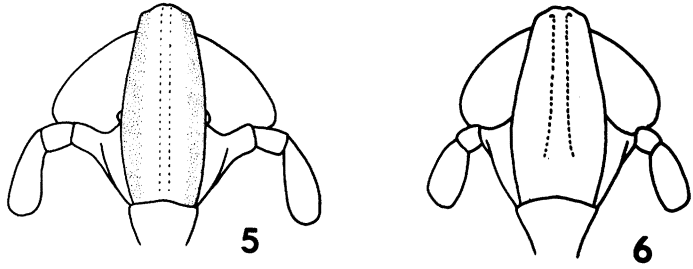
Fig. 1. *Prokelisia crocea* (Van Duzee), habitus of female brachypter.

spine-like processes; styles symmetrical and simple; aedeagus elongate, apical ⅔ straight, bearing short teeth, surrounded near base by anal tube ring, with basal connective articulating with styles.

GENERIC DIAGNOSIS: This genus may be separated from other North American delphacid genera by a combination of the following features: head distinctly narrower than pronotum; vertex appearing subtriangular and extending anteriorly ⅓–½ its length beyond eyes; frons with margins subparallel to outwardly convex, ca. 2× longer than wide (slightly less in *P. dolus*) and with a single median carina; scape cylindrical; pronotal lateral carinae straight to outwardly convex and reaching or nearly reaching posterior mar-



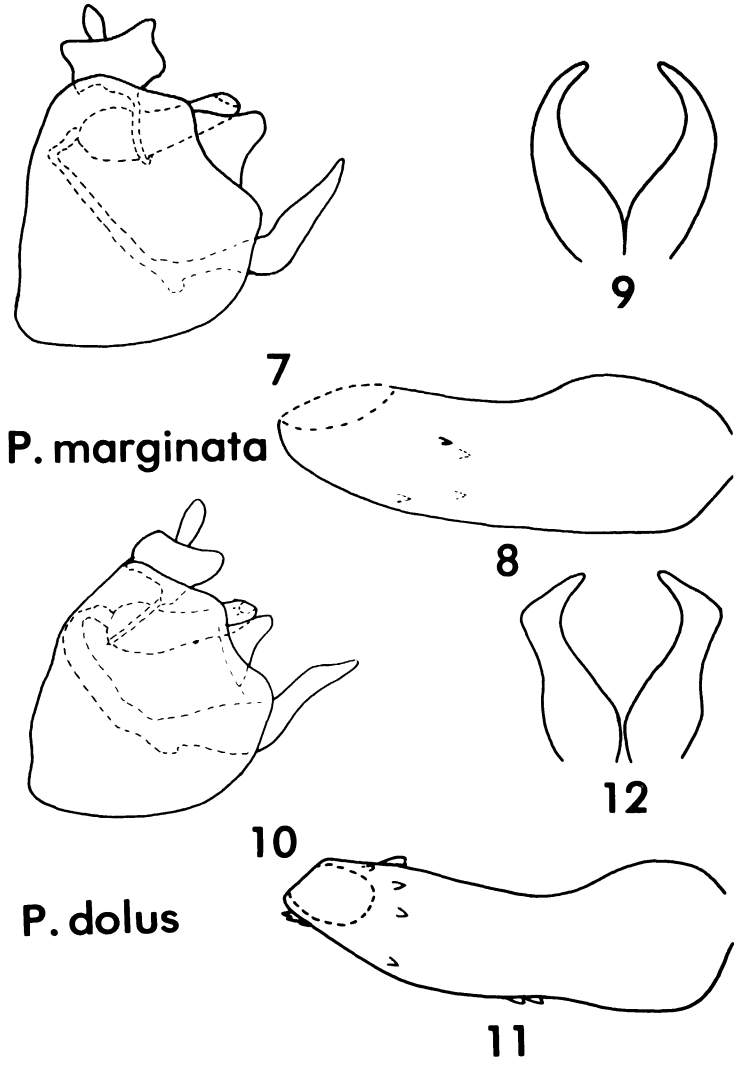




Figs. 2–6. Frontal views of male frons. 2. *P. marginata* (Van Duzee). 3. *P. dolus,* n. sp. 4. *P. salina* (Ball). 5. *P. crocea* (Van Duzee). 6. *P. carolae,* n. sp.

gin, mesonotal lateral carinae each originating ca. midway between apices of pronotal lateral and median carinae; metatibial spur leaf-like bearing a row of 10–20 black-tipped teeth; styles simple.

NOTES: *Prokelisoidea* has been synonymized with *Prokelisia* because they are almost identical in external features, especially the shape and length of



Figs. 7–12. Male genitalia. 7–9. *P. marginata* (Van Duzee). 10–12. *P. dolus,* n. sp. 7, 10. Complete left lateral view. 8, 11. Aedeagus in right lateral view. 9, 12. Styles in caudal view.

the vertex, the shape of the frons and pronotal carinae, the position of the mesonotal carinae, and the presence and shape of the reduced hindwings in brachypters.

McDermott (1952) noted the only diagnostic feature separating the two

genera are the shapes of the frons. This marked difference can be seen only between *P. dolus* and *P. salina*; the other species being somewhat intermediate. There are differences in the structure of the male genitalia that could justify separating the five species into three genera. This was not done because the species are externally very similar and no differences were found in the female genitalia to support further generic splitting.

Key to the Species of *Prokelisia*

1. Lateral margins of frons markedly convex and widest at or below basal ⅓, with brown longitudinal markings (Figs. 2, 3); anal tube of male lacking spine-like processes (Figs. 7, 10) (coastal in eastern U.S. and California) 2
– Lateral margins of frons subparallel, if slightly convex then widest above basal ⅓, markings variable (Figs. 4–6); anal tube of male bearing elongate spine-like processes (Figs. 13, 16, 19, 22) 3
2. Frons usually 2× or more longer than wide (Fig. 2); styles caliper-shaped, outer margins broadly rounded (Fig. 9); aedeagus lacking teeth on dorsal and ventral margins (Fig. 8) ..... *P. marginata* (Van Duzee)
– Frons usually less than 2× longer than wide (Fig. 3); styles with outer margins angulate in distal ⅓ (Fig. 12); aedeagus with teeth near dorsal margin and often on ventral margin (Fig. 11) ..... *P. dolus,* n. sp.
3. Frons usually with brown longitudinal markings (Fig. 4); styles with apices directed laterally (Figs. 15, 18) ..... *P. salina* (Ball)
– Frons orange to yellow laterally and pale medially (Fig. 5) or entirely pale (Fig. 6); styles with apices directed medially (Figs. 21, 24) ... 4
4. Frons orange to yellow laterally and pale medially, median carina weakly to well developed (Fig. 5); anal tube of male with dorsally and ventrally directed spine-like processes (Fig. 19); shaft of aedeagus widest basally (Fig. 20) (widespread in eastern and midwestern U.S.) ..... *P. crocea* (Van Duzee)
– Frons pale, median carina strongly developed (Fig. 6); anal tube of male lacking dorsally directed spine-like processes (Fig. 22); shaft of aedeagus widest apically (Fig. 23) (California) .... *P. carolae,* n. sp.

Prokelisia marginata (Van Duzee)
(Figs. 2, 7–9)

Megamelus marginatus Van Duzee, 1897:234.
Prokelisia setigera Osborn, 1905:373. N. Syn.
Megamelus setigerus (Osborn), Crawford, 1914:631.
Prokelisia marginatus (Van Duzee), Van Duzee, 1916:83.
Prokelisia marginata (Van Duzee), Van Duzee, 1917:765.

SALIENT FEATURES: Length of males 2.3–4.1 mm, females 3.4–4.4 mm. Ground color of head and thorax pale yellow to light brown, frons with dark brown longitudinal markings bordering median and lateral carinae, frons widest in basal ⅓, ca. 2× longer than wide, lateral margins outwardly convex and slightly sinuate (Fig. 2). Forewings yellowish to hyaline.

MALE GENITALIA: Pygofer, in lateral view, ca. as long as wide, ventral lip of diaphragm opening greatly produced. Anal tube lacking spine-like processes (Fig. 7). Styles caliper-shaped, outer margins broadly rounded (Fig. 9). Aedeagus short, thick, widest at base, with one small lateral tooth on right side and two or three small lateral teeth on left side (Fig. 8).

TYPE: Lectotype male, designated by Oman (1947:221), with labels: "Anglesea, N.J., 5/28", "♂", "Type", "*Stenocranus marginatus* Van D.", and "Lectotype, *Megamelus marginatus* Van D., Oman 1946" (yellow paper). The lectotype, formerly in the Iowa State College collection, is now in the NMNH collection.

OTHER TYPE SPECIMENS: Holotype female of *P. setigera,* designated by Osborn (1905), with labels: "Cameron, La., Aug. 14–28, 1903", "Type" (red paper), "Herbert Osborn Collection", "*Prokelisia setigera,* Type —, Osborn". Four male paratypes, with identical collecting data proved to be *P. marginata.* The types of *P. setigera* are in the OSU collection.

SPECIMENS STUDIED: CALIFORNIA, Alameda Co., Alviso; CONNECTICUT, New Haven, Sachem Head nr. Guilford, Storrs; FLORIDA, Alligator Point, Cedar Keyes, Jacksonville, Ormond, Tampa; GEORGIA, Billy's Island—Okefenokee Swamp, Duplin, R. Marshes—Sapelo Island, Tybee Island; LOUISIANA, Cameron; MARYLAND, Bay Ridge, Crisfield, Piney Point (2.3 miles east); MASSACHUSETTS, Falmouth; NEW JERSEY, Anglesea, Cheesequake State Park, Goshen, Keyport, Morgan, South Amboy; NEW YORK, Babylon, Cold Spring Harbor, Jones Beach State Pk., New Rochelle, Orient, Ravenswood, Sea Cliff, Sunken Meadow State Pk., Water Mill, West Farms (NYC); NORTH CAROLINA, Ashe Island, Carolina Beach, Elizabeth City, Fort Fisher, Wilmington, Wrightsville Beach; SOUTH CAROLINA, Charleston; VIRGINIA, Cape Charles, Falls Church. Collection dates 13 March to 28 October. Total specimens studied 240 males and 223 females.

NOTES: This species may be distinguished from *P. dolus* by the generally elongate, narrow frons, the caliper-shaped styles and the shape and dentition of the aedeagus. It has been collected in coastal areas from Massachusetts south to Florida and west to Louisiana, and in California. *P. marginata* feeds on and oviposits in leaf blades of *Spartina alterniflora* Loisel. (Denno and Grissell, 1979) and has been discussed in a series of papers by Denno (e.g., 1978) on salt marsh inhabiting planthoppers. Specimens from North Carolina bore labels "on *Spartina patens*", and "*Juncus zone*"; specimens from New York were collected on *Narcissus.* In California the host plant probably is *Spartina foliosa* Trin.

Many specimens of *P. marginata* and *P. dolus* were collected at the same locations, dates and host plants by the same collectors. Identical collection data were found for specimens collected in Connecticut, New York, New Jersey, Maryland, Virginia, North Carolina, South Carolina, and Florida. Host plant data are suspect, however, because specimens were probably collected by sweeping; if so, it is not possible to determine if sweeping was done in pure stands or not. It might appear that there is only one variable species, however, there are major differences in the structure of the male genitalia (Figs. 7–12). None of the 423 male specimens examined was intermediate in regards to features of the genitalia, although males and females were often intermediate in the shape of the frons. Furthermore, no relationships between genitalic features and latitude or date of collection were found.

There is a relationship between wing length and species but it is not absolute; 84.0% of the 393 *P. dolus* specimens were brachypters, 81.6%, of the 424 *P. marginata* were macropters (totals don't equal those given elsewhere because some damaged specimens lacked wings). Interestingly, 90.3% of the 136 *P. marginata* from Cedar Keys, Florida, were brachypters (not included in data given above). Denno and Grissell (1979) theorized that Gulf Coast populations of *P. marginata* were composed mostly of brachypters because of the greater stability of these habitats.

Prokelisia ***dolus*** Wilson, new species
(Figs. 3, 10–12)

SALIENT FEATURES: Length of males 2.7–3.3 mm, females 2.9–3.6 mm. Ground color of head and thorax pale yellow to light brown, frons with dark brown longitudinal markings bordering median and lateral carinae, frons widest in basal ⅓, less than 2× longer than wide, lateral margins outwardly convex and slightly sinuate (Fig. 3). Forewings yellowish hyaline.

MALE GENITALIA: Pygofer, in lateral view, ca. as long as wide; ventral lip of diaphragm opening greatly produced. Anal tube lacking spine-like processes (Fig. 10). Styles with inner margins smoothly rounded, outer margins distinctly angulate in distal ⅓ (Fig. 12). Aedeagus short, widest at base; ventral margin with two or three teeth apically and two teeth in middle (occasionally lacking); with one large tooth near dorsal margin, one tooth on left side and three on right side (Fig. 11).

TYPE: Holotype macropterus male with labels: "Crisfield, Md., 8-7-32", "FC Bishop, Mosq. trap", in NMNH collection.

SPECIMENS STUDIED: CALIFORNIA, Del Mar, La Jolla, Palm City, San Diego; CONNECTICUT, Mystic, Sachem Head nr. Guilford; DELAWARE, Milford; FLORIDA, Alligator Point, Cedar Keys, Daytona, St. Augustine, Sanford, Tampa; MARYLAND, Crisfield, Piney Point (2.3 miles east); MASSACHUSETTS, Ipswitch, Nantucket; NEW HAMPSHIRE, Durham; NEW JERSEY, Keyport, Morgan; NEW

YORK, Montauk, Sea Cliff, Staten Island, West Farms (NYC); NORTH CAROLINA, Carolina Beach, Elizabeth City, Wilmington; SOUTH CAROLINA, Charleston, Mt. Pleasant; TEXAS, Rockport; VIRGINIA, Cape Charles. Collection dates 2 January to 5 December. Total specimens studied 183 males and 212 females.

NOTES: This species may be distinguished from *P. marginata* by the generally shorter wider frons, the styles with angulate outer margins and the shape and dentition of the aedeagus. It has been collected in coastal areas from Massachusetts south to Florida and west to Texas, and in southern California. Specimens from Sachem Head, Connecticut, bore labels "*Spartina alterniflora*"; in southern California the host plant probably is *S. foliosa* Trin. Otherwise, no other information on biology is available. The species name, a Latin noun in apposition, means deceit or guile.

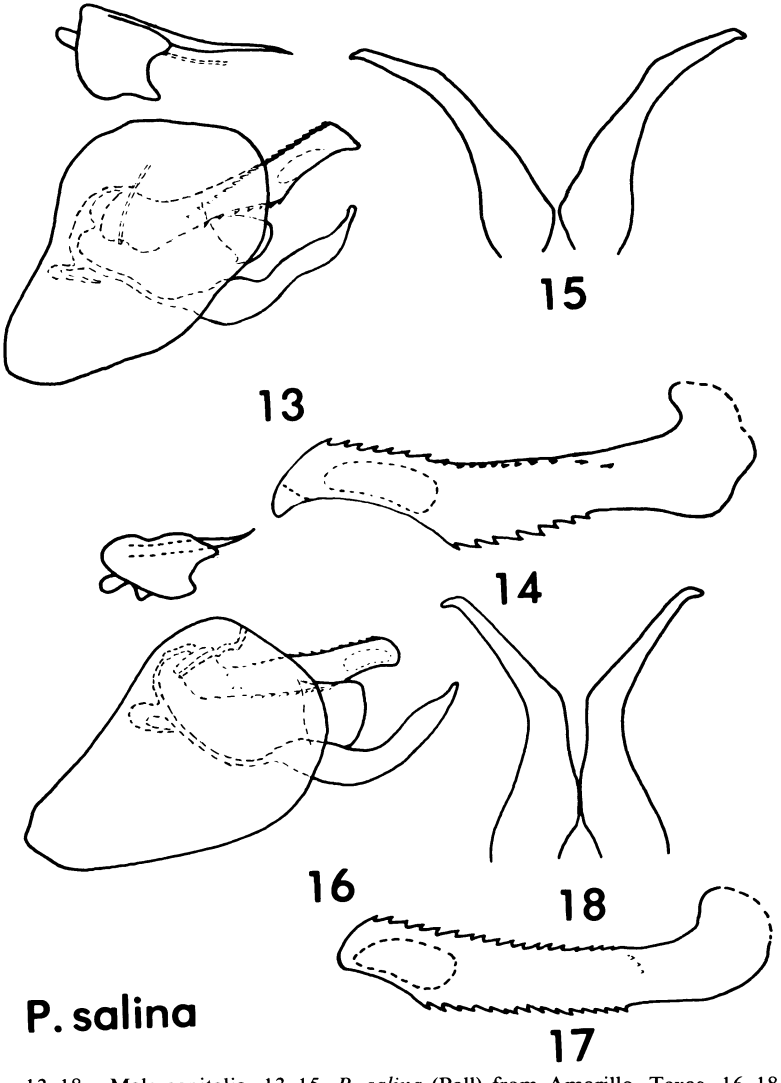
Prokelisia salina (Ball), new combination
(Figs. 4, 13–18)

Kelisia salina Ball, 1902:264.
Megamelanus frontalis Crawford, 1914:593. N. Syn.
Megamelus constrictus Crawford, 1914:610. N. Syn.
Megamelus constrictus minutus Crawford, 1914:610. N. Syn.
Megamelus salina (Ball), Crawford, 1914:631.
Liburnia constricta (Crawford), Metcalf, 1923:148.
Prokelisia constricta (Crawford), Muir and Giffard, 1924:10.
Megamelanus salina (Ball), Beamer, 1945:100.
Prokelisoidea salina (Ball), McDermott, 1952:57.
Prokelisoidea frontalis (Crawford), McDermott, 1952:58.

SALIENT FEATURES: Length of males 2.8–3.6 mm, females 3.3–4.2 mm. Ground color of head and thorax whitish to yellow, mesothorax often tinged with orange; usually with dark brown longitudinal markings bordering median and lateral carinae of frons (Fig. 4). Forewings whitish-hyaline; in well marked specimens, veins tinged with light brown apically and with light brown cloudy areas apically.

MALE GENITALIA: Pygofer, in lateral view, ca. as long as wide, ventral lip of diaphragm opening greatly produced. Anal tube with a pair of elongate, slender, spine-like processes extending beyond anal tube ca. ½–1½ times length of anal tube (Figs. 13, 16). Styles slender, elongate; inner margins, in basal ½, slightly sinuate (Figs. 15, 18). Aedeagus, in lateral view, with dorsal and ventral margins serrate, apical ¼–⅓ of ventral margin concave and smooth (Figs. 14, 17).

TYPE: Lectotype female, of *P. salina,* designated by Beamer (1945:100), from Grand Junction, Colorado, 28 July 1900, in the NMNH collection was not studied.



Figs. 13–18. Male genitalia. 13–15. *P. salina* (Ball) from Amarillo, Texas. 16–18. from Portal, Arizona. 13, 16. Complete left lateral view. 14, 17. Aedeagus in right lateral view. 15, 18. Styles in caudal view.

OTHER TYPE SPECIMENS: Holotype female of *P. frontalis,* designated by Crawford (1914:592), from Ft. Collins, Colorado, 4 July 1896, was not studied. The holotype of *P. constricta* is a male with labels: "Colo, 1600", "Collection C.F. Baker", "Type No. 15983 U.S.N.M." (red paper), "*Me-*

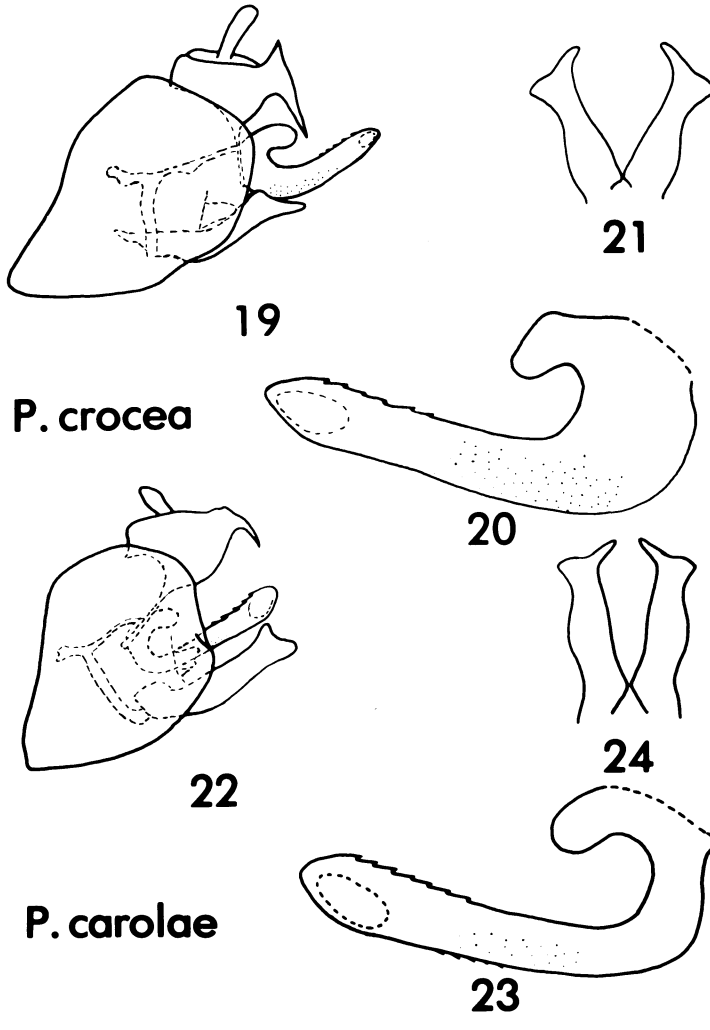
gamelus constrictus (Crawf.)"; "Colo, 1600" = foothills 5 mi. west of Ft. Collins, Colo., 18 August 1895. The holotype of *P. constricta minuta* is a male with labels: "Cala, 2364" (sic), "Collection C.F. Baker", "Type No. 15984 U.S.N.M." (red paper), "*Megamelus constrictus minutus* (Crawf.)"; "Cala 2364" = Tulare, Cal., 5 August 1897. All of these specimens are in the NMNH collection.

SPECIMENS STUDIED: ARIZONA, Amado, Chiricahua Mts., Portal (1 mi. south), Sabino Canyon, St. David; CALIFORNIA, Albany Hill, Exeter, Little Lake, Saltdale, San Juan Capistrano, Tulare; COLORADO, Alamosa, Ft. Collins, Garden of the Gods, Lamar, Rocky Ford, Vineland; FLORIDA, St. Cloud; GEORGIA, De Witt; IDAHO, Burley; ILLINOIS, Havana; KANSAS, Medora, Stafford Co. Salt Marsh; NEVADA, Glendale, Las Vegas, Winnemucca; NEW MEXICO, Belan, Otero Co., Rosewell, Santa Fe; TEXAS, Amarillo, Boca Chica, Lubbock, Marathon, Spur; UTAH, Bonanza, Richfield. Collection dates 15 April to 27 December. Total specimens studied 54 males and 48 females. This species has also been recorded from Oregon, Washington, and Wyoming (McDermott, 1952).

NOTES: *P. salina* may be distinguished from its congeners by the slender, spike-like processes on the anal tube, elongate slender styles, and the shape of the aedeagus. It has been collected from Illinois south to Florida and west to California and Washington. Specimens from Colorado were collected on sugar beets, from Nevada on *Pluchea sericea* (Nutt.) and *Salsola kali* L., from Texas on buffalo grass, mixed annuals and native grasses, and from Utah on *Cleome serrulata* Pursh. *P. frontalis* has been synonymized with *P. salina* because of similarities and degree of variability in the structure of the male genitalia. The diagnostic features used by McDermott (1952) in separating the two species were the degree of divergence of the styles and the length of the ventral concavity near the apex of the aedeagus (the latter inferred from his illustrations). Eleven specimens from Portal, Arizona bore *P. frontalis* styles (Fig. 18) and *P. salina* aedeagi (Fig. 14). The length of the ventral concavity (Figs. 14, 17), in specimens from Arizona, Colorado, Kansas, and New Mexico, ranged from 0.06–0.09 mm in specimens of *P. frontalis,* to 0.11–0.15 mm in those of *P. salina* (N = 6 and 11, respectively). This slight difference in what is apparently a variable feature does not warrant separation into two species.

Prokelisia crocea (Van Duzee)
(Figs. 1, 5, 19–21)

Kelisia crocea (Van Duzee), 1897:227.
Stenocranus croceus (Van Duzee), Osborn and Ball, 1897:233.
Stenocranus croecus (sic) (Van Duzee), Dozier, 1922:69.
Liburnia crocea (Van Duzee), Beamer, 1945:100.
Prokelisia crocea (Van Duzee), Oman, 1947:220.



Figs. 19–24. Male genitalia. 19–21. *P. crocea* (Van Duzee). 22–24. *P. carolae*, n. sp. 19, 22. Complete left lateral view. 20, 23. Aedeagus in right lateral view. 21, 24. Styles in caudal view.

SALIENT FEATURES: Length of males 3.7–4.4 mm, females 4.5–5.1 mm. Ground color of head and thorax pale yellow to orange, usually white medially or at least slightly paler; frons yellow to orange laterally, pale yellow to white medially (Fig. 5), with a well-developed median carina. Forewings whitish to yellowish.

MALE GENITALIA: Pygofer, in lateral view, ca. as long as wide; ventral lip

of diaphragm opening slightly produced. Anal tube with a short pair of spine-like processes directed dorsally and a longer pair directed caudo-ventrally (Fig. 19). Styles with outer margins sinuate; apices avicephaliform and directed medially (Fig. 21). Aedeagus, in lateral view, with basal region curved dorsally in almost half circle, apical region straight; widest at base of curved region, narrowest near apex of shaft; with teeth on dorsal margin in apical ½ and small granular teeth laterally (Fig. 20).

TYPE: Lectotype male, designated by Beamer (1945:100), with labels: "Osborn, Ames, Ia.", "Type", "♂", "*Stenocranus croceus* Van D.", "Cotype, *Kelisia crocea,* Van D., R.H.B." (red paper) and "Lectoholotype, *Liburnia crocea* (V.D.), R.H.B." (red paper). The lectotype, formerly in the Iowa State College collection, is now in the NMNH collection.

SPECIMENS STUDIED: ARKANSAS, Polk Co.; COLORADO, Snyder, Wray; FLORIDA, Snead; IOWA, Ames, Soo (sic) City; ILLINOIS, Argo, Beach, Fox Lake, Oak Lawn, Ogden, Urbana, Zion; INDIANA, Mineral Springs; KANSAS, Allen Co., Anderson Co., Cherokee Co., Clay Co., Effingham, Great Bend, Hutchinson, Lawrence, Manhattan, Meade Co. State Park, Medora, Menlo, Onaga, Ottawa, Salt Flats, Sterling; LOUISIANA, Covington, Slidell; MASSACHUSETTS, Faneuil; MINNESOTA, Middle River, St. Cloud, Washington Co.; MISSISSIPPI, Pass Christian, Pearlington; NEW HAMPSHIRE, Durham; NEW MEXICO, Cuervo; NEW YORK, Montauk; NORTH CAROLINA, Wilmington; NORTH DAKOTA, Leonard; OHIO, Barberton; SOUTH DAKOTA, Blunt, Miller, Tokio, Vayland; WISCONSIN, Muskego. CANADA: MANITOBA, Oakner. Collection dates 16 April to 12 October. Total specimens studied 102 males and 124 females. Metcalf (1943) also lists this species from Maine and Connecticut.

NOTES: This species may be separated from all other North American delphacids by its generally yellow-orange color with pale median stripe on vertex, thorax, and frons; by the presence of dorsally directed spine-like processes on the anal tube; and by the shape of the aedeagus. It occurs from Maine to Florida and west to Manitoba and New Mexico. It has been reported as very common in meadow habitats in the central U.S. (Beamer, 1945) especially in plant communities consisting of *Andropogon gerardi* Vitm., *A. scoparius* Michaux, *Spartina pectinata* Link., and *Stipa spartea* Trin. (Hendrickson, 1930).

Prokelisia ***carolae*** *Wilson,* new species
(Figs. 6, 22–24)

SALIENT FEATURES: Length of male 3.0 mm, female unknown. Ground color of head and thorax straw yellow, paler medially; frons without markings, slightly paler medially, with strongly developed median carina becoming markedly weaker near clypeal border (Fig. 6). Forewings straw yellow.

MALE GENITALIA: Pygofer, in lateral view, subquadrate; ventral lip of diaphragm opening slightly produced. Anal tube with a short pair of curved

spine-like processes directed caudo-ventrally (Fig. 22). Styles with outer margins sinuate, apices avicephaliform and directed medially (Fig. 24). Aedeagus, in lateral view, with basal region curved dorsally in almost a half circle, apical region straight; widest near apex of shaft, narrowest at base of curved region; with teeth on dorsal margin in apical ½ and small granular teeth laterally (Fig. 23).

TYPES: Holotype brachypterous male with labels: "Cartago, Cal., 2 mi. north, Inyo Co., VII-15-1953," "E.I. Schlinger, Collector," "*Prokelisia* nr. *crocea* (Van D.), det. D.A. Young," in NMNH collection. Paratype macropterous male with labels: "Calif: Siskiyou Co., 5 mi. north of Gazelle, 1981", "John Hunter Orchard," "light trap", "7-3 to 8-10, 1981", "F.D. Horn, Collector," *Prokelisia* sp., Det. J.P. Kramer," in CDFA collection.

SPECIMENS STUDIED: Known only from types.

NOTES: This species is very similar to *P. crocea* but can be distinguished from it by the absence of dorsally-directed spine-like processes on the anal tube and by the shape of the aedeagus. The species is named for my wife Carol.

Checklist of the United States Species of *Prokelisia* with State Records

1. *carolae* Wilson, n. sp. CA.
2. *crocea* (Van Duzee), 1897:227. AR, CO, CT, FL, IL, IN, IA, KS, LA, ME, MA, MN, MS, NH, NM, NY, NC, ND, OH, SD, WS.
3. *dolus* Wilson, n. sp. CA, CT, DE, FL, MD, MA, NH, NJ, NY, NC, SC, TX, VA.
4. *marginata* (Van Duzee), 1897:234. CA, CT, FL, GA, LA, MD, MA, NJ, NY, NC, SC, VA.
   =*setigera* Osborn, 1905:373. N. Syn.
5. *salina* (Ball), 1902:264. AZ, CA, CO, FL, GA, ID, IL, KS, NV, NM, OR, TX, UT, WA, WY.
   =*frontalis* (Crawford), 1914:593. N. Syn.
   =*constricta* (Crawford), 1914:610. N. Syn.
   =*constricta minuta* (Crawford), 1914:610. N. Syn.

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